



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
ASSISTANT SECRETARY FOR PREPAREDNESS AND RESPONSE



*From Hospitals to Healthcare Coalitions:  
Transforming Health Preparedness  
and Response in Our Communities*



U.S. Department of Health and Human Services  
Assistant Secretary for Preparedness and Response  
Report on the Hospital Preparedness Program



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End-of-Year 2007-2009 Reporting Periods

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Dear Colleagues,

The Hospital Preparedness Program (HPP) has become a critical component of community resilience and enhancing the response capabilities of our healthcare system. This Cooperative Agreement Program provides funding to States toward this end. This report describes the achievements of our State partners in building healthcare preparedness across the nation. States have used the capabilities developed and funded through the program in incidents large and small. Ultimately, the routine use of preparedness and response capabilities will sharpen their application in larger disaster scenarios.

Recent incidents have highlighted the kinds of challenges the healthcare system is likely to face in a major disaster. The Japanese earthquake and subsequent nuclear reactor crisis provided us with a catastrophic scenario that would present formidable public health and healthcare challenges to the U.S. should such an incident occur here. The 2009 H1N1 pandemic, though mild in comparison to the anticipated morbidity and mortality of a H5N1 pandemic, stressed the interdependence of the public health, pre- and post-hospital care, primary care, and hospital care systems. It also confirmed the need for a “whole of community” approach in planning and responding to a disaster, and confirmed that going forward, HPP must address the entire healthcare community in its preparedness activities.

Through the work of its State partners, HPP has advanced the preparedness of hospitals and communities in numerous ways, including through planning for all-hazards, increasing surge capacity, tracking the availability of beds and other resources using electronic systems, and developing communication systems that are interoperable with other response partners.

States have also developed systems to pre-register and validate the credentials of healthcare volunteers before an emergency occurs, educated healthcare workers to support the community’s healthcare needs during an emergency response, and put in place plans to manage fatalities and evacuate or safely shelter hospital patients. Many more community healthcare facilities have equipment to protect healthcare workers and decontaminate patients in chemical, biological, radiological, or nuclear emergencies. They have developed partnerships and coalitions to create a more comprehensive and resilient system of response. For example, hospital partnerships have conducted joint planning, developed contracts to share resources, and established regular communications in an effort to become more resilient to disasters in their communities.

Moving forward, HPP must be responsive to lessons learned and flexible in meeting community needs. One important way this will occur is through better alignment with other Federal preparedness grant programs. Another will be the increased emphasis on broader, community-wide, healthcare preparedness approaches, including building and strengthening healthcare coalitions. Finally, I believe it is critical to monitor and communicate about our nation’s progress in preparedness overall. Hence, development and use of additional preparedness metrics will be a priority.

There is much to build on as we continue to build a nation in which our health and response systems and communities are prepared, responsive and resilient to limit the health impact of emergencies and disasters. While continually looking toward the future, this report provides more detail on the current state of preparedness.

Sincerely,

A handwritten signature in cursive script, reading "Nicole Lurie".

Nicole Lurie, MD, MSPH

Assistant Secretary for Preparedness and Response  
U.S. Department of Health and Human Services

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### *HPP Vision*

*Communities prepared to meet the healthcare needs  
of their citizens in response to and recovery from disasters*

#### **Introduction**

The H1N1 pandemic of 2009-2010 demanded the healthcare community respond in ways not required in decades. While there had been prior severe seasonal influenza outbreaks, and numerous small, localized emergency events, the nation's healthcare community had to find ways to evaluate and treat large numbers of patients who overwhelmed emergency departments and occupied ICU beds. Many institutions had to implement plans to use alternate care sites, adjust staffing patterns, and administer newly available vaccines and anti-virals provided by State and Federal governments. Individual providers had to use innovative strategies to accommodate influenza patients into already full clinic schedules. However, the overflow of patients was often referred to the local emergency department, a costly alternative to a practitioner's clinic. Much of the planning that supported these actions was supported by funds from two Federal cooperative agreements—the Hospital Preparedness Program (HPP)<sup>1</sup> and Public Health Emergency Preparedness Program.<sup>2</sup> The nation's experience with the H1N1 pandemic affirmed that the entire healthcare community must be engaged in response to public health and medical emergencies.

<sup>1</sup>DHHS. (2007). Announcement of Availability of Funds for the Hospital Preparedness Program, from <http://www.phe.gov/Preparedness/planning/hpp/Documents/2007hppguidance.pdf>

<sup>2</sup>DHHS / CDC. (March 2011). Public Health Emergency Preparedness (PHEP) Cooperative Agreement, from <http://www.cdc.gov.ezproxyhhs.nihlibrary.nih.gov/phpr/coopagreement.htm>

As this landmark event unfolded, the HPP recognized that it needed to evolve its preparedness strategies. While much progress has been made, and many facilities used the capabilities they had developed through HPP, better integration of the full spectrum of the healthcare community into preparedness and response activities is necessary to achieve the levels of readiness required to meet the challenges facing the nation.

The purpose of this report is two-fold. Since the creation of the HPP in 2002, States and hospitals, along with the public health and emergency management communities, have worked tirelessly to improve the State of medical and public health preparedness. While some of their accomplishments have been captured in a variety of publications, no single document captures their progress. This report provides an up-to-date snapshot of that progress.

Secondly, the HPP is at a point in its evolution where significant enhancements are necessary in order to more broadly include the entire healthcare community and to make preparedness a community attribute instead of a facility one. HPP must also better define, measure, and monitor the level of healthcare preparedness going forward. The program is completing the final year of a three-year project cycle and is poised to align with CDC's Public Health Emergency Preparedness Cooperative Agreement program<sup>3</sup> in both content and administrative

<sup>3</sup>Additional information about CDC's Public Health Emergency Preparedness cooperative agreement program is found at <http://www.cdc.gov/phpr/coopagreement.htm>



requirements. Healthcare partners have had to make difficult decisions at this time of fiscal austerity. There are concerns about preparedness gains being lost as preparedness programs are reduced or eliminated due to budget cuts. Thus, realistic, measurable objectives are essential to benchmark progress and measure the return on investments in preparedness.

### History of the Hospital Preparedness Program

In response to the attacks of September 11, 2001 and the subsequent anthrax attacks later that year, public health and medical leaders became concerned about the low level of preparedness for bioterrorist attacks on the U. S. Early in 2002 the National Bioterrorism Hospital Preparedness Program was created. Approximately \$125 million was appropriated to provide States with funding directed toward addressing gaps in hospital preparedness. The early program was focused on building capacity, and emphasized activities such as decontamination, maintaining pharmaceutical caches, identifying hospital bed surge capacity, and training providers in the diagnosis of diseases caused by bioterrorism.

In 2004 emphasis of the program shifted from a capacity-based, bioterrorism-focused program to an all hazards, capabilities-based approach. The change meant that hospitals could no longer meet requirements simply by purchasing equipment and/or supplies; they needed to demonstrate the capability to perform core functions common to all responses.

With the passage of the Pandemic and All Hazards Preparedness Act in 2006, the Office



of the Assistant Secretary for Preparedness and Response (ASPR) was created to serve as the principal advisor to the Secretary of HHS on all matters related to public health and medical preparedness and response to public health emergencies. The HPP was then transferred from the Health Services and Resources Administration (HRSA) to ASPR in 2007. This transfer purposefully placed the HPP in direct relationship with the Federal response organizations, such as the National Disaster Medical System (NDMS), in order for the ASPR to serve as the single point of coordination and integration for all public health and medical preparedness programs with medical response programs and activities for the Federal government.

As the lead Federal agency for Emergency Support Function 8 (ESF-8—Public Health and Medical Services)<sup>4,5</sup> in the National Response Framework,<sup>6</sup> HHS uses the HPP to

<sup>4</sup>DHS. (January 2008). Emergency Support Function-8 – Public Health and Medical Services Annex, from <http://www.fema.gov.ezproxyhhs.nihlibrary.nih.gov/pdf/emergency/nrf/nrf-esf-08.pdf>

<sup>5</sup>Public Health and Medical Services includes responding to medical needs associated with mental health, behavioral health, and substance abuse considerations of incident victims and response workers.

<sup>6</sup>DHS. (January 2008). National Response Framework, from <http://www.fema.gov.ezproxyhhs.nihlibrary.nih.gov/pdf/emergency/nrf/nrf-core.pdf>

help grantees address gaps in healthcare preparedness, and the NDMS<sup>7</sup> to augment damaged/overwhelmed local medical systems in health emergencies. Creative use of GIS (geographic information system) technologies has resulted in applications such as Med-Map, a web-based platform that can visually display healthcare and population information to aid in defining affected populations and facilities.

Countless examples exist of successful local responses enabled by HPP funding, and of communities that can now handle health and public health emergencies without additional Federal support. This report will detail many of these successes. While HPP provides the funding and sets the priorities for which the funding must address, it is the hard work and commitment to preparedness of State and local responders that makes the program successful.

This report aims to reach legislators, funding recipients, and other key stakeholders to better inform programs, policies, and the State of healthcare preparedness and response broadly. As we move toward the alignment and integration of healthcare systems and public health efforts, it is envisioned that this document will not be viewed as exhaustive. Instead, this report should offer a welcomed complement to other resources and guiding documents in healthcare preparedness and response to showcase successful models, improve resilience, and increase transparency.

Countless examples exist of successful local responses enabled by HPP funding, and of communities that can now handle health and public health emergencies without additional Federal support.

<sup>7</sup>DHHS. (April 2010). National Disaster Medical System, from <http://www.phe.gov/preparedness/responders/ndms/Pages/default.aspx>



### What is an Awardee Profile?

Chapter 2 includes a précis of the key capacities, capabilities, and outcomes for each of the 62 HPP awardees, as well as descriptions of some of the accomplishments they have achieved as a result of HPP funding.<sup>8</sup> Each profile contributes to a vivid picture of the nation's hospitals, healthcare systems, and healthcare coalitions and partnerships, which work every day to build the preparedness and response infrastructure that can respond to mass casualty events and catastrophic emergencies.

To provide a more integrated systems perspective on local, State and regional response capabilities, the profiles also include information about the location of non-Federal hospitals that participate in the National Disaster Medical System (NDMS), a majority of which also participate in HPP. Additionally, the profiles identify the Federal hospitals (operated by the Department of Veterans Affairs and the U.S. Department of Defense) that function as NDMS Federal Coordinating Centers (FCCs). FCCs solicit and organize community support services, enroll non-Federal hospitals in the NDMS, and when needed, coordinate transportation, communication, medical manpower, bed availability, and patient administration procedures when the evacuation portion of NDMS is mobilized. As described in Chapter 1, the integration of NDMS with the HPP grant program allows ASPR to provide a more unified approach to healthcare preparedness and response.

<sup>8</sup>Profiles are based on awardee End-of-Year (EOY) 2009 self-reported performance, augmented by additional information reported to ASPR towards the end of 2010, as part of required grant reporting.

Each two-page awardee profile contains the following:

- A narrative section about the jurisdictional awardee describing an accomplishment, promising practice, real life event, or the impact of HPP grant funding on healthcare system preparedness,
- A map<sup>9</sup> indicating the boundaries of the awardee sub-regions<sup>10</sup> (if any), and the location of HPP, NDMS,<sup>11</sup> and FCC<sup>12</sup> participating hospitals, and
- Data on the core HPP Preparedness Outcome Measures as well as Response Capacities and Capability<sup>13</sup> Measures.

The profiles are intended to provide a “broad brush” overview of each jurisdiction's activities; hence, this report does not cover all of the awarded preparedness activities. Rather, this effort is a first step in presenting a more comprehensive picture of the healthcare system preparedness and response activities in the nation. Taken together, the profiles show that we have come a long way over the last decade, and are poised to build on these successes as we move forward.

For more information on each awardee's current preparedness activities, please contact the public health department at the address identified on each profile.

<sup>9</sup>GIS maps created in ArcMap (a product of ESRI).

<sup>10</sup>HPP sub-regions were identified by HPP awardees between 2002 and 2006, while HPP was administered by HRSA.

<sup>11</sup>NDMS participating hospital data supplied by ASPR NDMS staff.

<sup>12</sup>FCC data supplied by Subject matter experts in the U.S. Department of Defense, and the Department of Veterans Affairs.

<sup>13</sup>Census data were used to make applicable population-based calculations. The exact language for the HPP measures is located in Appendix C.

# Medical Surge Units Help to Overcome Rising Temperatures

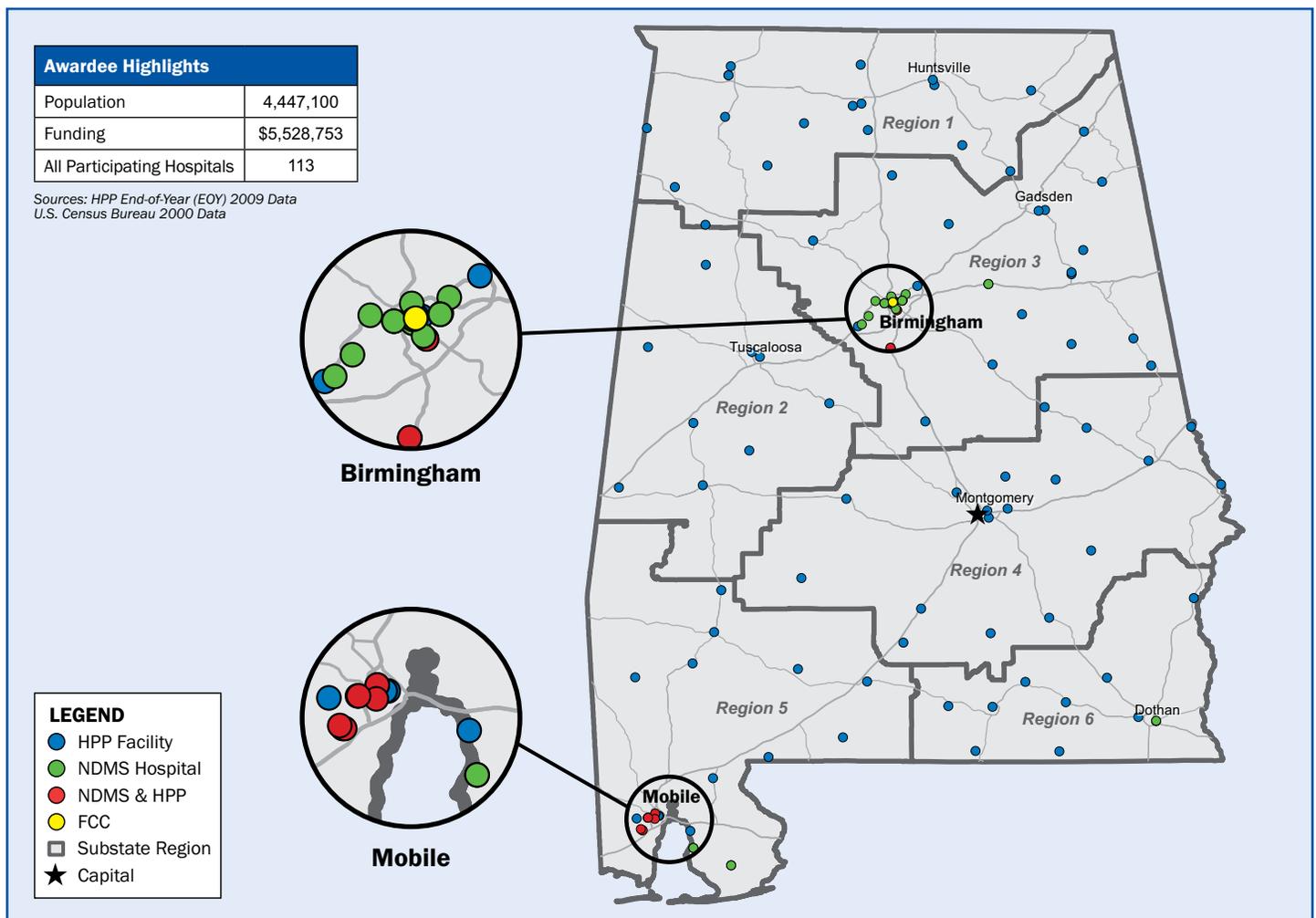
Amid a heat wave in August 2010, University of South Alabama Medical Center lost both its primary and secondary cooling systems, and the air temperature in the medical center rose to the high 90 degrees with very high humidity. The medical center, the sole level-one trauma center in the southwest serving south Alabama and southeastern Mississippi, had 41 patients in the ICU being negatively impacted by the rising heat in the facility. Moving ICU patients, already clinging to life, can have disastrous consequences, and loss of this facility's services would have a drastic negative impact on the health and welfare of the public in the areas it served.

The medical center reached out to the Alabama Department of Public Health's Center for Emergency Preparedness (ADPH-CEP) with an urgent request received for help.

The Health Department had purchased portable cooling systems for their Medical Surge Units using Hospital Preparedness Program (HPP) funds. The Department was able to deploy these units with an escort from Alabama State Troopers. The units were on site and operational within five hours of the medical center's request.

Through Alabama Department of Public Health's partnerships with the local hospital and the local public health department, and utilization of the surge equipment provided by HPP funds, the Department of Public Health was able to avoid evacuating patients from the medical center, and the University of South Alabama Medical Center was able to continue to provide needed critical medical services for communities in Alabama and Mississippi.

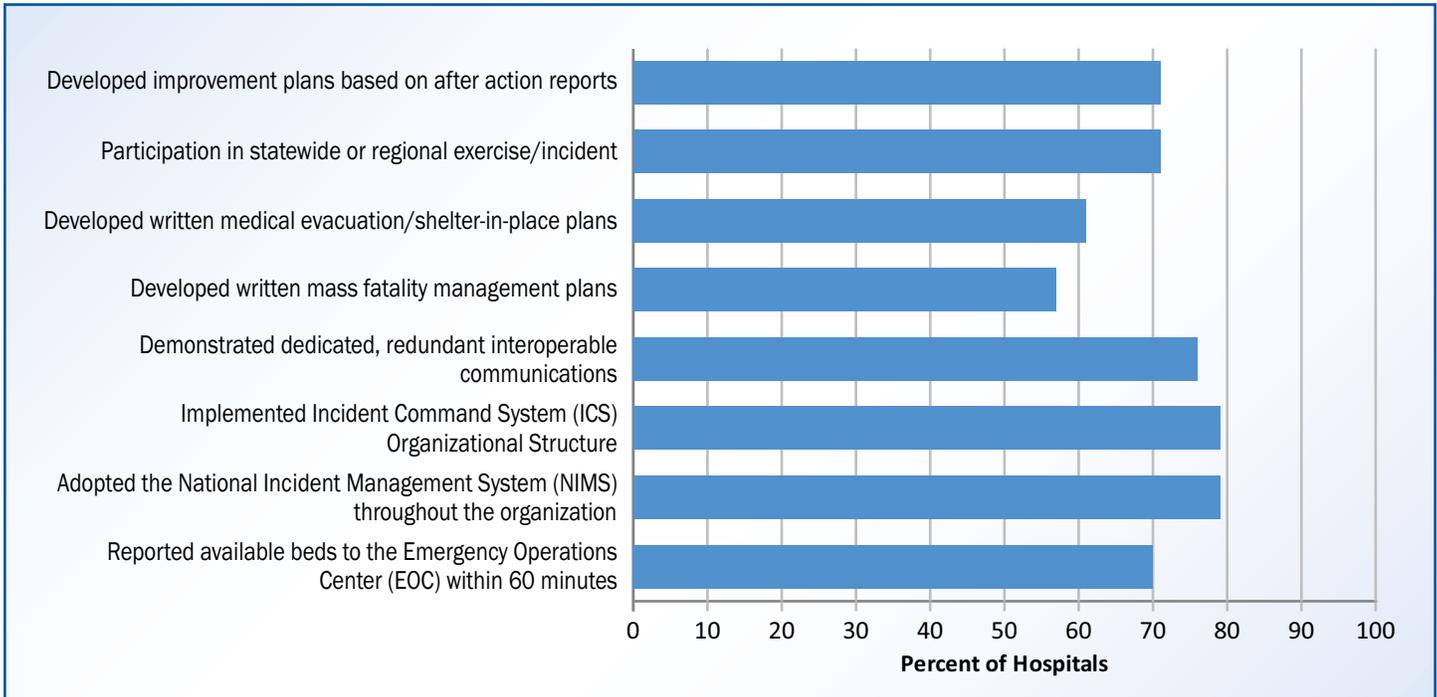
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	76
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	272
Number of 24-hour surge staffed beds per 100,000 population	393
Number of certified trauma centers per 100,000 population	0.4
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	2605
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	94

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Improvements Implemented After Plane Crash

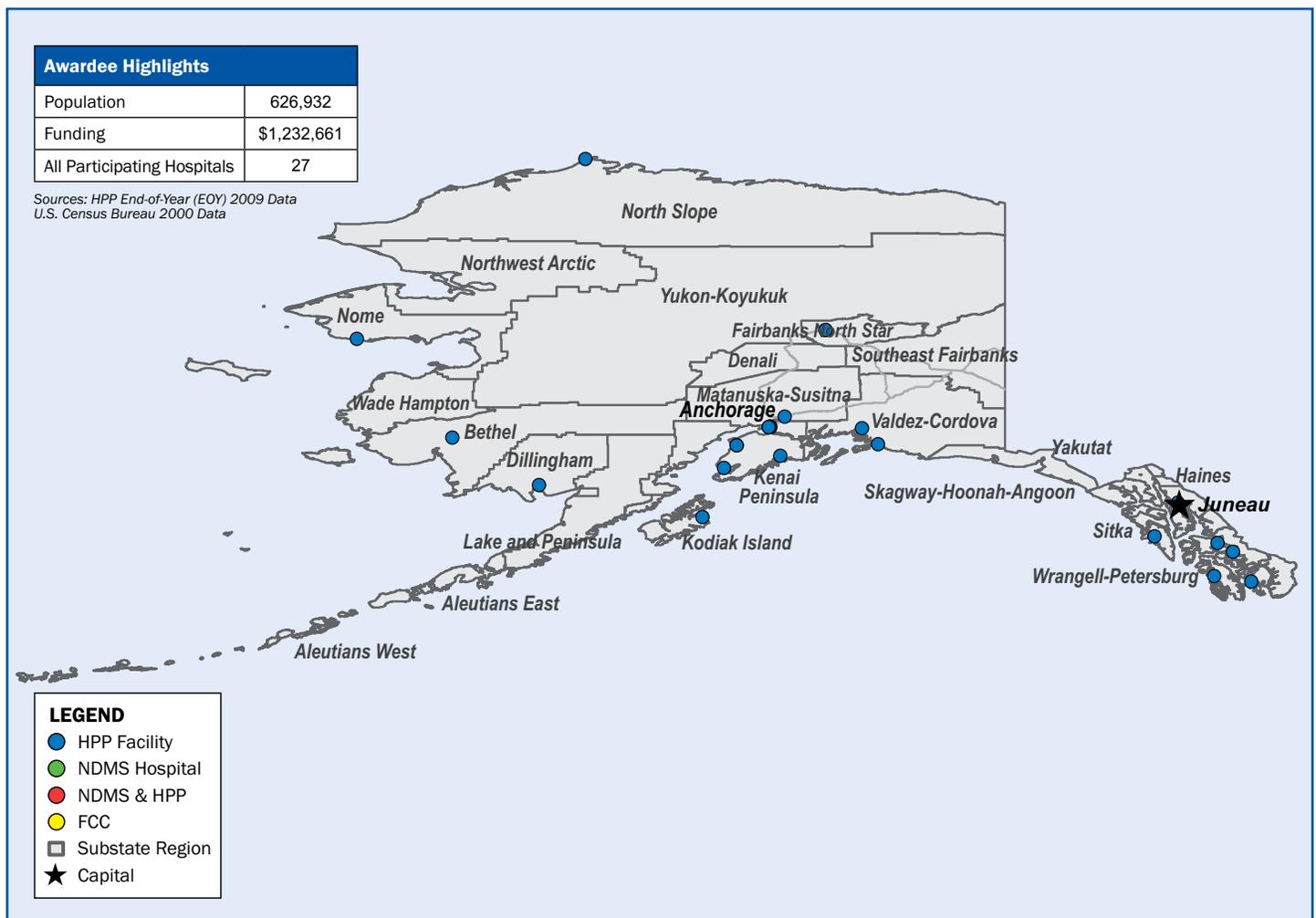
On Monday, Aug. 9, 2010, Alaskans were shocked and saddened to learn of a plane crash in a remote area south of Dillingham that claimed the life of Alaska Senator Ted Stevens and four others. Responding to the crash site to provide aid and assistance to the survivors was a major challenge for the staff of Bristol Bay Area Health Corporation (BBAHC). A review of the medical response to the crash indicated a number of challenges, including providers not having the “basic survival” type tools necessary to meet basic needs in the wilderness.

Past Hospital Preparedness Program (HPP) funding had allowed BBAHC to make significant progress in securing supplies and training for the main facility in Dillingham. Similarly, to respond to the needs identified, it was determined that planners would give focused attention to healthcare providers, who are working in wilderness environments and rural villages on a daily basis.

Since the plane crash, HPP funding has allowed BBAHC to provide some basic tools that have made a real difference for these providers, and have greatly reduced their exposure to risk, real or perceived, during disasters. Using HPP funds, BBAHC has been able to supply “Go To” kits that include survival vests, personal locator beacons, a headlamp, three days worth of emergency food and water, emergency shelter and thermal blankets, and other items for wilderness medical response.

These “Go To” kits are simple and easy to transport, yet provide great reassurance to the responding healthcare providers who may end up stranded in the wilderness overnight or even for a number of days. By safeguarding their staff with very basic survival tools, BBAHC is enhancing the ability of providers to respond to an emergency off site.

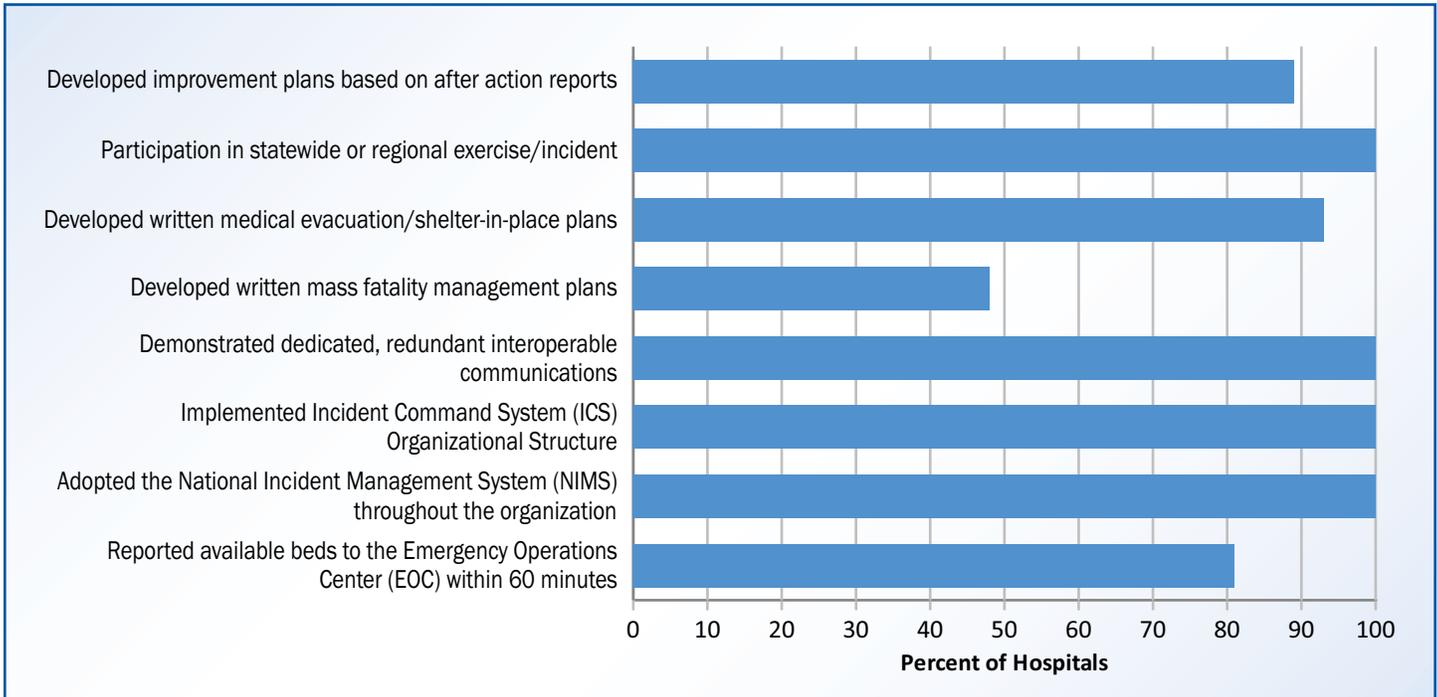
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	59
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	296
Number of 24-hour surge staffed beds per 100,000 population	562
Number of certified trauma centers per 100,000 population	1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	400
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	0
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	271

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## ADHS Develops Innovative Exercise Program

The staff of the Arizona Department of Health Services (ADHS) knows that plans are only good if they work as intended. To test how well the State's public health and medical disaster response plans are, the department used Hospital Preparedness Program (HPP) funds to develop an innovative and demanding exercise program to test medical surge capabilities throughout the State's public health and healthcare sectors.

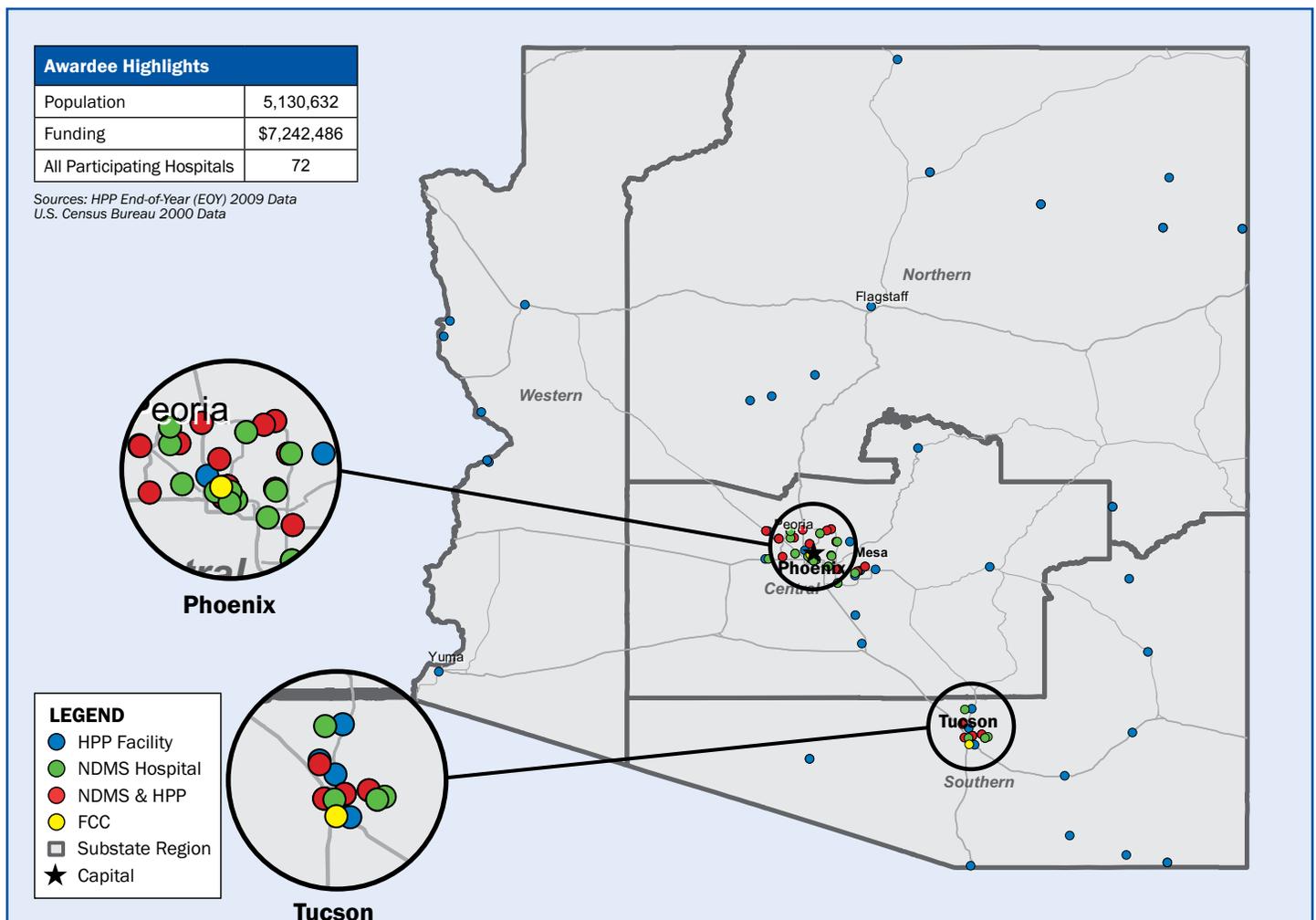
All county Public Health Departments and all of the 72 HPP-funded hospitals in Arizona participate in this exercise series, along with a multitude of tribal, State, and Federal emergency management participants.

Based on the success of the first exercise program, the Department is working with hospitals, county, and State emergency management, and military partners to develop a 12-month exercise series. The series includes training, tabletop exercises, a functional exercise, and a full-scale hospital exercise that will be conducted in conjunction with the Federal Vigilant Guard and Vigilant Shield exercises being held in November.

The entire exercise series uses a scenario with an Improvised Nuclear Device (IND) detonation. The training elements focus on the Arizona Burn Care Network and the Radiological Injury Treatment Network (RITN). During previous exercises, participants were able to see the Burn Care Network equipment operate and discuss its potential applications. Many participants in previous exercises were introduced to the RITN and learned about the variety of clinical resources that would be available to treat radiological injuries. The tabletop discussions focused on the wide variety of medical surge issues that a hospital would face during an IND.

Using HPP funds, ADHS has also implemented a monthly communications drill to test hospitals' ability to respond with primary and backup communication devices and systems. The drills include many types of communication equipment – landlines, cell phones, radios, and multiple web-based applications. State and county health departments, tribal health, the Indian Health Service, and hospitals participate in these drills. Monthly drills also include HAVBED polling. The statewide overall response rate has improved with each monthly drill and has reached 85 percent.

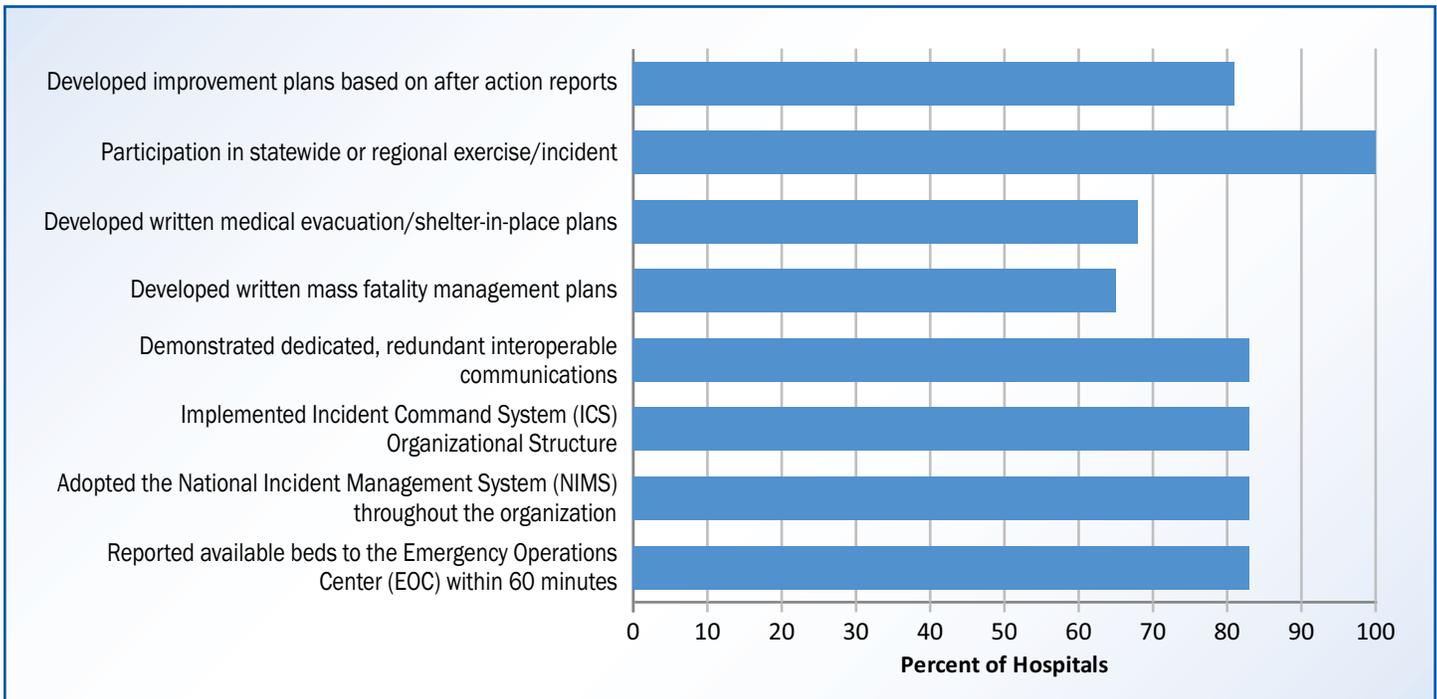
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	83
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	198
Number of 24-hour surge staffed beds per 100,000 population	260
Number of certified trauma centers per 100,000 population	0.3
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	687
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	117

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Arkansas Uses HPP to Support Flu Vaccination

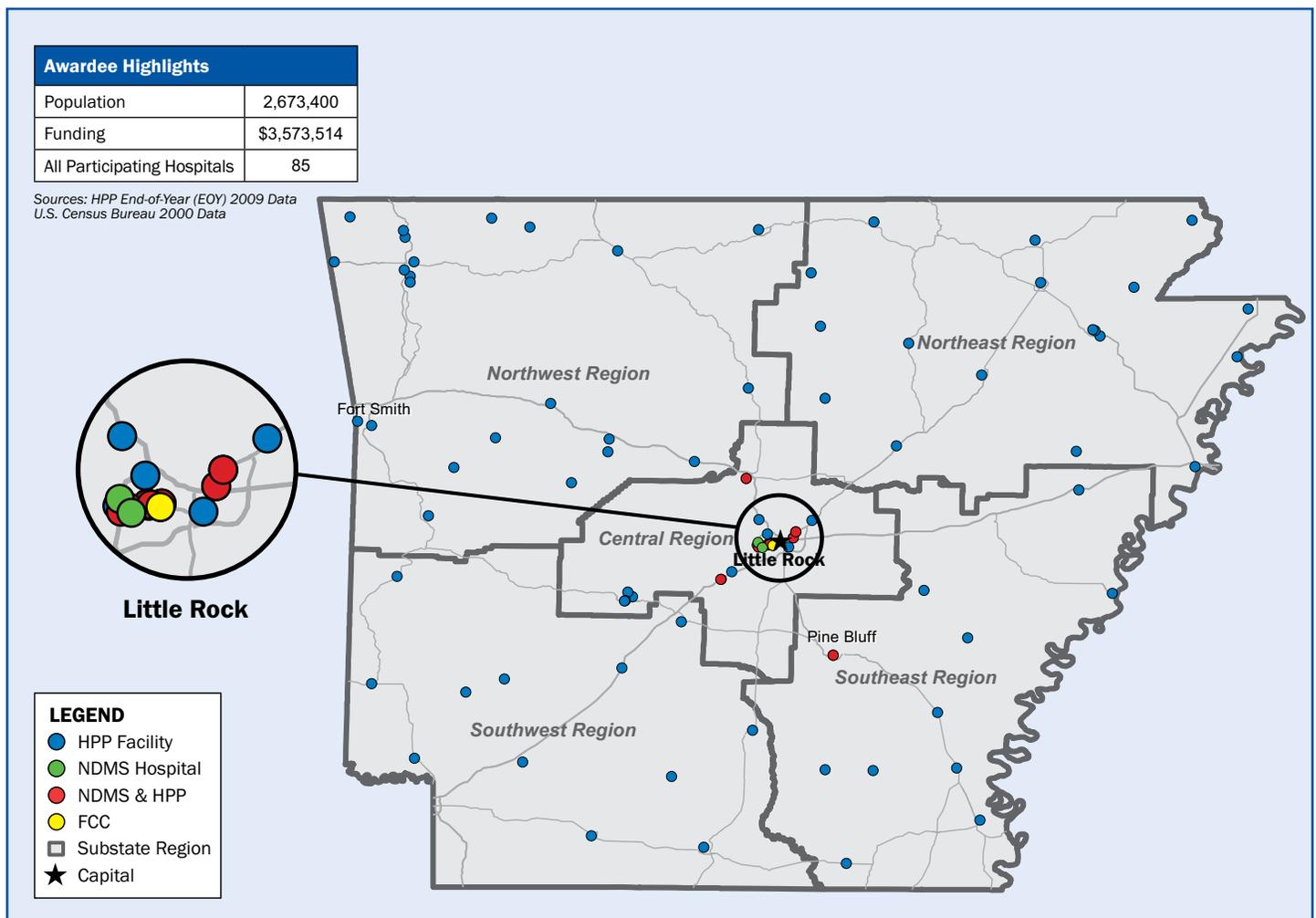
To save lives and combat the first pandemic the world has seen in 40 years, Arkansas used Hospital Preparedness Program (HPP) funds to develop and implement a mass vaccination campaign which included Drive-thru Flu Clinics, geared toward at-risk populations. The local and State Health Departments used a “drive-thru” concept which allowed people with disabilities and senior citizens to get vaccinated without having to leave their vehicles. People could simply drive up to the designated location, roll down the window, fill out the paperwork handed through the window by a vaccination team, roll up their sleeves, get vaccinated, and drive away. Such easy-access techniques in county mass flu clinics led to 306,200 vaccinations.

Local county health units also partnered with the school districts and day care centers to provide vaccinations to children – an age group

hard hit by H1N1 – during school hours, making vaccination less time consuming for parents. Approximately 320,375 children were vaccinated through these school-based clinics.

Additionally, a county in the delta region of the State partnered with the local senior centers to transport those with transportation challenges. It was imperative that as many of those populations who were at greatest risk received the vaccination. Through the county mass flu clinics there were a total of 306,200 doses given, which included 189,784 seasonal and 116,416 H1N1 vaccines. An additional 20,378 doses were given at schools and daycare sites, including 177,828 seasonal vaccinations and 142,550 H1N1 vaccines. The Arkansas approach, supported by HPP funds, doubled the vaccination rate from the previous year.

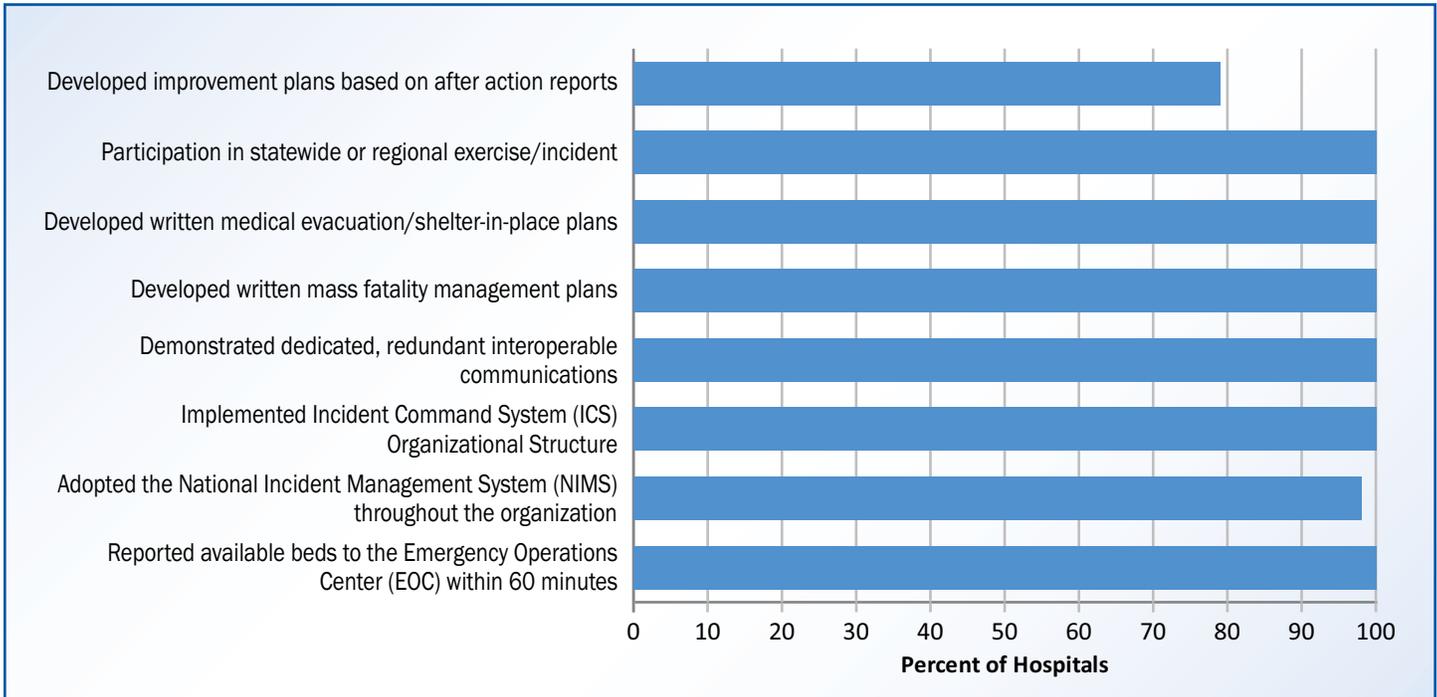
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	304
Number of 24-hour surge staffed beds per 100,000 population	423
Number of certified trauma centers per 100,000 population	0
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	294
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	104

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# CDPH Joins Health Alert Network for Improved Response

To create a 24/7 capability for State and local public health and medical response, the California Department of Public Health (CDPH) enrolled all of California's general acute care hospitals in the California Health Alert Network (CAHAN), the State's web-based information and communications system.

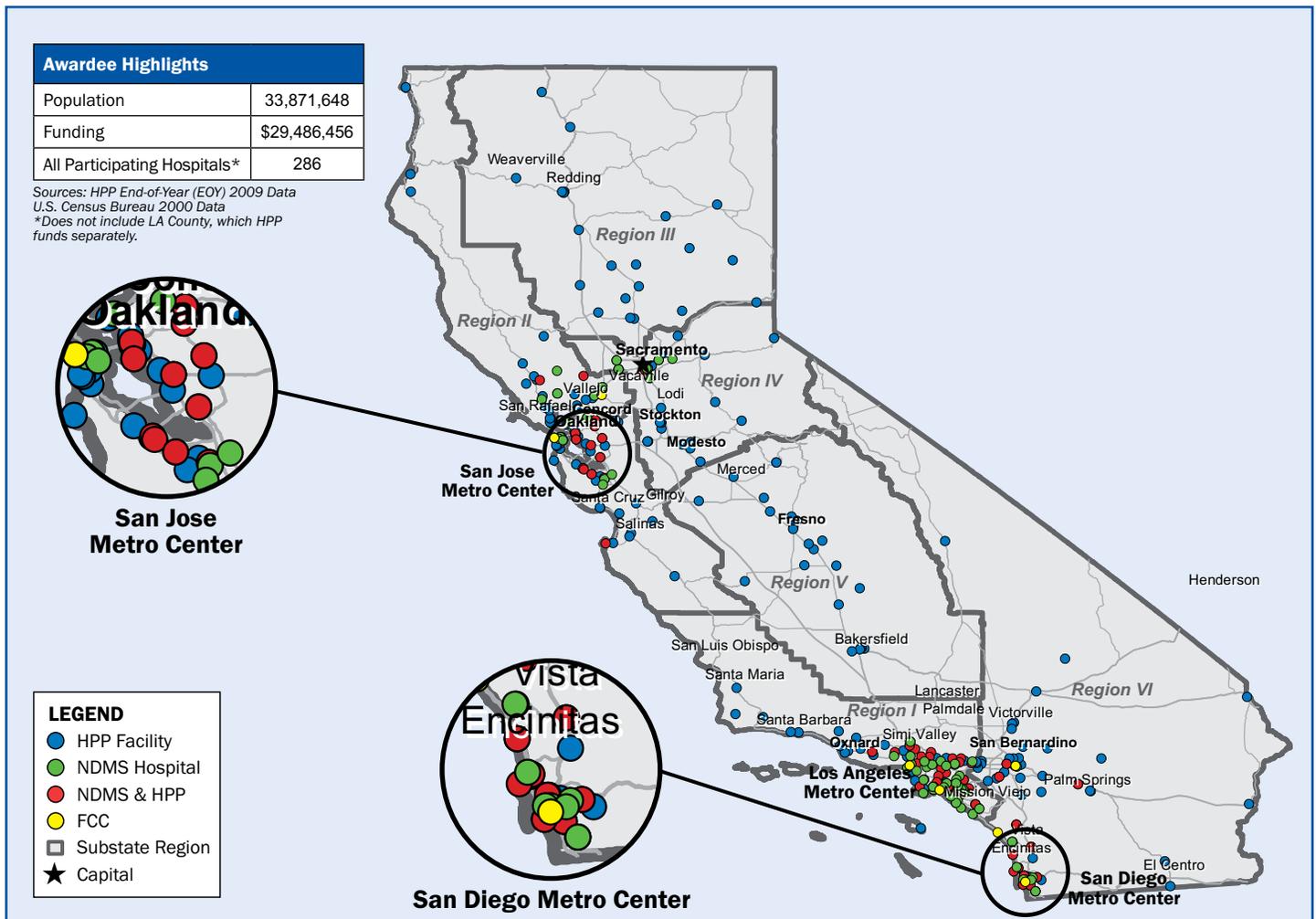
Jointly funded through the Federal Hospital Preparedness Program (HPP) and Public Health Emergency Preparedness Cooperative Agreements, CAHAN links health and medical emergency response partners to provide rapid and secure communication between State and local health agencies, hospitals, and other public health and medical emergency response partners. The system also gives State authorities a way to disseminate information quickly about likely or imminent dangers. CAHAN provides a secure, collaborative environment to

develop and share information needed for effective emergency preparedness planning and response.

The Department of Public Health established the communications infrastructure for rapid, statewide, emergency communication and expanded CDPH to key public health partners. Today, in addition to hospitals, more than 33,000 public health and medical emergency response partners participate in CAHAN.

In 2010 more than 5,000 CAHAN alerts were issued in California. Spawned by HPP, this communications partnership strengthens the ability to share public health and medical emergency information between California hospitals and the CDPH, which helps California better prepare for disasters and save lives.

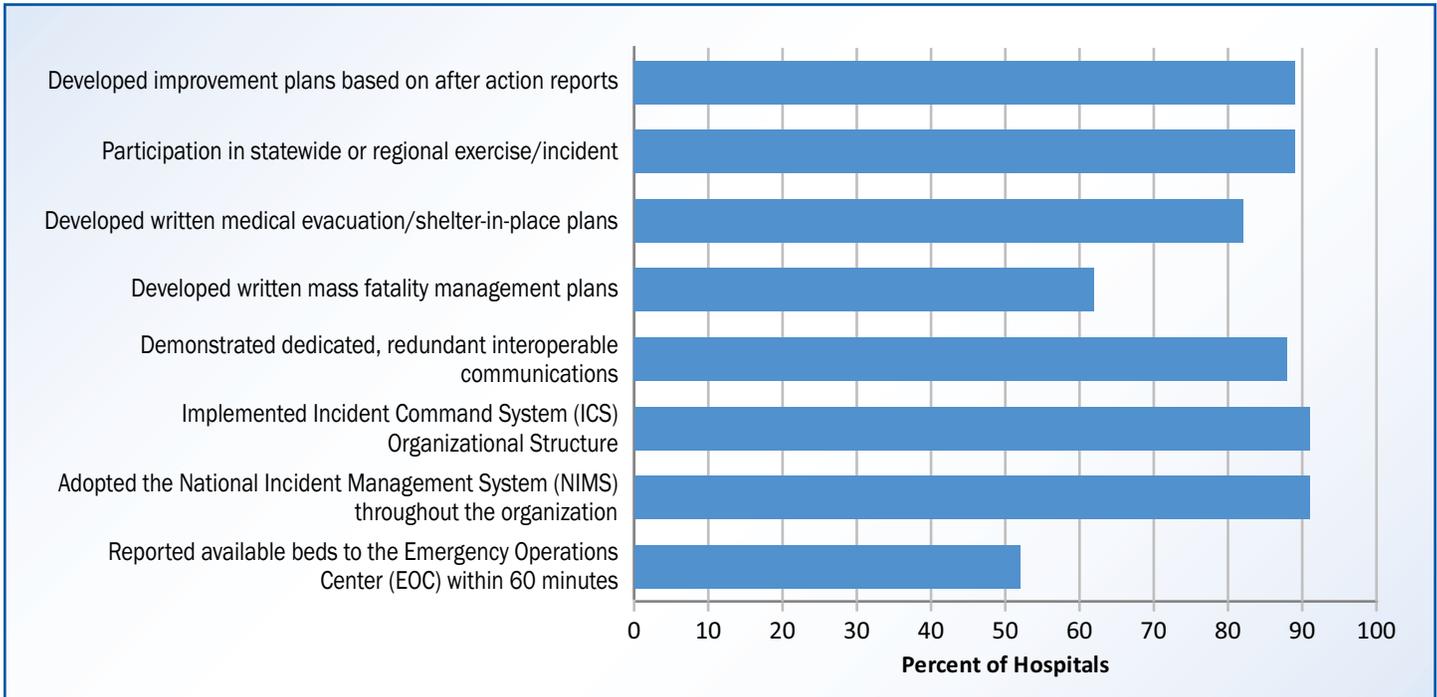
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	88
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	152
Number of 24-hour surge staffed beds per 100,000 population	239
Number of certified trauma centers per 100,000 population	0.1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	11858
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	56

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## *Burn Resource Center Enhancing Los Angeles County's Burn Surge Capacity*

In a metropolitan area with a population of nearly 10 million people, Los Angeles County has as a total of 59 licensed burn beds. These burn resources were inadequate to provide burn care in the event of a major disaster, such as a nuclear denotation, generating a massive number of burn patients. To address this problem and enhance the county's capability to manage an influx of burn patients during a mass casualty incident, the county implemented a Burn Resource Center program.

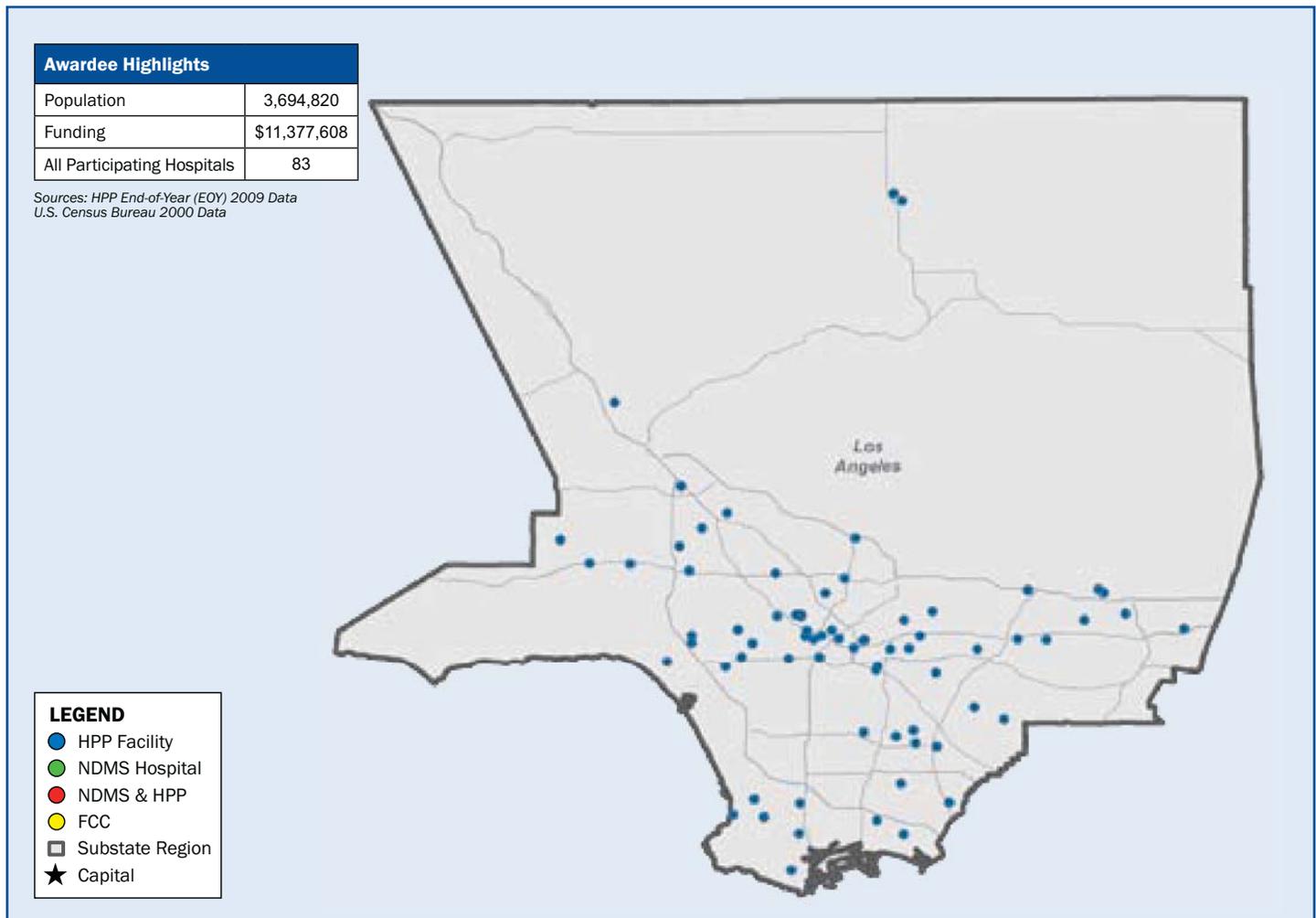
The program involves all 14 Los Angeles County trauma centers, three burn centers, and all 9-1-1 receiving facilities and EMS providers in Los Angeles County. The program has almost tripled Los Angeles County's burn bed capacity from 59 to 227.

Under the direction of the Los Angeles County Emergency Medical Services Agency, and in consultation with its Trauma Hospital Advisory Committee, the county created a burn task force. The task force de-

vised a burn surge plan, which would use designated trauma centers to care for burn victims in a large event. The task force developed an education program and policies and procedures that emergency medical responders would use for field triage, burn care, burn equipment, supply needs, and for agreements to transfer patients. The burn care supplies and equipment purchased with Hospital Preparedness Program funding are integrated into the disaster caches of all the trauma centers across the county.

The response and coordination of a mass casualty burn incident is the responsibility of Los Angeles County's Health Services Departmental Operations Center, but the unique components of the plan, including utilization of existing trauma centers as Burn Resource Hospitals and integration of Burn Lead Specialists, are concepts that may be adapted by other jurisdictions or healthcare systems.

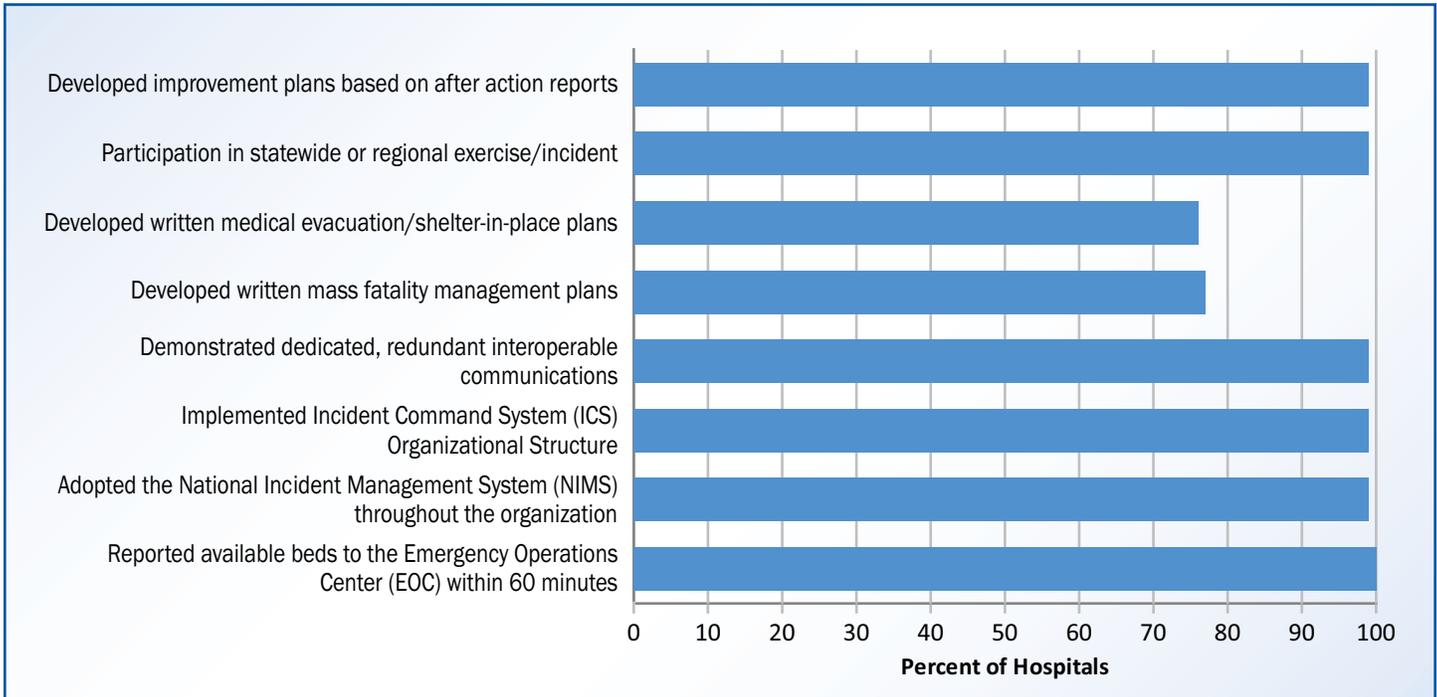
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	99
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	511
Number of 24-hour surge staffed beds per 100,000 population	781
Number of certified trauma centers per 100,000 population	0.4
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	2796
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	248

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Colorado Bolsters Preparedness Efforts

In Colorado, Hospital Preparedness Program (HPP) funds are woven into virtually every aspect of public health and medical preparedness. To provide surge capacity for emergencies, the State created the Colorado Volunteer Mobilizer. Established in part with HPP funds, the volunteer mobilizer serves as Colorado’s Emergency System for Advanced Registration of Volunteer Health Professionals (ESAR-VHP). With HPP support, the State created 22 Medical Reserve Corps teams and incorporated them into the volunteer mobilizer.

The state used the Colorado Volunteer Mobilizer to establish an emergency vaccination clinic that provided more than 10,000 meningococcal vaccinations at a local university.

Volunteers participate in annual Volunteer Capacity Building Workshops, funded by HPP. Through this they learn how to better coordinate between the healthcare sector and other emergency management functions and they become familiar with emergency management basics, such as the Incident Command Structure, the National Response Framework, CPR, and Psychological First Aid.

HPP funds supported disaster behavioral health training to more than 1,700 people, and in addition, the State created an electronic version of an “Individual and Workforce Resilience” course, registering over

350 behavioral health disaster responders in the volunteer network.

HPP-funded plans and training have proven critical in real-time emergency response. The State drew on the plans and training to support patient care issues that emerged when wild fires spread across the state. They also drew on these plans and training to support continuing daily functions at the San Luis Valley Regional Medical Center during a city-wide water contamination incident.

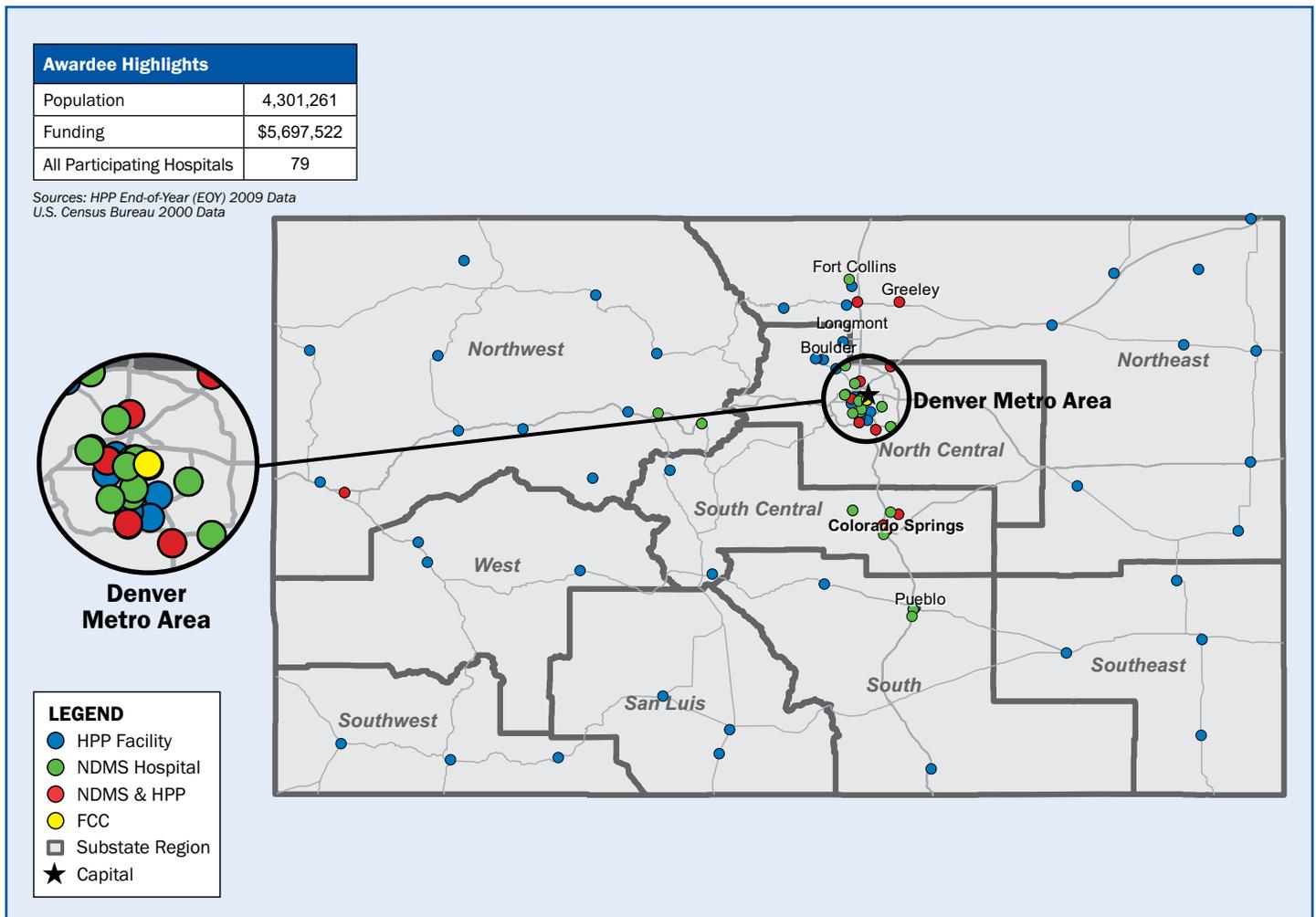
The State health department implemented plans that found – within one hour – the amount of Tamiflu stored in hospitals and pharmacies across the state. This information was needed to save lives during the H1N1 pandemic.

HPP also bolsters the ability of 15 Federally Qualified Health Centers, comprised of 123 clinics across the State, to respond and reduce the spread of the H1N1 pandemic virus. These centers purchased personal protective equipment, fit-tested the equipment, trained staff, and provided surge supplies to their clinics so staff could treat H1N1 patients.

For rural clinics, HPP funds provide generators and training so that essential equipment and medical data are not lost during power outages.

HPP is fundamental to public health and medical emergency preparedness and response across the Colorado healthcare system.

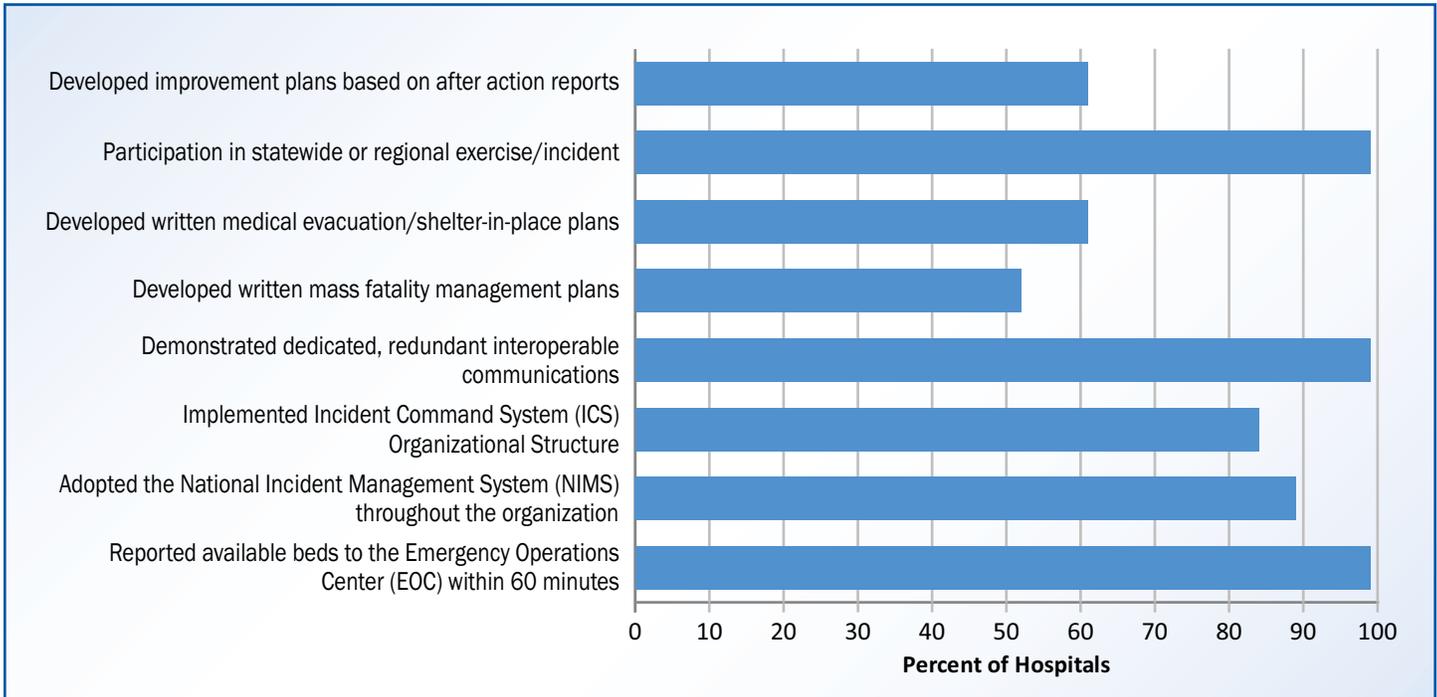
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	99
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	147
Number of 24-hour surge staffed beds per 100,000 population	278
Number of certified trauma centers per 100,000 population	2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	1671
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	163

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## A Hospital Fire and the Importance of Preparedness

When a two-alarm fire broke out at Lawrence & Memorial Hospital in New London, Connecticut, in August 2009, the hospital was prepared to respond. The fire, which originated from a transformer vault outside of the emergency room, required the evacuation and relocation of dozens of patients and hospital staff. Fortunately no injuries were reported.

Over the years, funding from the Federal Hospital Preparedness Program (HPP) provided hospitals with much needed infrastructure, equipment and training. Thanks to the routine drills and emergency exercises, hospital staff was prepared to respond to the emergency. The exercising of the hospital's enhanced evacuation plans helped identify gaps and problems before an actual emergency, and allowed staff to perform their emergency roles and effectively evacuate patients.

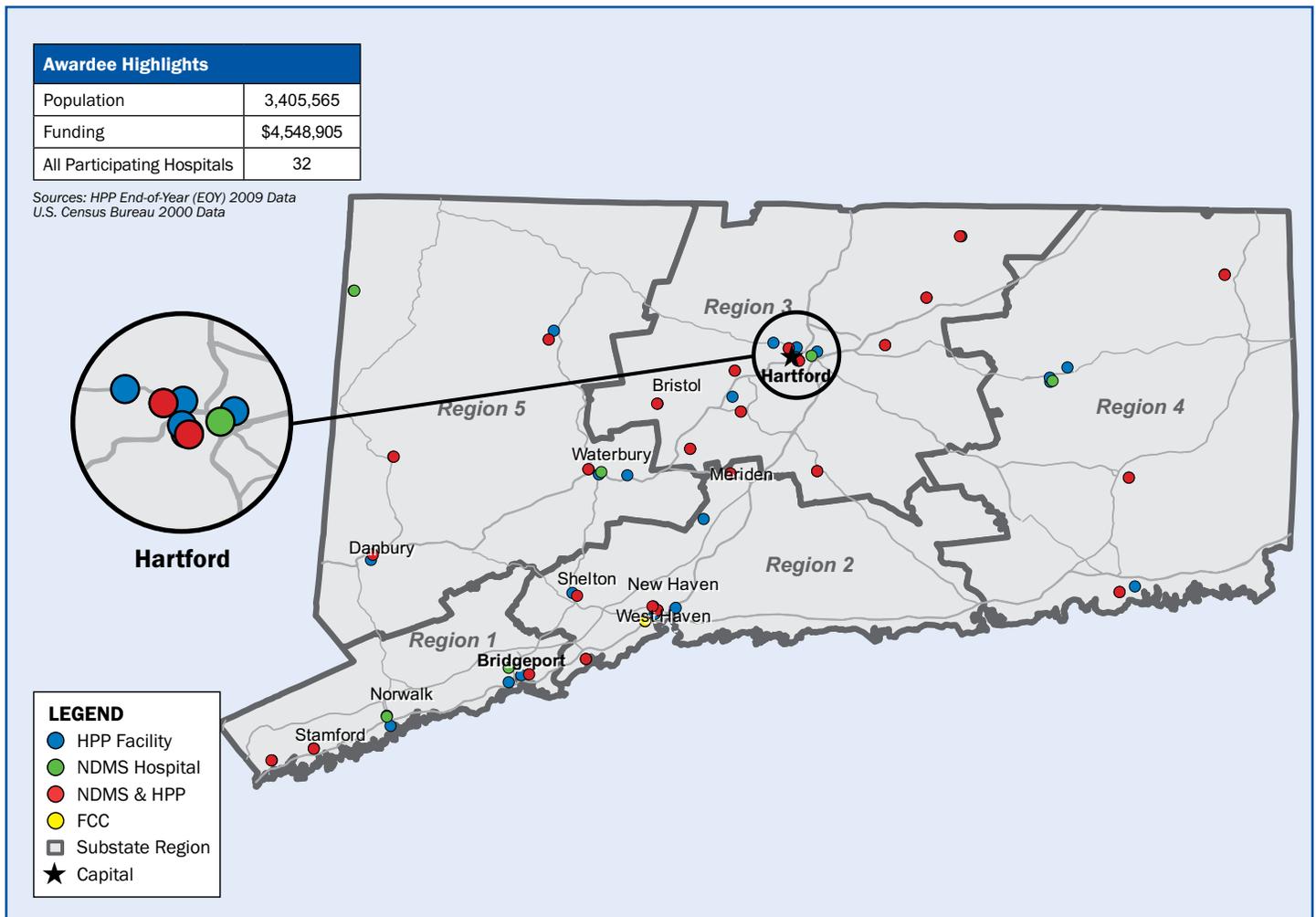
The ability to communicate information was also largely improved. An electronically-based bed-tracking system allowed for access to current bed counts in hospitals throughout the State. This system allowed the

regional communications center to work with area hospitals to coordinate the diversion of emergency patients during the initial hours of the incident. Interoperable communications allowed the hospital to communicate with responders who were assisting in response to the fire.

The hot weather also proved to be problematic, especially for patients who were vulnerable to heat. The Ottilie W. Lundgren Memorial Field Hospital is a portable facility; partially purchased with HPP funding that is equipped with medical supplies and an air conditioning unit. This air conditioning unit from the mobile field hospital was deployed to the Lawrence & Memorial Hospital within a matter of hours to provide much needed cooling relief until the hospital's cooling system was restored.

Without the infrastructure, equipment, training, and planning, the Lawrence & Memorial Hospital fire could have been disastrous. Instead, it stood as yet another example of the importance of preparedness.

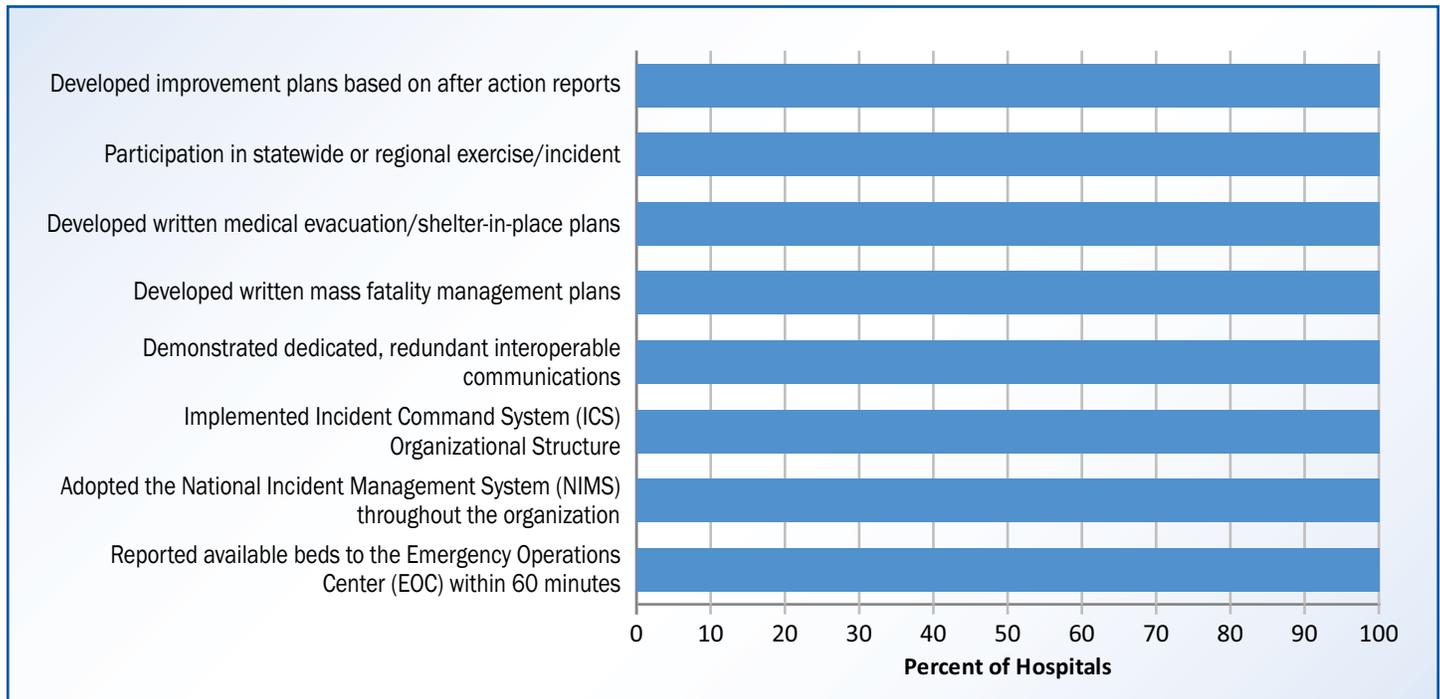
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	269
Number of 24-hour surge staffed beds per 100,000 population	322
Number of certified trauma centers per 100,000 population	0.4
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	3960
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	147

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Delaware and the Federal Government Combat H1N1 Together

In the fall of 2009, while the state of Delaware was in the midst of an H1N1 school vaccination campaign to provide the vaccine to children, issues began to arise with providing the vaccine to designated groups outside “school-aged children”. Due to high demand, other high-risk groups were unable to receive the vaccine at their doctors’ offices or public health clinics.

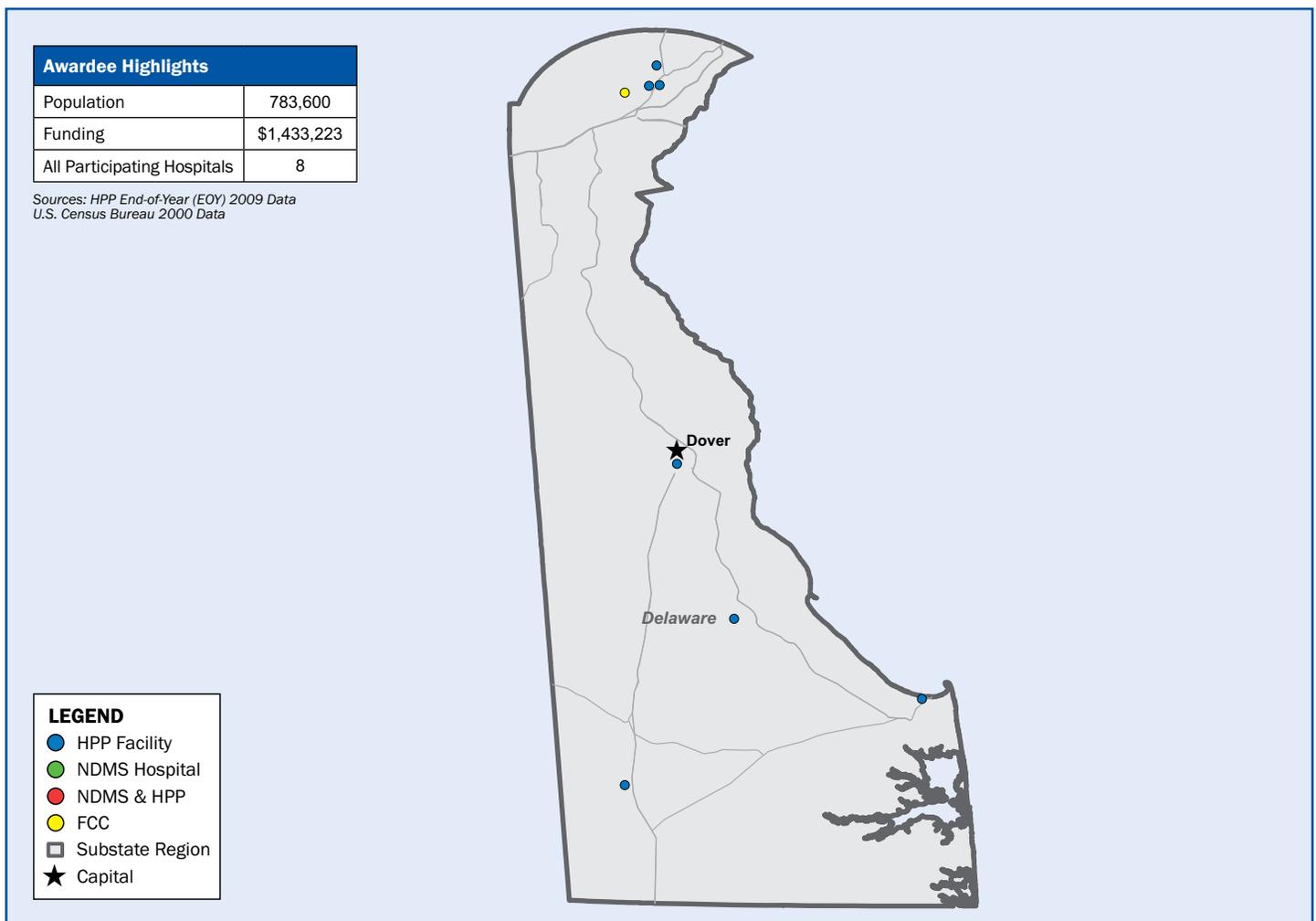
The Delaware Division of Public Health (DPH) requested the assistance of a federal vaccination team from the National Disaster Medical System (NDMS) and additional support from the Medical Reserve Corps (MRC) to launch a mass vaccination campaign for people in high-risk groups.

The State used its Hospital Preparedness Program funds as part of an activity to recruit, train, and prepare the Delaware Medical Reserve

Corp for such an event. Delaware would have otherwise struggled finding additional staff to supplement DPH staff that were already in the schools vaccinating children.

Having completed their special training, the Delaware Medical Reserve Corps’ volunteers were able to participate at the clinics, providing medical counseling, screening patients, assisting with vaccination, providing interpreter services, and entering data. The NDMS team and MRC members were supported by nursing students and instructors from the Delaware Technical and Community College, the Delaware State Police, the Georgetown Police Department, and Primecare Medical Transport. Working together as a team in mass vaccination clinics, these teams vaccinated more than 5,870 high risk Delaware residents.

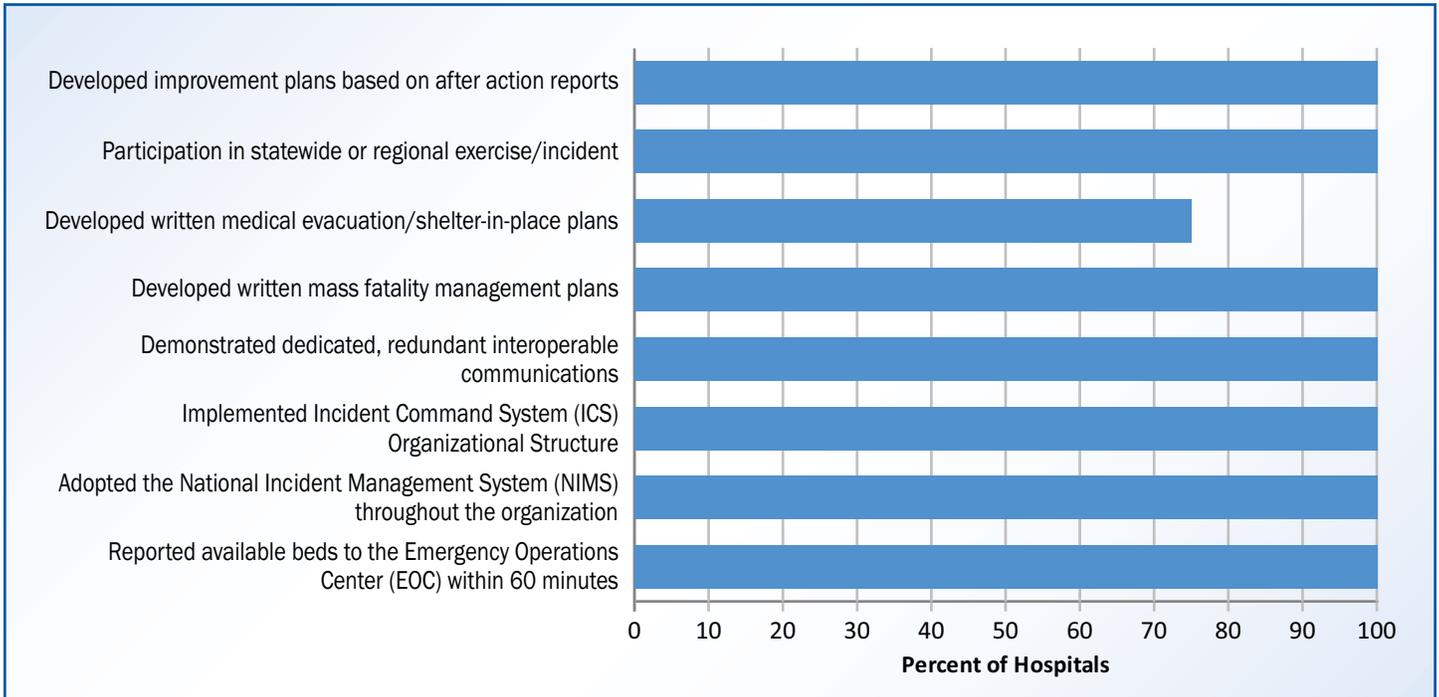
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	242
Number of 24-hour surge staffed beds per 100,000 population	286
Number of certified trauma centers per 100,000 population	1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	368
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	125

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Coalitions Emergency Operations Plan Tested During Exercises and Real World Events

Using Hospital Preparedness Program (HPP) funds, the Washington, D.C., Emergency Healthcare Coalition ( EHC) enhanced emergency response capabilities in the nation’s capitol, including upgrading and expanding the Health Information Systems across the District.

The Coalition is a non-incorporated organization that enhances the collective response of healthcare organizations, such as acute care, skilled nursing facilities, long-term care facilities, and mental health, in emergencies and disasters. The Coalition provides assistance during incidents that challenge the surge capacity/capability or resiliency of one or more healthcare organizations in Washington, D.C..

The Health Information Systems expansion created by the Coalition and funded by HPP tripled the number of hospital coordinating centers in the District (from one to three). Each center can manage surge capacity during large-scale emergencies, and provides a failsafe back-up to the hospital coordinating center engaged in the emergency.

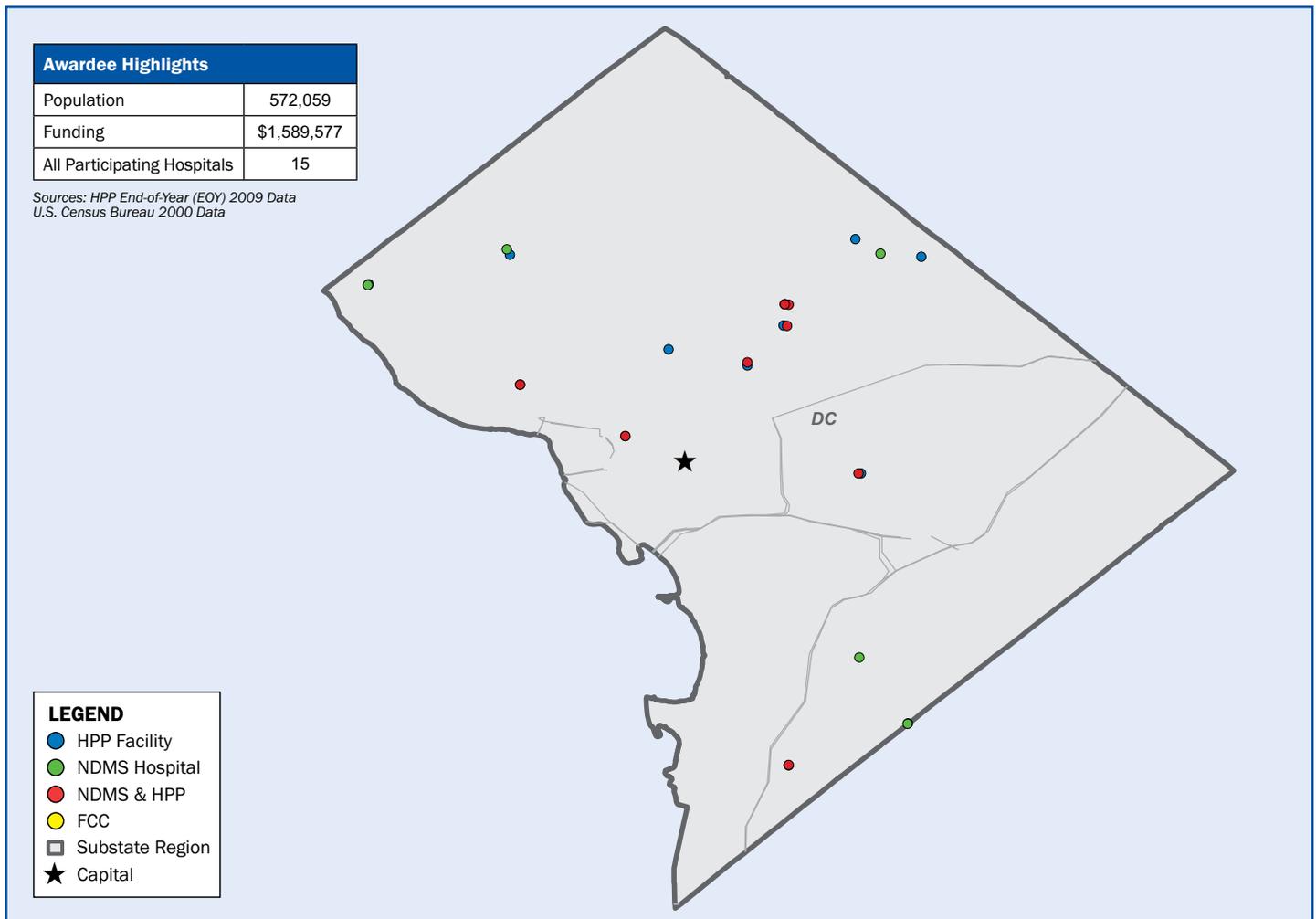
Enhancements also included replacing an aging Hospital Mutual Aid Radio System and expanding the system to include all members of

the Coalition. With the new expanded system, healthcare facilities can communicate more effectively during an emergency and better serve disaster survivors.

With HPP support, the Coalition linked the Information Technology programs of seven district hospitals to increase situational awareness, a critical component of managing medical surge. Each emergency department sends non-clinical, patient registration data to a regional node. Only the sending facility can see the data until an emergency occurs when the Department of Health can also see the names of patients registered during the emergency. This information allows the Department to assist family members in finding loved ones who may otherwise be considered missing or presumed dead in a disaster.

All of these components are part of the Coalition’s unified emergency operations plan, which was also developed with HPP support. The plan was tested during two large-scale exercises and used in two real world events in 2009: the Presidential Inauguration and a Metro train accident.

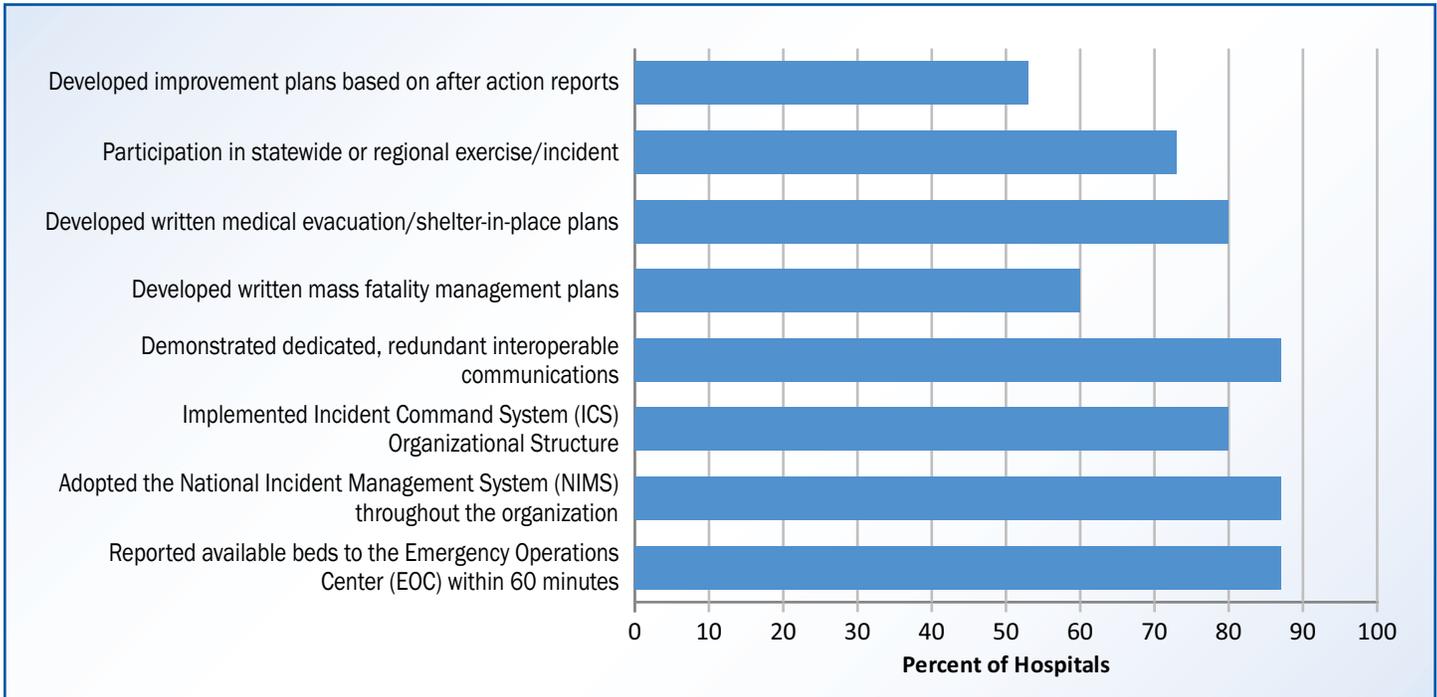
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	87
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	587
Number of 24-hour surge staffed beds per 100,000 population	657
Number of certified trauma centers per 100,000 population	1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	1278
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	259

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Operation Haiti Relief

The day after a catastrophic earthquake hit Haiti, the governor of Florida activated the State Emergency Response Team in support of the Federal government’s response to the disaster. Hospital Preparedness Program-funded planning enabled better hospital support across the State for what would become known as Operation Haiti Relief.

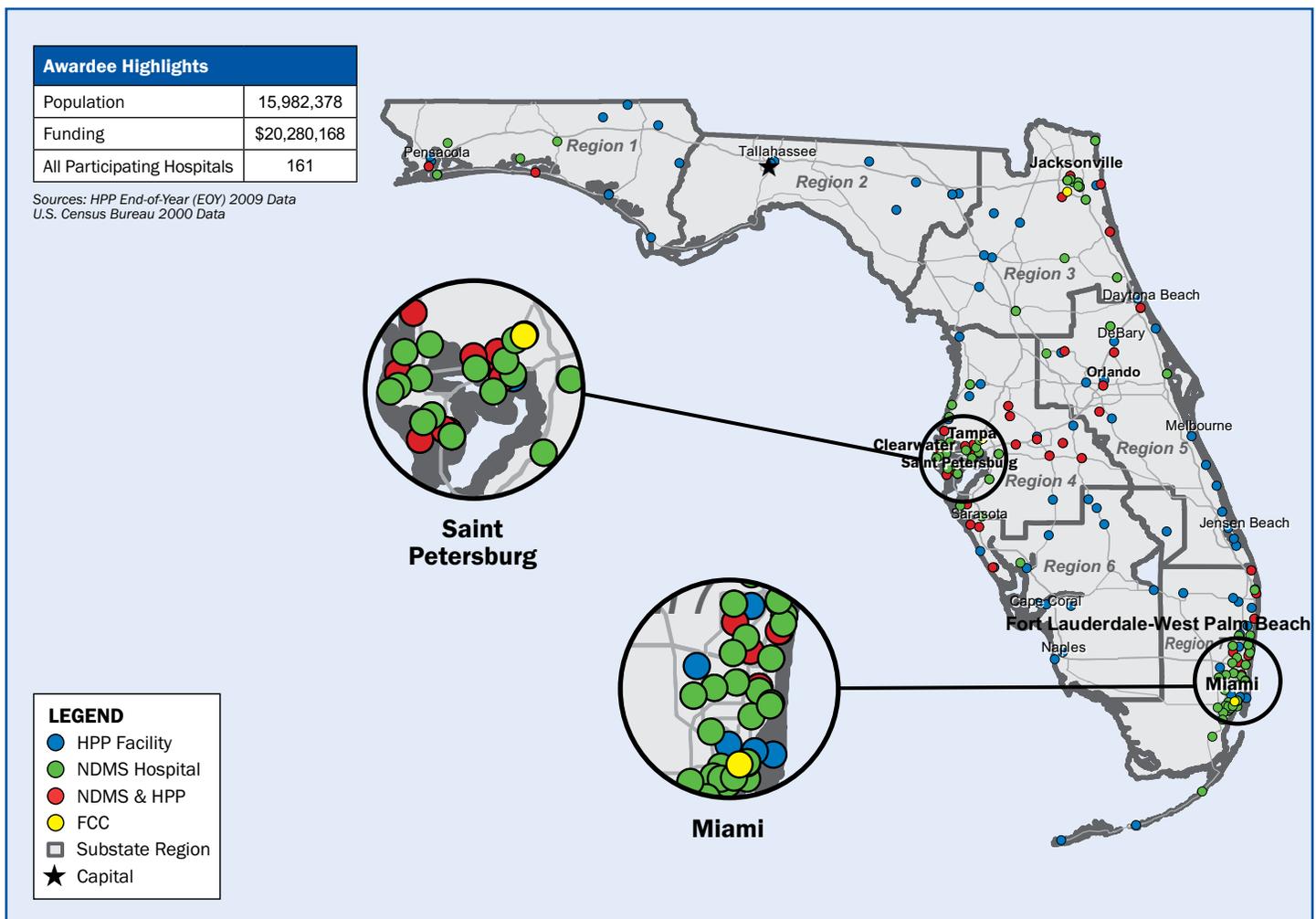
The Florida Bureau of Preparedness and Response staff coordinated the State’s public health and medical support, using the Incident Command Structure and National Response Framework. In this structure, they reported to the State Emergency Operations Center as Emergency Support Function 8 (ESF-8). The State ESF-8 network coordinated the movement of 717 critically injured patients from Haiti to Florida hospitals. Many of these patients were U.S. citizens; others

were severely injured Haitians. Injuries included burns, crush injuries and spinal cord injuries.

Many of the patients sent to Florida were sent to relieve overcrowding on the U.S. Navy hospital ship *USNS Comfort* and from overwhelmed Haitian healthcare facilities. The State ESF-8 network communicated with Federal authorities so that patients could receive extended long-term care, rehabilitation, and other needed medical services. Many of these patients would have died had they remained in Haiti.

By activating HPP-funded surge plans, the State was able to provide a high level of care for patients evacuated from Haiti and simultaneously maintain Florida’s ability to support its own residents.

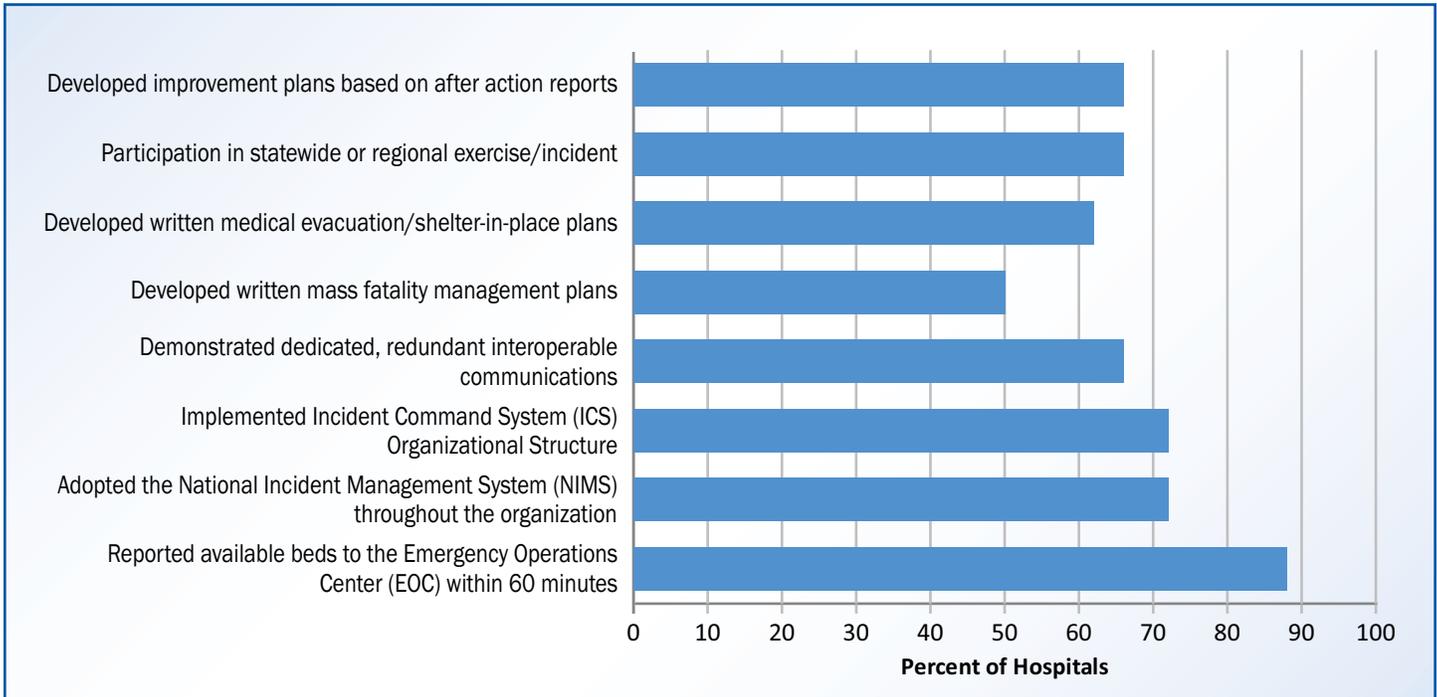
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	68
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	401
Number of 24-hour surge staffed beds per 100,000 population	491
Number of certified trauma centers per 100,000 population	0.1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	13301
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	1082

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Georgia Integrates Workgroups to Increase Preparedness

The State of Georgia is better prepared with plans in place to manage the surge of public health and medical needs that arise in catastrophic events, thanks to Health Preparedness Planning (HPP) funding.

The State Department of Community Health used these funds to tackle medical surge planning, drawing on subject matter experts in multiple disciplines to ensure the plans addressed the likely problems hospitals would face in a disaster. The end products are guidance documents and planning templates that facilitate customized regional Emergency Support Function 8 (ESF-8) emergency planning and preparedness.

For example, the department developed planning guidance on the use of Alternate Care Sites for healthcare, especially surge beds, mobile field hospitals and neighborhood emergency help centers during emergencies.

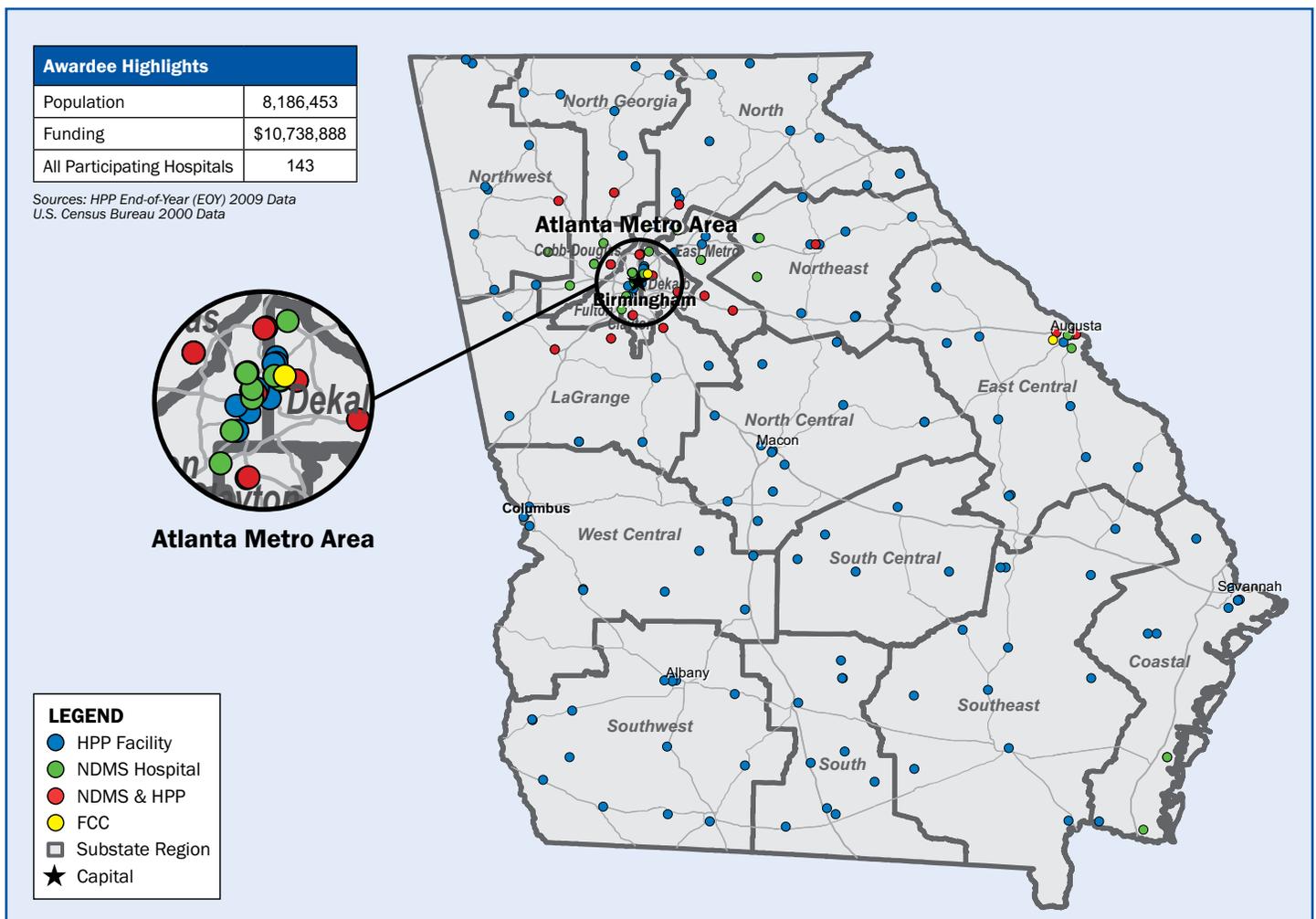
They also standardized the recommended equipment Georgia hospitals should use for decontamination and developed guidance for training, procedures, certification, and recertification for hospital de-

contamination (DECON). In addition, the department standardized the procedures, training and exercising for CHEMPACK, so that the State can distribute nerve agent antidotes provided by the Federal government to treat people affected in a bioterrorism attack.

The department developed a survey tool that helps gauge how specialty hospitals fit within the scope of healthcare preparedness. The results of the survey will serve as a foundation to provide supplies for emergency caches. Recognizing that community health involves healthcare facilities other than hospitals, the State also expanded a course initially designed for hospital emergency coordinators so that the course addresses the needs of multiple healthcare organizations. The department also developed a regional planning template for healthcare evacuation by jurisdiction and in the region during a catastrophic event.

The results of these projects are being shared with a cross section of all healthcare organizations and emergency management specialists. The end products will be incorporated into regional planning.

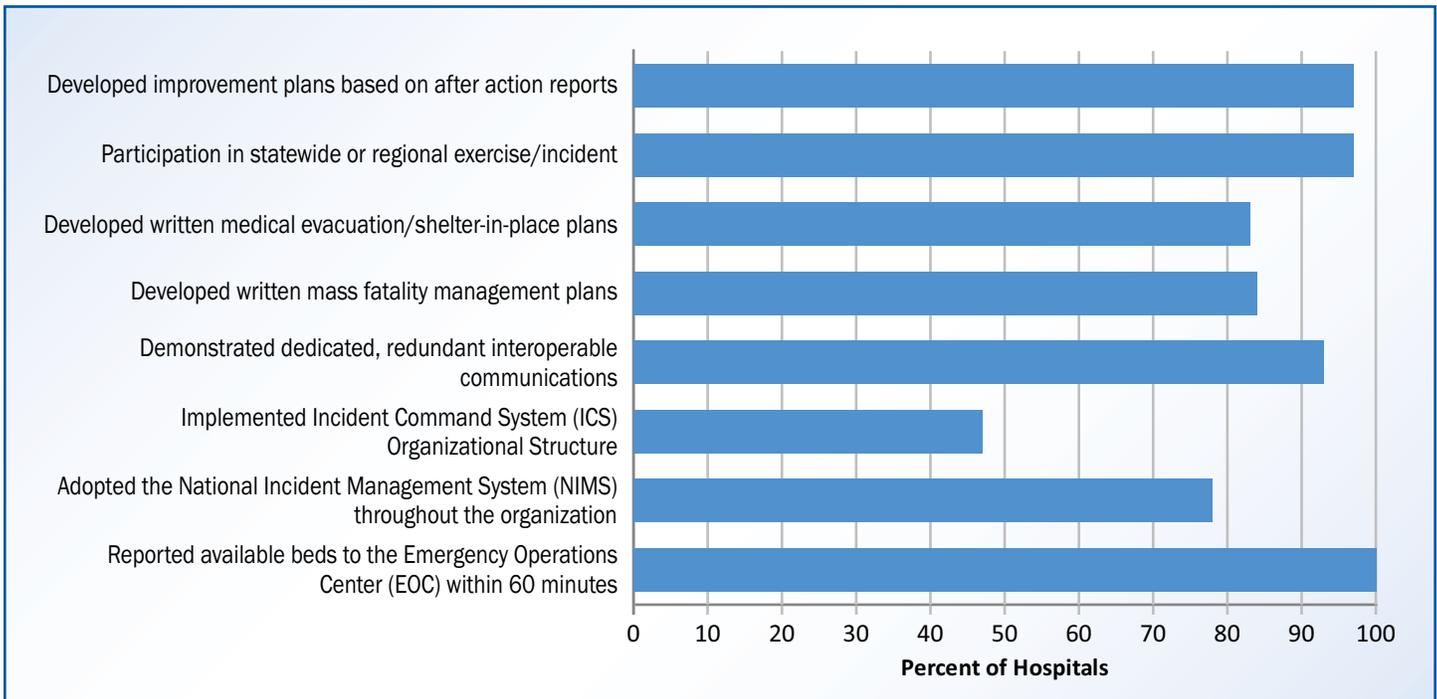
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	85
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	287
Number of 24-hour surge staffed beds per 100,000 population	443
Number of certified trauma centers per 100,000 population	0.2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	2049
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	122

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Hawaii's Emergency Services Coalition Helps When It Counts

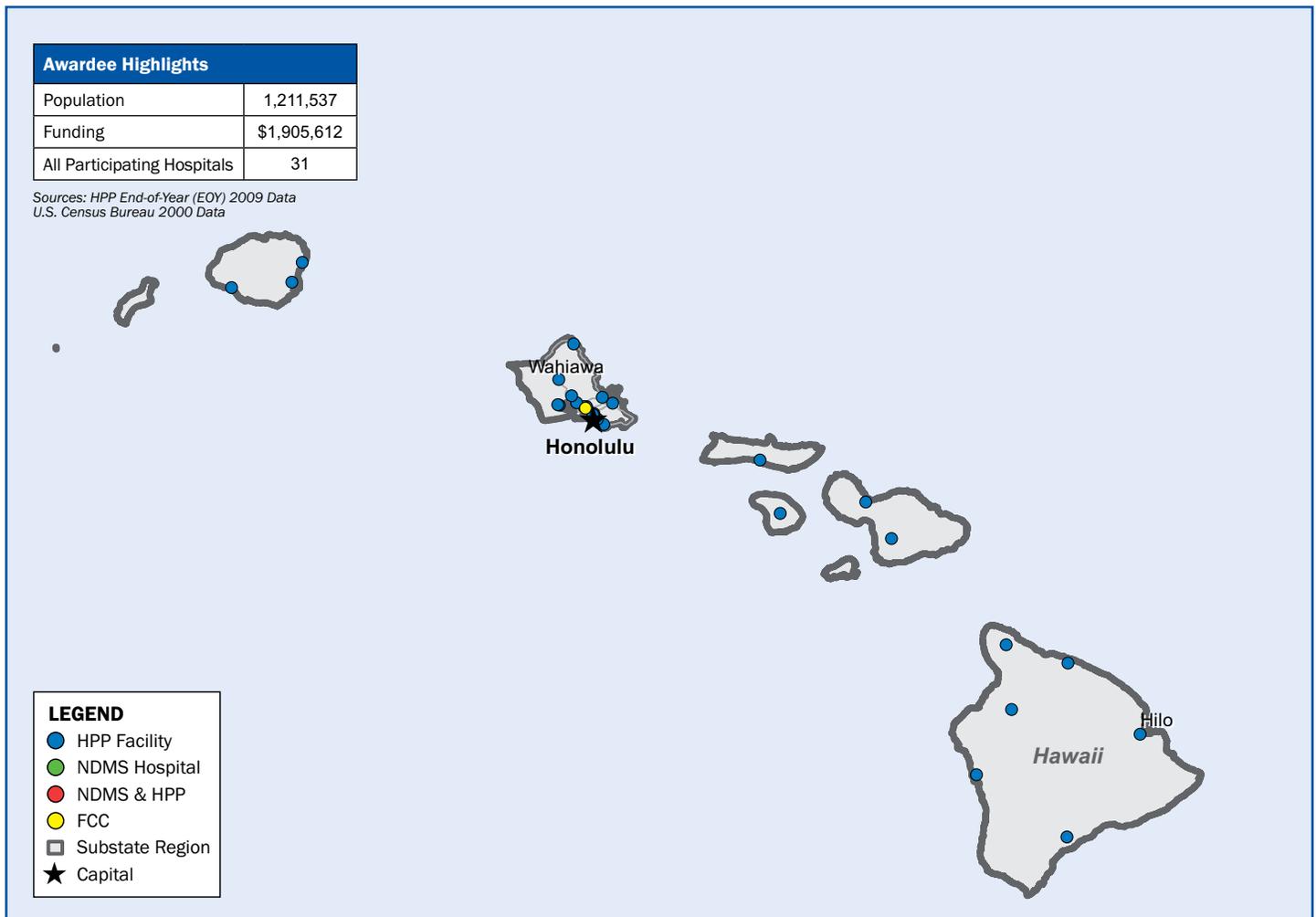
The Hospital Preparedness Program (HPP) supports the Healthcare Association of Hawaii (HAH) Emergency Services Coalition, a partnership of 115 members including all 31 of Hawaii's hospitals, sub-acute healthcare facilities, community health centers, and support providers such as blood bank and ambulance services. Hawaii's coalition has been validated by real-world events, including the 2006 Kiholo Bay earthquake, the 2009 H1N1 pandemic and multiple widespread power outages.

During a crisis, the coalition enables emergency communication and response, including the allocation of scarce resources. The HAH Coalition shares information and resources on a daily basis. In preparation for emergencies, all members received communications equipment and participate in standardized training courses and statewide drills and exercises.

Hawaii also made significant progress in mass fatality planning with the fielding of custom-designed, refrigerated Human Remains Holding containers across Hawaii made possible by HPP. These unobtrusive containers are available for the additional storage of emergency supply stockpiles until such time as they may be called into service.

Medical surge and hospital decompression planning in Hawaii have also been significantly enhanced through HPP. All hospitals contribute staff to Hospital Emergency Response Teams, which may work at other hospitals or staff portable Acute Care Modules. Volunteers registered and credentialed through the Emergency System for the Advance Registration of Volunteer Health Professionals will work under the auspices of the Department of Health during a disaster to provide medical services at alternate care sites.

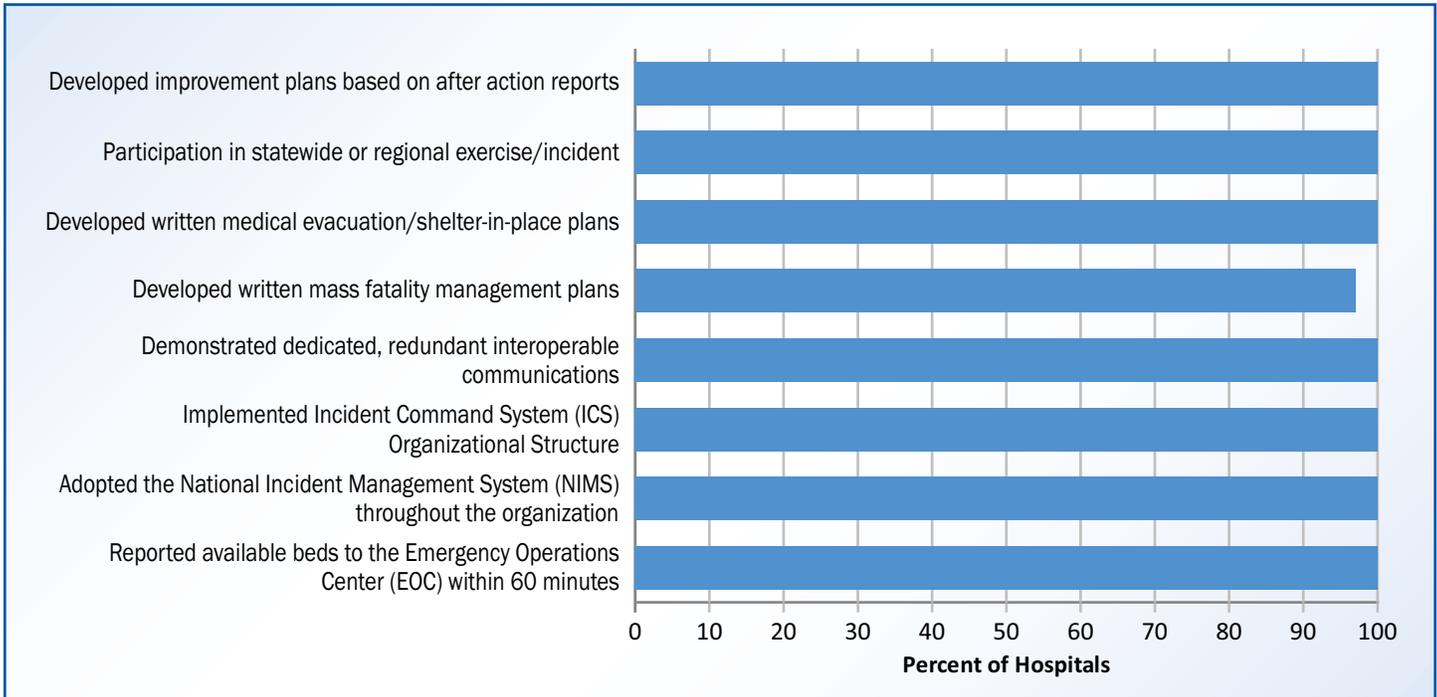
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	239
Number of 24-hour surge staffed beds per 100,000 population	267
Number of certified trauma centers per 100,000 population	0.1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	819
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	80
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	186

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Regional Coalitions Increase Rural Resilience

Idaho has placed a major emphasis on developing regional networks in which medical preparedness resources are planned and used cooperatively. This approach maximizes the benefit derived from Hospital Preparedness Program (HPP) and other public and private funding while increasing the resilience of communities and their healthcare systems to respond to and recover from a medical surge.

The Idaho Department of Health and Welfare sponsors a Regional Healthcare Planning Group in each of the State's seven local public health districts. These groups are comprised of representatives from hospitals, EMS, tribes, at-risk populations, county emergency managers, coroners, funeral directors, and others with responsibility for meeting the needs of a medical surge.

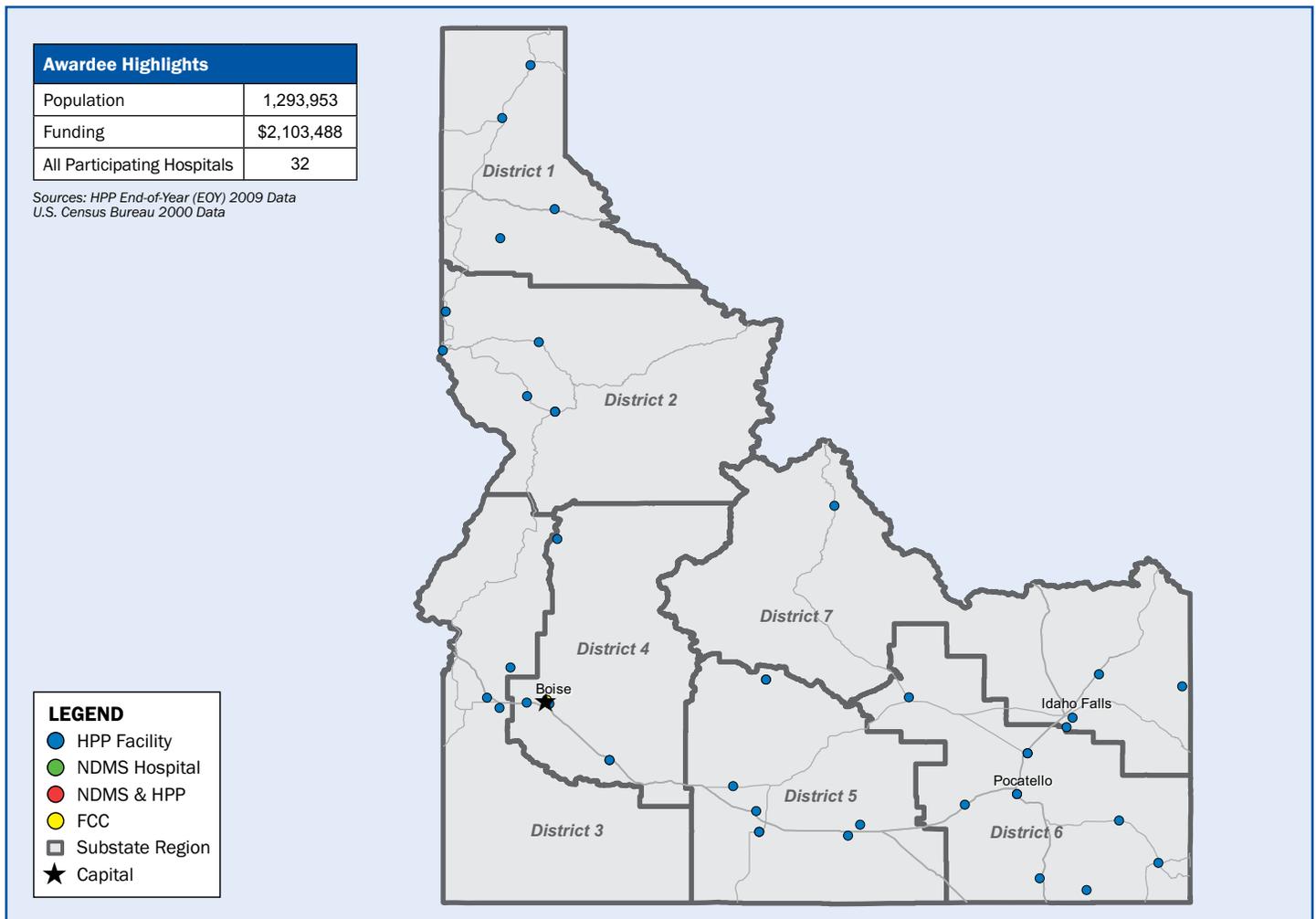
As a result of regional planning, shared assets such as communications equipment, mass casualty trailers, emergency medical supplies, and generators have been purchased, and agreements for shared use

and maintenance by regional partners are in place. Each group has developed a regional medical surge plan that includes provisions for hospital evacuation, alternate care sites and regional patient transport.

In addition, Idaho's regional coalitions provide opportunities for regional healthcare partners to train and exercise together, testing their ability to work seamlessly in a real disaster. Hospitals and other response partners in each region exercise their integrated response to a simulated regional emergency annually. Medical surge volunteers are recruited and managed regionally and preparedness trainings for regional partners are conducted.

Through years of planning and exercising, these regional coalitions have developed into a major asset that is prepared to meet the needs of both cities and small communities in the event of a public health emergency.

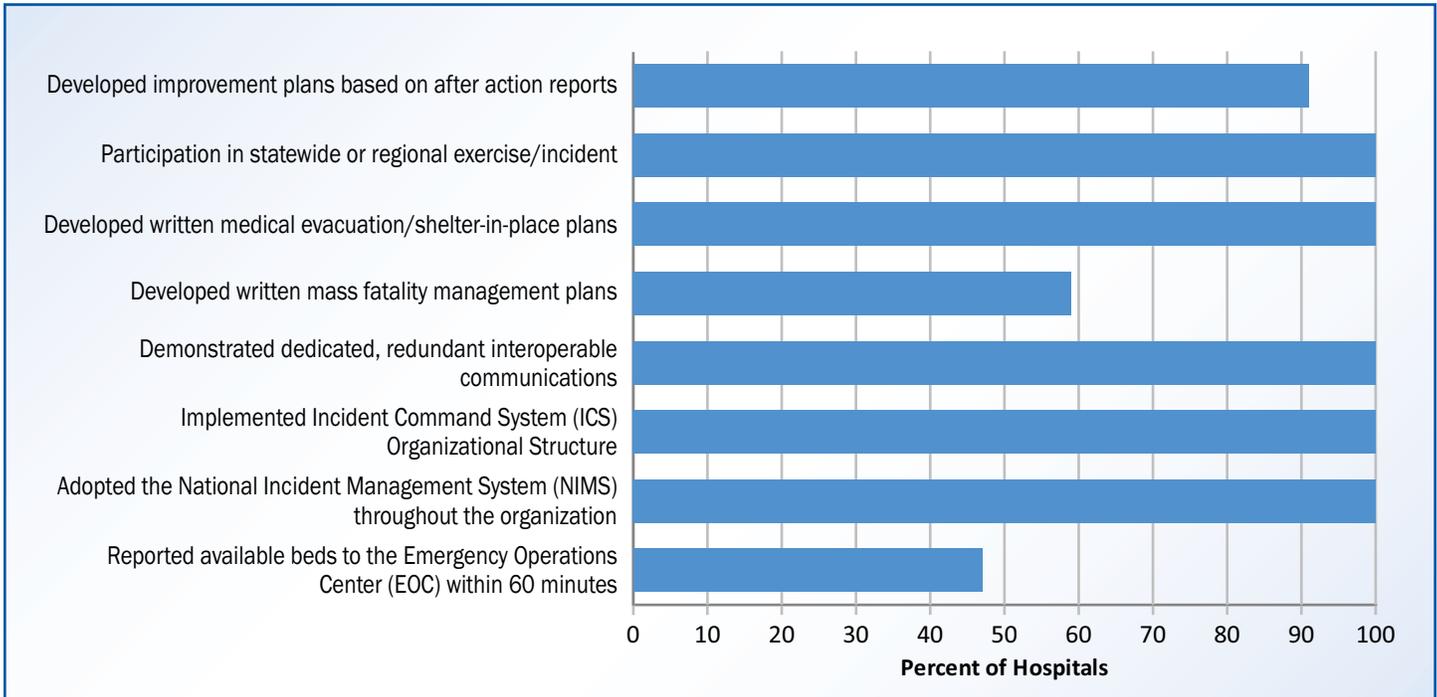
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	91
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	168
Number of 24-hour surge staffed beds per 100,000 population	221
Number of certified trauma centers per 100,000 population	0.1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	729
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	124

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Evacuating Neonatal Intensive Care Units a High-Risk Activity

Neonatal Intensive Care Units (NICU) are hospital units specializing in the care of ill or premature newborn infants – a medically fragile population. Evacuating a NICU during a disaster is a high-risk activity. It requires a carefully planned approach due to the fragile medical condition of the infants, the various medical devices and technology they depend upon for survival, as well as the overall inter-facility transfer limitations in managing the resulting surge in NICU infants during an evacuation.

Illinois has a well developed perinatal system that is overseen by a State department of public health perinatal administrator. Illinois has 194 acute care hospitals, 24 of which have NICU capabilities. Deficiencies in NICU evacuation processes were identified as an area of need.

Since 2002, Illinois has had a State multidisciplinary pediatric workgroup in place to specifically provide guidance on pediatric preparedness. Over the years, they have conducted a variety of pediatric preparedness initiatives, all supported through Hospital Preparedness Program funding. Addressing the NICU evacuation issue was charged

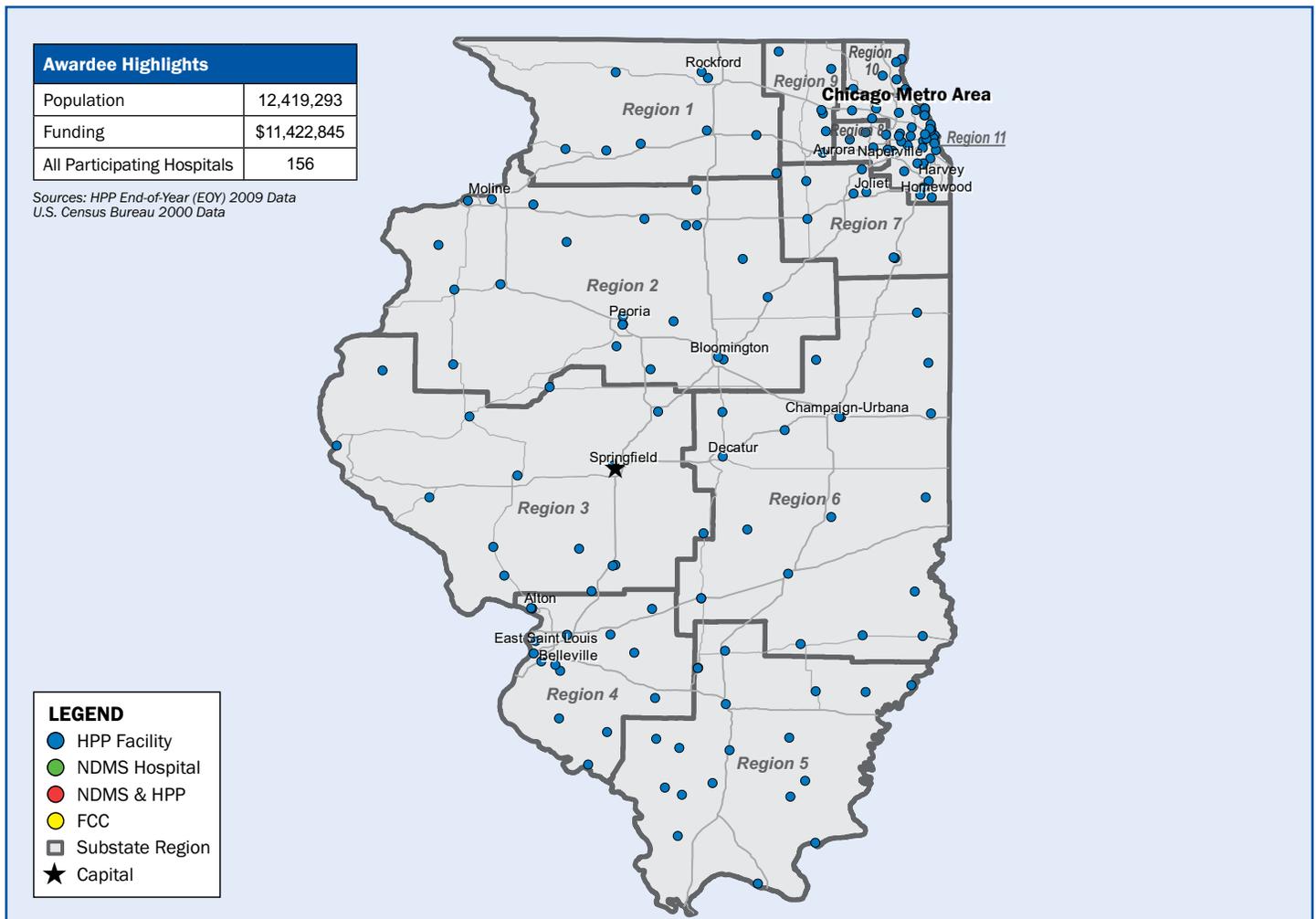
to this workgroup.

After securing support from the State perinatal leadership, an ad hoc committee was convened, comprised of perinatal administrators, neonatal nurses, neonatologists, transport coordinators, emergency planners, and department of health personnel. In 2009 this committee finalized a set of NICU Evacuation Guidelines ([http://www.luh.org/depts/emsc/NICU\\_evac\\_guidelines.pdf](http://www.luh.org/depts/emsc/NICU_evac_guidelines.pdf)). The guidelines contain a comprehensive review of the literature, including lessons learned from hospitals having experienced a NICU evacuation.

The guidelines were distributed statewide in 2009. Hospital emergency management coordinators and NICU personnel were encouraged to partner to develop NICU evacuation preparedness procedures.

Following rollout of the guidelines, annual NICU Evacuation Tabletop exercises have been conducted to evaluate utilization of the guidelines. Most importantly, these exercises have enhanced partnerships between the neonatal community and emergency management.

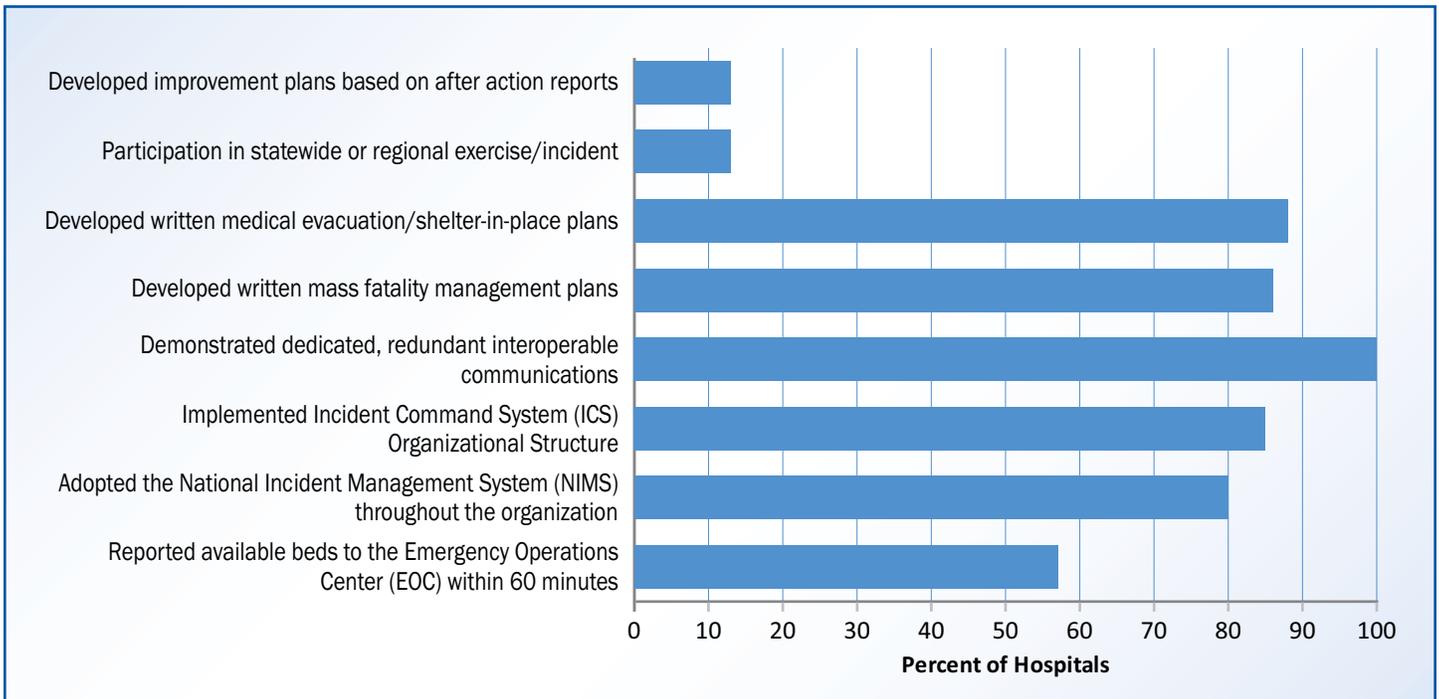
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	276
Number of 24-hour surge staffed beds per 100,000 population	296
Number of certified trauma centers per 100,000 population	1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	1919
Time required to report a verified list of available volunteer health professionals ready for deployment	> 24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	140

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Collaborative Effort Addresses Need with Oxygen Bus

The Chicago Fire Department needed a way to treat multiple fire or inhalation victims who require oxygen, whether due to a previous medical condition or as the result of an acute event, such as evacuation from a fire in a building, hospital or treatment facility. Hospital Preparedness Program (HPP) funds helped provide a solution: The Oxygen Bus.

In partnership with the Chicago Department of Public Health and with the support of the Chicago Health System Coalition for Preparedness and Response, the Chicago Fire Department worked with the Chicago Transit Authority to obtain a bus.

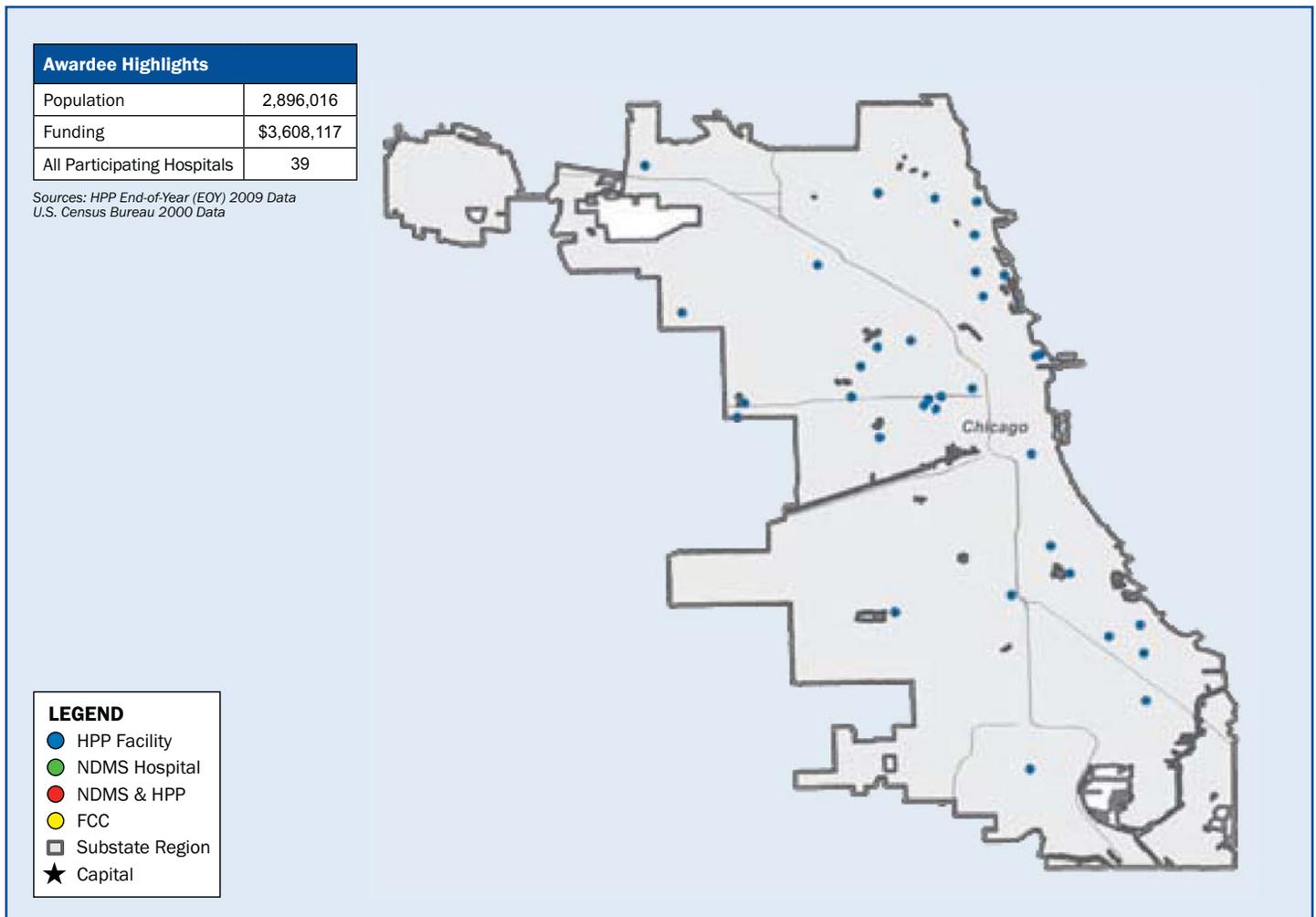
With an operations plan written, they purchased the appropriate equipment and retrofitted it into the bus. The bus now features modulators for multiple patient oxygen use, oxygen tanks, masks, nebulizers, automated external defibrillators, advanced life-saving medications, evacuation chairs for moving patients from treatment facilities or buildings, and special emergency lighting. The bus can accommodate 35 people who require treatment simultaneously.

The bus can also support hospital evacuation and treatment of stable patients with oxygen and nebulizers prior to transportation to an alternate facility, and could be used by long-term care facilities for evacuating and treating stable patients with oxygen needs, prior to placing and transporting them to another facility.

The bus can respond to building fires to support Emergency Medical Services plans to treat victims who may need oxygen and nebulizer treatments on site. It can serve as a warming or cooling bus for extreme weather conditions, assist with the evacuation of home-based at-risk populations who are oxygen dependent, and be used to treat oxygen-dependent children being evacuated from specialized treatment facilities.

The outside of the bus features both the Chicago Fire Department and Chicago Department of Public Health logos, a symbol that this HPP-funded asset is the result of collaboration between city agencies and the healthcare coalition.

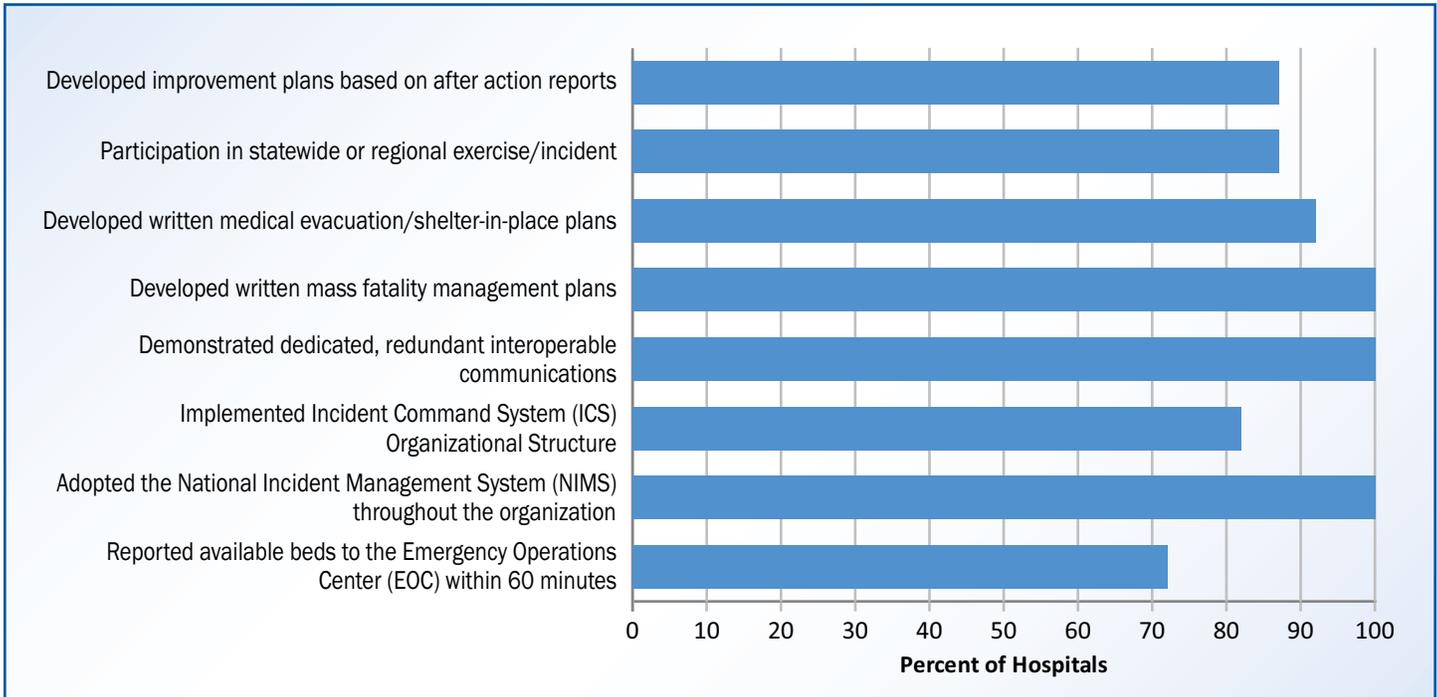
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	87
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	266
Number of 24-hour surge staffed beds per 100,000 population	320
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	685
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	187

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Hands-On Training Increases Collaboration and Surge Capacity

Indiana’s new Hospital Preparedness Training Center (HPTC) is helping hospital personnel test their hospital emergency plans and as a result, hospital staffs have learned how to increase surge capacity by as much as 50 percent as well as prioritize resources within their hospitals.

Supported by Hospital Preparedness Program (HPP) funds, the center’s virtual exercises place hospital command teams in a simulated command center for a virtual tornado, flood, earthquake, or nuclear explosion exercise, thus testing the hospital’s emergency operations plans. The exercise component allows a hospital command team to experience the stress and pressure of an emergency without disrupting day-to-day hospital activities.

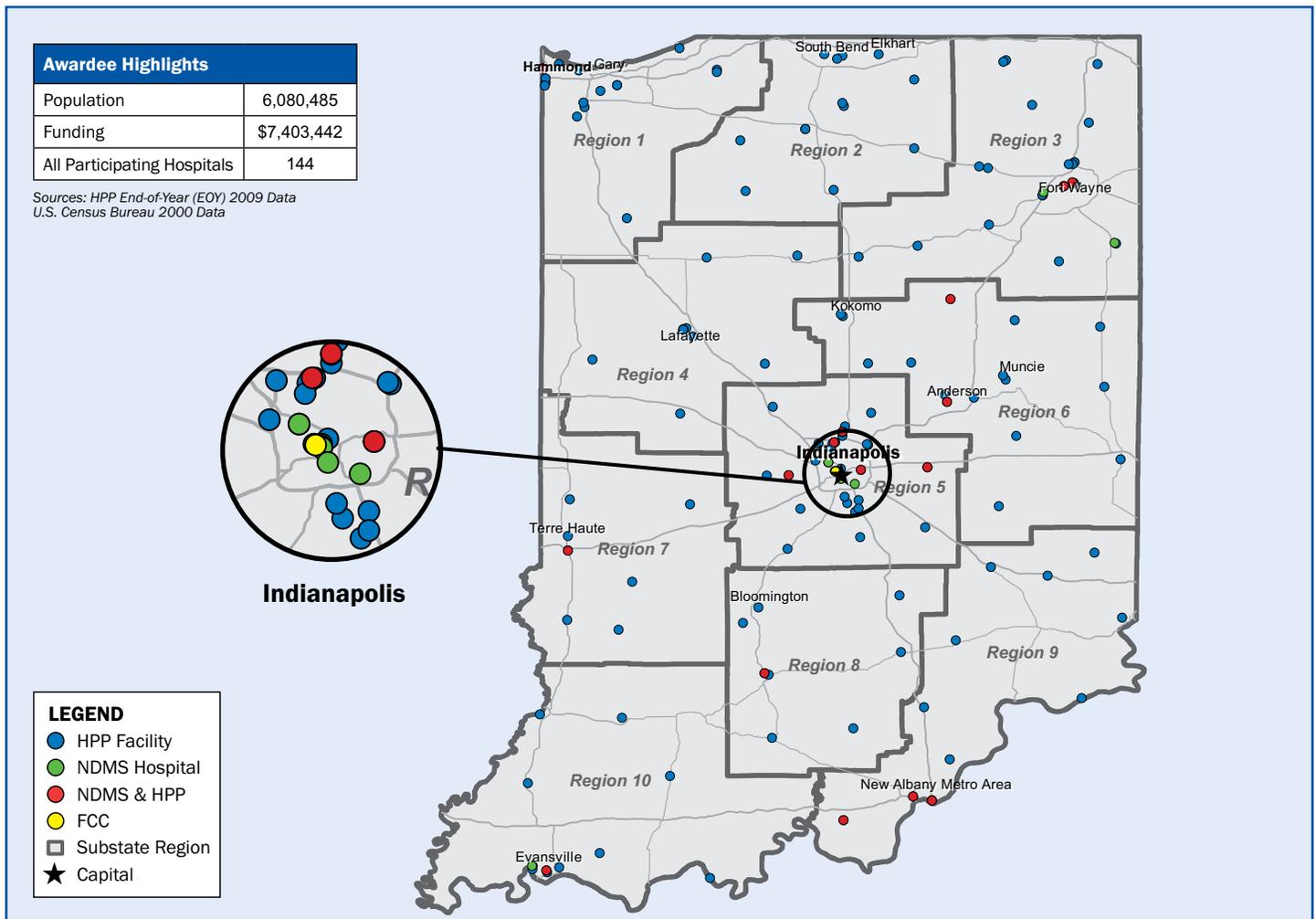
In addition, the three-day training at the HPTC has refreshed experienced hospital command team members’ knowledge of Hospital Incident Command System, communications, statewide bed and patient tracking systems, State standardized triage tags, and district hospital coordination.

The training center helps members of command teams at Indiana hospitals shared best practices, emergency plans and contact information with neighboring hospitals. More importantly, the center provides hands-on experience for hospital command team members with little or no emergency incident experience so they are prepared for real disasters.

The center was established for exactly that reason: to increase and refine hospital emergency operations plans. To do it, the center uses standardized and consistent hospital emergency preparedness training and virtual functional exercises.

The HPTC is a collaborative effort of the Indiana State Department of Health Hospital Preparedness Program and the Indiana District 5 Hospital Preparedness Planning Committee, Inc., in partnership with Lighthouse Readiness Group and the Indiana Hospital Association.

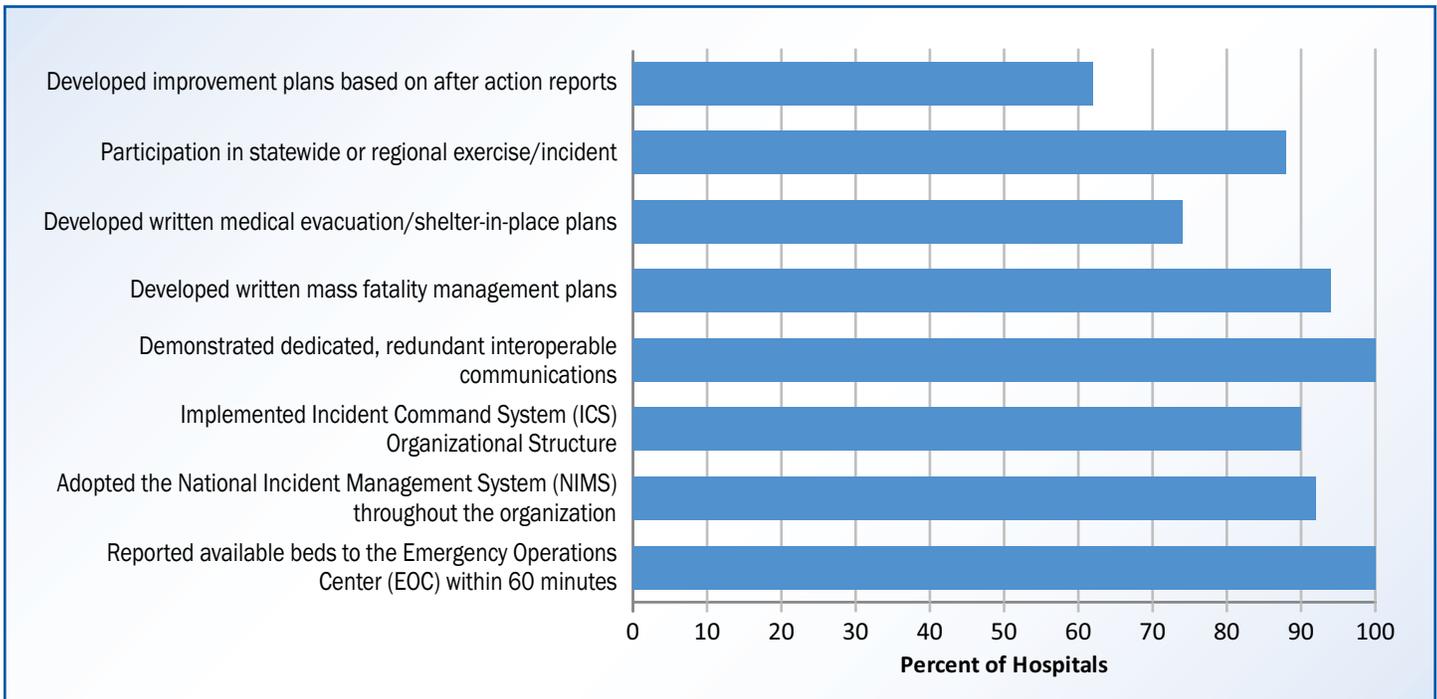
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	359
Number of 24-hour surge staffed beds per 100,000 population	409
Number of certified trauma centers per 100,000 population	0.1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	1468
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	134

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Coordination Leads to Positive Results amidst a Pandemic

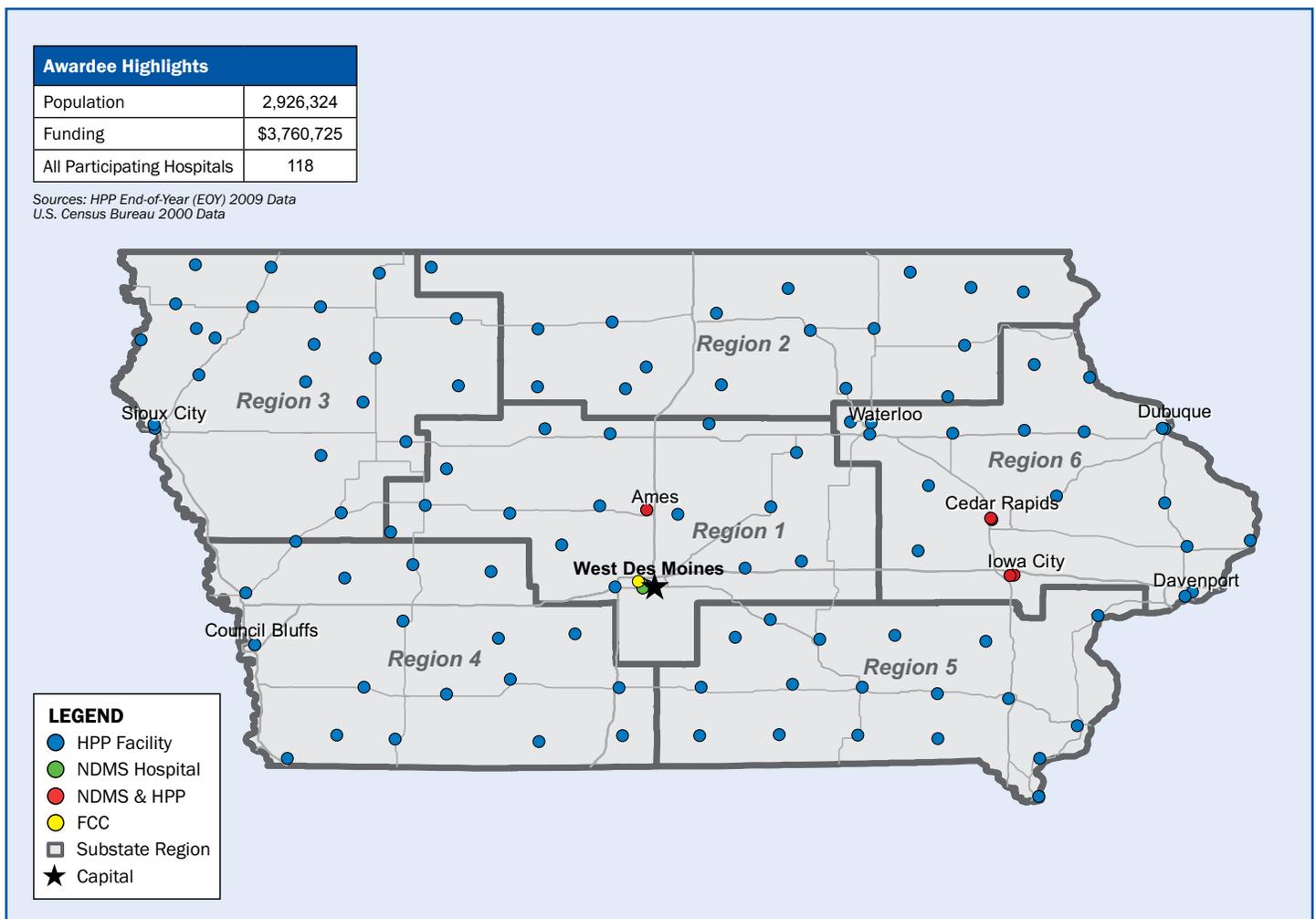
Iowa hospitals play a key role in planning and response, not only in pandemic situations, but also for natural and man-made emergencies. With Hospital Preparedness Program (HPP) funding, hospitals have developed medical surge, institutional mass fatality, and hospital evacuation plans, which are essential when communities respond to all hazards. In addition, all Iowa hospitals are working with local emergency planners to ensure local plans address the needs of at-risk individuals, such as those with language and literacy deficiencies, medical or physical disabilities, and older Iowans who need additional assistance during an emergency.

HPP-funded surge plans proved vital during the 2009 H1N1 influenza pandemic response when Iowa's hospitals experienced an increase in patient volume, resulting in staffing shortages and scarce supplies. By implementing HPP-funded plans that anticipated these challenges, 100 percent of hospitals were able to submit weekly HAVBED data. In addition to reporting the available hospital beds, the Iowa Department of Public Health was able to monitor the availability of key services, equipment, and supplies.

The community resilience in Iowa is not only evident in hospitals but also in public-private partnerships. Driven in part by HPP guidelines, the Iowa Business Council and key State agencies created the Safeguard Iowa Partnership in 2007. This 501(c)(3) public-private partnership integrates business resources, expertise and response plans with those of the government during a disaster. Through this cost-effective partnership, businesses can pledge resources during an emergency, share information, and offer services to support well-managed initiatives that reduce the impact of disasters. The importance of this partnership was reinforced when floods forced evacuations in the eastern region of Iowa.

To support community-wide preparedness, hospital preparedness coordinators join preparedness and response partners such as public health, emergency management, and law enforcement in regular multi-jurisdictional meetings. Engaging stakeholders in these local emergency planning efforts provides opportunities to review planning needs or hazards specific to a community, and to integrate ideas into community and county-wide plans.

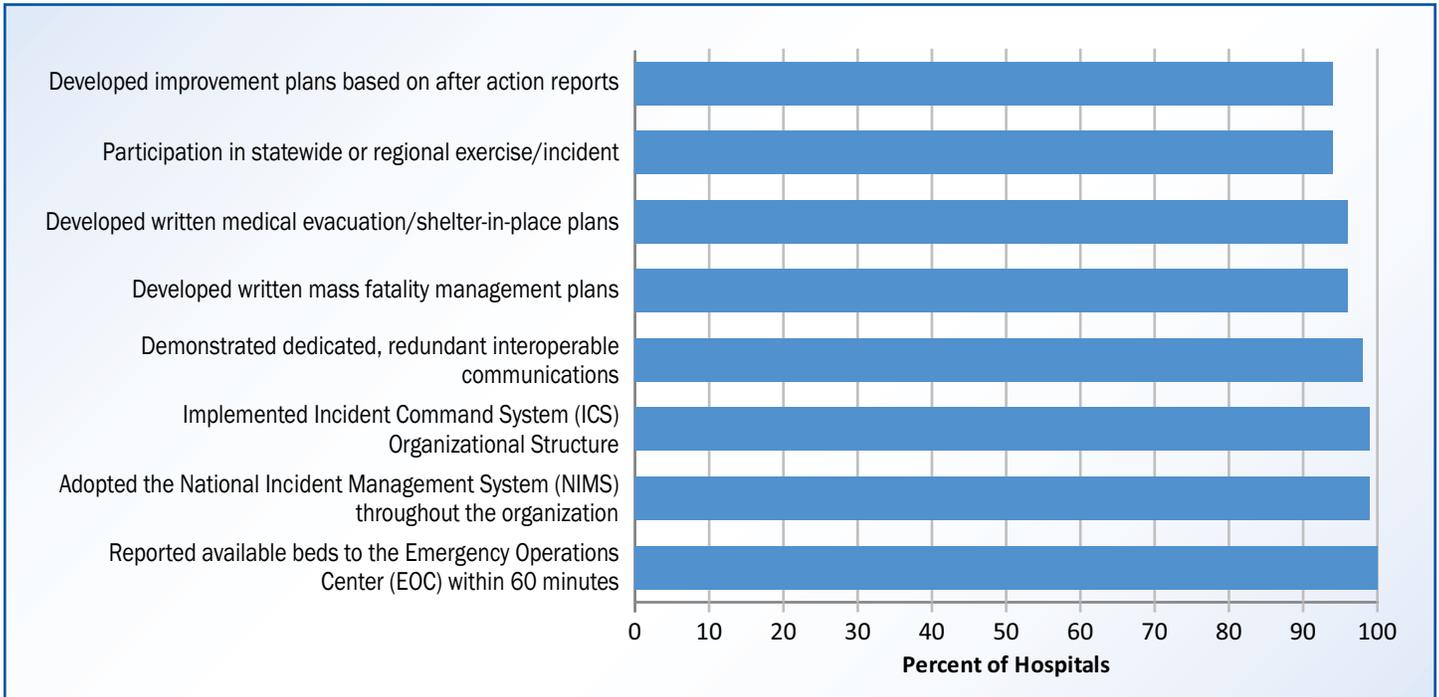
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	94
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	266
Number of 24-hour surge staffed beds per 100,000 population	370
Number of certified trauma centers per 100,000 population	4
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	640
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	168

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Development of Innovations, Relationships Leave Kansas Better Prepared

With a focus on preparing for and responding to natural disasters, disease outbreaks and acts of terrorism, the Kansas Department of Health and Environment's Bureau of Public Health Preparedness (BPHP) recognizes the importance of collaboration. Collaboration among the hospitals, local health departments, primary care clinics, and emergency medical services has led to continued improvements in community preparedness.

Collaboration occurs through the statewide Preparedness Grant Advisory Committee. The committee is made up of the State's seven regional hospital coordinators, community hospital representatives from each region; two at-large members engaged in statewide preparedness advisory activities, Kansas Hospital Association staff, and BPHP staff.

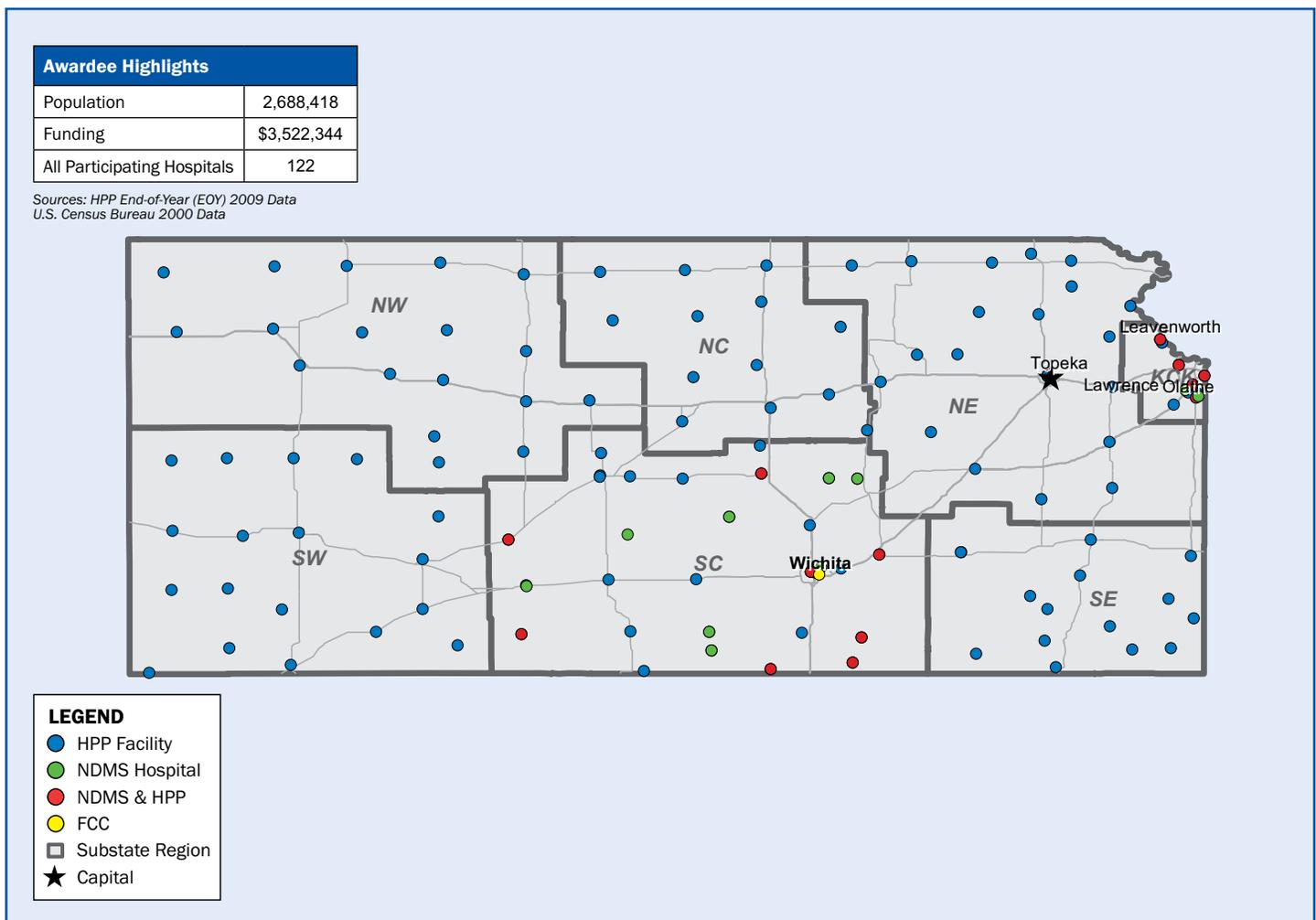
This spirit of cooperation led to a joint effort that enhanced interoperable communications during emergencies, a basic tenet of Hospital Preparedness Program (HPP). BPHP, Kansas Homeland Security, the Kansas Division of Emergency Management, and the Kansas Department of Transportation worked together to locate counties that could not communicate through radios due to lack of radio towers in those

rural regions. BPHP was able to use funding to ensure there was a means for communication during emergencies.

The department also strengthened its relationship with the Critical Infrastructure Program of Kansas Homeland Security, the U.S. Department of Homeland Security, and Kansas Division of Emergency Management to benefit State and local agencies and communities. The collaborative efforts have resulted in shared resources, stronger relationships, and revised critical infrastructure lists that better identify critical health and medical facilities.

During H1N1, the department helped the State identify and support vulnerable populations. The State's regions differ greatly in demographics. To ensure needs of these vulnerable populations in rural areas are met, the State created a partnership with the Kansas Association for the Medically Underserved. In addition, a partnership with the Kansas Department of Social and Rehabilitation Services allowed community mental health clinics to be integrated into crisis plans, and has led to exercises and training for staff so they are prepared to support the community during a disaster.

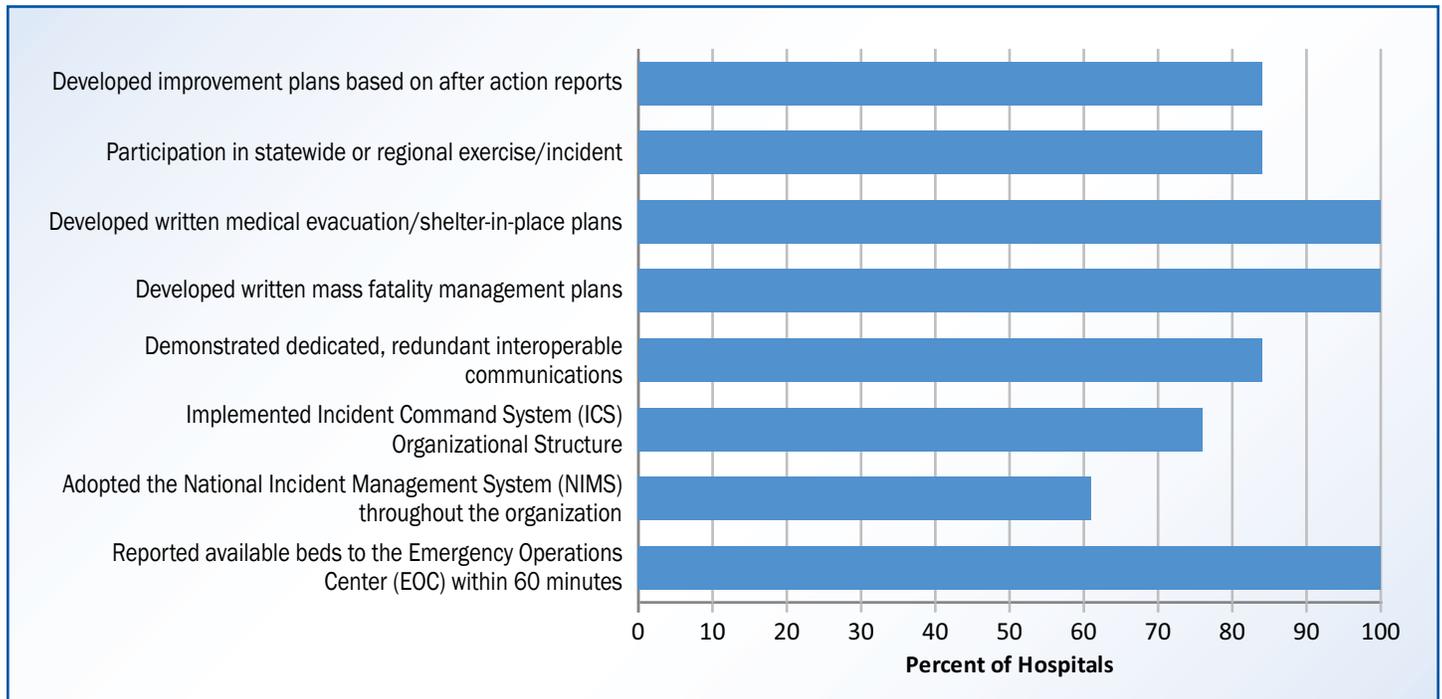
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	84
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	388
Number of 24-hour surge staffed beds per 100,000 population	454
Number of certified trauma centers per 100,000 population	0.2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	1014
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	107

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Mobile Medical Surge Trailers Pivotal During Lethal Snow Storm

Early in 2009, a devastating winter storm struck the State of Kentucky. Out of 120 counties, 103 were declared disaster areas, and 36 fatalities were reported, making the storm one of the most lethal natural disasters for the State in recent history.

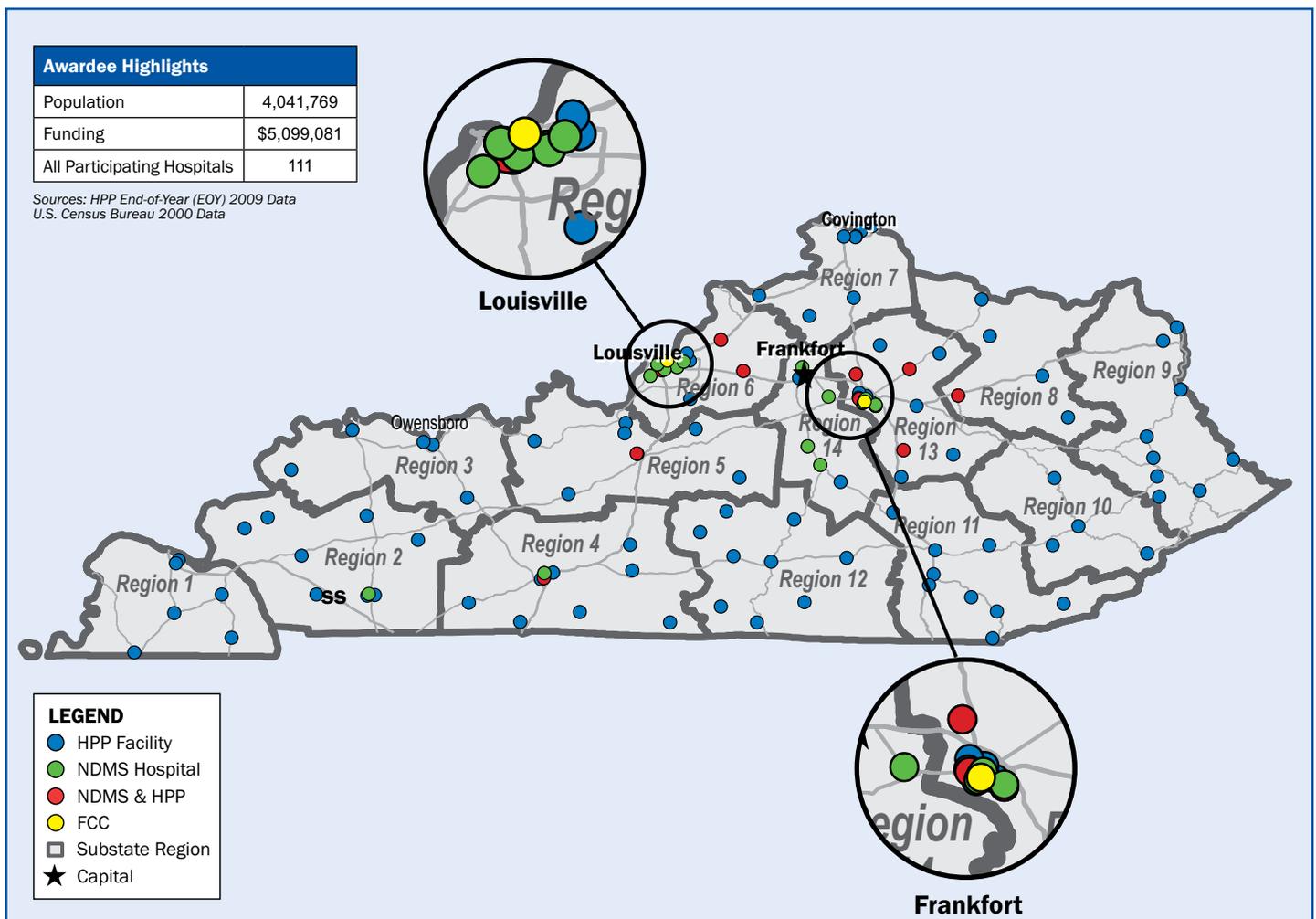
Damage costs were projected to be in excess of \$214 million. Infrastructure – communications, public utilities, and transportation – across the State was impacted. Phone service in many parts of the State was unavailable for days. Approximately 800,000 residential and commercial units were without power for days on end, including hospitals and nursing homes. Many of the roadways were impassable, preventing supplies from reaching people and patients in need. At the height of the response, more than 200 shelters provided assistance to more than 7,800 people.

The Kentucky Department of Public Health, in coordination with its primary partner, the Kentucky Hospital Association, had used Hospital Preparedness Program (HPP) funding to purchase 14 Mobile Medi-

cal Surge Trailers in 2006 and 2007, and strategically placed one in each of the 14 Healthcare Planning Coalition regions. These trailers are equipped and supplied to provide care for 25 patients for three days at the basic care level and can shelter five support staff. HPP funding assisted the region in procuring parking pads and power outlets at locations that were beneficial for emergency response throughout the region.

These trailers had a major impact on the ability to care for victims of the 2009 winter storm. During the storm, every trailer was deployed within the state, either within its own region or, if the region was unaffected, to an affected region through regional coordination. During the storm, the trailers supported alternate care sites for Kentuckians in shelters, providing medical support for primary care and special medical needs. The strength of Kentucky’s Healthcare Planning Coalitions, with the addition of these HPP-funded assets, enabled Kentucky to respond to the medical needs of its people during this disaster.

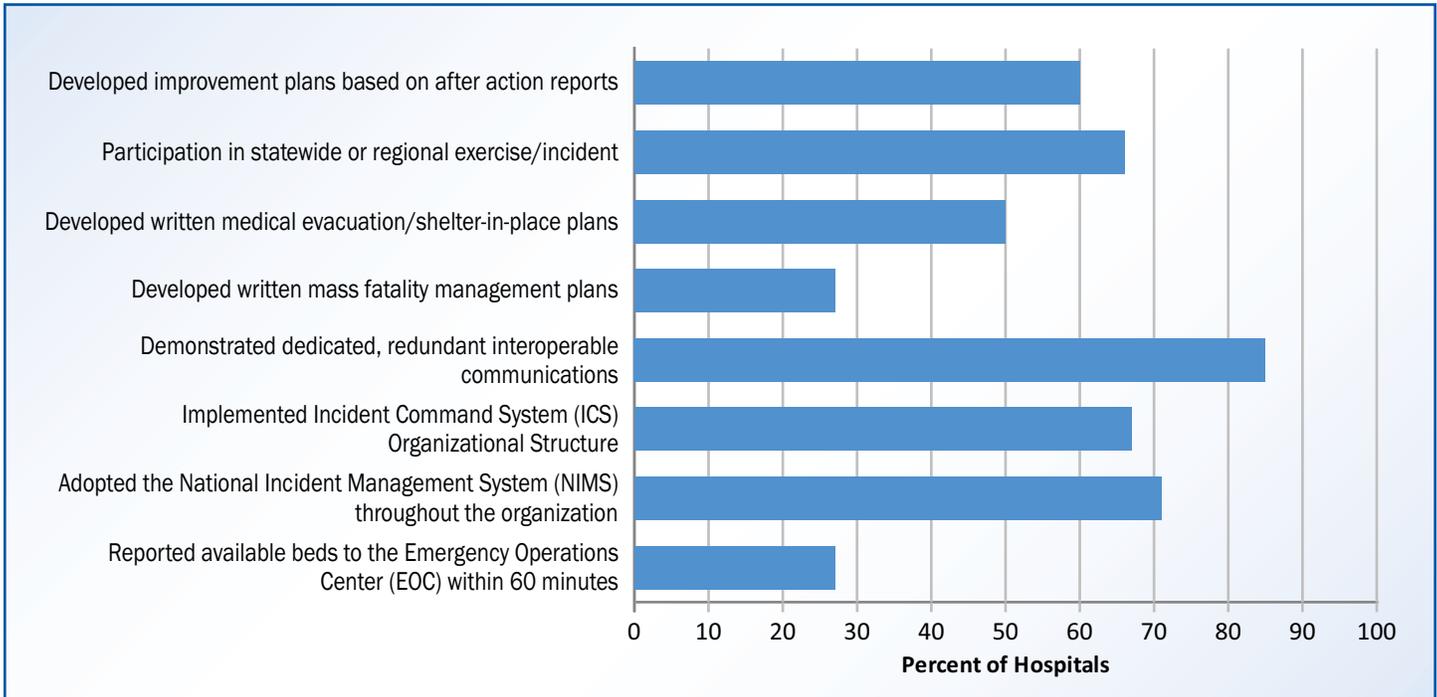
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	85
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	306
Number of 24-hour surge staffed beds per 100,000 population	495
Number of certified trauma centers per 100,000 population	0.1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	3921
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	92

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Innovative Technology Increases Coordination in Louisiana Response Activities

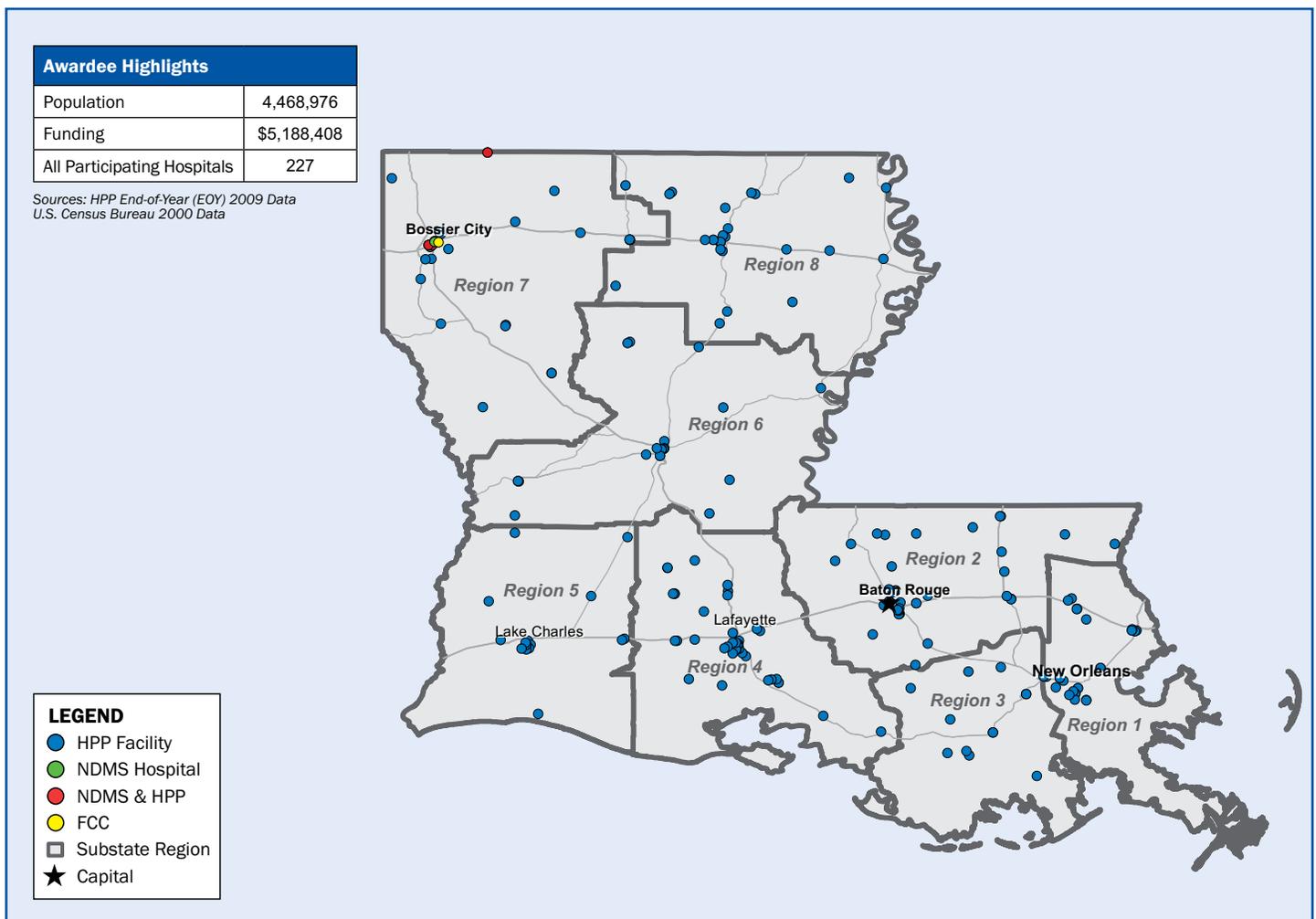
Hurricanes Gustav and Ike highlighted the need for increased visibility into real-time status and operational capabilities of critical health-care facilities during and after these events. During Hurricane Gustav, emergency rules were declared that required nursing homes to report their status; however, existing data systems were unsuccessful, leading to duplication of efforts and data corruption. In an effort to reduce duplication and ensure coordination during response activities, the Louisiana Emergency Support Function 8 (ESF-8) network led two major technology initiatives to improve data management, supported by Hospital Preparedness Program (HPP) funds.

In light of the hurricanes, the Louisiana ESF-8 network created the Emergency Medicine Simulation Technology and Training (EMSTAT) system and the Data Cell system. The EMSTAT system was designed to capture critical status information and to support the critical operations of nursing homes and hospitals. Information captured in EMSTAT exceeds data collected in the HAVBED system, further increasing

the visibility of facilities' operational status. The Data Cell system was created as a data management function to enforce reporting requirements and assist senior management with data collection.

Additionally, to increase preparedness and response capabilities in the state during the Gulf Oil Spill, the Louisiana ESF-8 network developed a weekly reporting system that centralized all data pertaining to the Gulf oil spill response efforts. Past reporting of response agencies at the local, State and Federal levels were reported in differing operational periods. A new electronic dashboard synthesized all local, State and Federal situational reports and created a centralized "storyboard." The electronic dashboard provided increased visibility of coordinated efforts to all responders at the local, State and Federal levels. Ultimately, during the Gulf Oil Spill, preparedness and response capabilities were enhanced through increased situational awareness of the various agency activities, requests, and actions.

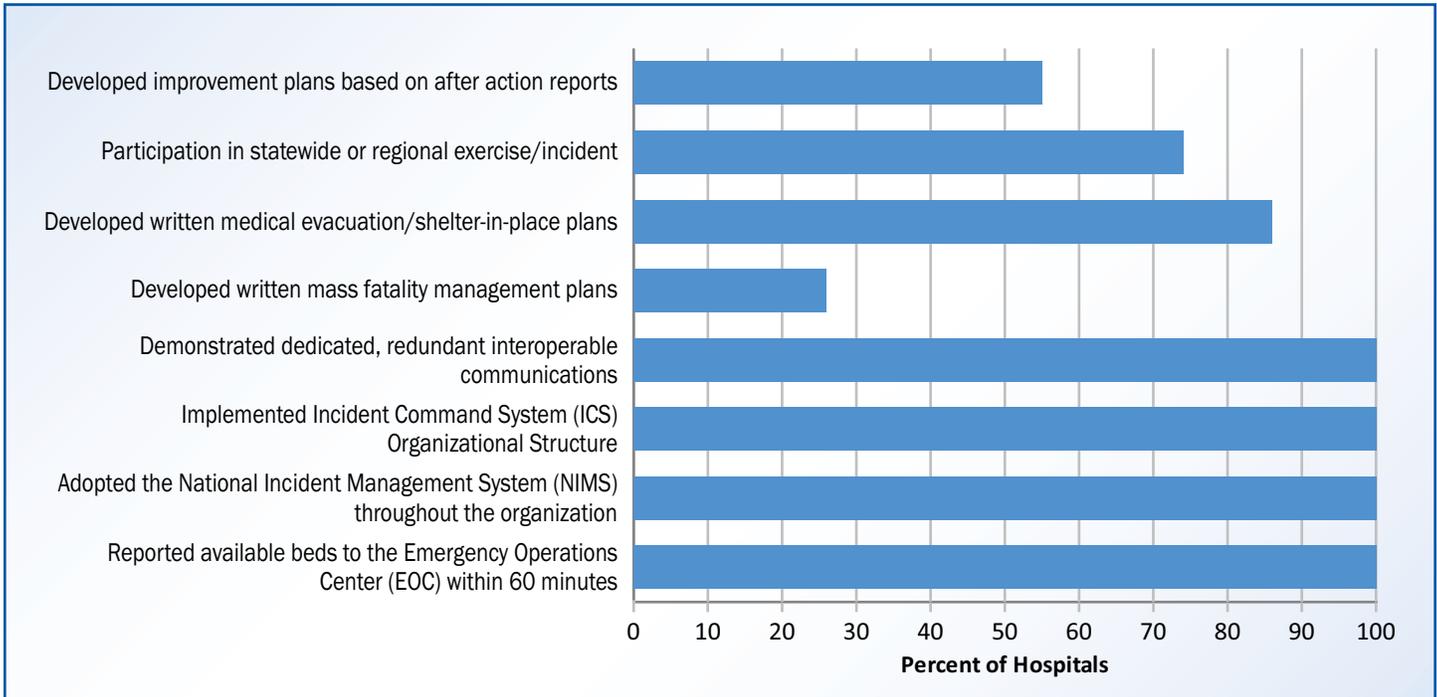
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	340
Number of 24-hour surge staffed beds per 100,000 population	522
Number of certified trauma centers per 100,000 population	0
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	4183
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	178

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# From Interoperability to Vaccine Go-Kits: Maine is Better Prepared

HPP funding has helped Maine become more resilient in a number of areas including interoperable communications, hospital bed tracking, mass vaccination, and coalition building.

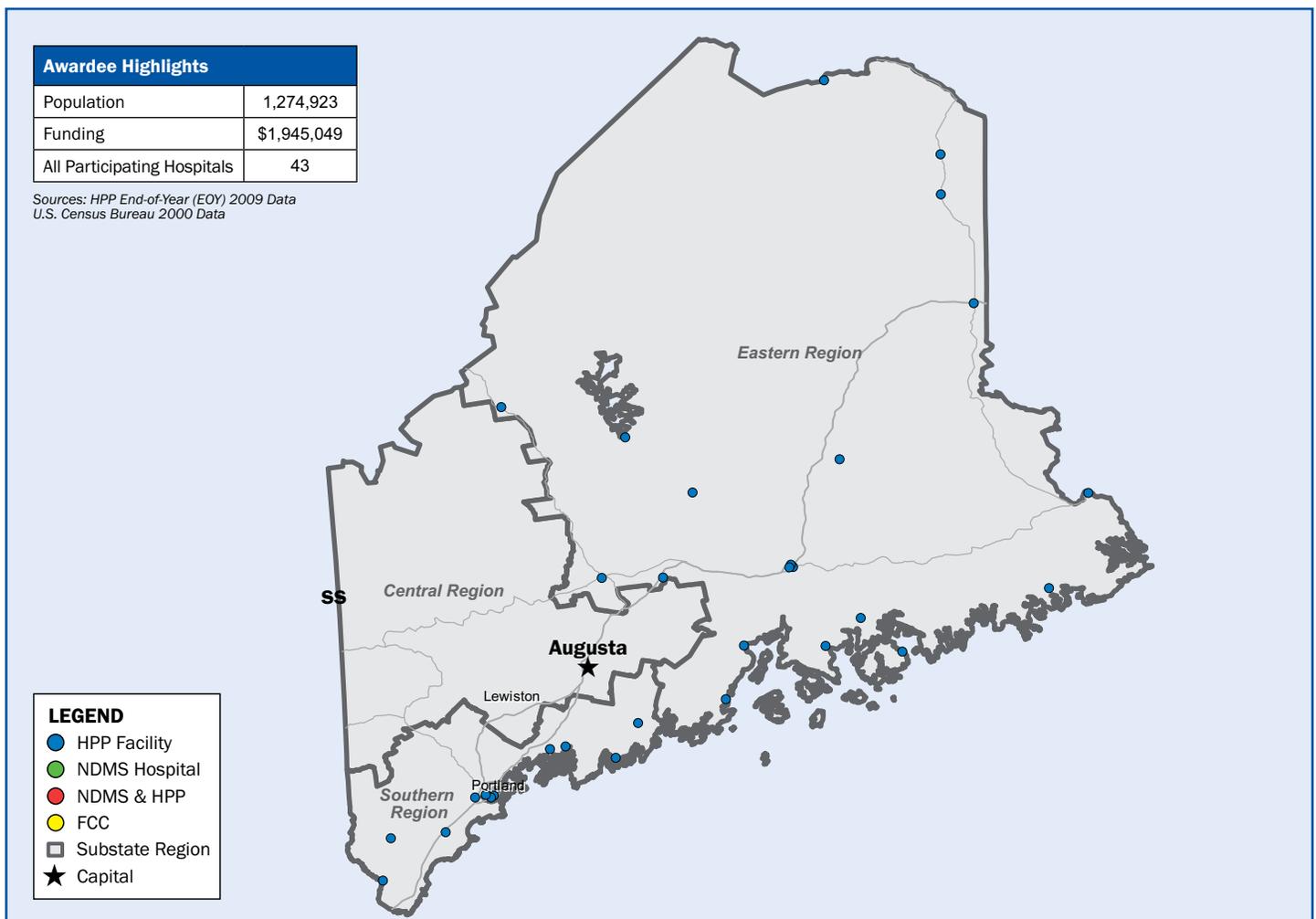
In late 2010 a construction crew accidentally severed a buried fiber optic cable, causing loss of connectivity at 10 hospitals in the state. Maine Health Alert Network (MaineHAN), supported by the Hospital Preparedness Program (HPP), was successful in communicating to affected hospitals and stakeholders, such as blood banks and outpatient clinics. The ability of having all Maine hospitals on the emergency alerting system averted a potential disruption of hospital services during the multi-day event.

Thanks to HPP, the state was able to use the HAVBED system to track the availability of hospital beds and patients being treated for influenza-like illness in emergency departments throughout the H1N1 pandemic. During the pandemic a system called EMResource also provided situational awareness to the Maine Department of Health

and Human Services' Center for Disease Control and Prevention. The State and Federal government used these data for decisions on releasing hospital equipment and supplies and medications from emergency stockpiles.

Vaccination clinic "go kits" — funded by HPP — were deployed to support the H1N1 vaccination campaign. Maine's model was to vaccinate all school-aged children to provide "herd" immunity for the most at-risk groups. Many of Maine's schools did not have resources to conduct a mass vaccination clinic on school grounds, so Maine Department of Health and Human Services' Center for Disease Control and Prevention deployed 82 mass vaccination "go kits" to support its vaccination efforts. In addition, Maine recently deployed antivirals from Maine's stockpile due to large flu outbreaks at two separate state correctional facilities. Along with antivirals, influenza vaccine from the state's Public Health Nursing Office was delivered to the correctional facilities to vaccinate employees and inmates.

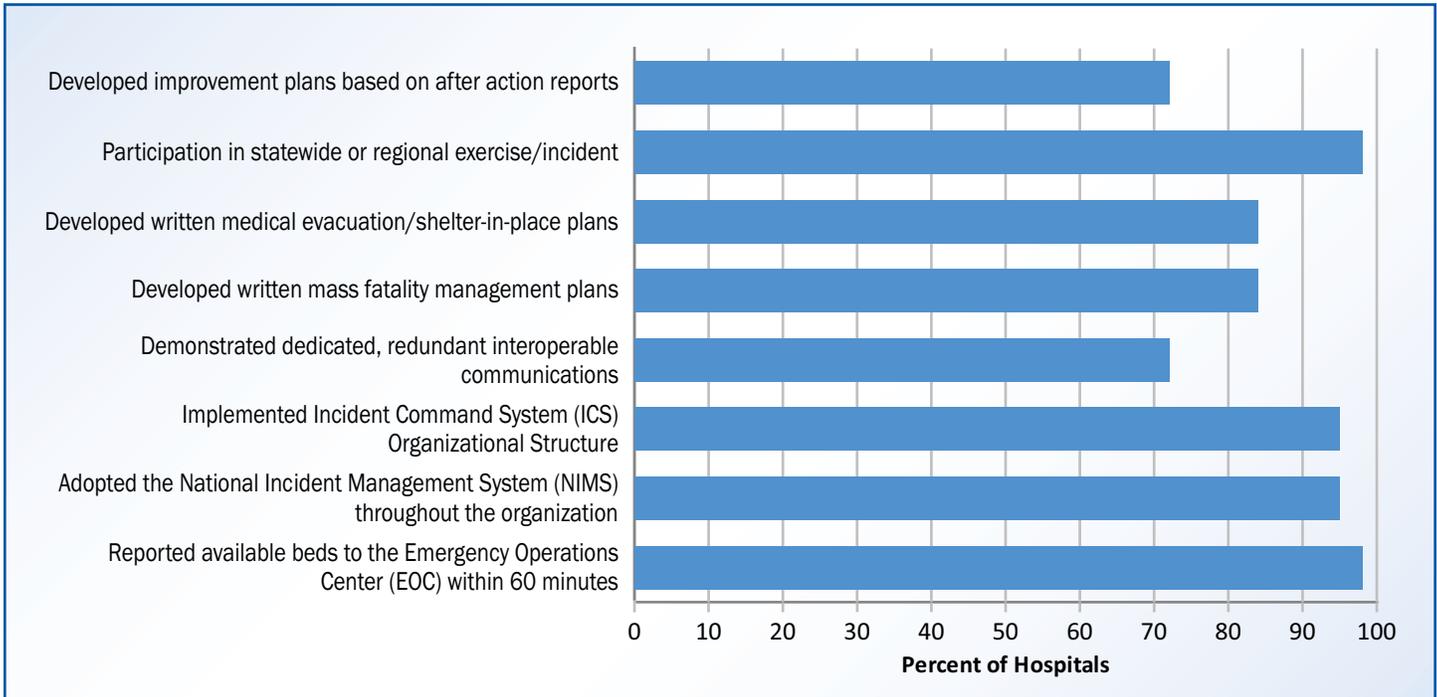
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	23
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	204
Number of 24-hour surge staffed beds per 100,000 population	311
Number of certified trauma centers per 100,000 population	0.2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	1110
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	163

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Maryland Improves Capacity and Capabilities

Maryland Department of Health and Mental Hygiene (DHMH) has taken many steps to enhance the State's healthcare systems emergency preparedness. Generally, the focus has been on enhancing the capacities and capabilities of acute care hospitals, which will undoubtedly receive the most patients during a disaster or public health event. However, improving the capacities and capabilities of community health centers are equally imperative to address the needs of more than 300,000 uninsured, underinsured and medically underserved residents. These groups represent five percent of Maryland's current population.

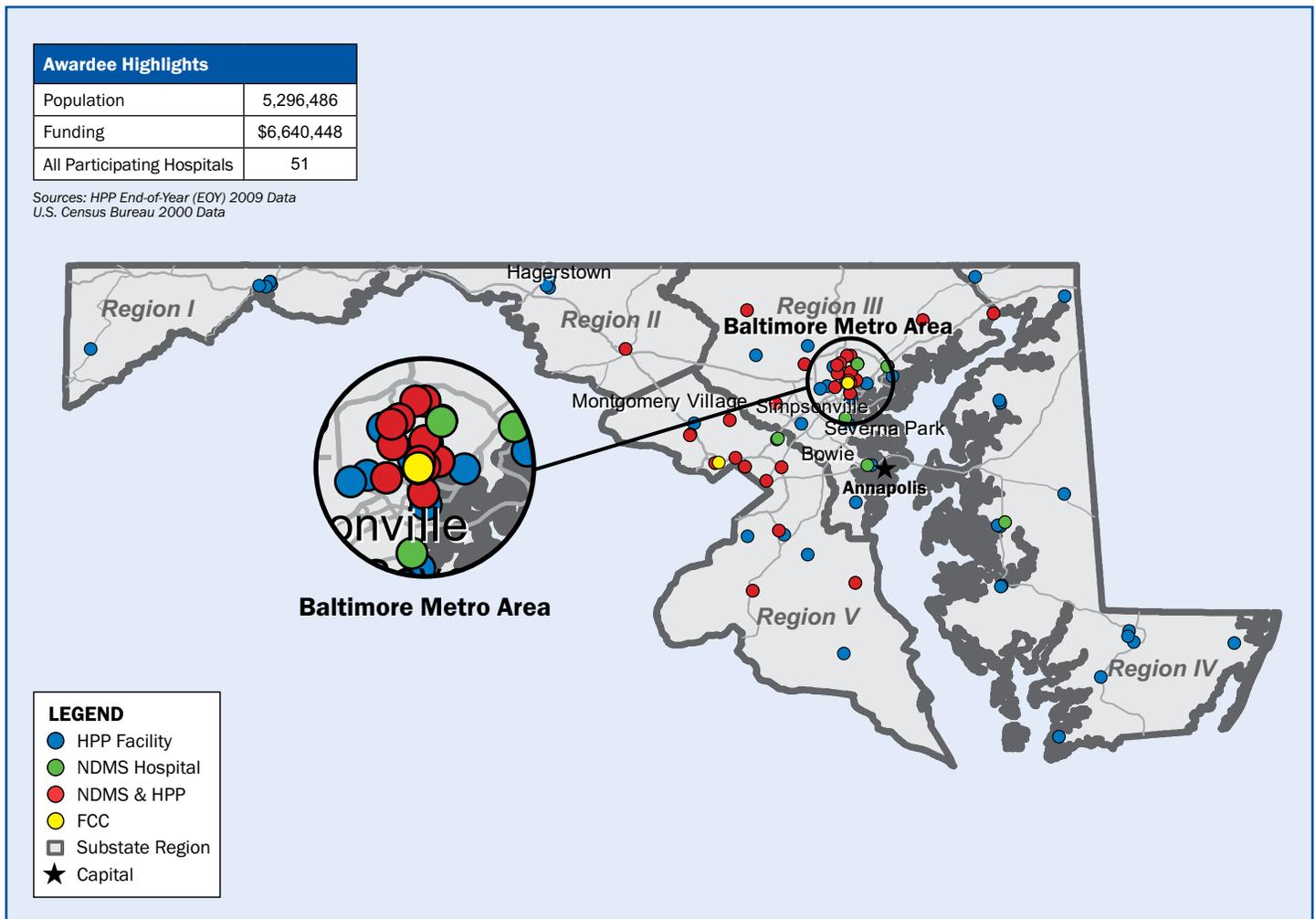
With Hospital Preparedness Program (HPP) guidelines and support, DHMH partnered with the Mid-Atlantic Association of Community Health Centers (MACHC) to improve the readiness of federally qualified health centers and community health centers. Funding from HPP has allowed MACHC to enhance the health centers' emergency preparedness efforts by coordinating medical surge planning, providing interoperable communications equipment, conducting drills and exercises, participating in emergency preparedness education and train-

ing opportunities, as well as equipping the centers with supplies and materials to respond to a potential disaster or public health event.

Moreover, the community health centers are becoming more involved in regional emergency preparedness planning activities with acute hospitals and other Emergency Support Function 8 (ESF-8) partners. The involvement of the community health centers has revealed additional resources that were not widely known previously, such as their possible use as alternate care sites and access to additional clinicians.

Additionally, in the event of a public health emergency, the enhancements made to these community centers will enable clinicians to address the needs of the non-critical uninsured, underinsured, and medically underserved. Hence, these individuals will not have to seek medical attention at hospital emergency rooms, decompressing the volume of patients and allowing hospitals to concentrate their resources on the more critically injured patients.

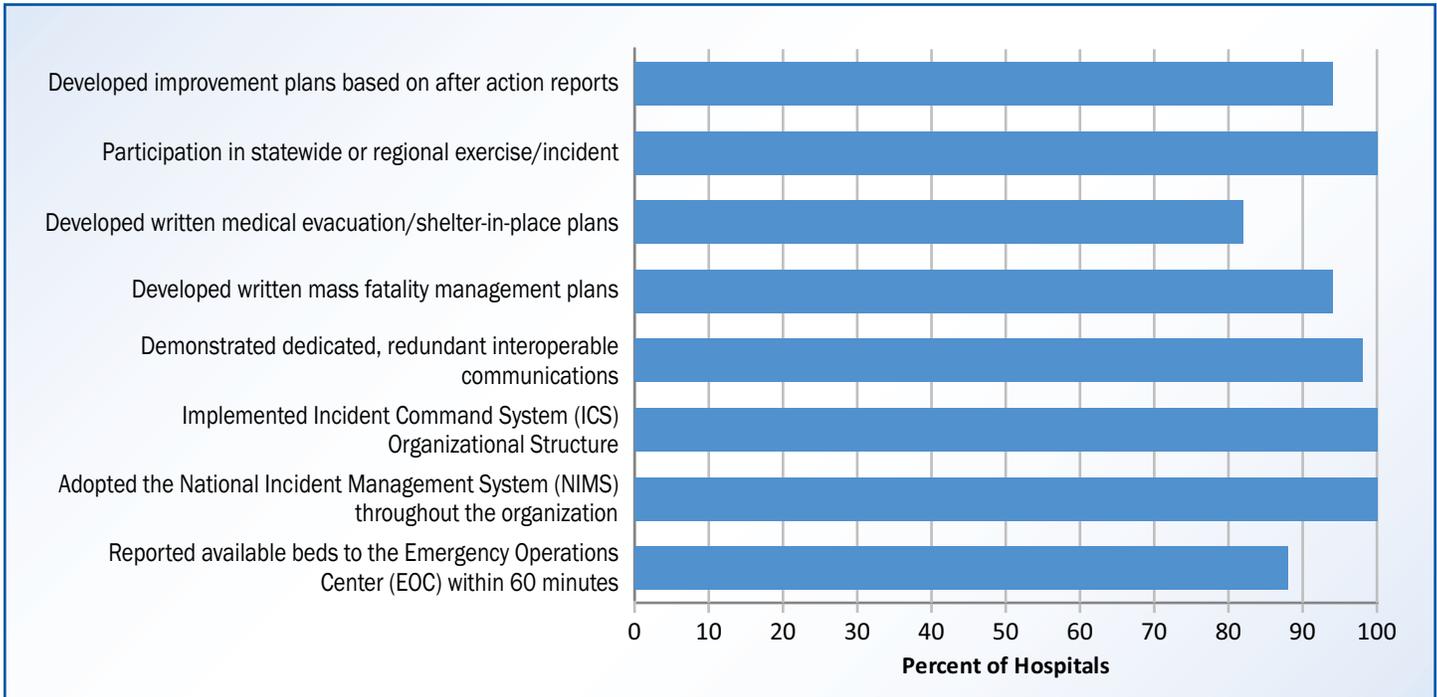
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	94
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	204
Number of 24-hour surge staffed beds per 100,000 population	314
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	1546
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	125

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# As Water Gushes, HHAN Delivers Timely, Accurate Alerts

May 1, 2010, started out as a quiet weekend morning in eastern Massachusetts. The day evolved into an eventful afternoon for Boston and 29 surrounding communities, and into a case study of just how invaluable the State’s public health emergency notification system, the Health and Homeland Security Health Alert Network (HHAN), can be.

First introduced in 2003, the HHAN was developed by the Massachusetts Department of Public Health (MDPH) with funding from the Hospital Preparedness Program and Public Health Emergency Preparedness Program. Since then, MDPH has continued to improve the system with its State and local partners. Those efforts paid off on that first day of May.

That afternoon, a 10-foot diameter water pipe – the main source for drinking water for more than 2 million residents in the greater Boston area – suddenly burst. It was a catastrophic break, gushing more than eight million gallons of water per hour.

Public health and environmental protection experts were immediately concerned about the possible contamination of the drinking water,

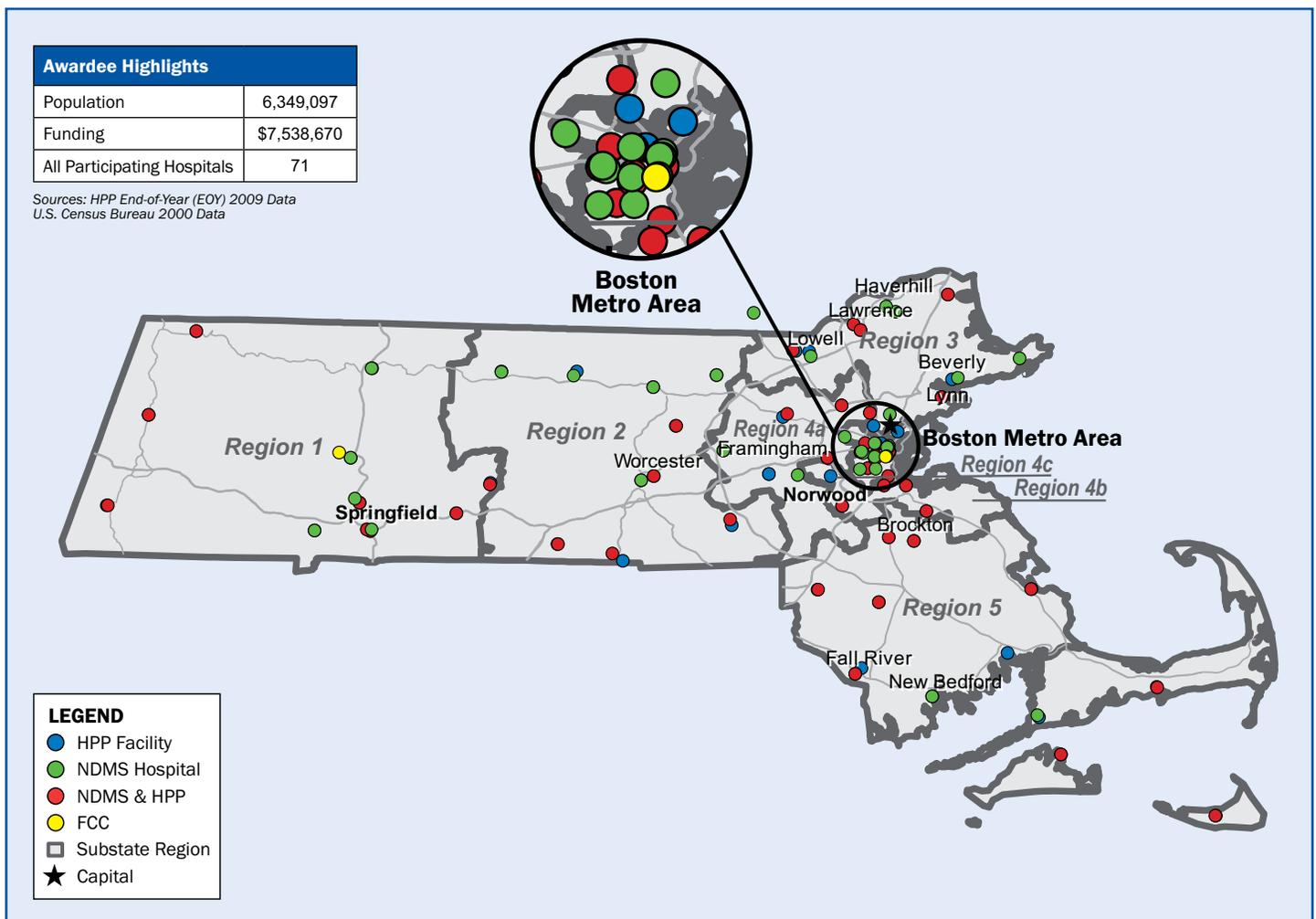
so the State issued a preemptive boil-water order and a ban on non-essential water use for 30 cities and towns that afternoon.

MDPH used the HHAN to instantaneously alert hundreds of hospitals, healthcare facilities, community health centers, long-term care facilities, EMS agencies, and local public health authorities about the emergency situation.

The flexibility and responsiveness of the HHAN was essential in allowing MDPH to continue pushing emergency messages to a vast matrix of agencies and stakeholders at the State and local level. Subsequent alerts provided further guidance for specific audiences, including public health and hospitals, restaurants, and residential food preparation facilities.

The water main break was an example of the need to deliver basic risk communication messaging to a wide audience in an extraordinarily fast timeframe. In every respect, the HHAN proved itself up to the task.

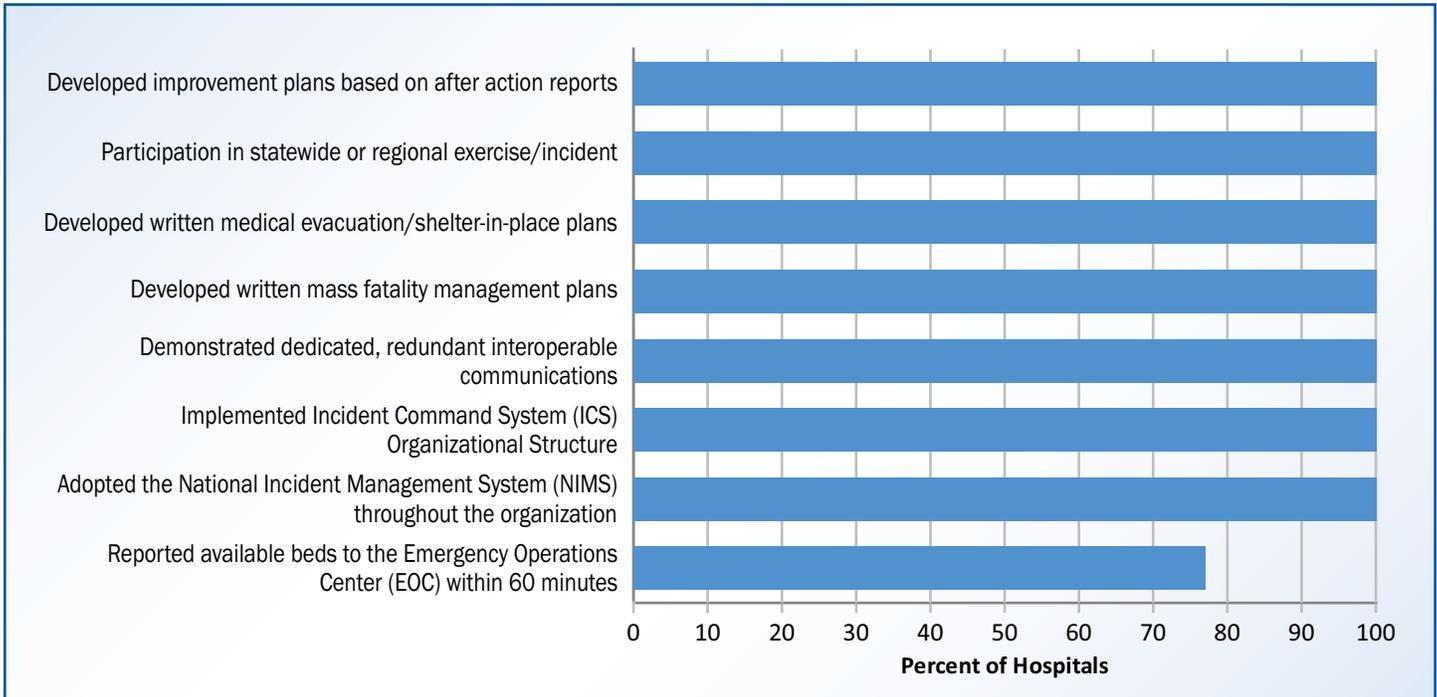
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	222
Number of 24-hour surge staffed beds per 100,000 population	258
Number of certified trauma centers per 100,000 population	0.3
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	2479
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	413

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Portable Ventilators Support Medical Surge in Michigan

During the 2009 H1N1 pandemic influenza event, hospital emergency services and inpatient census increased, requiring the need to augment ventilator capacity. Portable ventilators previously purchased with Hospital Preparedness Program (HPP) funds proved invaluable to Emergency Medical Services (EMS) and hospitals to meet the needs of an increased number of patients with respiratory complications.

Early in the HPP, Michigan hospitals had expressed concerns about the possibility of running out of ventilators during a pandemic. Assessments conducted with the State's hospitals and EMS agencies identified capacity, resources, and gaps that could impact the ability to meet a medical surge event, including ventilator capacity.

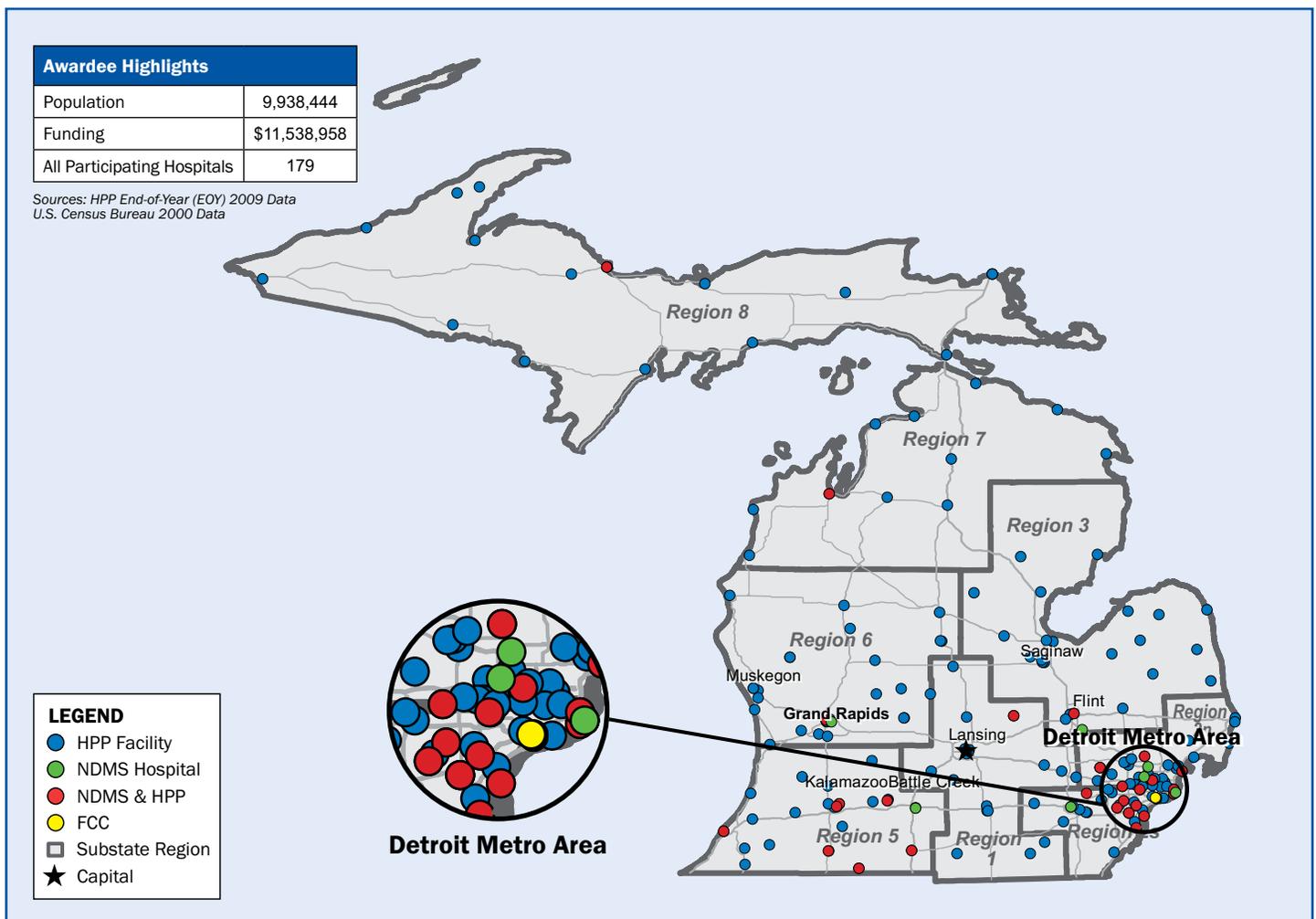
To address this concern, stakeholders came together to identify the criteria for purchasing intensive care, unit-quality, portable ventilators: high-quality, durable, easy-to-operate and portable. These ventilators needed to be usable not only in hospital critical care units but also in the pre-hospital arena.

To estimate the number of ventilators needed, the group used Centers for Disease Control and Prevention's Flu-Aid program, with the criteria for week four of an eight-week pandemic with a 35 percent attack rate. Ventilator demand was benchmarked to current State capacity. Comparison data of current gaps were outlined if 15, 20, and/or 25 ventilators would be needed per 100,000 population.

In an effort to set a minimum level of readiness, State healthcare leaders set 20 ventilators per 100,000 population as the goal to resource per region. Once delivered, the ventilators were distributed through eight regional healthcare coalitions, ensuring that mechanisms were in place for annual testing, maintenance, storage, and use. In addition, a cache was held at the State level to allocate as needed during a response.

The Office of Public Health Preparedness, within the Michigan Department of Community Health, serves as the coordinating agency for the Hospital Preparedness Program. Through the leadership of the eight regional healthcare coalitions, great strides have been made to mitigate potential medical surge issues during an emergency response and save lives.

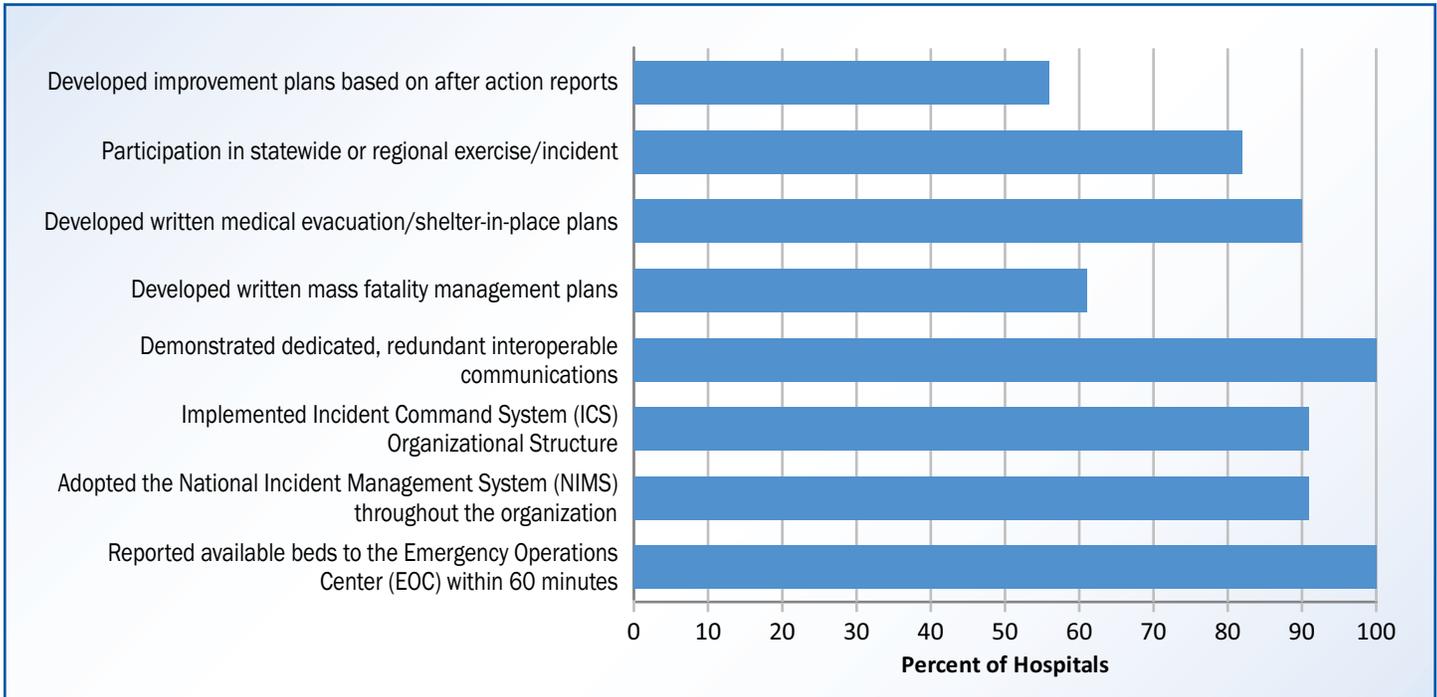
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	342
Number of 24-hour surge staffed beds per 100,000 population	411
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	6817
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	201

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## A Coordinated Response to Record Flooding

In March 2009 the Red River of the North crested at an all-time record level along the Minnesota-North Dakota border, causing widespread flooding. Minnesota’s Hospital Preparedness Program-funded activities were a critical part of the response.

Under Hospital Preparedness Program (HPP), the State had developed a tiered system to coordinate healthcare response during incidents. On March 26, State personnel initiated an interstate (“Tier 5”) response when a health system evacuated its Level II trauma center and long-term acute care hospital in Fargo. Minnesota Regional Hospital Preparedness Consultants, the Minnesota Department of Health and the North Dakota Department of Health all assisted with the evacuation. Approximately 110 patients were moved to prearranged locations at 14 hospitals in Minnesota. The evacuation began at midnight and was completed by 6 a.m.

Another 248 residents from nursing homes were transferred during this period. The Regional Hospital Preparedness consultants, Depart-

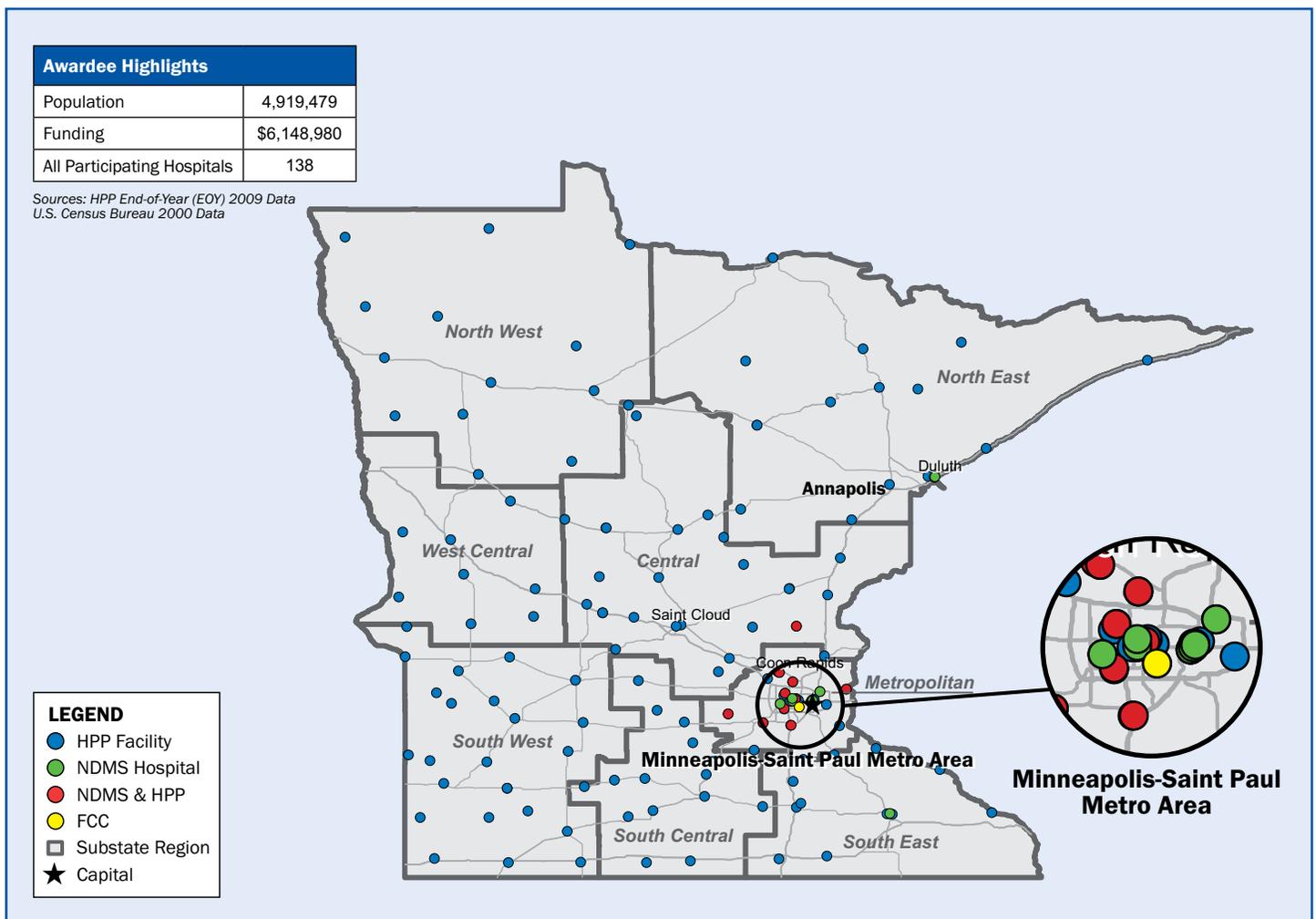
ment of Health staff, ambulance strike teams, and volunteers helped coordinate the evacuation.

The State also deployed Minnesota’s mobile medical unit to Moorhead. Staffed by Department of Health personnel and healthcare volunteers, the mobile medical unit provided emergency medical services in an area cut off from normal sources of emergency care.

The Northwest Minnesota Behavioral Health Strike Team, which is HPP-funded, deployed to the flooded region. The team performed community needs assessments, recruited additional staff to assist local responders, and developed a plan for providing behavioral health services in connection with the flood emergency.

HPP-supported programs enhance and sustain critical planning and response activities for floods and all hazards including tornados, bioterrorism, and infectious disease outbreaks.

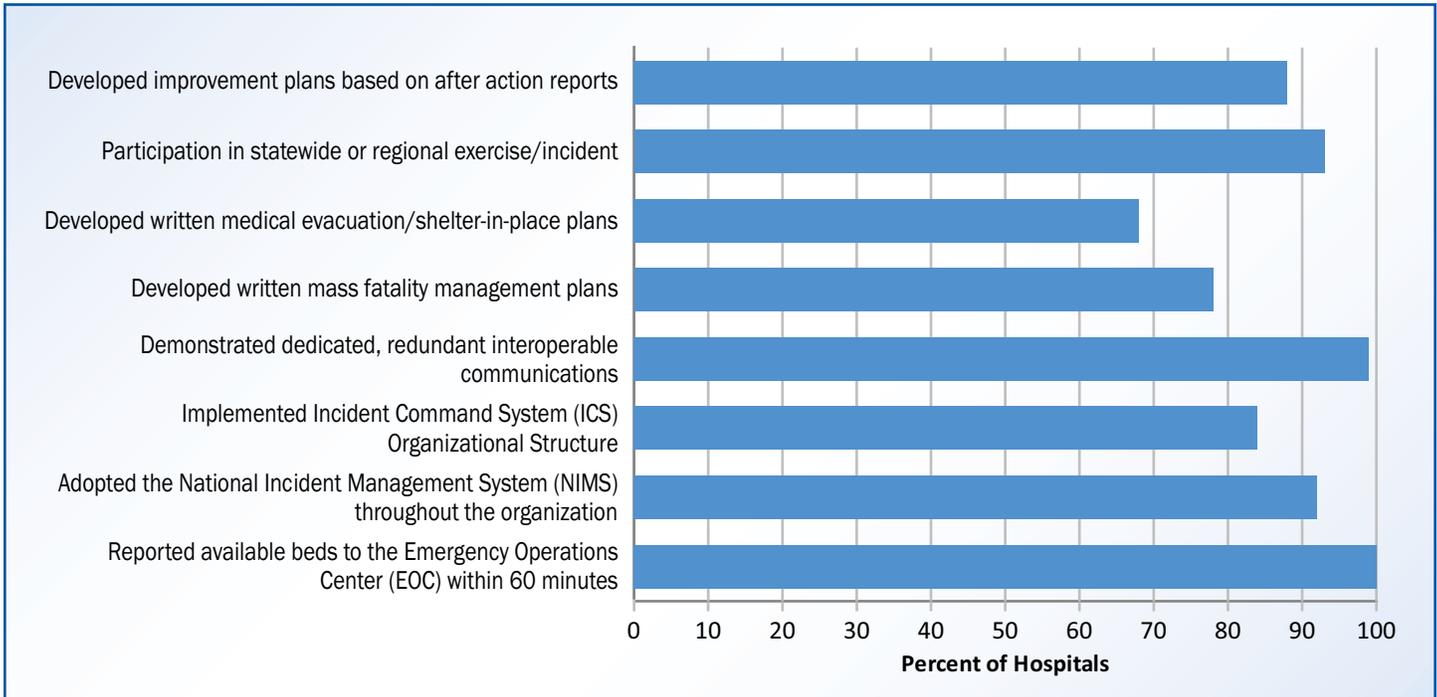
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	90
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	246
Number of 24-hour surge staffed beds per 100,000 population	372
Number of certified trauma centers per 100,000 population	2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	8734
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	203

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Improvements Save Lives During Major Tornado

Hurricane Katrina had a major impact on preparedness and response in Mississippi. The Mississippi State Department of Health (MSDH) used the lessons from Katrina and funding from Hospital Preparedness Program (HPP) to create significant improvements in Emergency Support Function 8 (ESF-8) response. These improvements had a major life-saving impact during a major tornado incident in 2010.

On the morning of April 24, 2010 a deadly tornado moved across Mississippi, causing heavy damage with multiple casualties. MSDH and its ESF-8 partners executed a rapid and coordinated response to the health and medical needs of the impacted areas. The initial damage reports were received in Mississippi MED-COM and were relayed to MSDH and the Mississippi Emergency Management Agency at the State Emergency Operations Center. MED-COM also conveyed the latest tornado warning from the National Weather Service to the hospitals and EMS agencies in the projected path of the storm.

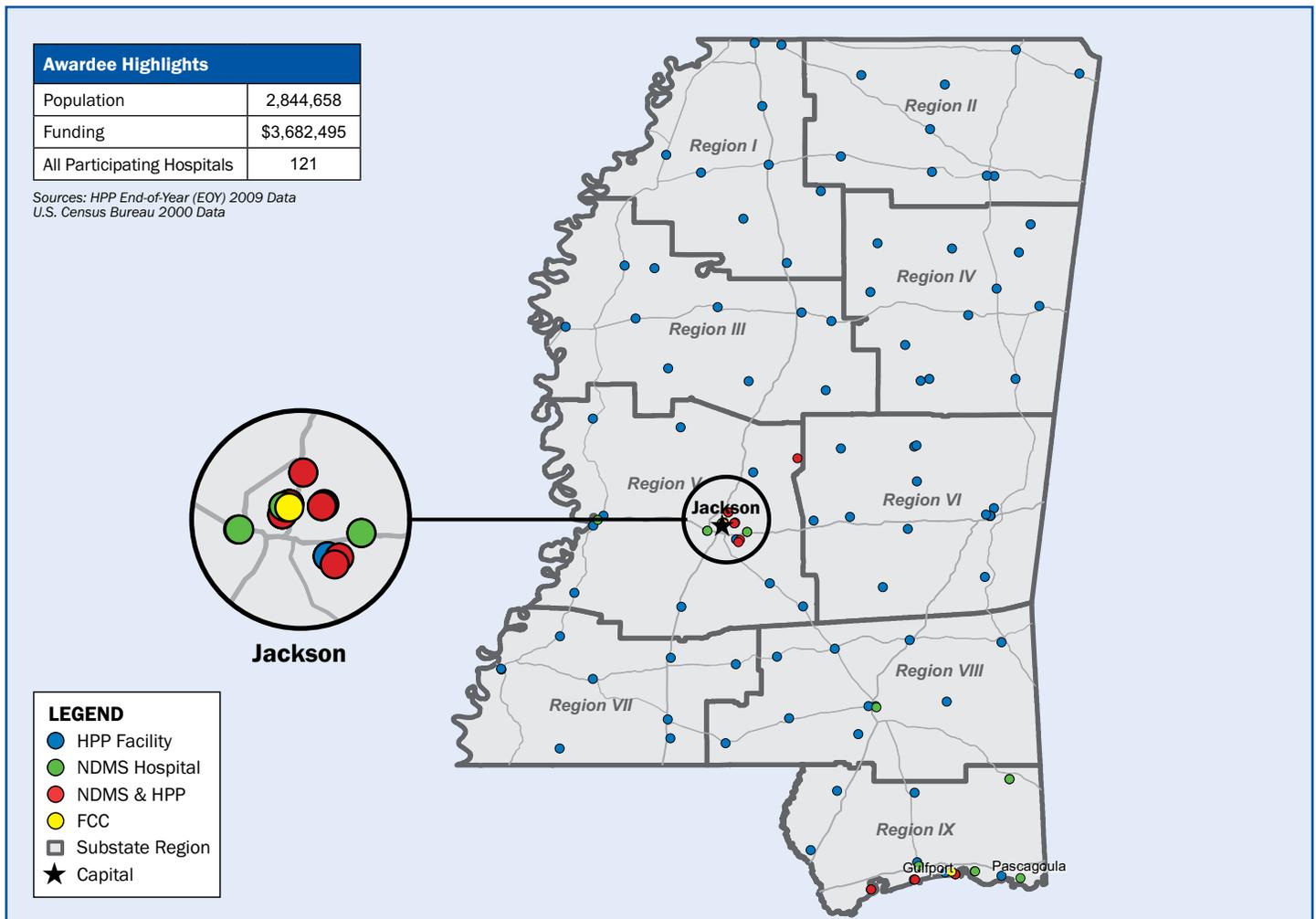
Once determined safe, a helicopter from the University of Mississippi Medical Center (UMMC) was requested and sent to support local re-

sponse efforts and insert a two-person forward team from Mississippi MED-1, a State Medical Assistance Team. The team established an initial casualty collection point with local EMS to triage and treat injured patients and to prioritize evacuation.

Mississippi MED-COM supported on-scene responders by directing the air and ground ambulances to the appropriate receiving hospital based on data from the State Medical Asset and Resource Tracking Tool. Two MSDH AmbuBuses, staffed, equipped, and supplied by MED-1, were sent to support ongoing response efforts. Five patients were transported to the UMMC ED via AmbuBus, with a MED-1 nurse providing transport care.

During the tornado response, over 60 patients were cared for by MED-1 staff and more than 80 patient movements were coordinated through Mississippi MED-COM to hospitals in Jackson, Memphis, and Tupelo.

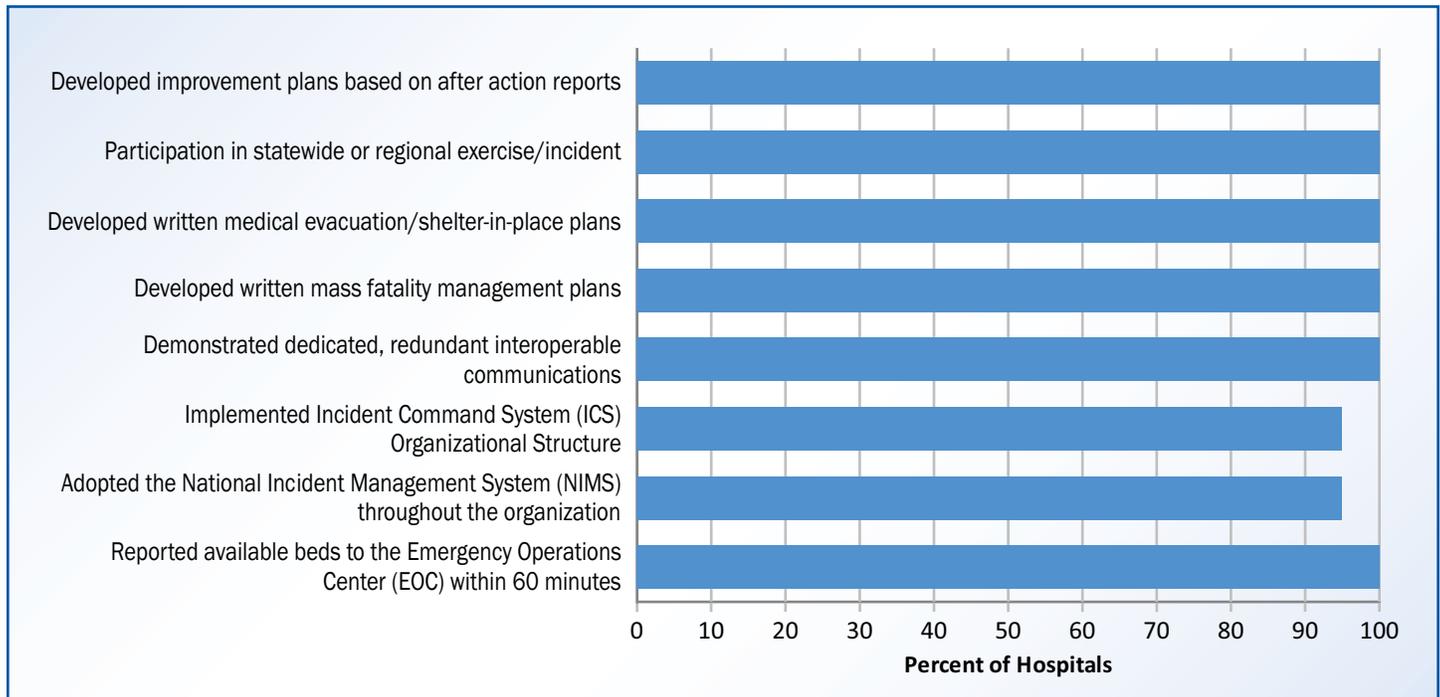
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	425
Number of 24-hour surge staffed beds per 100,000 population	634
Number of certified trauma centers per 100,000 population	3
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	1822
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	557

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Collaboration Leads to Drastic Increase in Surge Capacity

Collaboration ensures an ease of communication and increases the response capability of local emergency preparedness partners in Missouri. The Missouri Department of Health and Senior Services (DHSS) have multiple partners across the State. Currently, DHSS is working closely with the Mid-America Regional Council, St. Louis Area Regional Response System, Missouri Department of Mental Health, and the Missouri Hospital Association.

HPP funds have been used to prepare Federally Qualified Health Centers across the State to assist during emergencies through a contract with the Missouri Primary Care Association. Currently, many of the centers are equipped to assist local public health agencies and hospitals in an emergency by using local offices as triage sites or alternative care sites.

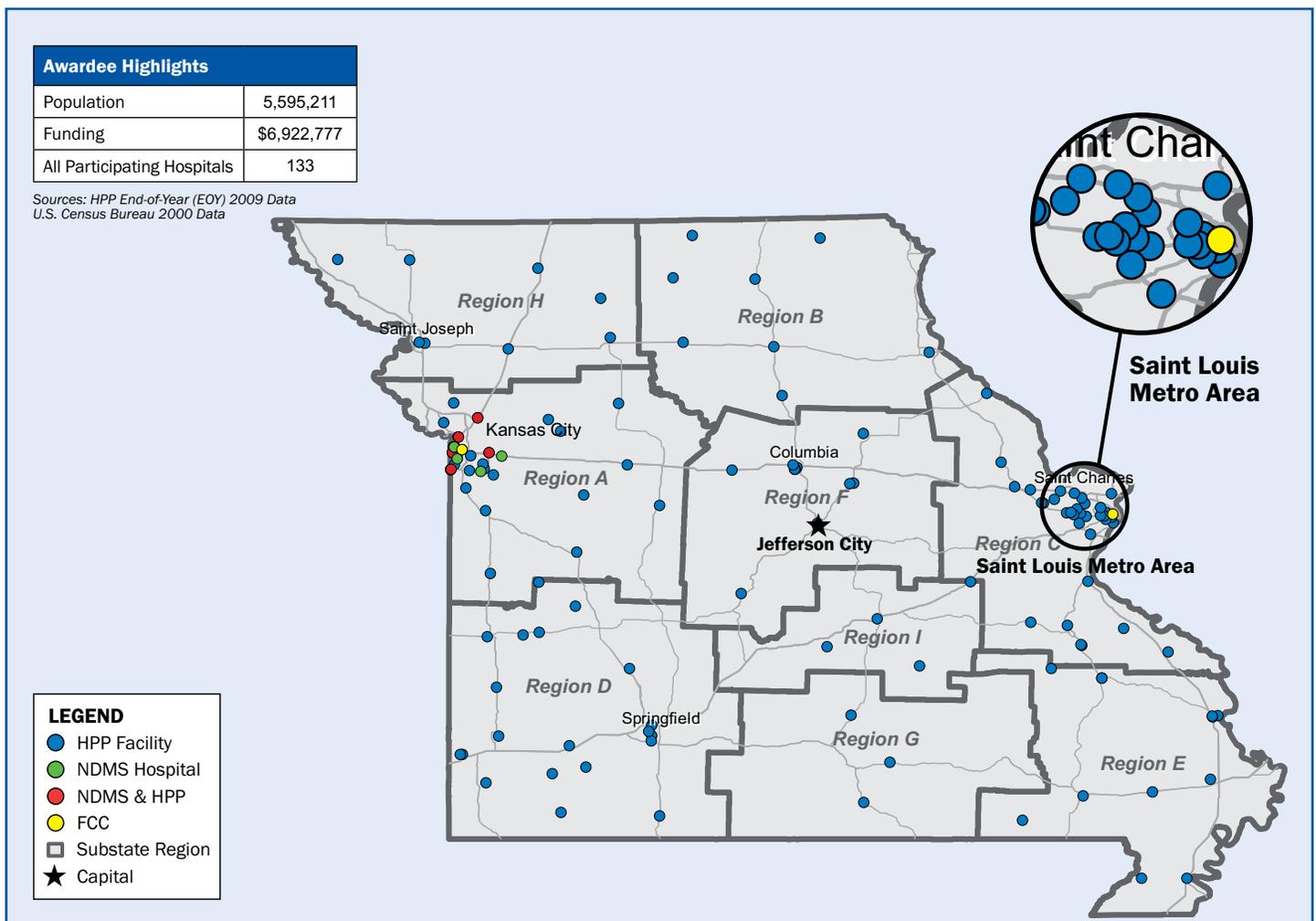
To increase hospital surge capacity during emergencies, an emphasis was placed on funding for equipment and supplies. These supplies include emergency blankets, triage response kits, redundant communication equipment, handheld radiation detection meters, personal protective equipment, military-style stretchers, and decontamination equipment.

Hospital medical surge caches have been assembled and distributed. These caches increase the capacity for medical surge, alternate care, functional needs or mass-care shelters. Oxygen caches were acquired and placed with healthcare partners throughout the State, and anti-biotic caches were purchased and stored in a pharmaceutical warehouse.

Mobile emergency response trailers and a Mobile Medical Unit have been purchased, equipped, and located throughout the State for additional surge capacity. Strategic trailer placement reduces response time to deploy to a mass casualty incident.

Hospital Preparedness Program (HPP) funding also supports a State Medical Reserve Corps (MRC) program, which assists individual MRC Units located throughout Missouri with volunteer recruitment and coordination. This program's value has been underscored repeatedly since its creation. Over the past two years, volunteers have assisted with sheltering after tornadoes, expanded medical services capacity after winter storms, and vaccinated volunteers during floods. Recently, these MRC public health volunteers provided assistance during the H1N1 pandemic.

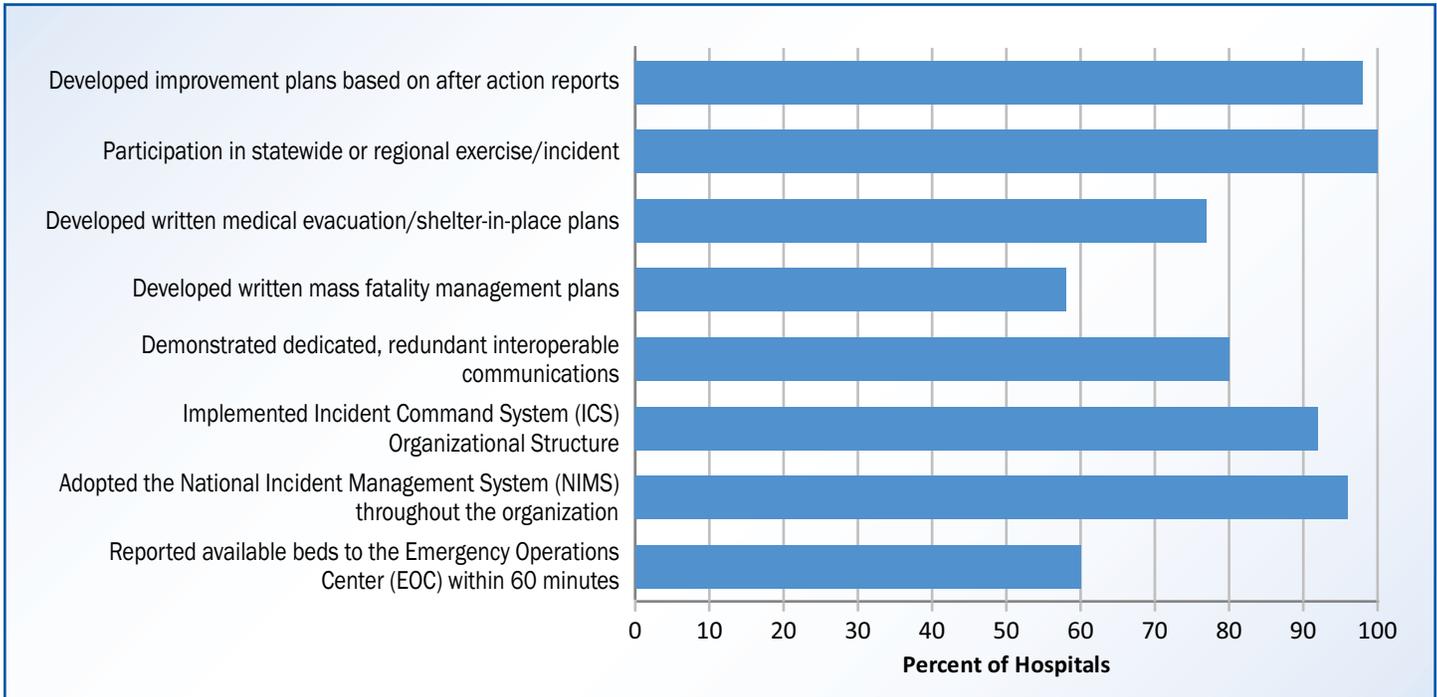
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	74
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	392
Number of 24-hour surge staffed beds per 100,000 population	431
Number of certified trauma centers per 100,000 population	0.5
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	2050
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	65

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Montana's Continued Quality Improvement for Hospital Preparedness

Starting in grant year 2010 to increase hospital participation in exercises, the Montana Hospital Preparedness Program (HPP) implemented a new initiative, namely conducting an annual training and exercise event in each of Montana's five hospital planning regions to ensure these facilities and communities are prepared for disasters. Because of the rural nature of the State, coupled with long distances, it is difficult for small, rural hospitals to actively demonstrate regional collaboration without outside assistance.

The HPP-funded project features the Hospital Command Center Training Course, which is open to personnel from all hospitals in a planning region. The course provides a hands-on opportunity to practice incident management within a hospital command center. An exercise is conducted at the host hospital following the training course and is designed to meet that hospital's exercise and evaluation needs. Regional capacity and capability are assessed through drills of the HAVBED system, which monitors the number of available hospital beds during a disaster, and through drills of Montana's Emergency

System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) system.

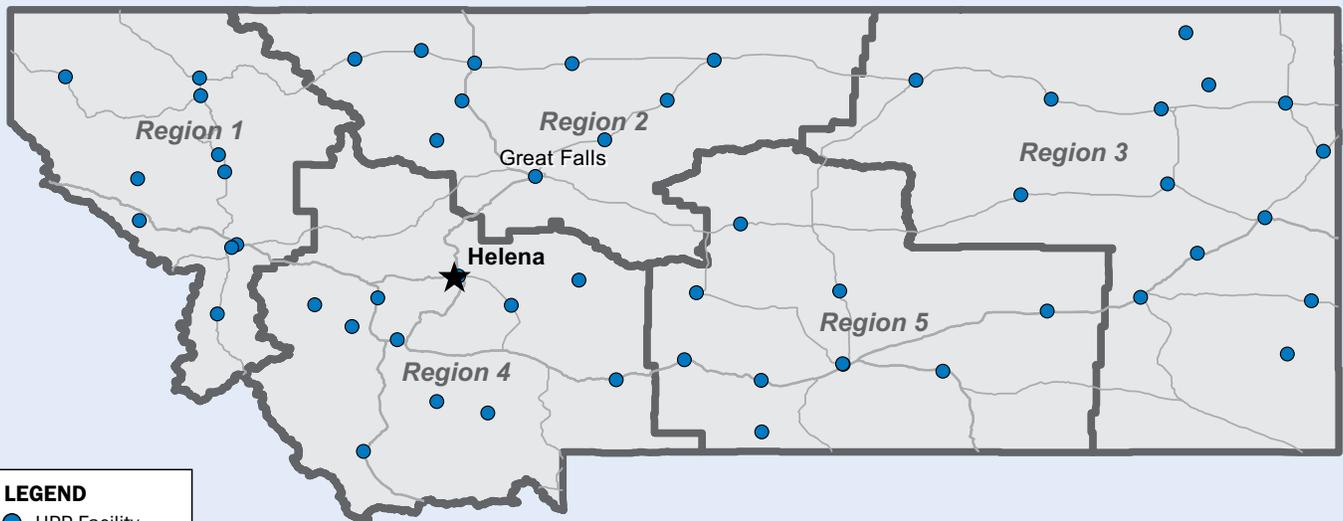
The preparedness program uses an Excel-based workbook to assist hospitals with preparedness activities. The workbook features key questions regarding the development of Level One and Level Two capabilities, as well as National Incident Management System implementation, and is designed to assist hospitals in addressing the required elements in development of a capability. The workbook captures baseline information regarding preparedness capabilities and provides a method for requesting funding for specific activities. Individual hospitals utilize the workbook as guidance for capability development and to establish the priority of activities for continued quality improvement.

Some hospitals have used the workbook to justify funding for their emergency management programs beyond HPP's financial support. The long-term goal is to convert the workbook to an on-line database to facilitate application for awards, reporting, and data collection. It will also establish an electronic record for each facility, documenting its progress and achievements, and improving its accountability.

## HPP Participating Hospitals by Region

Awardee Highlights	
Population	902,195
Funding	\$1,532,896
All Participating Hospitals	53

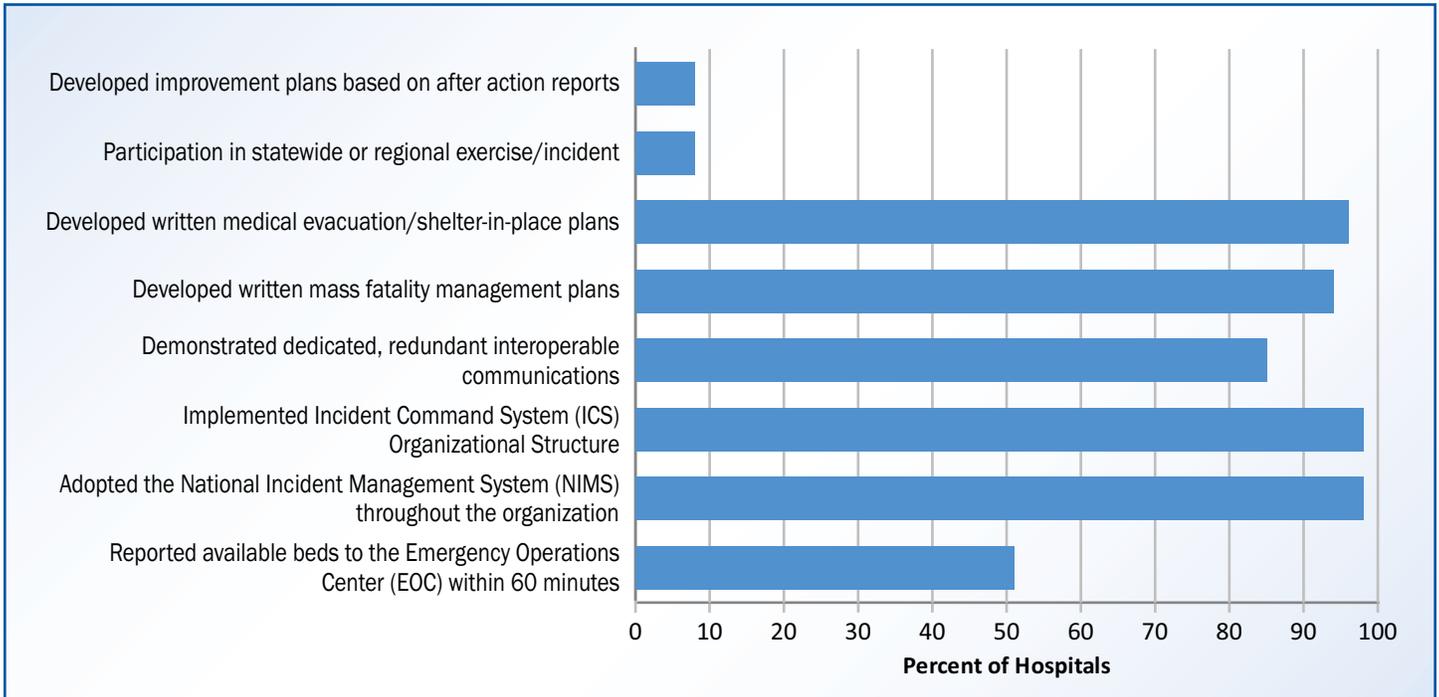
Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	85
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	294
Number of 24-hour surge staffed beds per 100,000 population	346
Number of certified trauma centers per 100,000 population	3
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	985
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	176

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Nebraska Adopts New and Promising Approach to Preparedness

To accomplish the boots-on-the-ground work throughout Nebraska's 77,407 square miles, the State assessed its general all-hazards tiered response capabilities including four probable or mandated emergency scenarios (pandemic disease, explosive incident, chemical and/or hazardous materials incidents, and weather-related incidents) and adopted a regional concept to accomplish grant deliverables. Rural regionalization is based on a "hub and spoke" model, connecting 64 participating critical access hospitals with seven regional referral hospitals (150 beds or less) outside of the Omaha and Lincoln metropolitan areas.

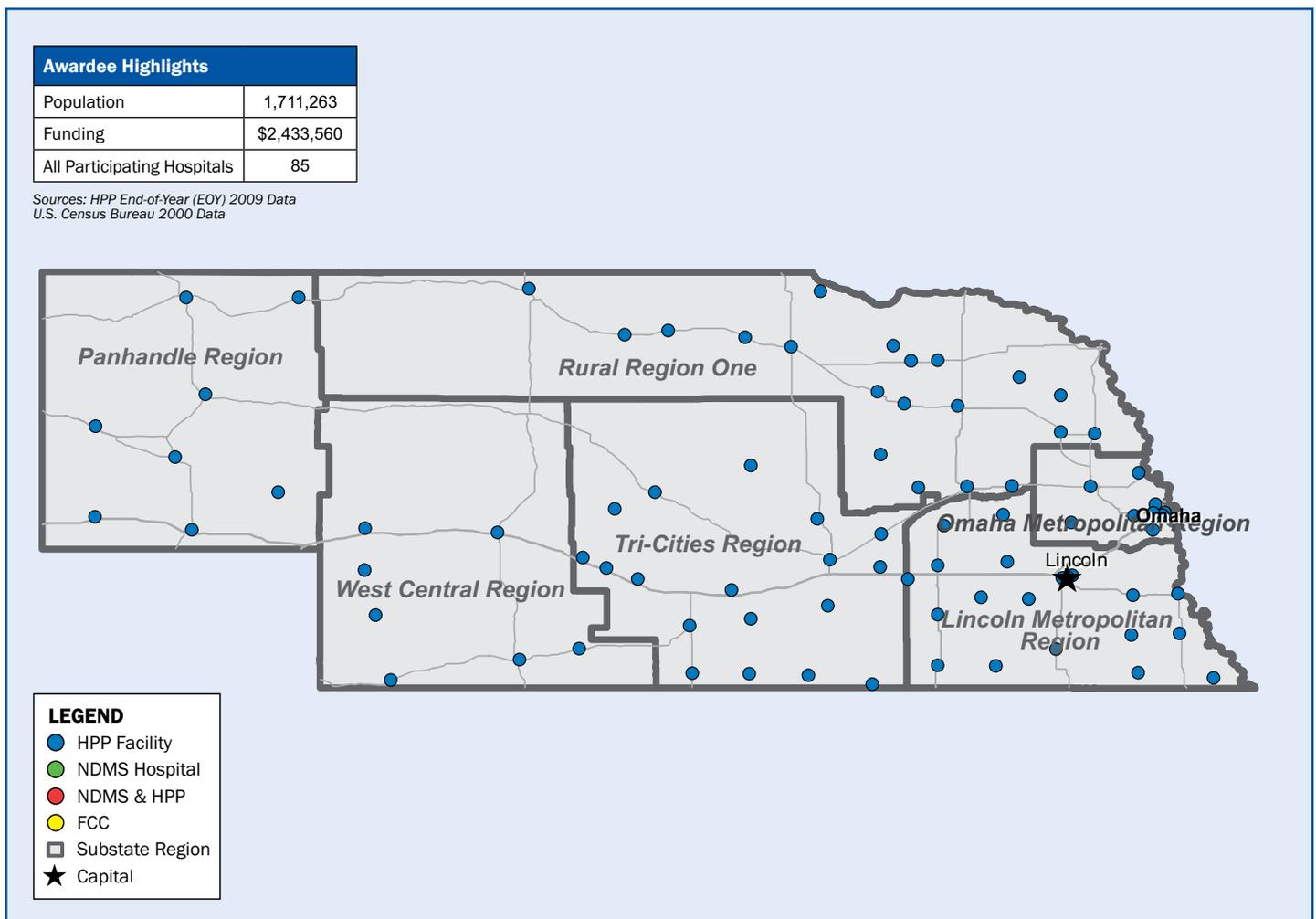
Nebraska has several partnerships as a result of the seven Medical Response Systems (MRS), which are made up of two urban and five rural. The MRSs serve as the backbone for regional planning and partnership and coalition development. This model has been noted as a promising practice for states with similar geography, a mixture of primarily rural, several urban, and a few frontier counties.

The MRS structure blankets the State's 93 counties. Each region is charged with achieving similar goals and interoperability, yet allowing

activities to complement existing regional resources and endeavors. Contracts require local health district/department participation in this comprehensive and collaborative community preparedness and response that includes healthcare workers and facilities, emergency responders, emergency management, and public health agencies.

Each MRS is responsible for developing and periodically updating a regional MRS plan, which must interface with and support each county's local emergency operations plan and other existing local response plans. Specific accomplishments of the MRSs include the creation of a medical supplies cache with active memorandums of understanding for sharing, MRSs have assessed and suggested templates for facility-level fatality management and evacuation/shelter-in-place plans, MRSs have fostered the collaboration between hospitals, their response partners and local jurisdictions, and the MRSs have ensured that Hospital Preparedness Program exercise requirements are incorporated into other entities' regional exercises to the greatest extent possible.

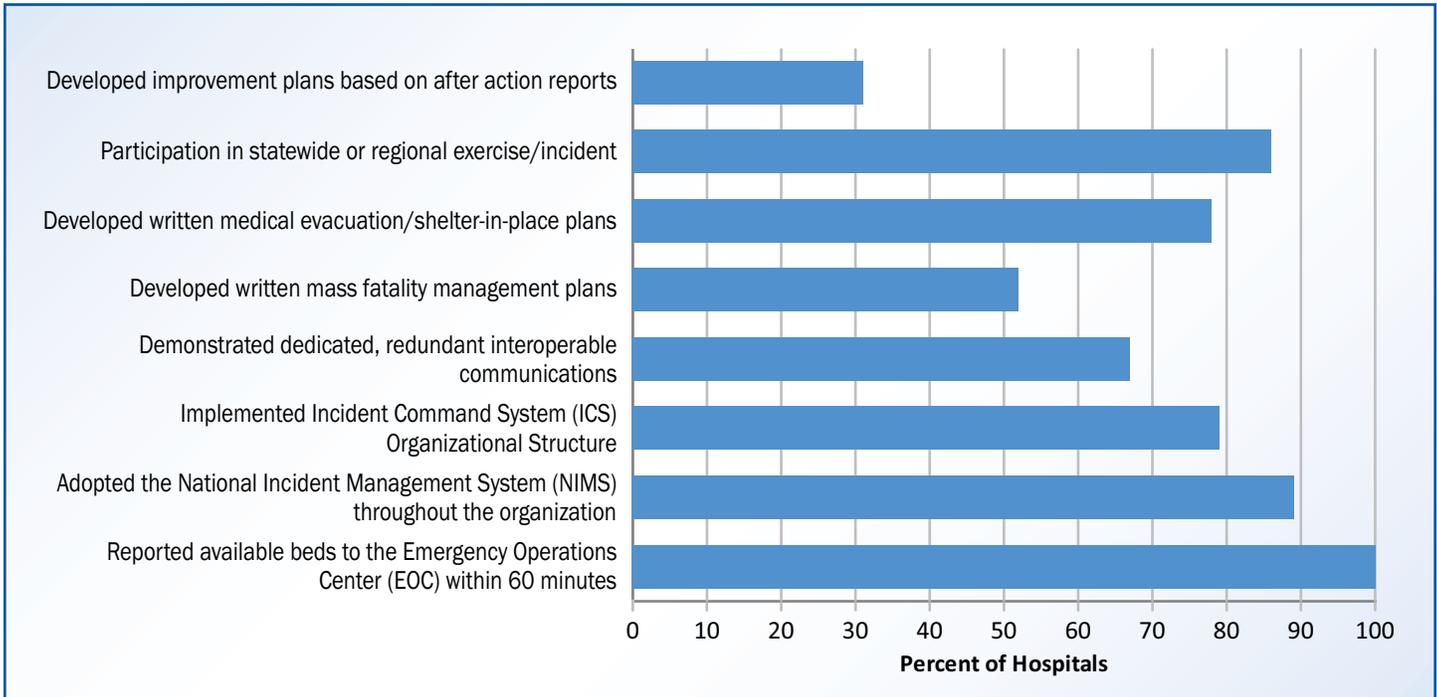
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	49
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	228
Number of 24-hour surge staffed beds per 100,000 population	338
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	471
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	336

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Nevada's Bed-Tracking Transformation

Nevada's HAVBED system has grown to include a total of 65 hospitals throughout the western United States, and all hospitals in Nevada now participate.

Nevada's HAVBED system was exercised during the H1N1 pandemic and used to transmit critical health information throughout the State. HAVBED is a vital component of the Nevada Health Alert Network (NVHAN), as it allows for the immediate transmission of critical health information during a catastrophic event in Nevada or its bordering states. HAVBED was exercised during the H1N1 pandemic and used to transmit critical health information throughout Nevada

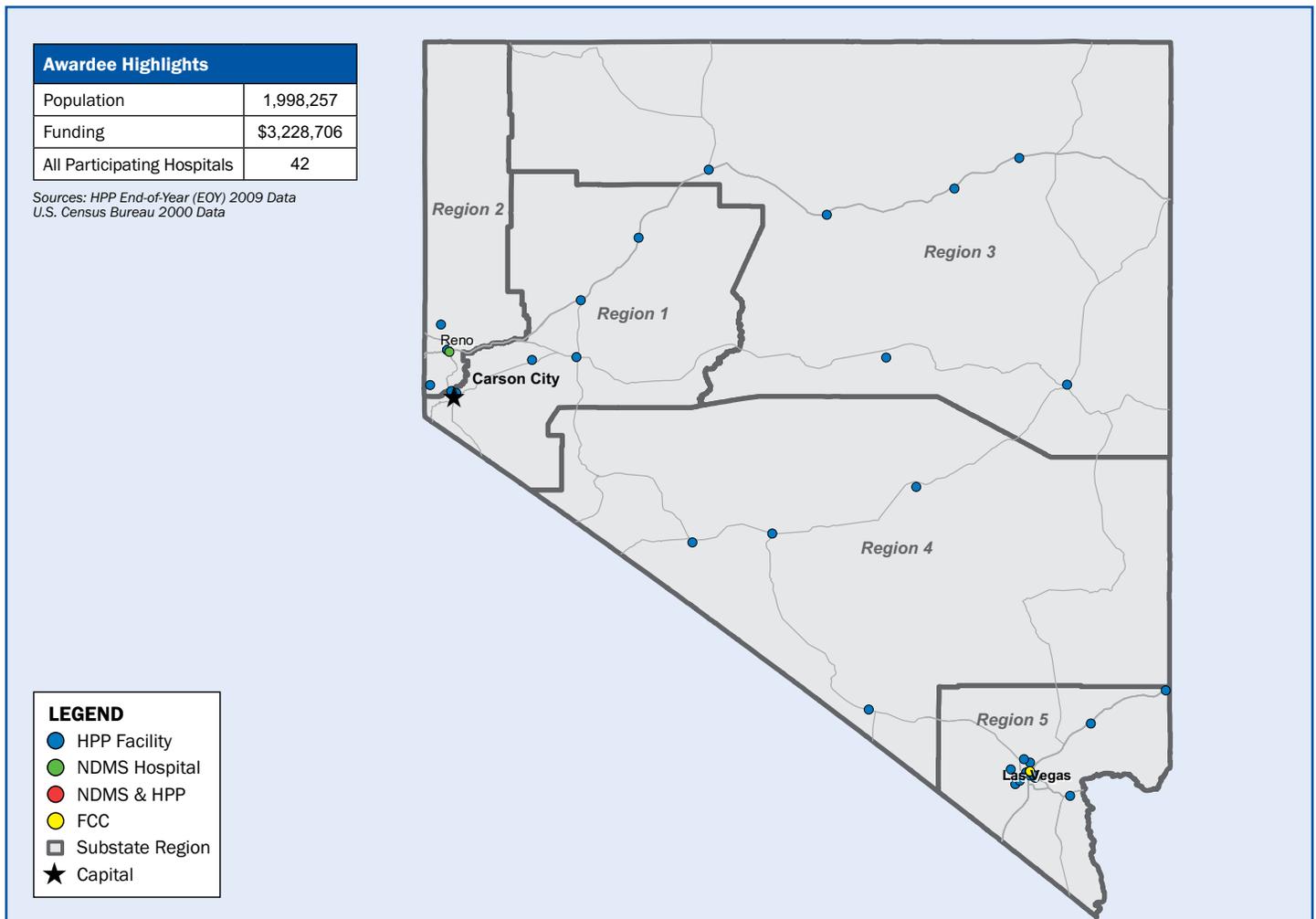
NVHAN is not only used to track bed availability and hospital capacity, but also mortuary facility status. The system is dual-redundant with East and West Coasts backup servers, and features a large library that contains vital public health preparedness documents, including Nevada's Public Information and Communications Plan.

Additionally, law enforcement agencies, as well as energy and water systems, have been integrated into the system to facilitate notification to hospitals in the event of an infrastructure failure that affects delivery of water or power.

Nevada also purchased an interface with FirstWatch to provide real-time tracking of Emergency Services assets (ground and air ambulance) in southern and northern Nevada (Reno and Las Vegas). First responders and hospitals use this information to dispatch and control emergency assets within these geographic areas.

In early 2009 Nevada began partnering with neighboring states in the western region of the United States. It now shares bed tracking and critical health information with California, Colorado, Idaho, Arizona, New Mexico, and Oregon. These partnerships have been very beneficial and fostered mutual assistance agreements and participation in public health preparedness efforts throughout the region.

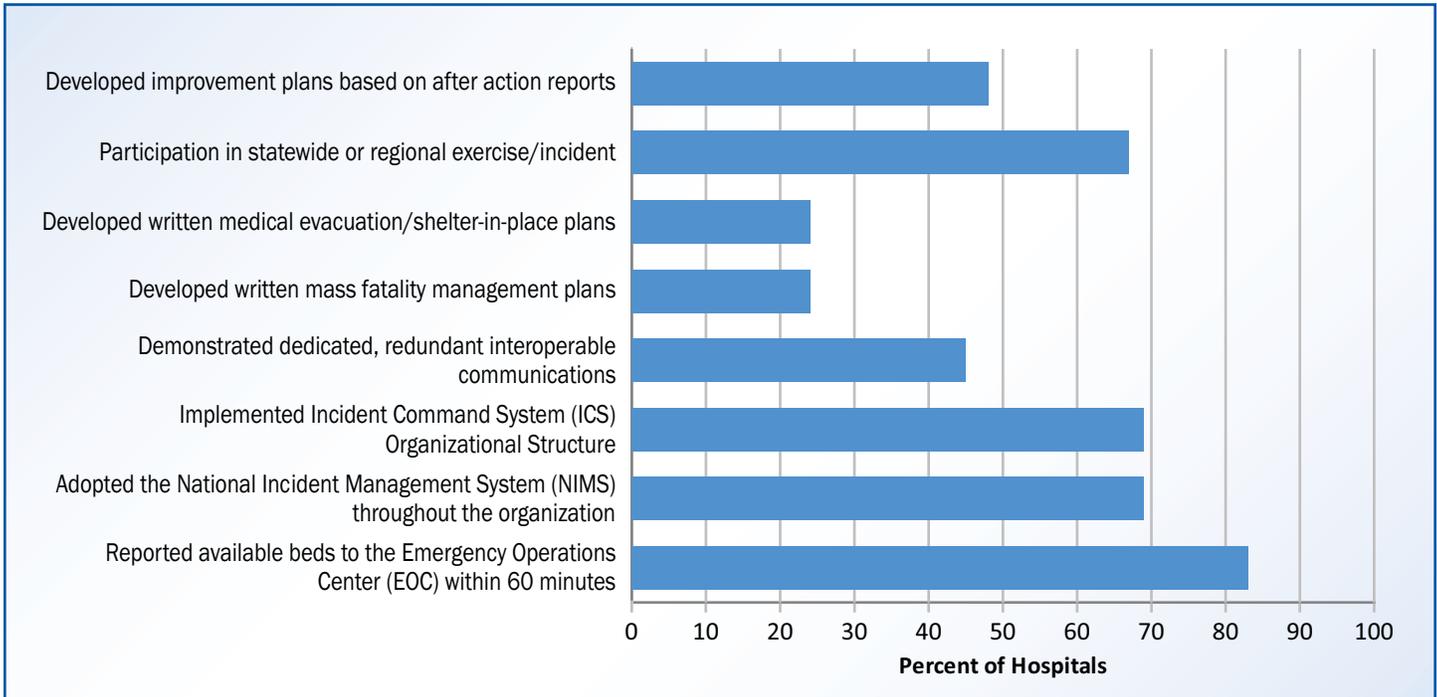
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	45
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	33
Number of 24-hour surge staffed beds per 100,000 population	73
Number of certified trauma centers per 100,000 population	0.2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	310
Time required to report a verified list of available volunteer health professionals ready for deployment	6-12 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	448

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# New Hospital Emergency Group Helps Make NH Better Prepared

One of the signature successes of the New Hampshire Hospital Preparedness Program (HPP) is the Hospital Emergency Preparedness Group. The group includes ED directors, physicians and nurses, Emergency Medical Services (EMS) coordinators, infection control practitioners, emergency preparedness coordinators, and others.

These hospital representatives are known as the Emergency Management Coordinators (EMCs), and include all 26 acute care hospitals, specialty hospitals, and State and community planning partners. It also includes the HPP Coordinator, the State EMS Emergency Planner, a State public health lab representative, and some community public health representation.

This group provides a forum for dialogue on hospital preparedness issues and sharing of best practices, emergency response planning strategies, as well as lessons learned, Assistant Secretary for Preparedness and Response (ASPR) requirements and program progress, and updates on State preparedness activities and other real-time issues. Subcommittees are comprised of members of the Hospital Emergency Preparedness Group who have expertise and/or interest in the subject matter, in addition to State partners and outside experts. Current working subcommittees include: Communications, Implementation

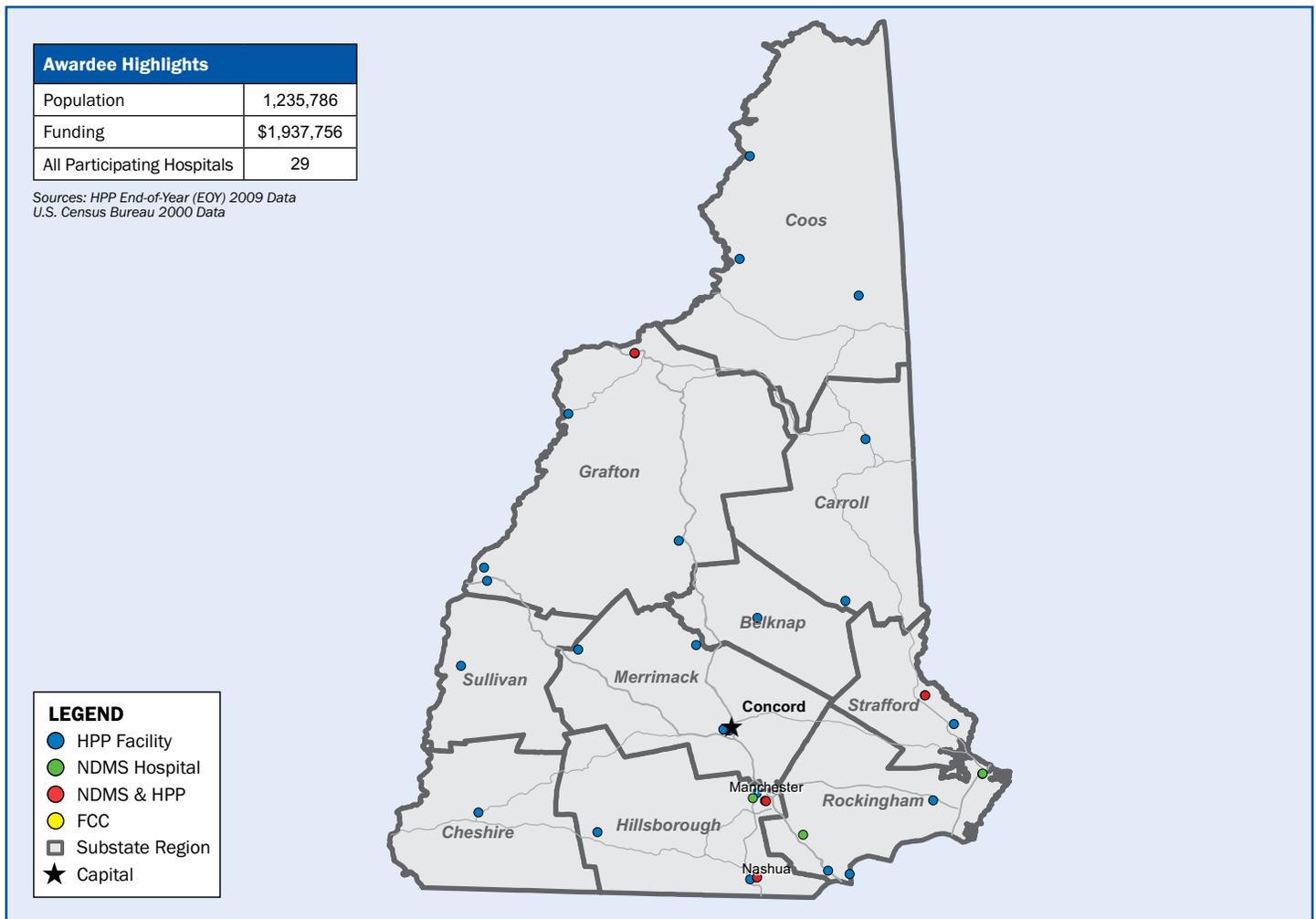
and Sustainability, and a Regional Medical Surge Workgroup. Many members serve on more than one committee.

**Current Subcommittee Missions:**

- Communications – continue development of simple, redundant, interoperable communications for hospitals. Current year work has focused on HAM radio implementation.
- Implementation and Sustainability – assist hospitals by addressing implementation concerns identified by the Hospital Emergency Preparedness Group, such as National Incident Management System compliance, training, exercising, and other challenges. The group also identifies areas requiring sustainability, such as personal protective equipment maintenance, refresher training, isolation equipment maintenance, and others.
- Regional Medical Surge Workgroup – brings hospital EMCs and public health emergency planners together to work on regional health coalition emergency planning; e.g., Alternate Care Site coordination, Cities Readiness Initiative planning and coordination, etc.

Additional promising practices include cross border cooperation. Also, all hospitals use the same emergency codes.

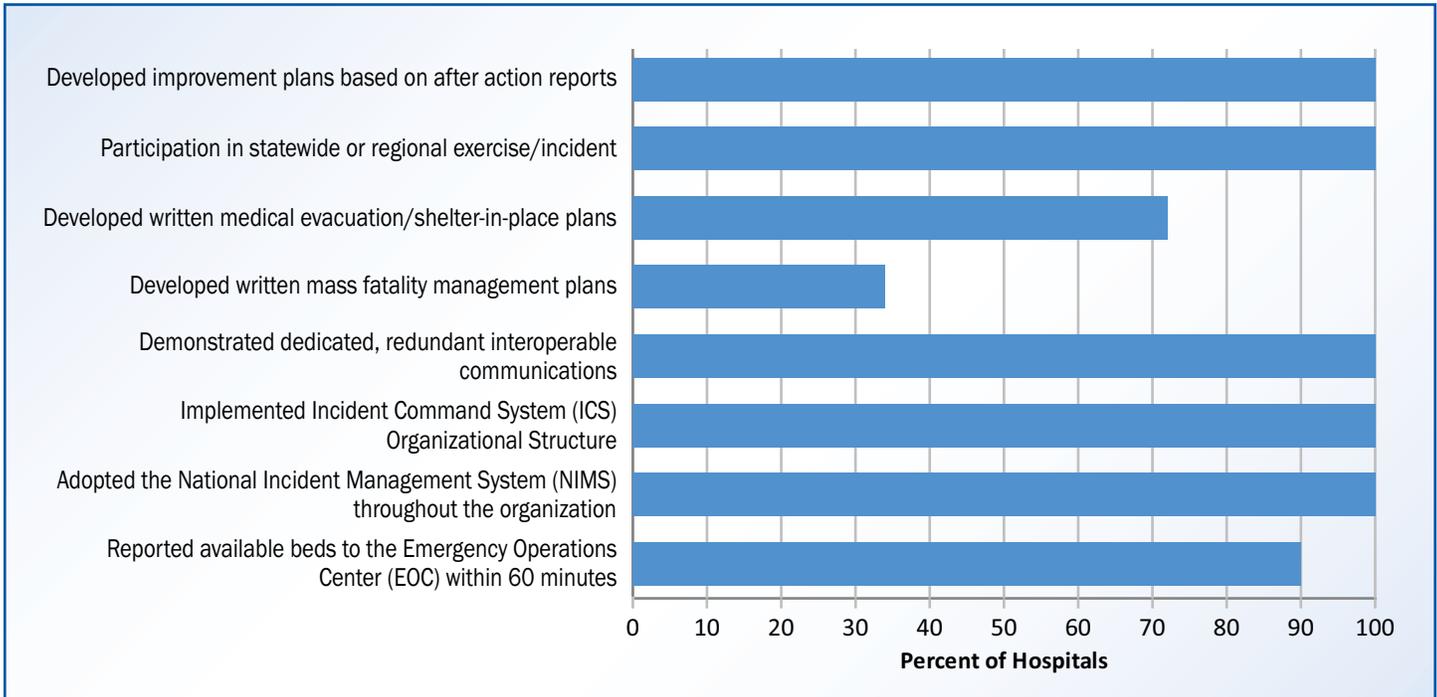
**HPP Participating Hospitals by Region**



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	86
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	No
Surge Capacity	
Number of staffed beds per 100,000 population	206
Number of 24-hour surge staffed beds per 100,000 population	283
Number of certified trauma centers per 100,000 population	1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	491
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	193

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Hippocrates System - Sharing Information Beyond State Borders

New Jersey's close proximity to major cities such as Philadelphia and New York City makes it a necessity to collaborate and coordinate preparedness resources and assets.

During the June 2010 Red Bull Air Race World Championships over the Hudson River (held, literally, midway between New Jersey and New York) there was a need for overarching information sharing and situation awareness for responders in both states to protect the health and safety of spectators and residents on either side of the river.

In both New Jersey and New York, emergency medical command structures were activated. Jersey City Medical Center served as New Jersey's command center while the New York City Fire Department was responsible for New York City's Emergency Medical Services.

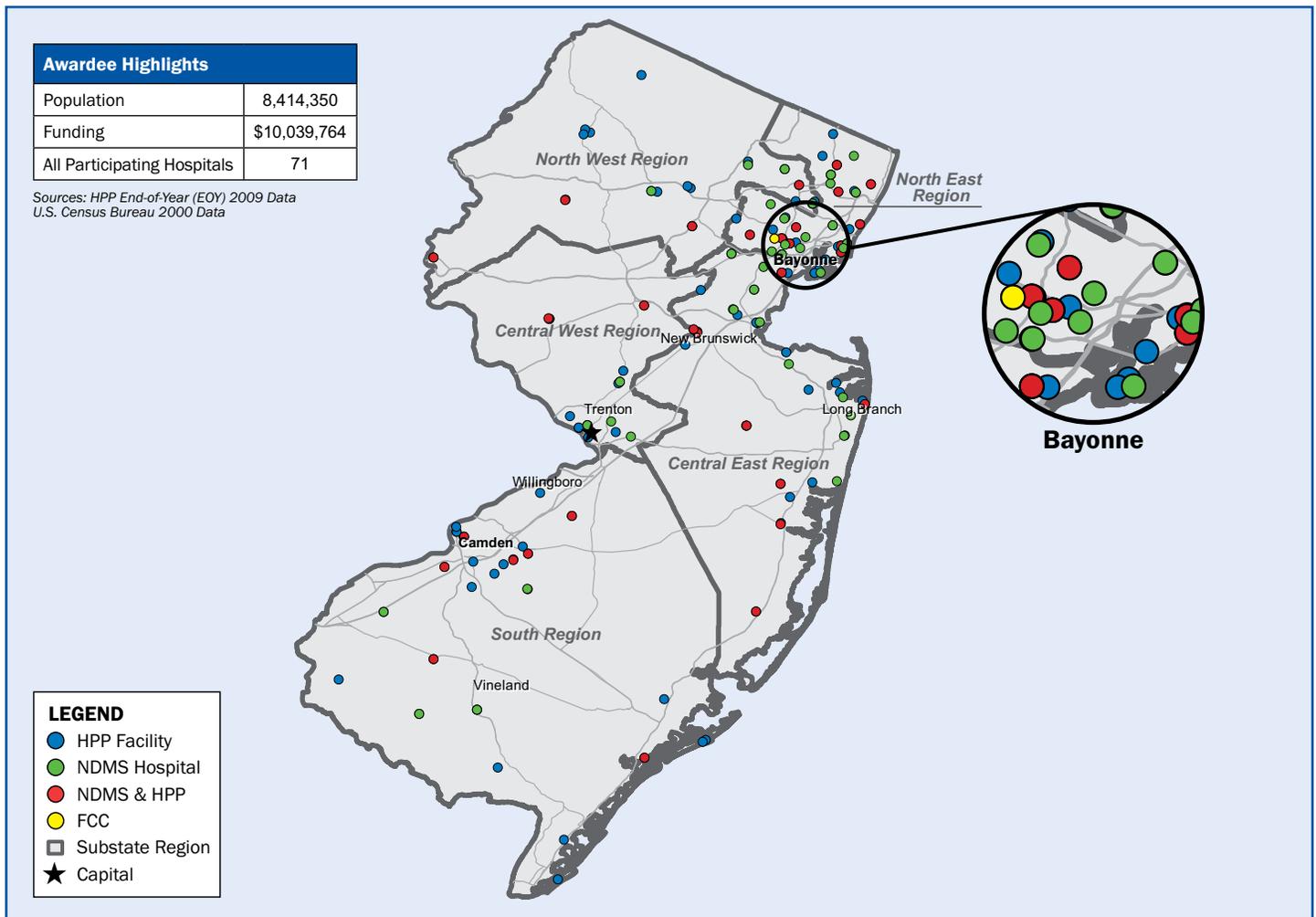
To ensure that both entities could respond to public health emergencies efficiently and effectively, the New Jersey Department of Health and Senior Services provided its Hippocrates system, a web-enabled software program designed to share vital information in real-time and provide a single situational awareness and command/control system.

This marked the first use of a single system to manage a multi-state event where public health emergencies were anticipated.

During the event, the Hospital Preparedness Program-funded Hippocrates system allowed staff from both states to test messaging communications between command centers and provide updates pertaining to Geographic Information System (GIS) mapping, hospital diversion status, patient treatment, and transport. The software also created a common situational awareness report, allowing incident command staff to anticipate needs and deploy resources in an effective and efficient manner. Hippocrates also allows data sharing between the two jurisdictions, making it possible for both to have visibility on each other's activities.

Fortunately, there were no serious public health incidents at the Red Bull Air Races. However, following the Red Balloon Air Race event, New Jersey and New York preparedness agencies have begun formal training and information-sharing pertaining to the use of the Hippocrates software.

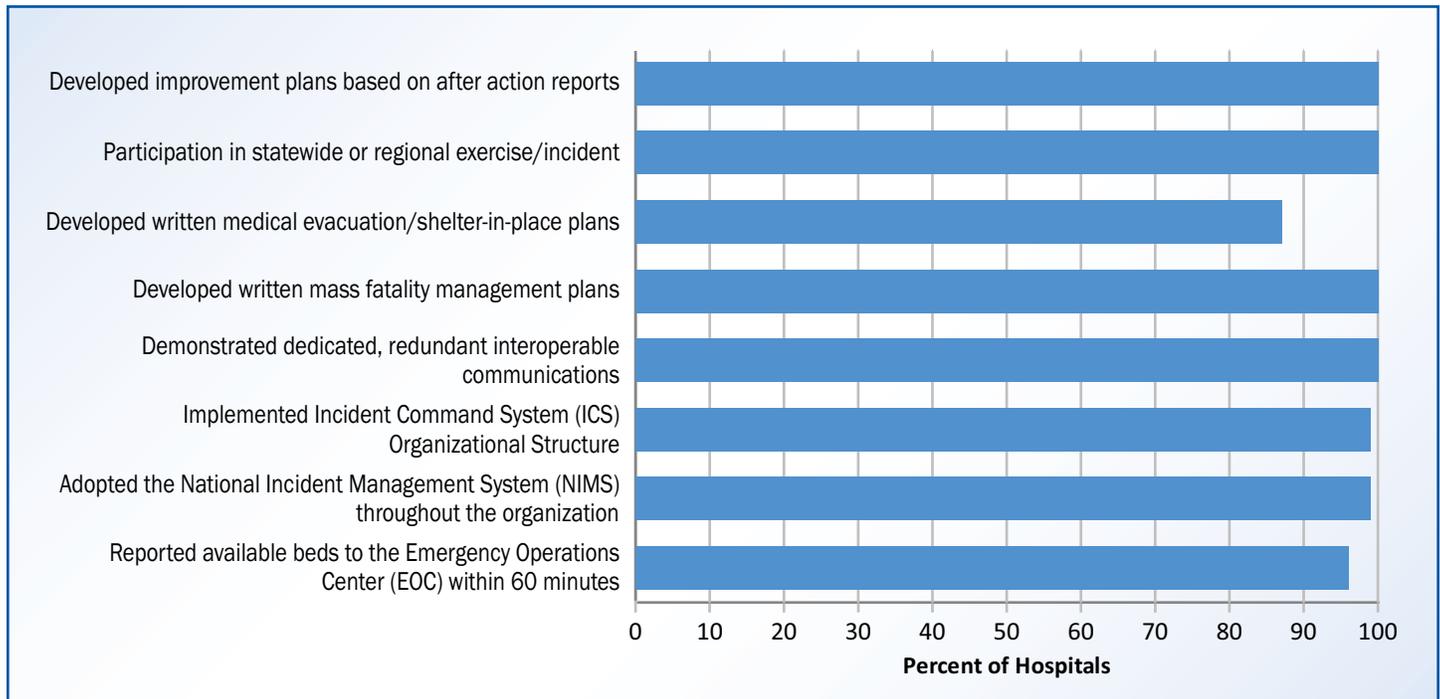
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	38
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	224
Number of 24-hour surge staffed beds per 100,000 population	293
Number of certified trauma centers per 100,000 population	0.1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	3374
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	106

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Preparedness Efforts Pay Off During Extreme Winter Weather

On February 3, 2011, New Mexico experienced a statewide arctic weather front with low temperatures reaching from 1 degree to minus 30 degrees throughout the State. The extreme weather front placed an unprecedented demand on the State's primary natural gas supplier.

This demand on the natural gas supply caused the supplier to implement outages in various cities and locations throughout the State, including hospitals. The State's Emergency Operational Center was activated at a Level 3, the highest level, by 10 a.m. and the New Mexico Department of Health activated an Emergency Response Team by 10:30 a.m.

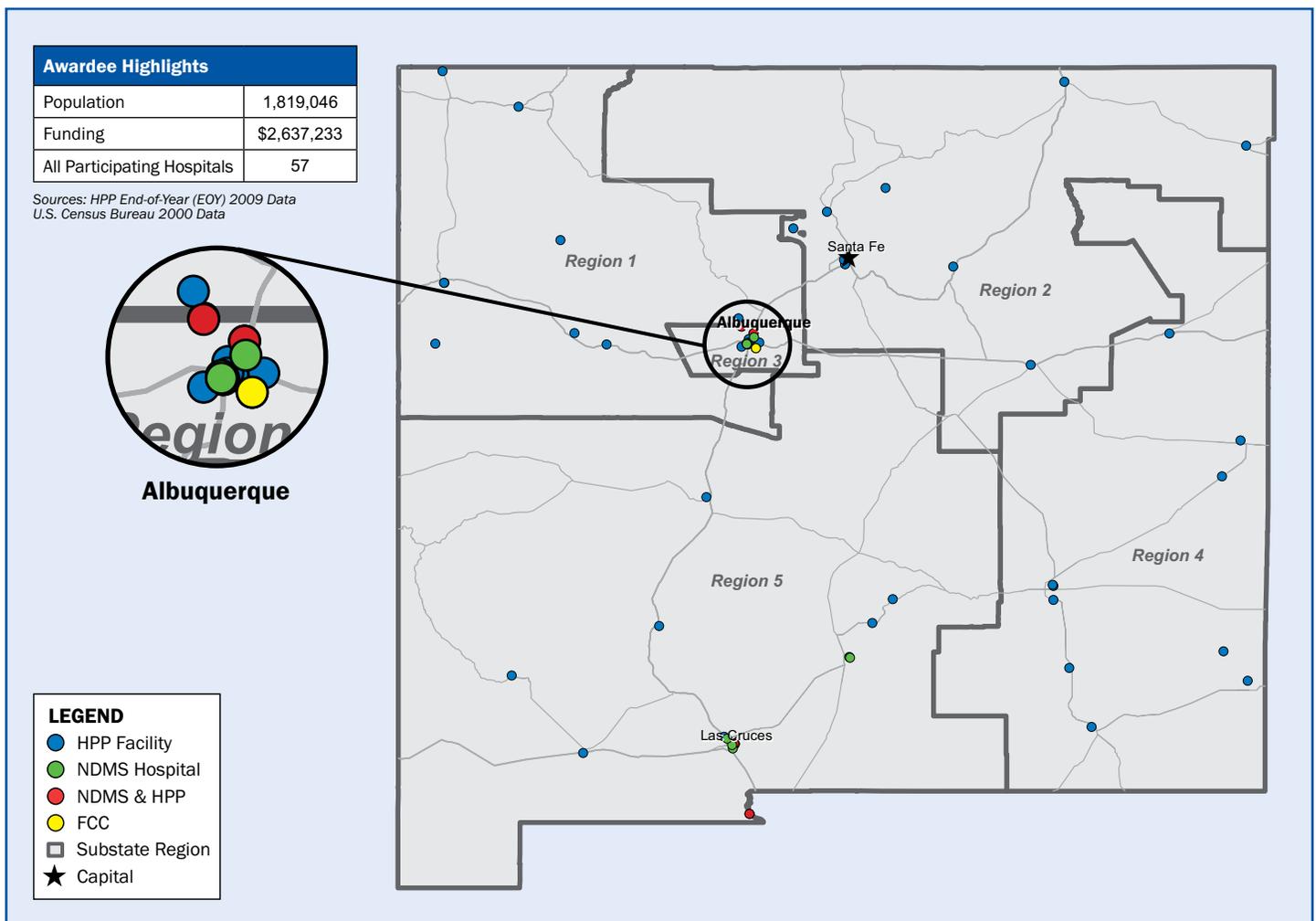
The Emergency Response Team immediately sent a Health Alert Message to request that each hospital report through the Hospital Preparedness Program-funded HAVBED system the status of the physical plant, backup generators, and any problems associated with the

outage affecting the hospital's ability to maintain operations. This request was followed by phone calls and emails to hospital emergency coordinators to verify hospital status.

Within 90 minutes all 46 of New Mexico's acute care hospitals and 11 (85 percent) of its specialty hospitals reported their status to the department. All reporting facilities remained operational and capable of receiving patients and no evacuations were necessary.

Throughout the five-day event, the Department of Health was able to collect timely information from hospital facilities across the State through the HAVBED system. These reports provided the department with situational information needed to plan for generator fuel shortages, patient surge, or facility staffing requirements and, ultimately, preserve health and save lives.

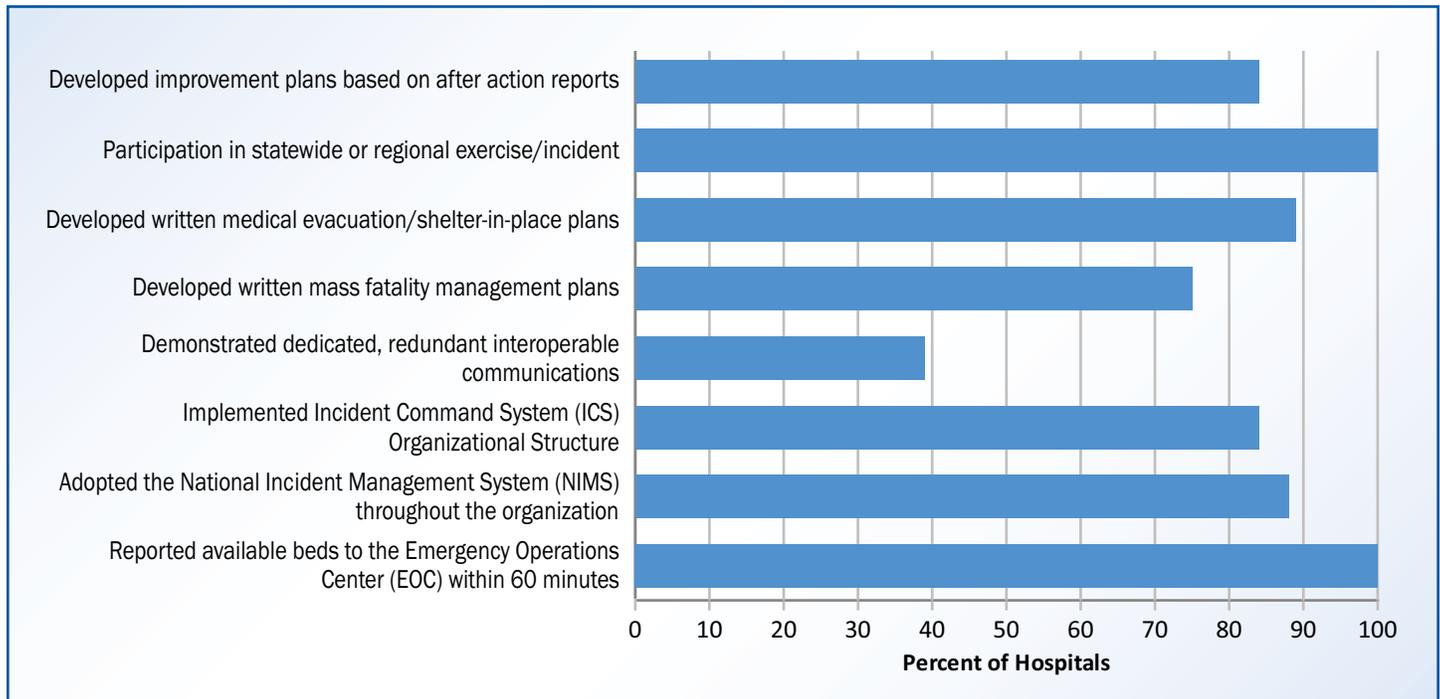
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	18
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	253
Number of 24-hour surge staffed beds per 100,000 population	271
Number of certified trauma centers per 100,000 population	0.4
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	788
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	324

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Training and Planning Essential for Emergency Hospital Evacuation

At 10 a.m. March 22, 2009, a collapsed chimney at Adirondack Medical Center's (AMC) Saranac Lake Site caused the heating system to fail, and the cold Upstate New York temperatures demanded that the center evacuate its patients. The swift and organized response was greatly aided by training provided through Hospital Preparedness Program (HPP) funds.

Once the decision was made to evacuate the facility, AMC's Emergency Operation Plan was activated and the Hospital Incident Command Center was established in the Emergency Center conference room. The patient evacuation began at approximately 1 p.m. AMC's nursing staff and attending medical staff reviewed patient needs and determined the most appropriate discharge plan.

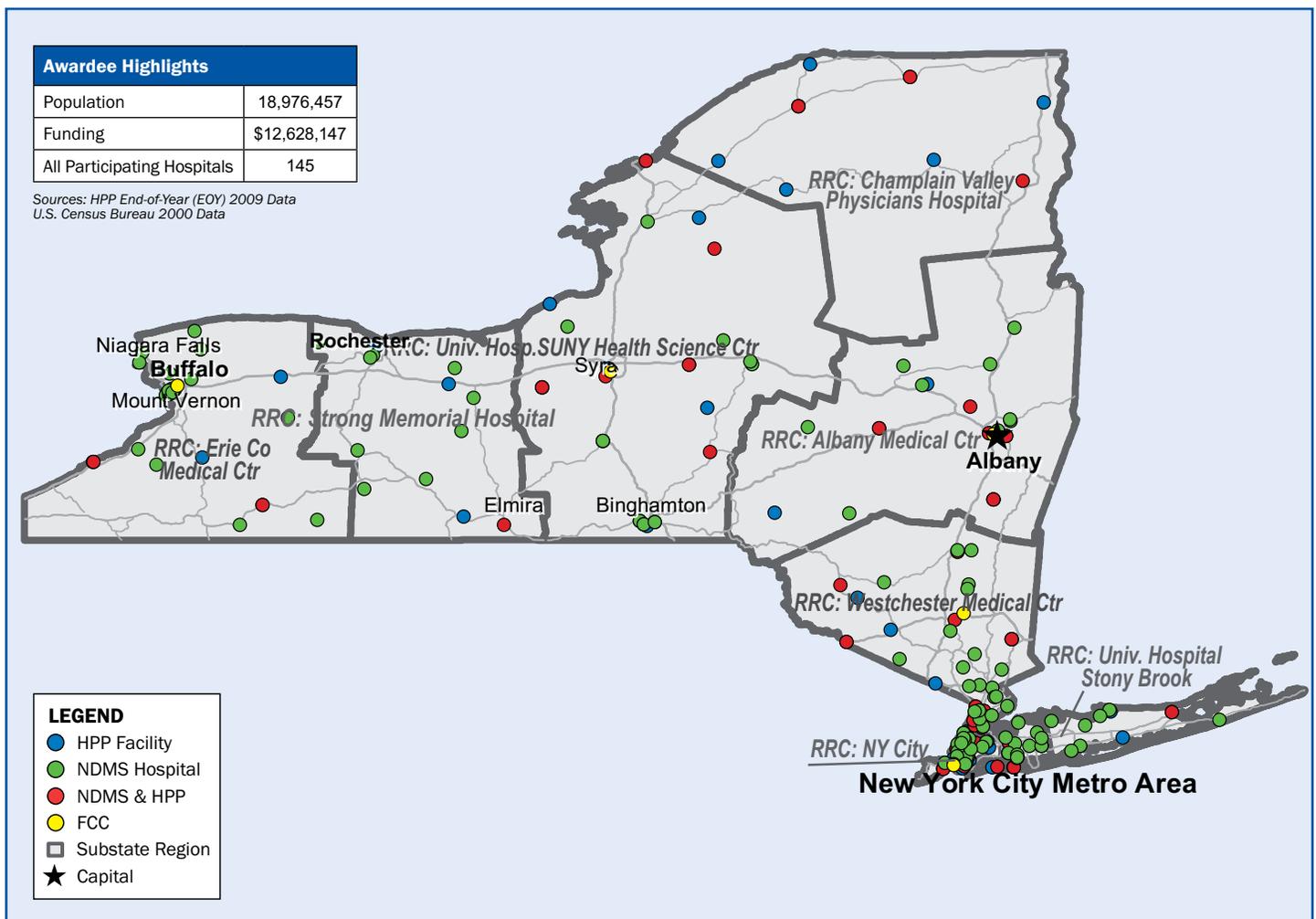
For patients needing continued inpatient or nursing home-level care, contact was made with facilities and physicians that could accept patients. Staging and assignment of transport vehicles, along with maintenance of the master patient discharge, was completed in the Hospital Incident Command Center.

The center kept track of available ambulances and AMC's nursing home patient transport vehicle, matching the most appropriate vehicle based on the condition and need of the patient. A list of the patients being transferred was maintained in a Disaster Victim/Patient Tracking Form.

Thirty-four patients were in the hospital at the time of the heating system failure, and all were transferred or discharged to several facilities in the area. This occurred seamlessly and with uninterrupted patient care and safety, due in large part to the planning efforts of the Regional Resource Center, which prepared all the facilities in the region to provide mutual aid.

Within two days, the heating system was repaired and AMC began the process of readmitting and accepting patients. AMC's Emergency Preparedness Coordinator credited HPP funds for allowing the hospital to have training and policies in place to address such a unique and complex event.

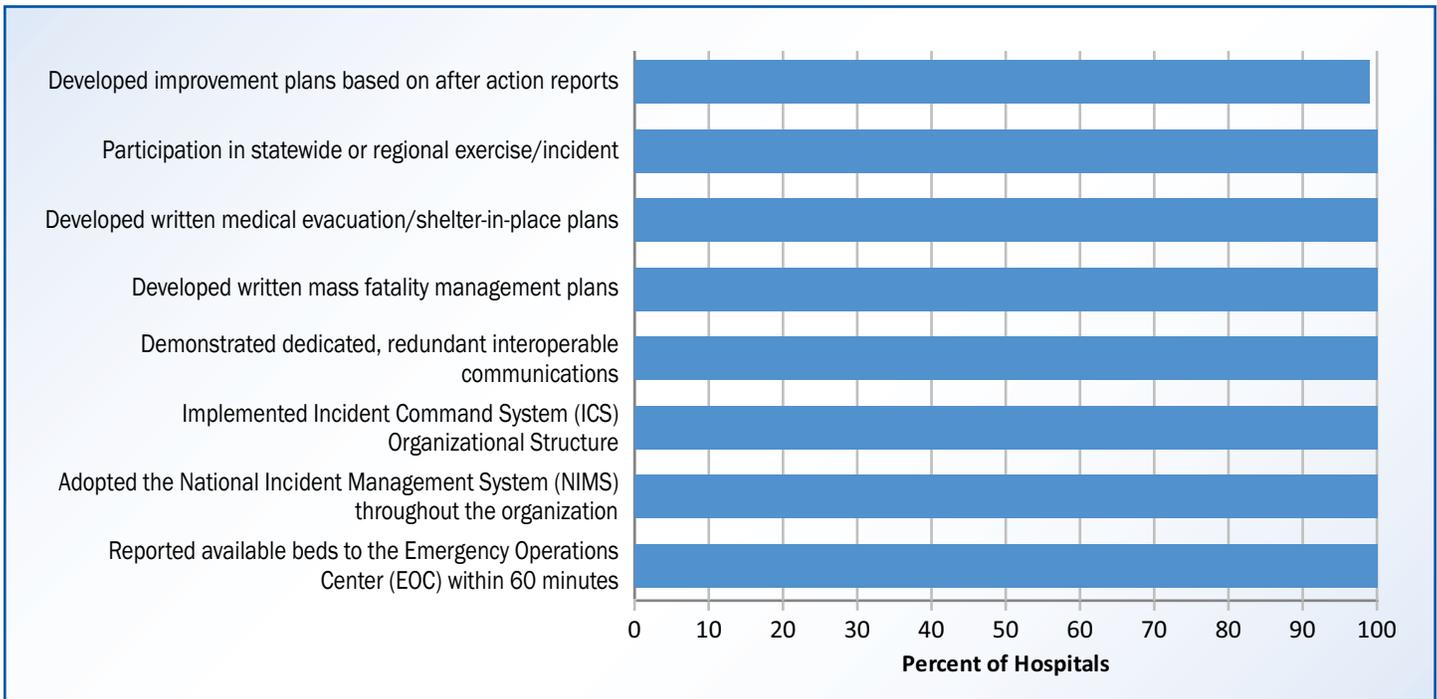
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	84
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	141
Number of 24-hour surge staffed beds per 100,000 population	171
Number of certified trauma centers per 100,000 population	0.1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	4163
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	57

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Improved Preparedness during H1N1 Response

In April 2009 a group of high school students from Queens, NY, returning from spring break in Mexico, presented as suspected cases of the then-novel H1N1 virus. During the ensuing months after these first confirmed cases of H1N1 in New York City (NYC), the NYC Health Department was in constant communication with 58 emergency departments in the city, collecting surveillance data and providing assistance as hospitals managed increases in emergency department volume. With Hospital Preparedness Program (HPP) funds, the city quickly expanded preparedness capabilities to combat the pandemic.

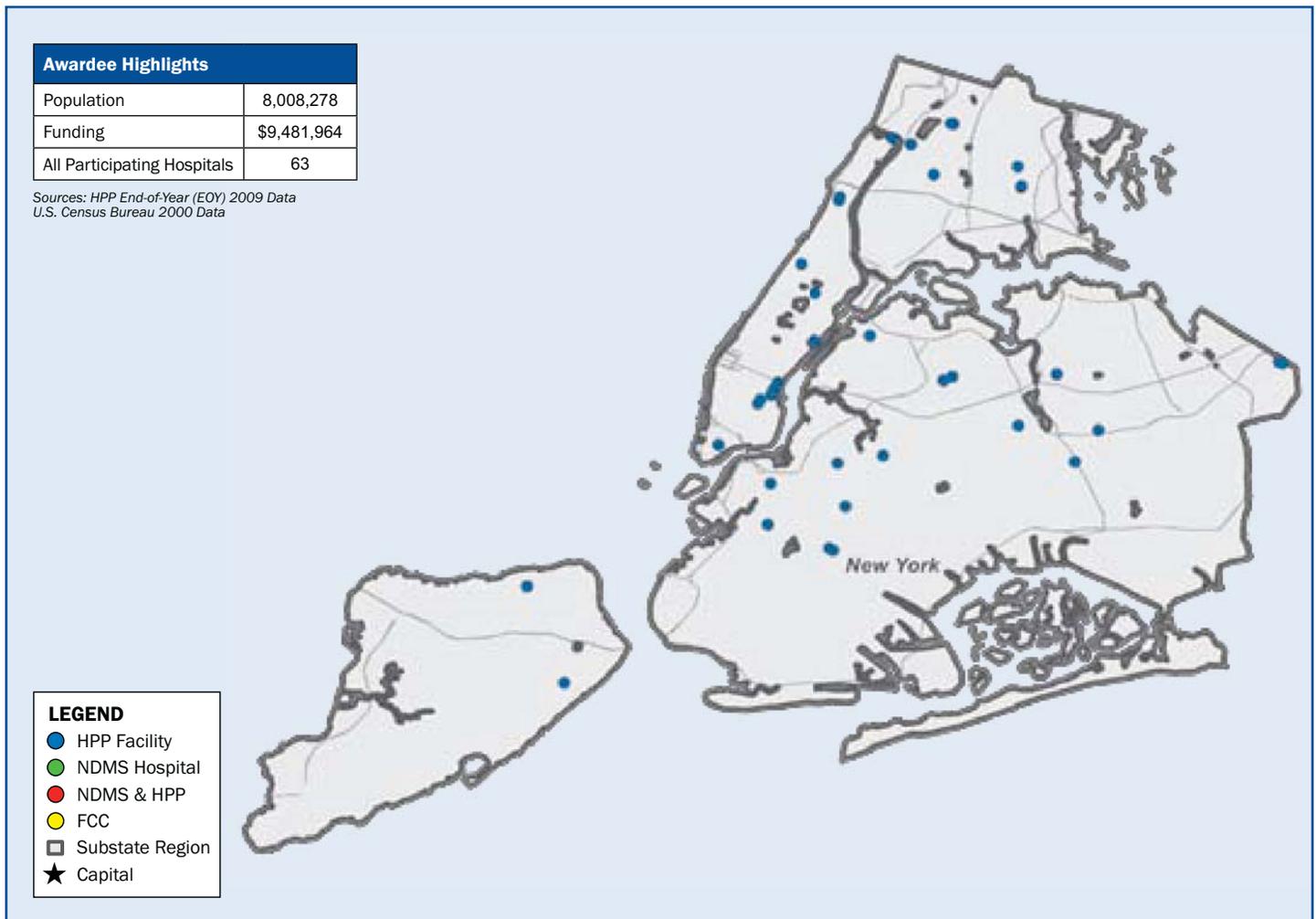
They developed emergency department expansion plans, evaluated NYC’s medical call center (NYC FluLine), and oversaw the H1N1 and seasonal influenza vaccination campaign in city hospitals. They also provided training in risk communication to healthcare workers, and integrated the outpatient center response.

Hospitals in NYC created new and non-traditional surge capacity to manage the outbreak. In August 2009, 51 of the 58 hospitals submitted fall influenza season expansion plans to the Health Department,

of which 43 included non-traditional surge space. Several set up “Flu Stations” where patients were screened and directly treated in the emergency department. Some hospitals combined pediatric and adult emergency departments to create more space for a larger influx of children. Other hospitals created flu express lanes to expedite visits for patients with mild illness or questions. These expansion sites enabled emergency department personnel to treat ambulatory patients with flu-like symptoms, freeing up the emergency departments to treat the more traditional emergency room patients.

With HPP funding and Health Department guidance and support, hospitals were able to launch robust vaccination campaigns for H1N1 influenza while continuing to meet seasonal influenza demands. Throughout the summer and fall of 2009 and the winter of 2010, the department made funding available to all hospitals to support their healthcare worker influenza vaccination campaigns, enabling 38,242 healthcare workers to be vaccinated by March 2010.

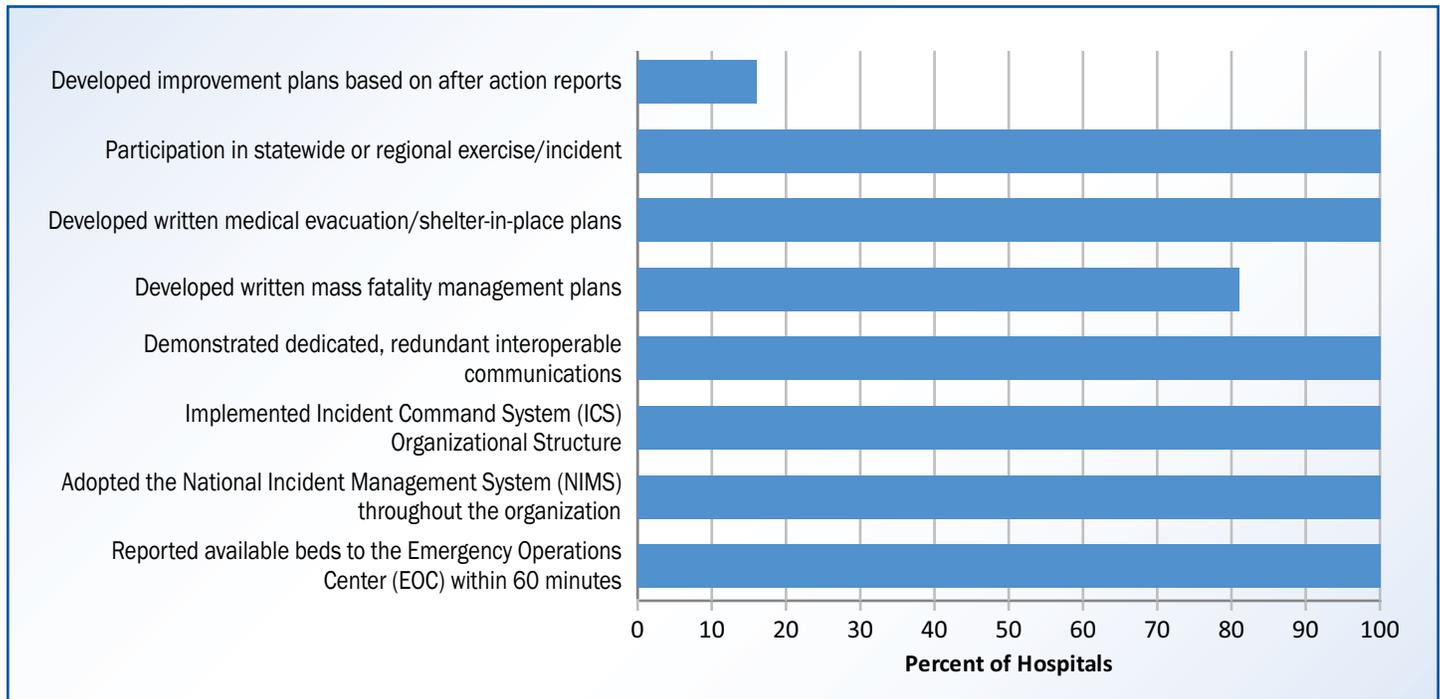
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	279
Number of 24-hour surge staffed beds per 100,000 population	335
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	9419
Time required to report a verified list of available volunteer health professionals ready for deployment	6-12 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	40
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	109

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Improved Preparedness Through Regionalization and the SMRS

Historically, the North Carolina Office of Emergency Medical Services (OEMS) relied on their Hospital Preparedness Program (HPP) Executive Committee to help guide State initiatives and distribute grant funds. While this approach was successful early on, the program lacked a regionalized approach that was encouraged by the HPP grant guidance.

The OEMS used the structure of the existing North Carolina trauma system, comprised of eight Regional Advisory Committees (RACs), to regionalize the HPP. One of the most significant steps in the regional grant process was the appointment and inclusion of the RAC's Disaster Preparedness Committee (DPC), comprised of representatives from several healthcare entities, that serves in an advisory capacity to the RACs.

The RAC's DPC and its lead agent, the Regional Emergency Response and Recovery Coordinator (RERRC), serve as a conduit to assist regional partners in preparing for disasters, identifying gaps, discussing lessons learned, engaging in disaster preparedness initiatives, and pro-

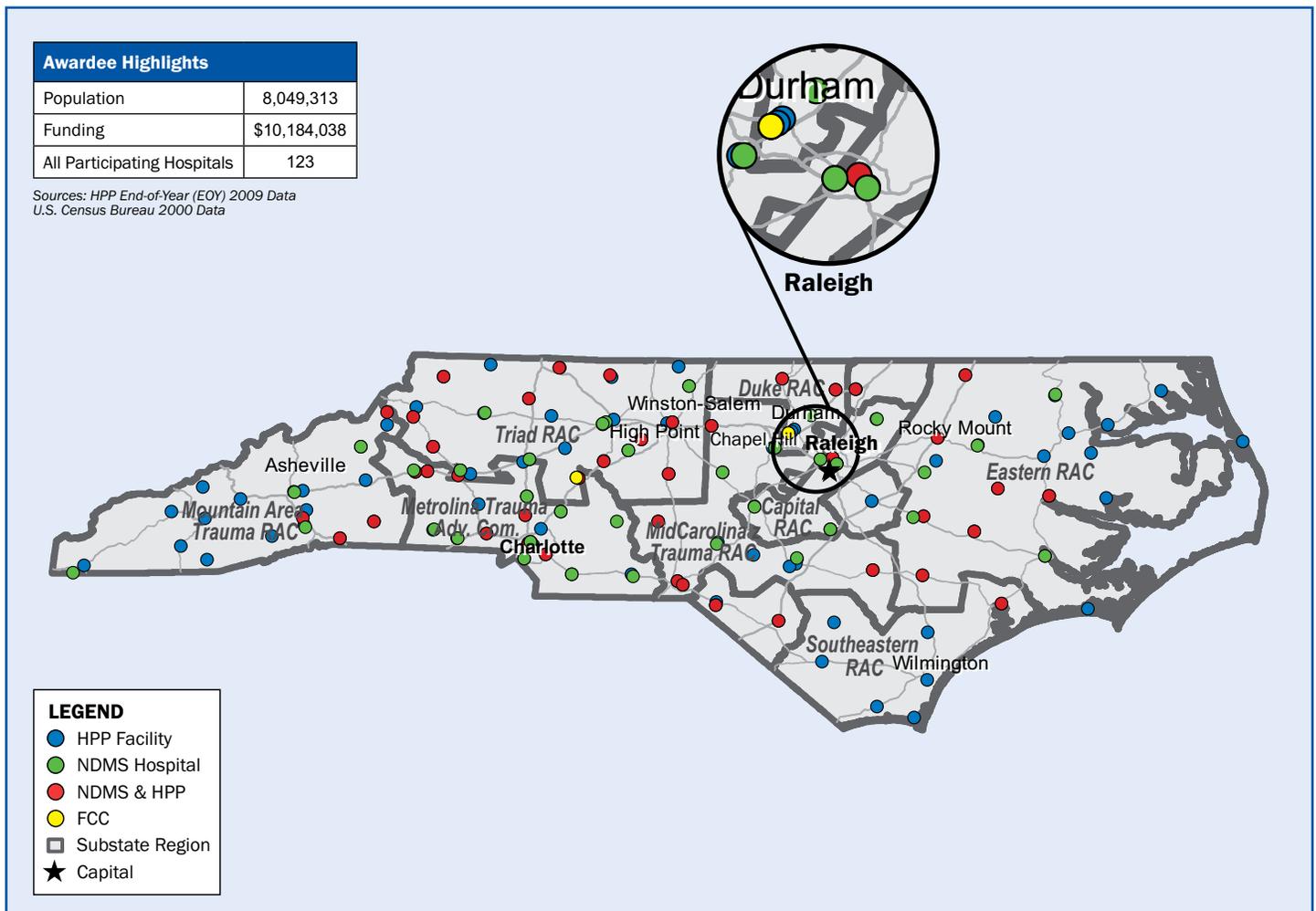
viding opportunities to participate in trainings, drills, and exercises.

All regional grant projects are reviewed by the DPC and this approach has led to more regionalized projects that support all tiers of preparedness and response initiatives.

The use of HPP funds in this effort has been instrumental to the State Medical Response System by enhancing the regional approach. Regional plans are now available to assist with local and regional responses without activating the State Emergency Response Team. These plans, plus the addition of the DPC/RERRC, has added an essential layer of coordination and situational awareness for response activities in the regions of North Carolina and have bolstered local response.

In addition, the RACs have assisted healthcare facilities with regional assets including generators, large air conditioning units and portable suction units during power outages. Several nursing homes have been evacuated using RAC resources and personnel.

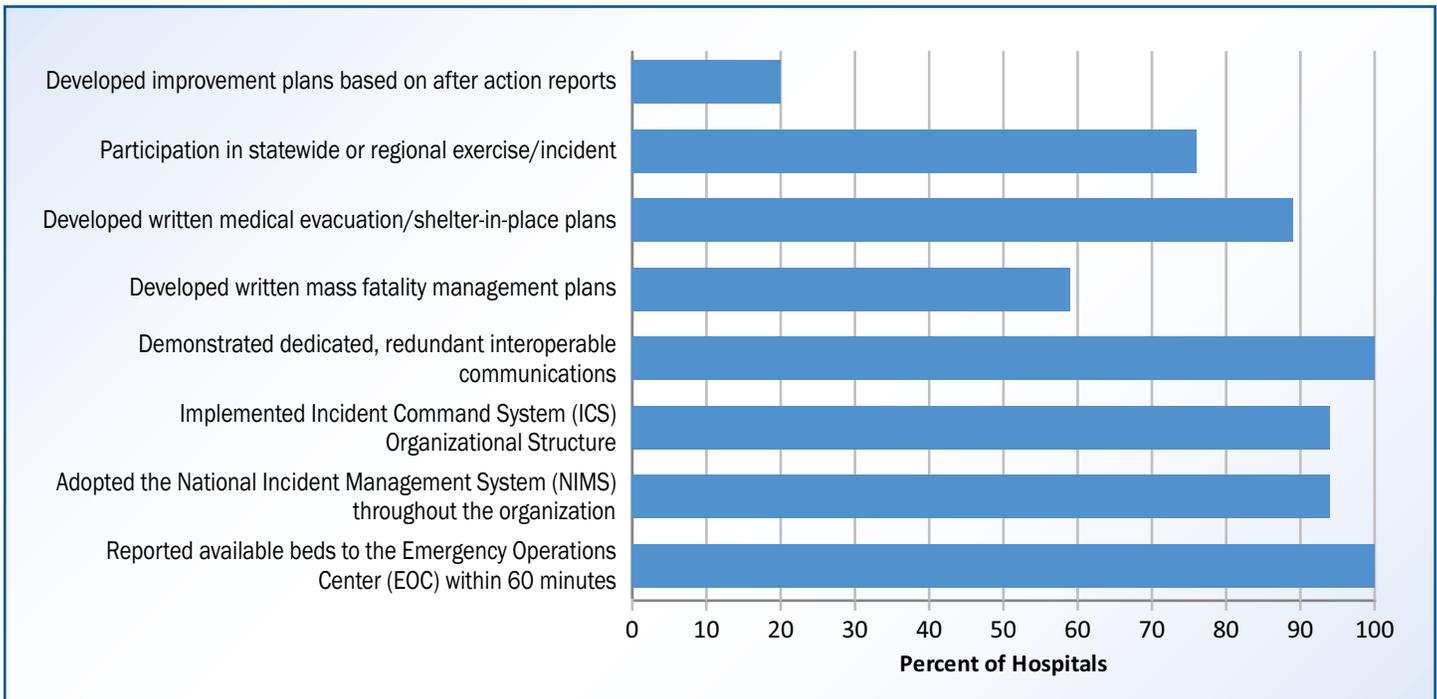
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	273
Number of 24-hour surge staffed beds per 100,000 population	481
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	7043
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	125

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Planning Efforts Pay Off as Red River Rises

The North Dakota Department of Health’s Operations Center (DOC) was activated March 23, 2009, and was used throughout the response to the Red River floods in North Dakota and neighboring regions. The DOC was utilized for coordination and situational debriefing of staff and, in preparation for the flood, the North Dakota Department of Health (DOH) reviewed evacuation plans, gathered bed census data, conducted an inventory of supplies, pre-deployed a communications trailer, and notified volunteers.

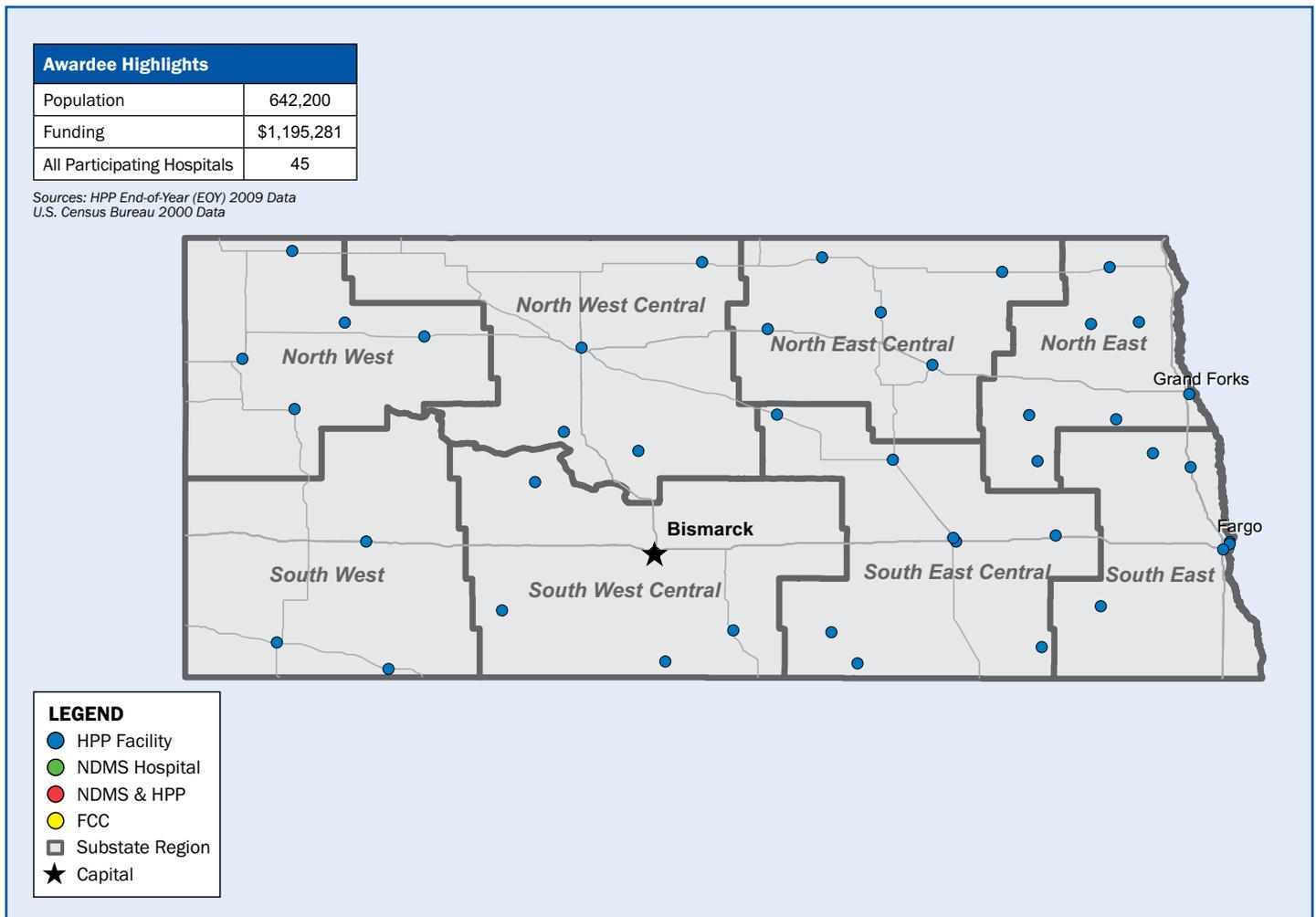
With the Operations Center activated, the bed tracking system, funded by Hospital Preparedness Program (HPP), was implemented in North Dakota, Minnesota, and South Dakota. Daily briefings with hospitals, public health, and long-term care facilities kept the region’s health-care system coordinated.

By March 26 the Red River flooded the area. Long-term care residents in assisted and independent-living facilities and individuals with devel-

opmental disabilities in intermediate-care facilities were priorities for evacuation. Four North Dakota hospitals also evacuated. HPP-funded evacuation plans were used to move 263 patients from four hospitals to 37 receiving hospitals located in the tri-state area. Furthermore, 1,431 residents from 11 long-term care and assisted living facilities in North Dakota and Minnesota were evacuated to 80 receiving facilities in the tri-state area and Iowa.

The North Dakota Wide Area Network, funded by HPP, became the primary communication system for the healthcare system and the State Department of Health during an emergency. This system is also used for preparedness planning meetings, exercises, after action meetings, and distance learning opportunities. North Dakota has become one of the leaders in the country concerning patient evacuation due to the almost yearly spring flooding of its rivers.

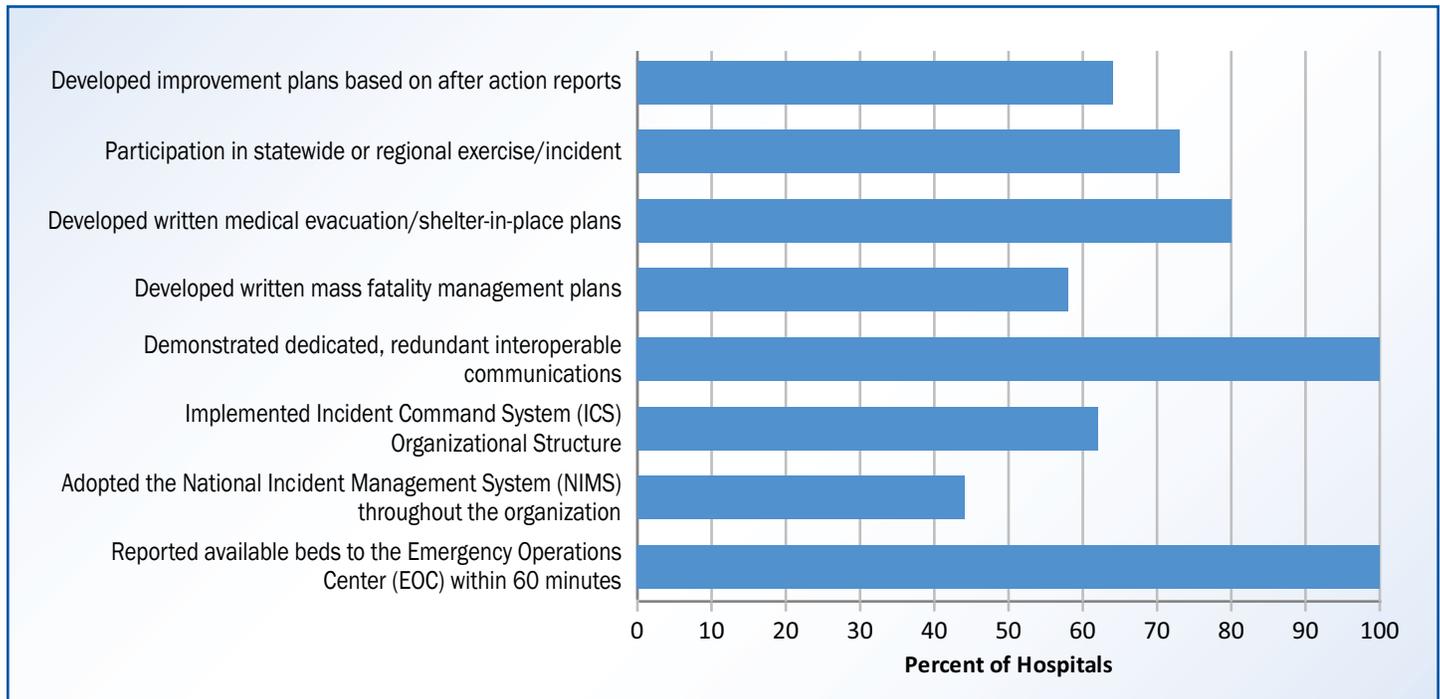
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	360
Number of 24-hour surge staffed beds per 100,000 population	495
Number of certified trauma centers per 100,000 population	6
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	757
Time required to report a verified list of available volunteer health professionals ready for deployment	6-12 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	200

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Partnerships Foster Preparedness in Ohio

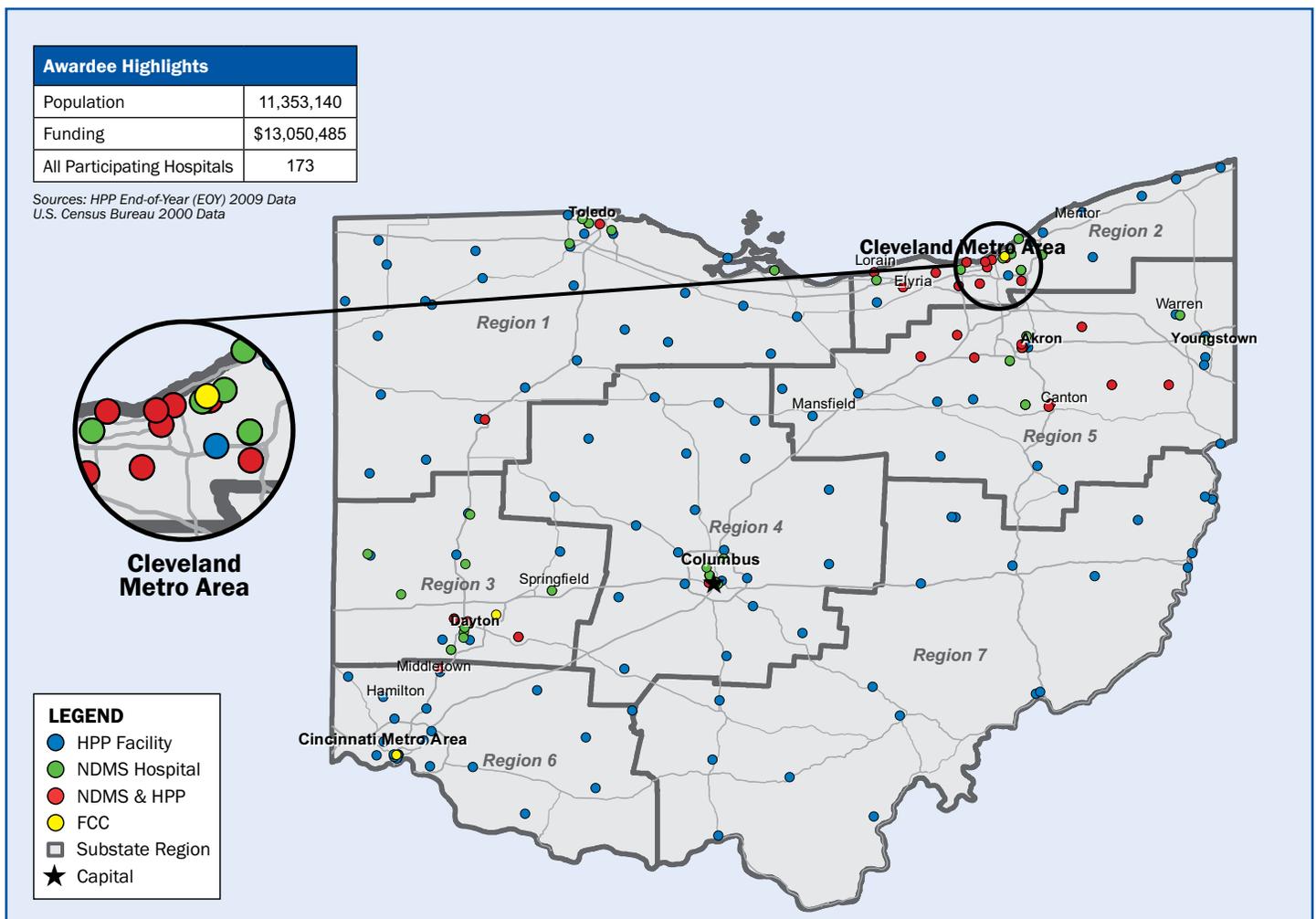
In achieving its mission to protect and improve the health of all Ohioans, the Ohio Department of Health (ODH) has successfully used Federal healthcare preparedness funds to foster the public and private partnerships and coalitions essential to the whole of the community's response, ultimately to build more resilient communities.

While these relationships have proven valuable, ODH's efforts with the Ohio Hospital Association and the State's regional hospital associations are especially noteworthy. The department provides subgrants to the hospital association and each of the regional associations which, in turn, coordinate the planning and the allocation of Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Program (HPP) funds to the State's 173 hospitals and other healthcare partners such as long-term care, emergency medical systems, and Federally Qualified Health Centers.

Annually, the department has designated an average of 63 percent of the State's federally awarded funds to the regional and State hospital associations. These funds have been used to enhance Ohio's local, regional, and State-level preparedness activities by building interoperable communications capabilities, and augmenting fatality management plans and resources.

The partnerships driven by HPP guidelines also have created plans for alternate care sites and facility-specific medical evacuation/shelter-in-place. They have used HPP funds to implement hospital bed and patient tracking systems, purchase personal protective equipment, and assured that hospitals have needed decontamination equipment, plans, and training so the healthcare system is prepared to support the community in disasters.

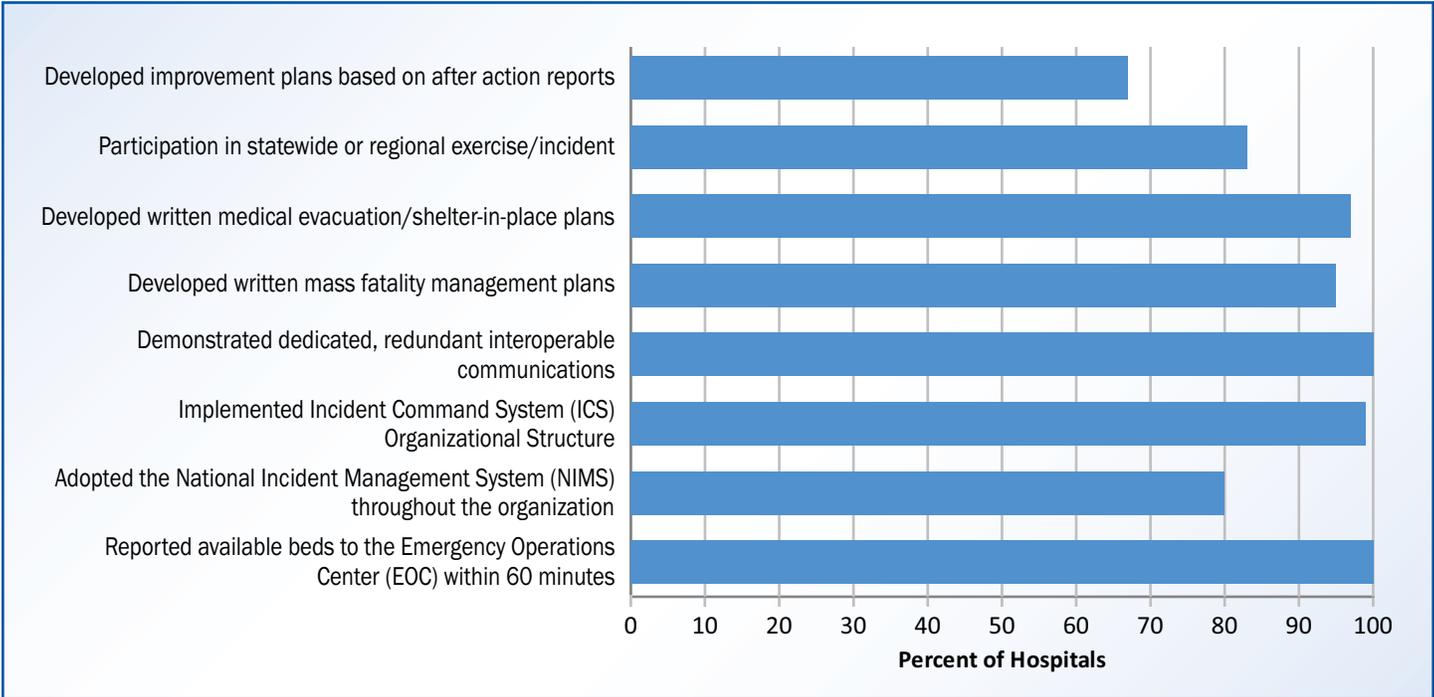
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	254
Number of 24-hour surge staffed beds per 100,000 population	400
Number of certified trauma centers per 100,000 population	0.4
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	11338
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	92

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

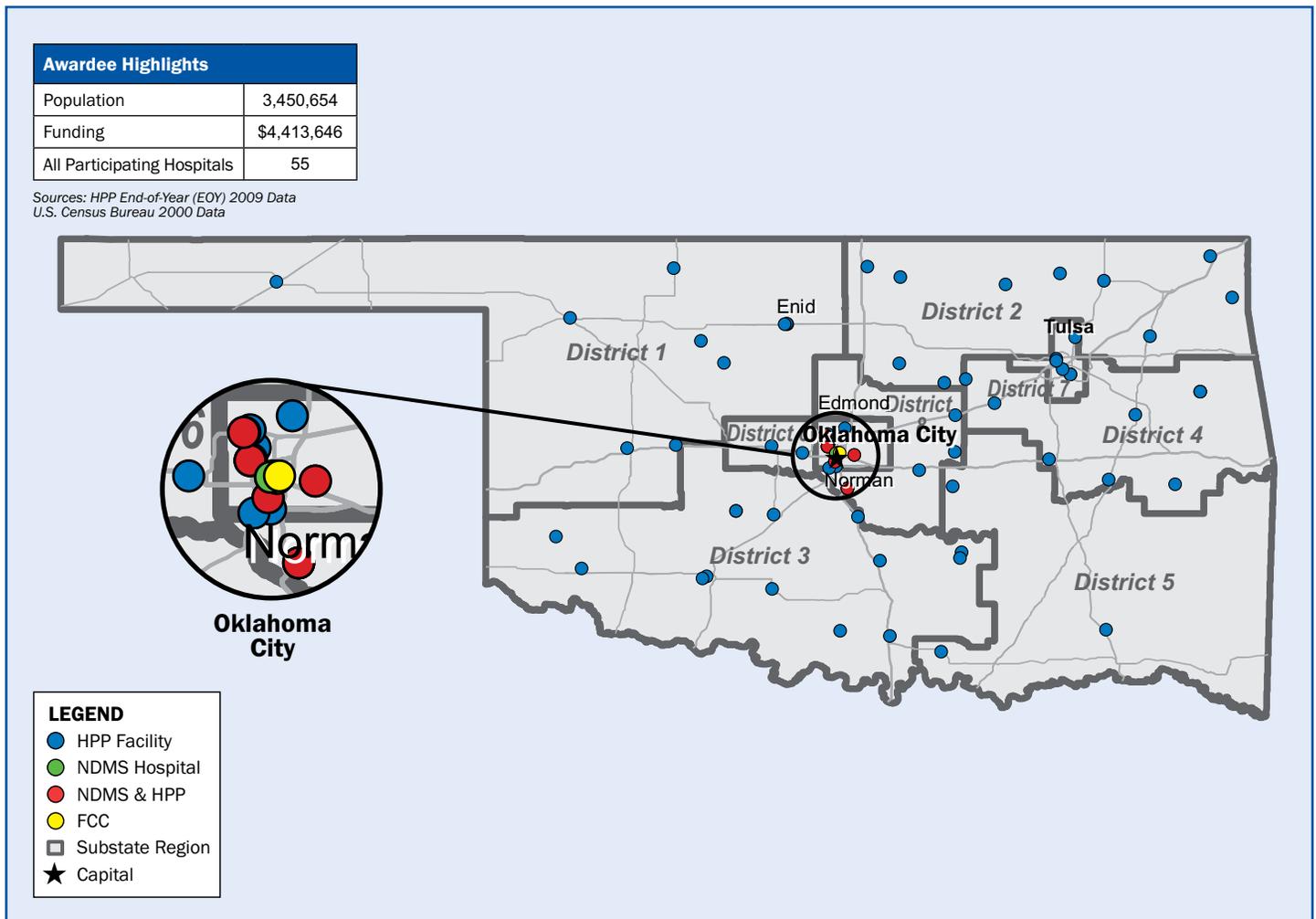
# Oklahoma Develops MERC

Since 2003, the Oklahoma State Department of Health has developed an integrated system of public and private partnerships to maintain critical public services, and ensure that medical services are coordinated in a fashion that cares for those in need. A key component of this system is the Medical Emergency Response Center (MERC). The MERC concept was conceived soon after the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City. The medical surge associated with that incident demonstrated the need for a coordinated system of patient movement during large-scale events.

Several years later, the greater Oklahoma City area hospitals began to establish MERCs in Oklahoma City and Tulsa as a component of

the Hospital Preparedness Program and the Metropolitan Medical Response System. Oklahoma’s support for this activity includes enhancing interoperable communication equipment at participating hospitals and ensuring continued development of interoperable communications redundancy within regions. The State’s support extends to coordinating medical evacuation/shelter-in-place and mass fatality planning with participating hospitals and promoting the development of Tier II medical system response plans. The State continues to support development of a regional medical planning group to enhance the capabilities of the region served.

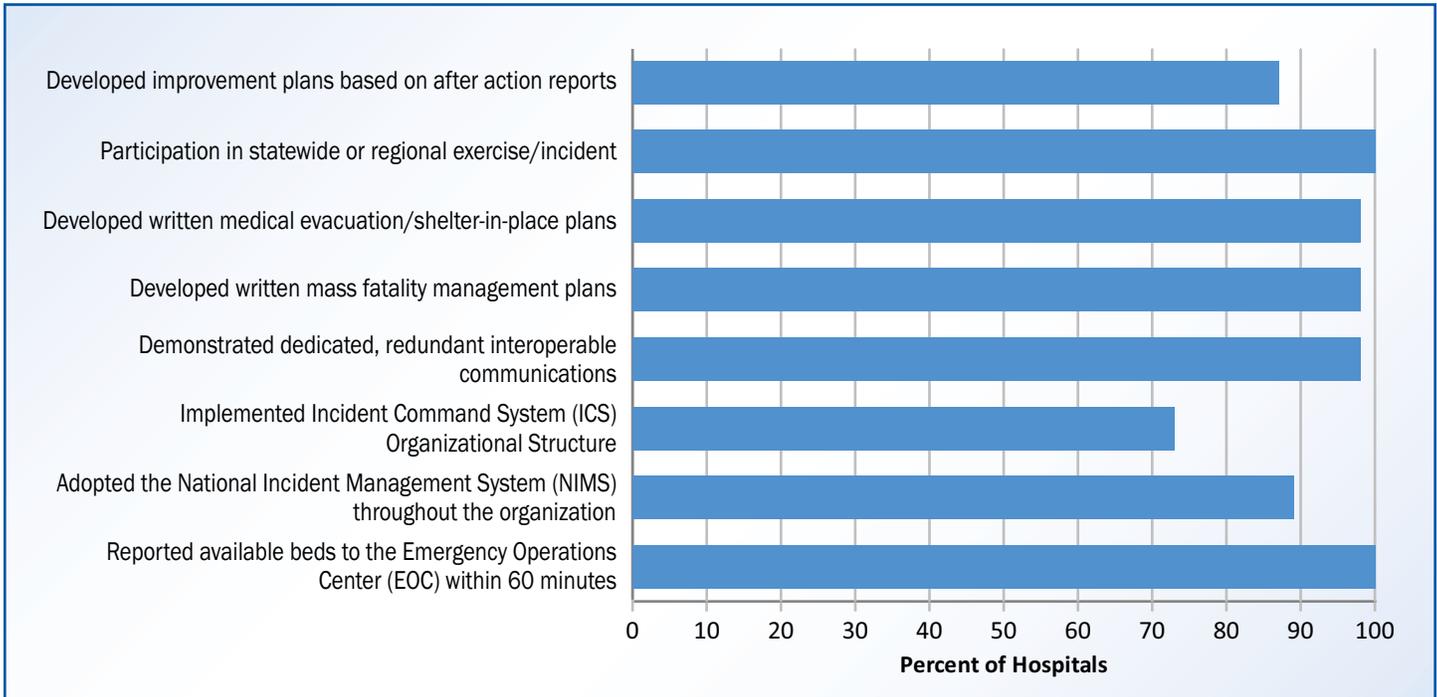
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	98
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	44
Number of 24-hour surge staffed beds per 100,000 population	112
Number of certified trauma centers per 100,000 population	0.1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	3140
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	79

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Preparedness Enhancements Vital During H1N1 Pandemic

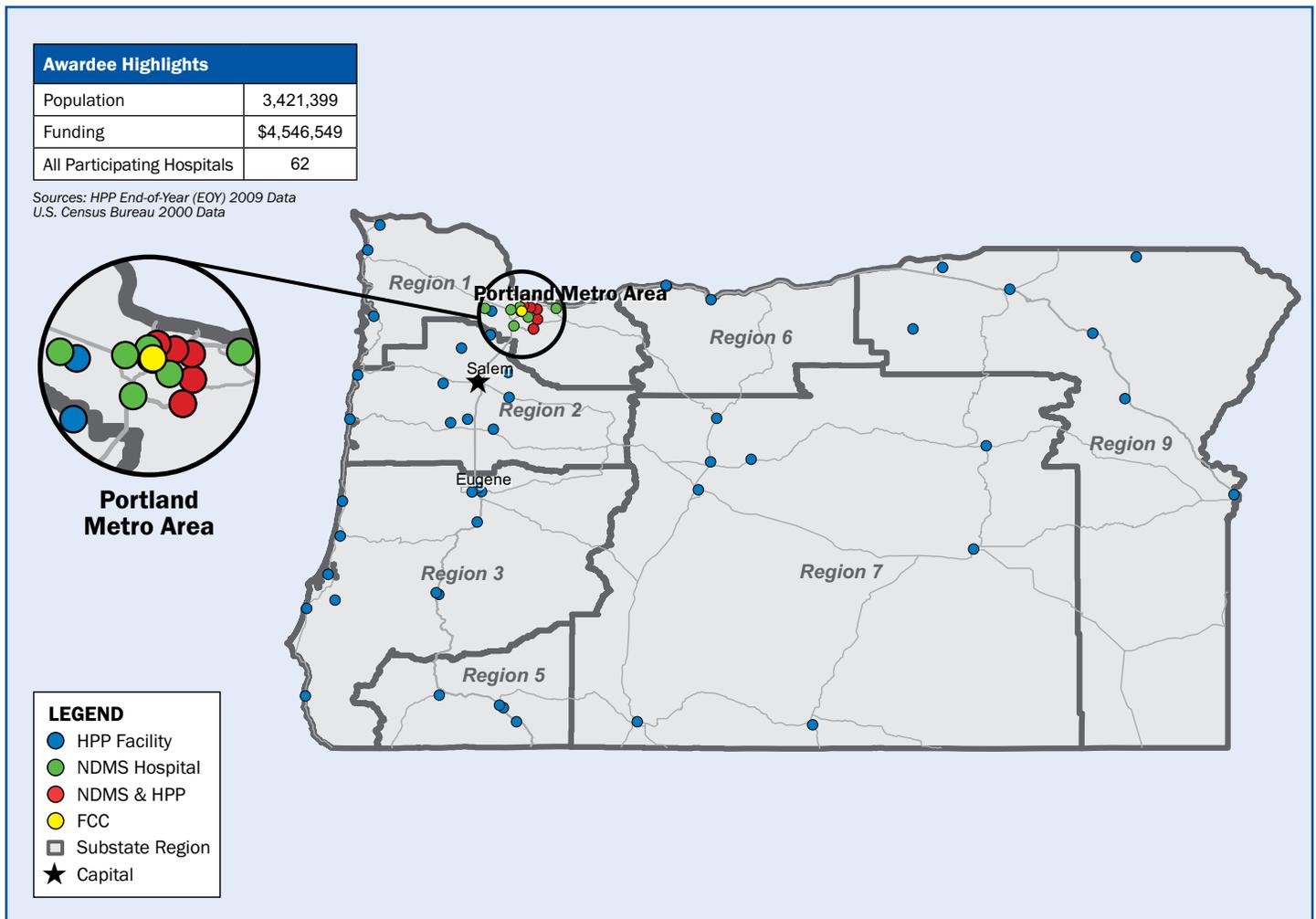
During the H1N1 crisis in the fall of 2009, Oregon Public Health Division acted in concert with hospitals, emergency management, clinics, and other community organizations to ensure a robust response to the world first pandemic in 40 years. Based on Hospital Preparedness Program (HPP) support, the State increased preparedness capabilities in much needed areas, such as developing the Oregon Health Alert Network to provide interoperable communications across the healthcare system in the State, a HAvBED system to track the hospital beds available in an emergency, as well as a volunteer registry. The department also fostered partnerships to broaden preparedness and response across the State.

As a result, not only were improved emergency plans activated in response to the H1N1 incident, but all the critical partners maintained awareness of the important response activities. Community partners and hospitals had already been planning and working together to such an extent that during the incident it was natural to use these relationships to solve problems and rally resources to handle the high patient volumes.

The State's seven regional healthcare preparedness boards forged relationships through a preparedness planning process which paid off during the several months long event. Each regional board includes not only hospitals, but other healthcare partners, local public health departments, emergency managers, Emergency Medical Services, public safety (police and fire), tribes, and other community organizations such as clinics and long-term care facilities. Such partnership in the preparedness process reinforces the precept "train and plan as you would respond" or, in military circles, "train like you would fight."

Many communities were supported by the healthcare volunteer management system developed through State and local partnerships. Medical Reserve Corps volunteers were called upon to fill capacity gaps and help deliver over 30,000 vaccinations statewide. These volunteers were a critical factor in vaccinating the citizens of Oregon against H1N1 in a timely manner. In addition to vaccinations, MRC units utilized their volunteers to staff a tri-county Access to Care Nurse Triage line.

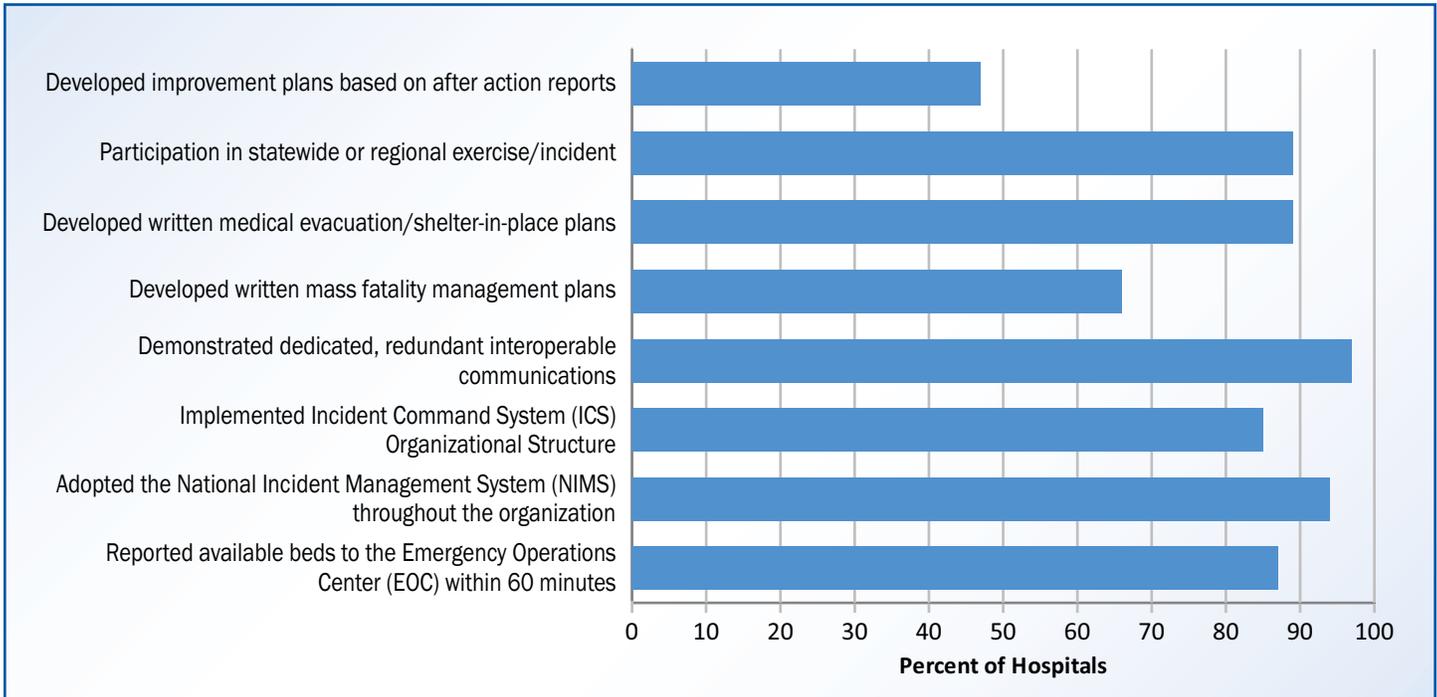
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	79
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	211
Number of 24-hour surge staffed beds per 100,000 population	242
Number of certified trauma centers per 100,000 population	1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	1400
Time required to report a verified list of available volunteer health professionals ready for deployment	6-12 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	61

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Pennsylvania Increases Mobile Medical Capability

Pennsylvania continually strives to strengthen its emergency preparedness planning and response efforts. One of the recent ways the Commonwealth accomplished this is by bolstering its mobile medical surge capacity and capability with the help of the Hospital Preparedness Program (HPP).

The backbone of the Commonwealth’s medical surge efforts is the Pennsylvania Modular Emergency Medical System. The Pennsylvania Department of Health developed the nine-volume document to assist local and regional planners.

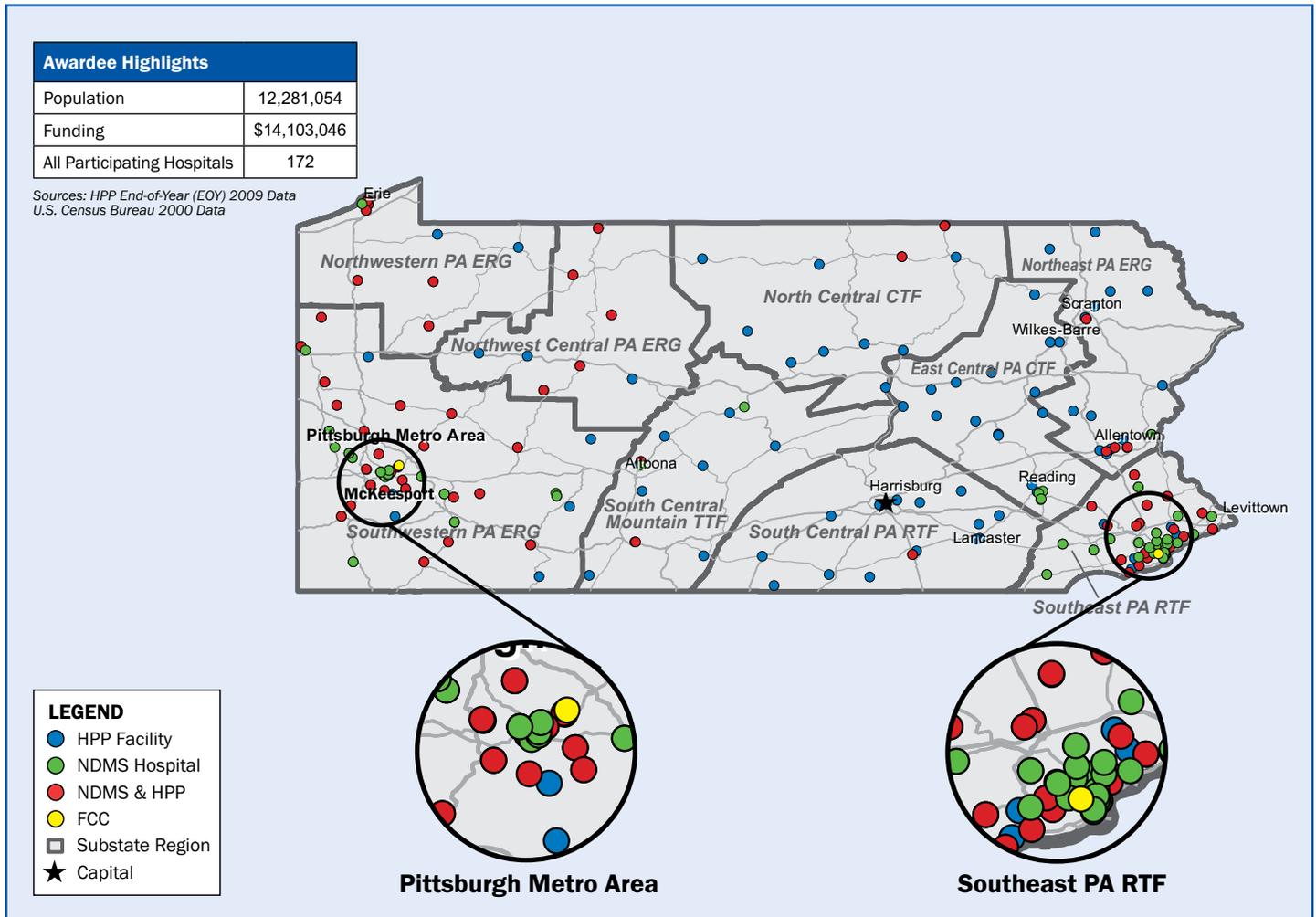
Another component of the State’s mobile medical planning is its partnership with three State Medical Assistance Teams. Each team consists of volunteers ranging from general labor to medical professionals. Members are registered in the State Emergency Registry of Volunteers in Pennsylvania and can be deployed within three hours notice to support emergency response.

The Southeast Philadelphia team pre-deployed in preparation for the G-20 Summit held in Pittsburgh in September 2009. The team was fully operational and capable of receiving mass casualties. Fortunately, the event provided excellent training and no casualties.

The Department of Health also used HPP funding to purchase eight 50-bed portable hospital systems and 19 Medical Surge Equipment Cache trailers in 2009 to further support the medical surge that often accompanies disasters. The department wrote operation and staffing plans to ensure standardization of services.

Pennsylvania also uses Emergency Medical Services (EMS) Strike Teams, which provide ambulance service preparedness and support for response to a pandemic or catastrophic casualty event that could overwhelm existing resources. The Department of Health has 150 ambulance services designated to the level of EMS Strike Team, ready to assist when every minute counts.

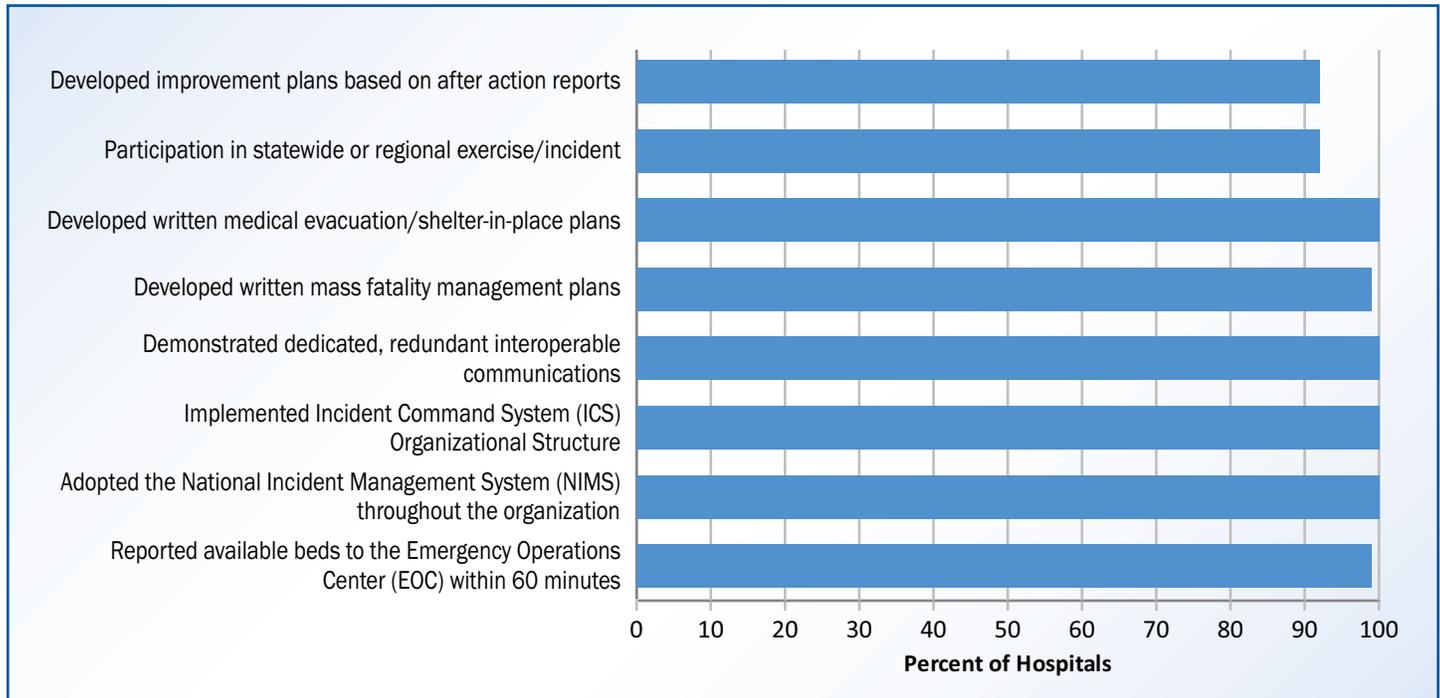
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	85
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	340
Number of 24-hour surge staffed beds per 100,000 population	405
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	7098
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	155

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Rhode Island Responds to Historic Flooding

In March 2010, Rhode Island experienced the worst floods in the State's history, a true test of healthcare system preparedness and response.

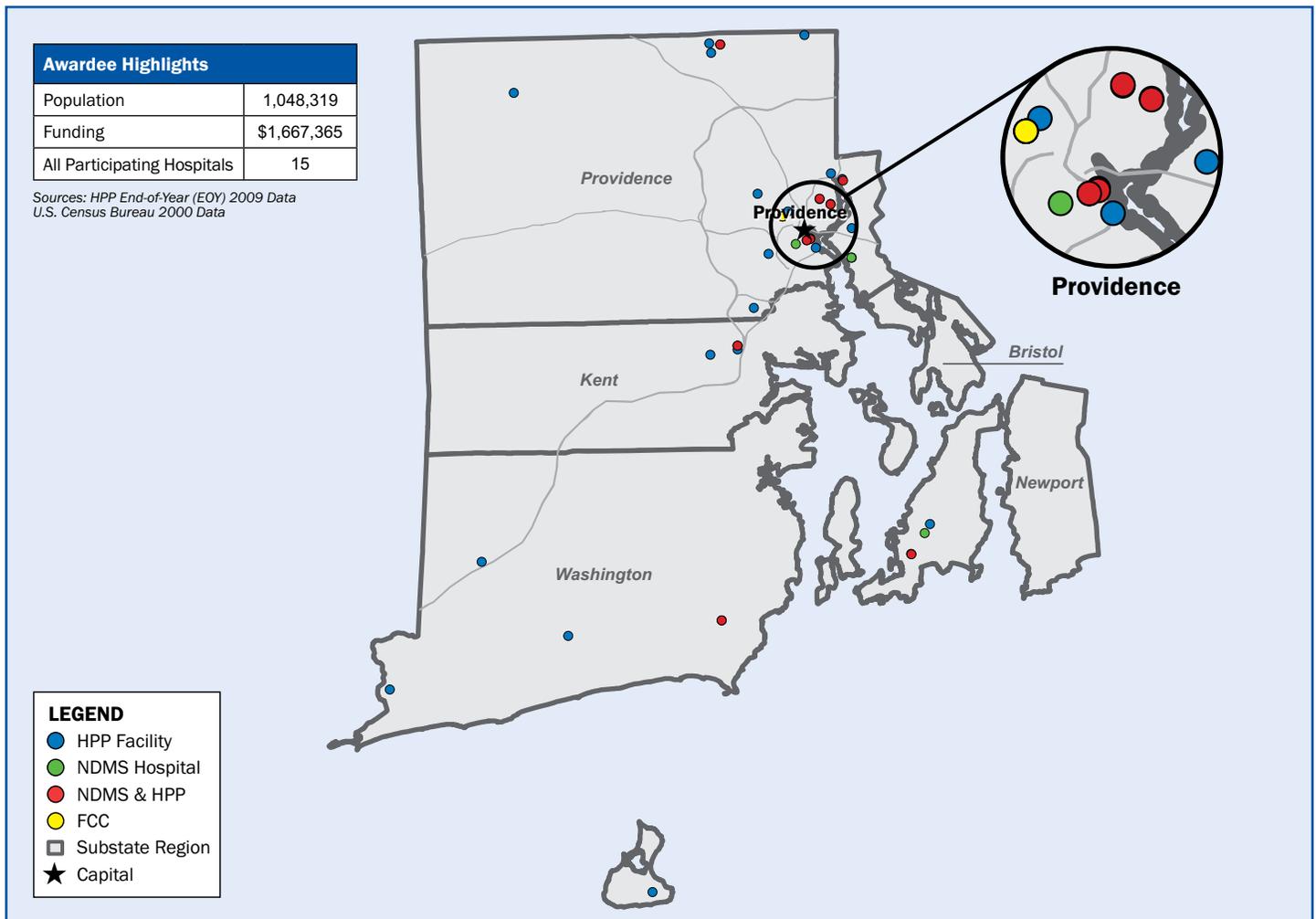
During the floods, the Rhode Island Department of Health kept a clear situational picture thanks to systems built with Hospital Preparedness Program (HPP) funding. The two capabilities addressed were interoperable communications and coalition building.

During the flooding, hospitals used a system called BaseCamp, which was put in place during H1N1, to provide detailed information sharing during emergencies. During the floods, hospitals also tested a new Global Sustainment/Area/Patient-Care/Systems (GAPS) Assessment for the first time. In addition hospital staff members familiarized themselves with completing information-sharing forms, so that the person at the HAVBED desk in the State emergency operations center

would have names and contact information of those in command and general staff positions at each hospital.

The Hospital Preparedness Planning Committee, formed in 2000, serves as a forum for State-wide collaboration among hospitals, the Department of Health, the Hospital Association of Rhode Island, Rhode Island Emergency Management Agency, and other organizations. During the floods, the committee spurred a discussion about the use of a "battle rhythm" that would forecast what information Department of Health needed from these partners, such as 800MHz and Nextel radio checks, uploading GAPS and other information-sharing forms, and coordination conference calls. Although this approach was not formally in place before the floods, the emergency provided an opportunity to build a template, test it, and modify it for other types of events, including recent winter storms. To continually improve the approach, health centers are currently being incorporated into this model.

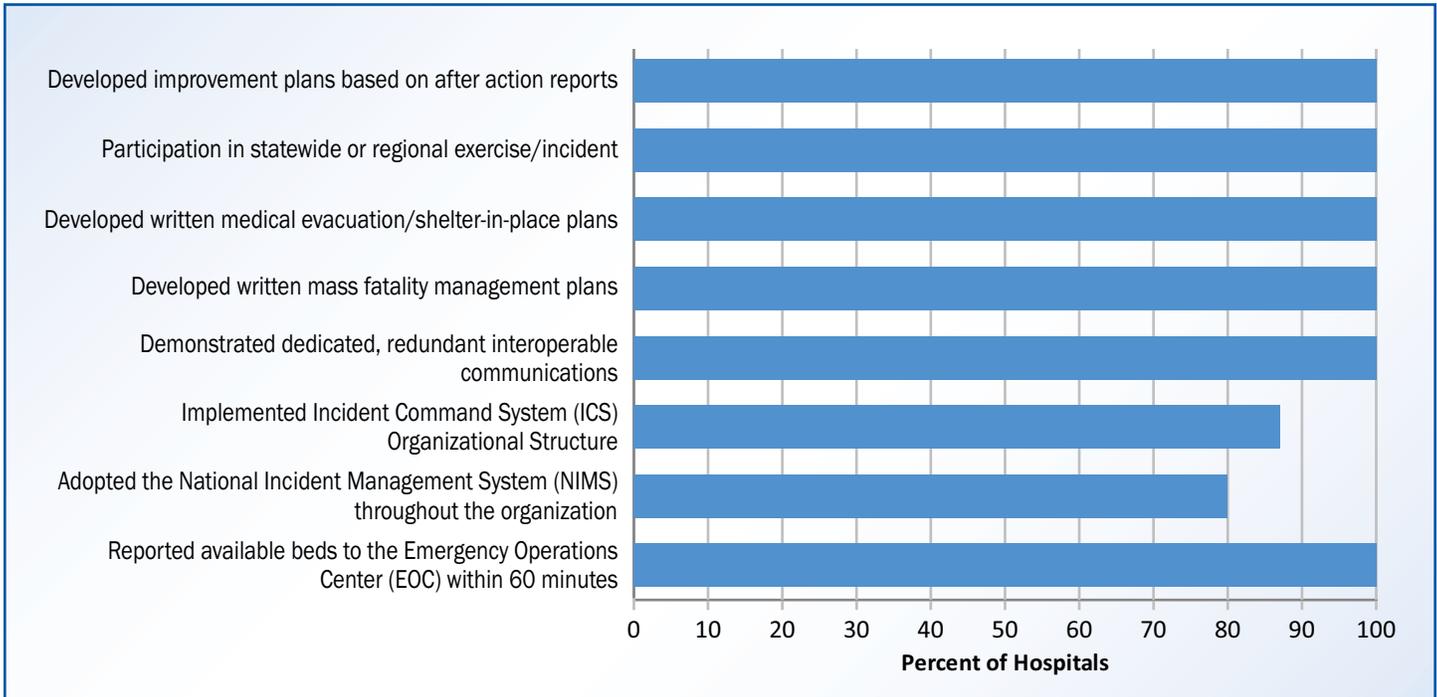
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	300
Number of 24-hour surge staffed beds per 100,000 population	356
Number of certified trauma centers per 100,000 population	0.1
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	2408
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	296

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## SC Places An Emphasis on Improving Emergency Communications

The South Carolina Department of Health and Environmental Control has effective partnerships with healthcare facilities, agencies, and provider associations that improve emergency preparedness. During the 2009 H1N1 influenza epidemic, the South Carolina Hospital Association joined with the department to establish effective communications with all hospitals.

The Hospital Preparedness Program (HPP) made emergency communications a priority. Using HPP funds, the State purchased radios for health departments and 63 participating hospitals so they could communicate with each other and with Emergency Medical Services, law enforcement, and firefighters on the Palmetto 800 State network.

The program also supported a State-wide amateur radio network. The University of South Carolina's Center for Public Health Preparedness and its partners coordinated the South Carolina Healthcare Emergency Amateur Radio Team network which provides healthcare facilities with amateur radio communication support for exercises and emergencies.

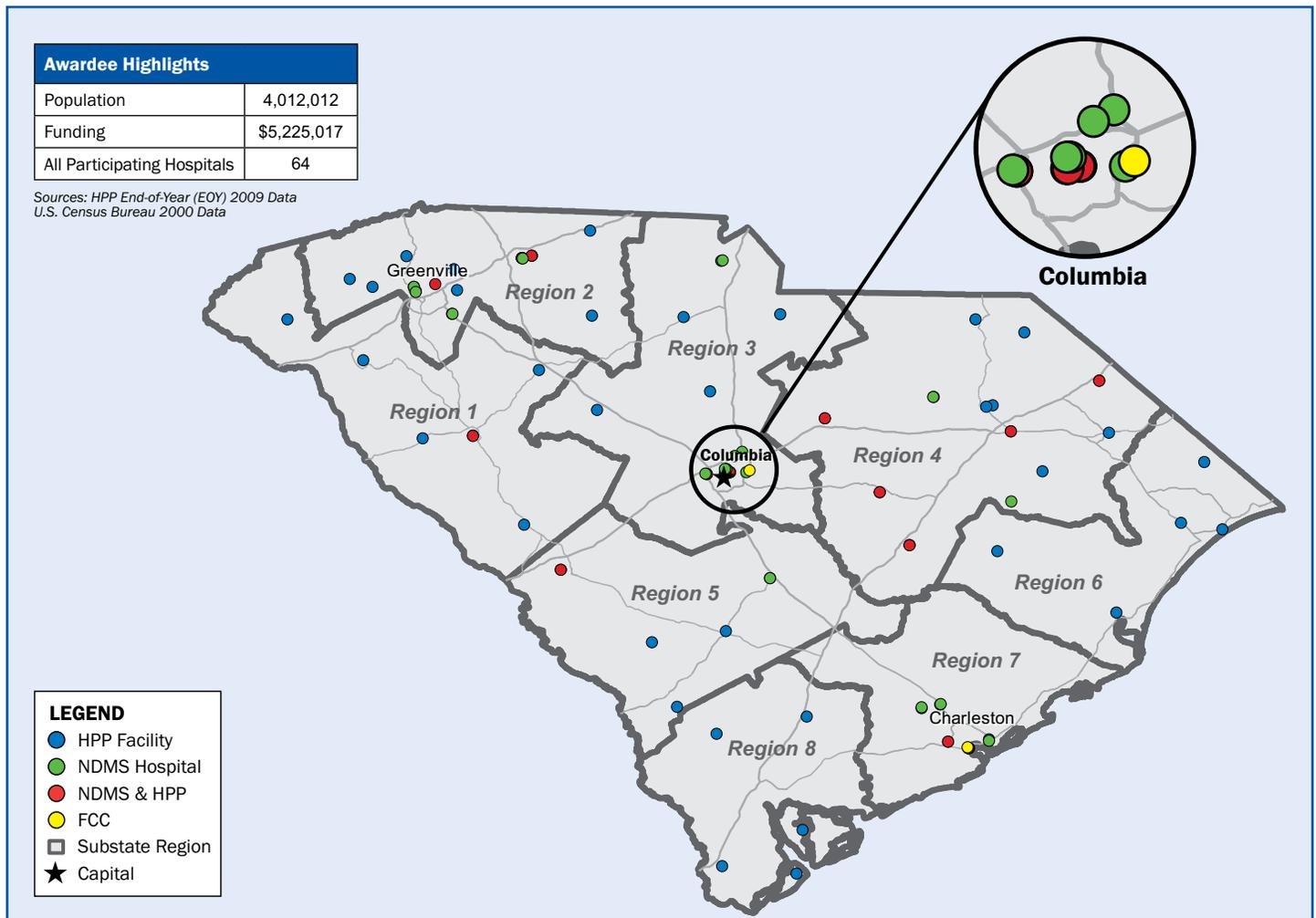
Throughout H1N1, hospital concerns were addressed in weekly teleconferences with information pushed out quickly. HPP funding was

used to increase vaccination rates among healthcare workers, plan for healthcare system decompression and alternate triage sites, conduct infection prevention initiatives, assure the availability of infection control supplies, and address media concerns.

Supported by HPP guidelines, the department also formed a successful partnership with the South Carolina Coroners Association to improve response for mass fatality events. Morgue space is at a premium in South Carolina; some county coroners have no morgue space or rely on local hospitals for limited space. With HPP funding, the State is now equipped with portable morgue trailers, supply trailers, and other equipment to respond to the mass fatalities of a disaster. The partners also developed a State Mass Fatality Plan to ensure a coordinated response in a disaster.

To help with the need for medical providers in an emergency, South Carolina also established regional Medical Reserve Corps that support all counties. Volunteers are recruited for Medical Reserve Corps teams to dispense medicines, provide medical care, staff medical needs shelters, or other healthcare duties.

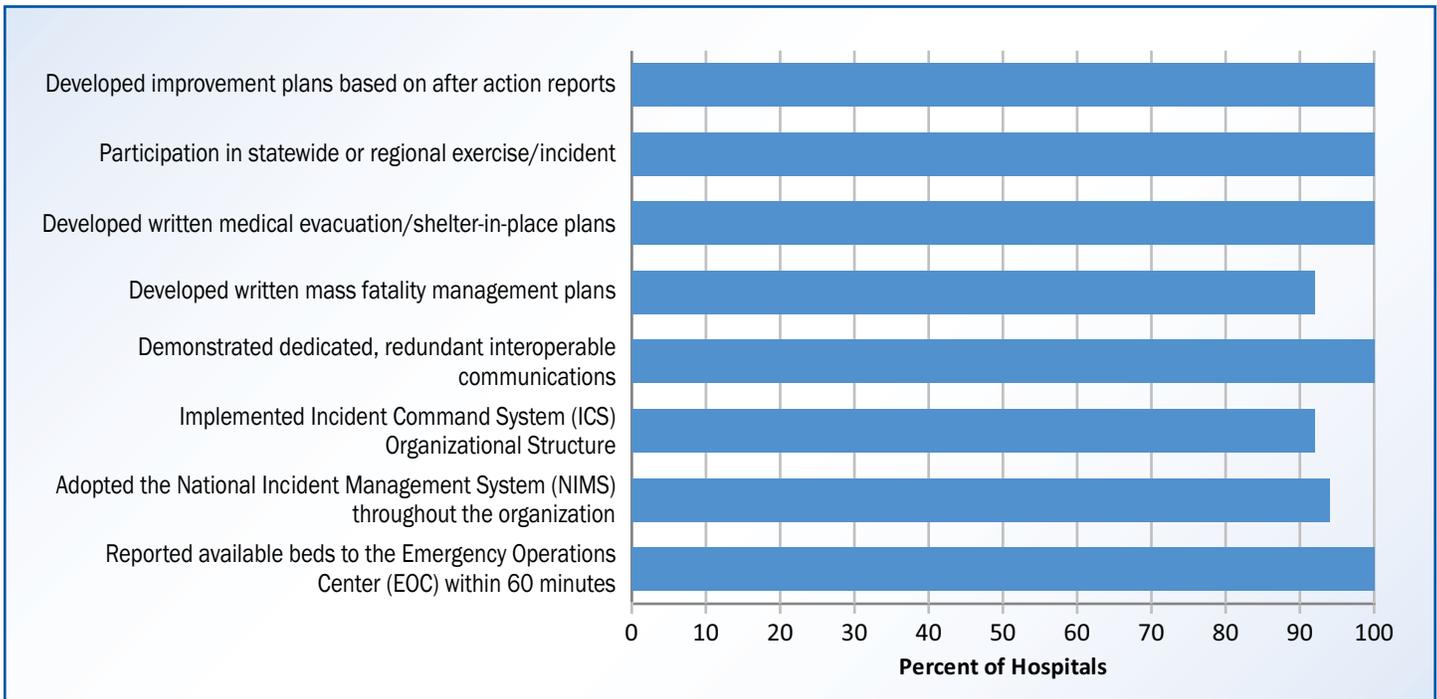
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	369
Number of 24-hour surge staffed beds per 100,000 population	445
Number of certified trauma centers per 100,000 population	0.5
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	1004
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	163

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## South Dakota Passes Tough H1N1 Test

The surge in the need for medical care driven by the H1N1 flu in 2009 and 2010 demonstrated the effectiveness Hospital Preparedness Program-funded response capabilities in South Dakota. South Dakota's Department of Health achieved some of the highest H1N1 vaccination rates in the nation, including the highest percentage for adults 18 and over (34.4 percent). South Dakota was also honored at the 2010 National Influenza Vaccine Summit with the Immunization Coalitions/Public Health/Community Campaign Award to recognize outstanding efforts and partnerships during the vaccination campaign.

The State's 30 community Points of Dispensing (POD) sites mobilized to organize vaccination events as vaccine became available. Hospital systems administered vaccines to healthcare workers and supplemented the points of dispensing clinics for priority groups and the general public. The hospital systems held vaccination events in larger communities while the health department sent strike teams into more rural areas of the State. There were more than 370 public

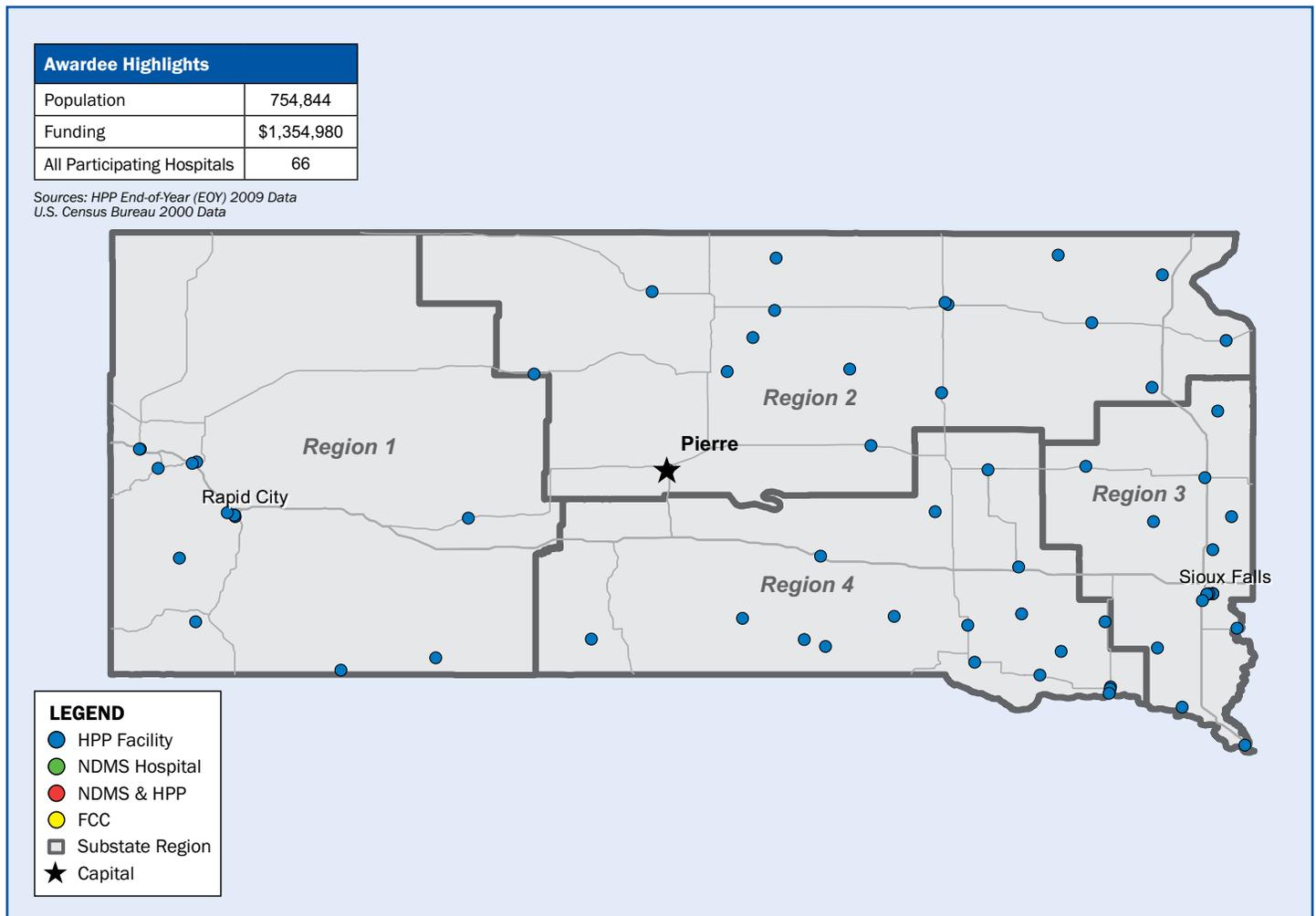
vaccine events, 48 of them PODs, with events taking place in each of the State's 66 counties.

The department's resource center delivered hundreds of pallets of supplies from its stockpile (e.g. needles, syringes, and masks). The State stockpile also filled antiviral drug requests.

The electronic Health Alert Network (HAN) kept vaccine providers, the medical community, and other response partners updated on vaccine supply, outbreak status, and related issues. More than 100 HAN messages were distributed to the network's 70,000 enrollees.

Even beyond infectious disease outbreaks, HPP-funded resources have proven critical. During the ice storms of 2010, generators kept community health centers open to serve patients throughout the crisis and interoperable communications, supported by HPP, allowed for coordination of efforts.

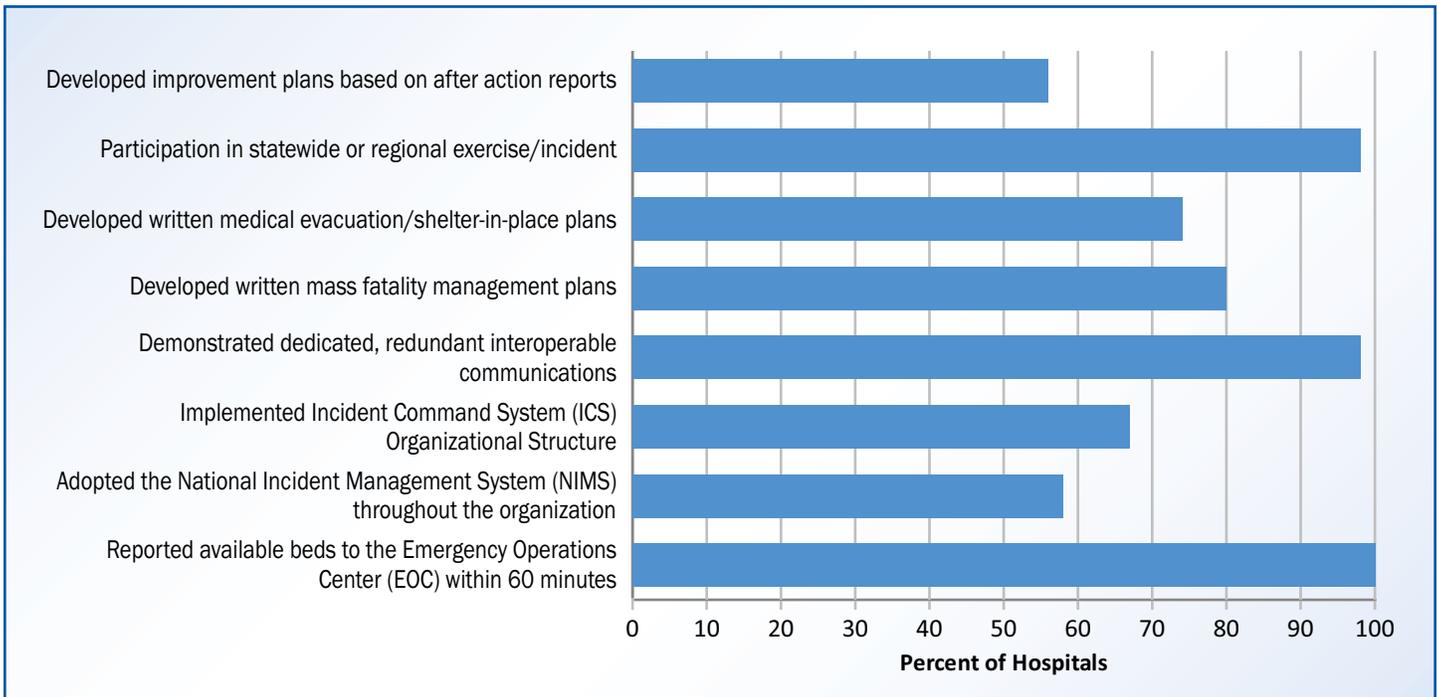
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	98
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	334
Number of 24-hour surge staffed beds per 100,000 population	422
Number of certified trauma centers per 100,000 population	0.3
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	683
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	320

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## RMCC and TEMARR Headline Preparedness Advancements in Tennessee

Two significant changes have occurred recently that have drastically improved the preparedness and response capabilities for the State of Tennessee: new Regional Medical Communication Centers (RMCC) and the Tennessee Emergency Medical Awareness Response and Resources System (TEMARR).

Using Hospital Preparedness Program (HPP) funds, the State established eight RMCCs as a joint venture between hospitals and the Tennessee Department of Health. Prior to the centers, limited interoperable communications existed across the State to support a medical response. With the centers, fully operational capabilities to communicate across the State, as well as from region to region, now exist.

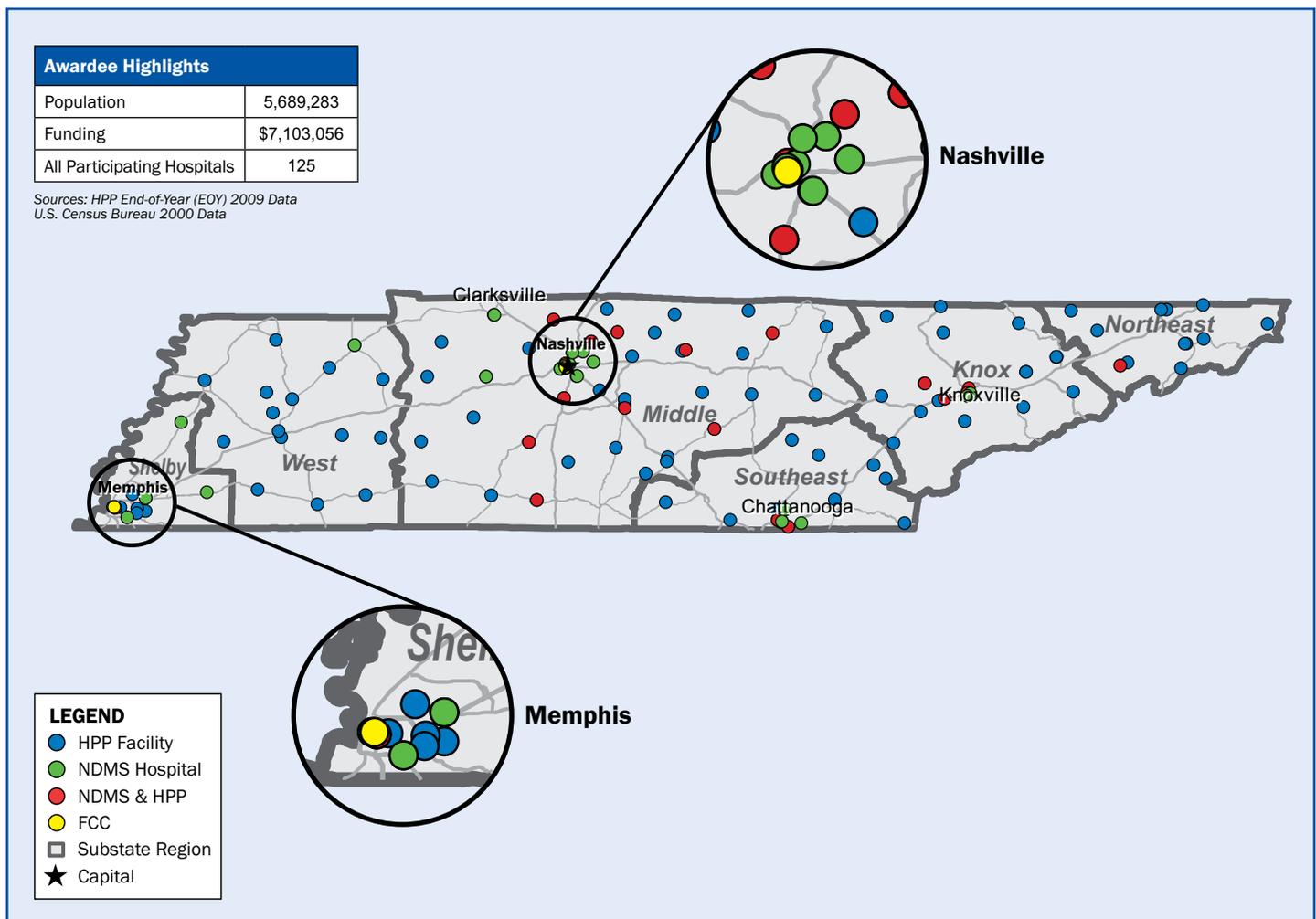
The TEMARR suite of systems includes the Hospital Resource Tracking System, Tennessee Health Alert Network, Tennessee Countermeasure Response Network, Emergency Medical Information Technology System (EMITS), along with several other systems.

Among these systems, the Tennessee Health Alert System for alerting hospitals was used heavily in the H1N1 response, as was the Tennessee Countermeasure Response Network, which tracks patients in hospitals, pods, and medical assistance shelters.

Additional information was incorporated in the H1N1 from Tennessee's HAVBED system which allows instantaneous linking of hospitals across the State with all of the RMCCs. This system is updated every 26 seconds and allows hospitals to input bed status, services availability, and resource capabilities statewide. It is also a triple redundant system.

All of these TEMARR systems are managed within Department of Health. The department has fully integrated all of these IT systems in one department so they are accessible to all of the hospitals, the public health department, the emergency management agency, and others to obtain information in response to disasters.

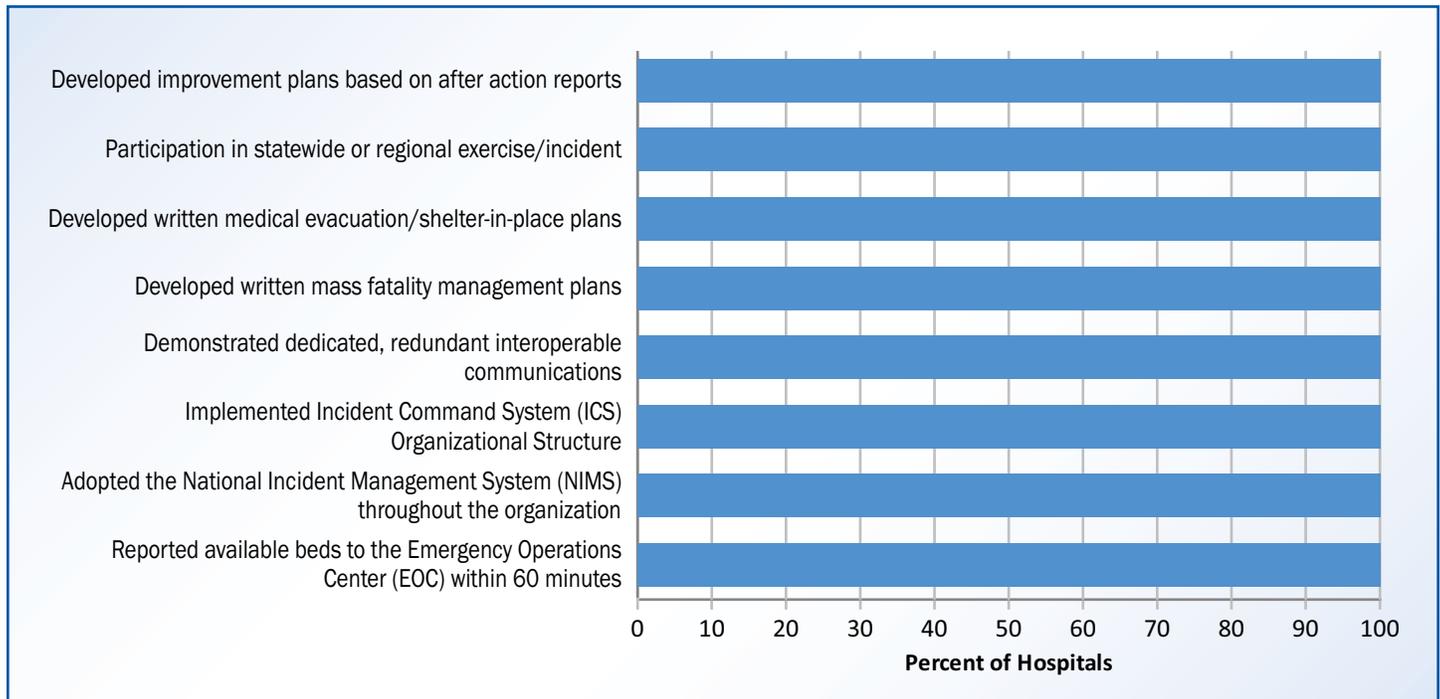
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	345
Number of 24-hour surge staffed beds per 100,000 population	448
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	29913
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	244

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Enhanced Tracking in Texas Helps During New Zealand Earthquake

The Southwest Texas Regional Advisory Council used Texas' Hospital Preparedness Program (HPP) funds to develop and implement the Texas WebEOC Interoperability Project (TWIRP).

TWIRP was initially created to increase situational awareness at hospitals and enhance the capability of Texas hospitals to communicate with each other during disasters. Project personnel create a variety of tracking boards to monitor availability of ambulances, pharmaceuticals, and hospital beds.

These boards both enhance situational awareness as well as allow tracking of requests for resources to be monitored regardless of the size of an event. The project benefits Texas hospitals, public health, and emergency management.

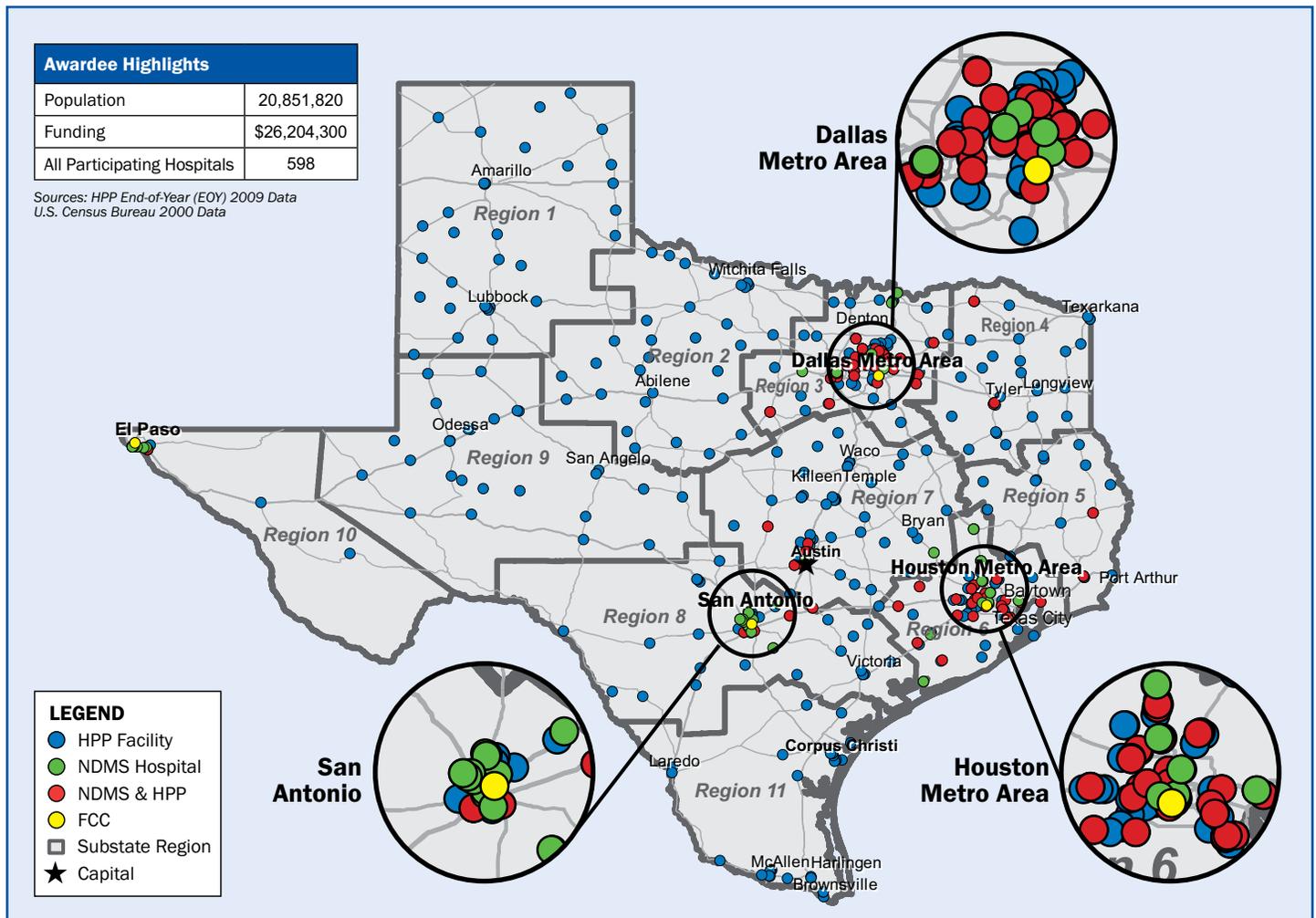
On September 6, 2010 the Southwest Texas Regional Advisory Council was contacted through an informal network of WebEOC administrators, and learned that New Zealand was in search of a Mass Casualty Incident (MCI) tracking board following an earthquake. The Texas

Mass Casualty Incident tracking board and a more comprehensive emergency room patient tracker/hospital transfer board – used in Texas for hospital evacuations in hurricanes – was made available to New Zealand within one hour of the initial request.

Texas gave temporary administrator rights to the New Zealand Ministry of Health WebEOC server and assisted its staff with the installation and configuration of the Texas boards to speed the process. The access included go-to-assist Web technology routinely used in TWIRP. Within four hours of the initial request, both MCI transport and ER patient tracker/hospital transfer boards were installed and functional in New Zealand. Training and quick reference guides also were provided.

The informal network of WebEOC users is one of the byproducts and strengths resulting from use of its HPP and PHEP/PHER grants. User conferences, training sessions, and multi-agency exercises allow “best of breed” solutions to be shared among local, regional, State and, as evidenced in this example, even international partners.

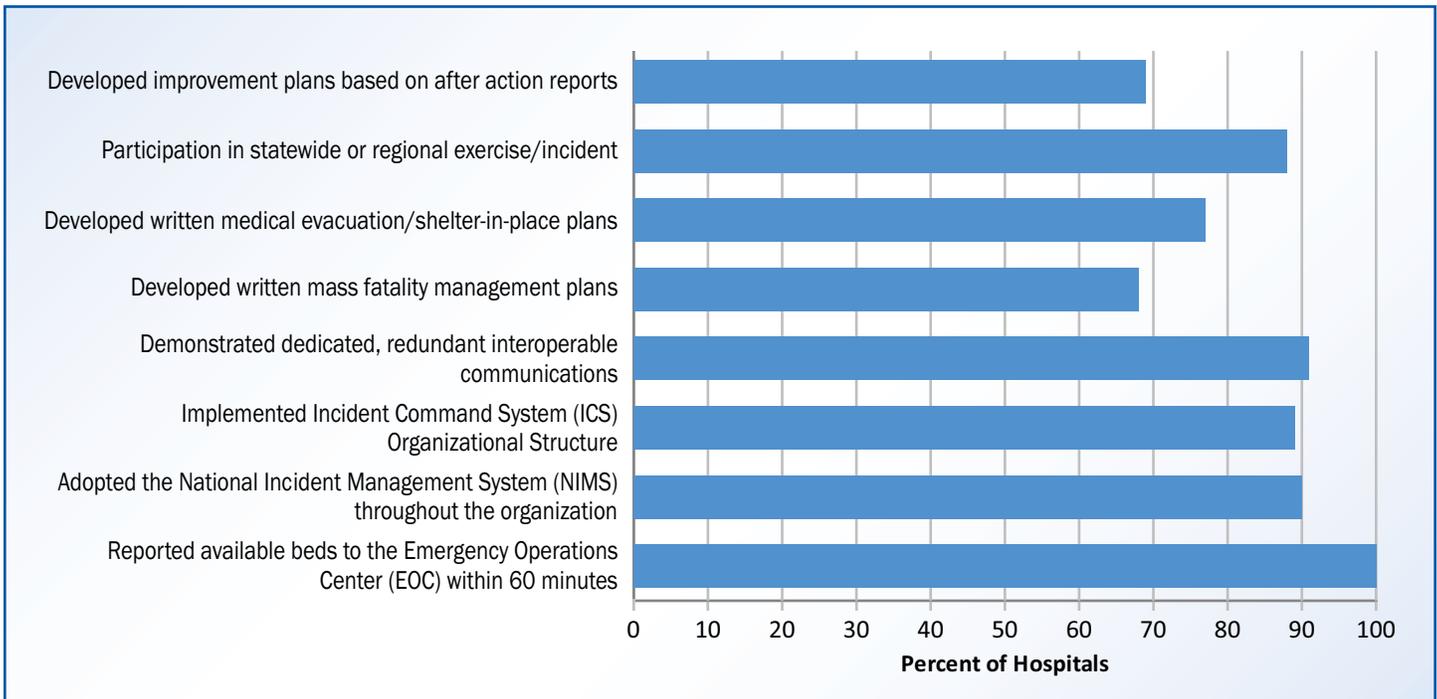
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	94
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	320
Number of 24-hour surge staffed beds per 100,000 population	370
Number of certified trauma centers per 100,000 population	1
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	786
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	285

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Bolstering Preparedness through Strike Teams and Partnerships

Utah ranks the highest among states in the percentage of children in its population. To ensure appropriate response, Utah's Hospital Preparedness Program (HPP), Utah's Emergency Medical Services (EMS) for Children Bureau, and the Primary Children's Medical Center, partnered to develop mobile and deployable pediatric EMS strike teams.

These teams can assist agencies and hospitals with triage, treatment, and preparing for transport for up to 100 patients. Teams are self-sustaining for 72 hours, and can provide care at fixed or temporary sites. Teams have nine to twelve members, including doctors, physician assistants, family health nurse practitioners, registered nurses, respiratory therapists, paramedics, and emergency medical technicians. Training is provided on disaster life support, hazardous materials, incident command system, and burn care.

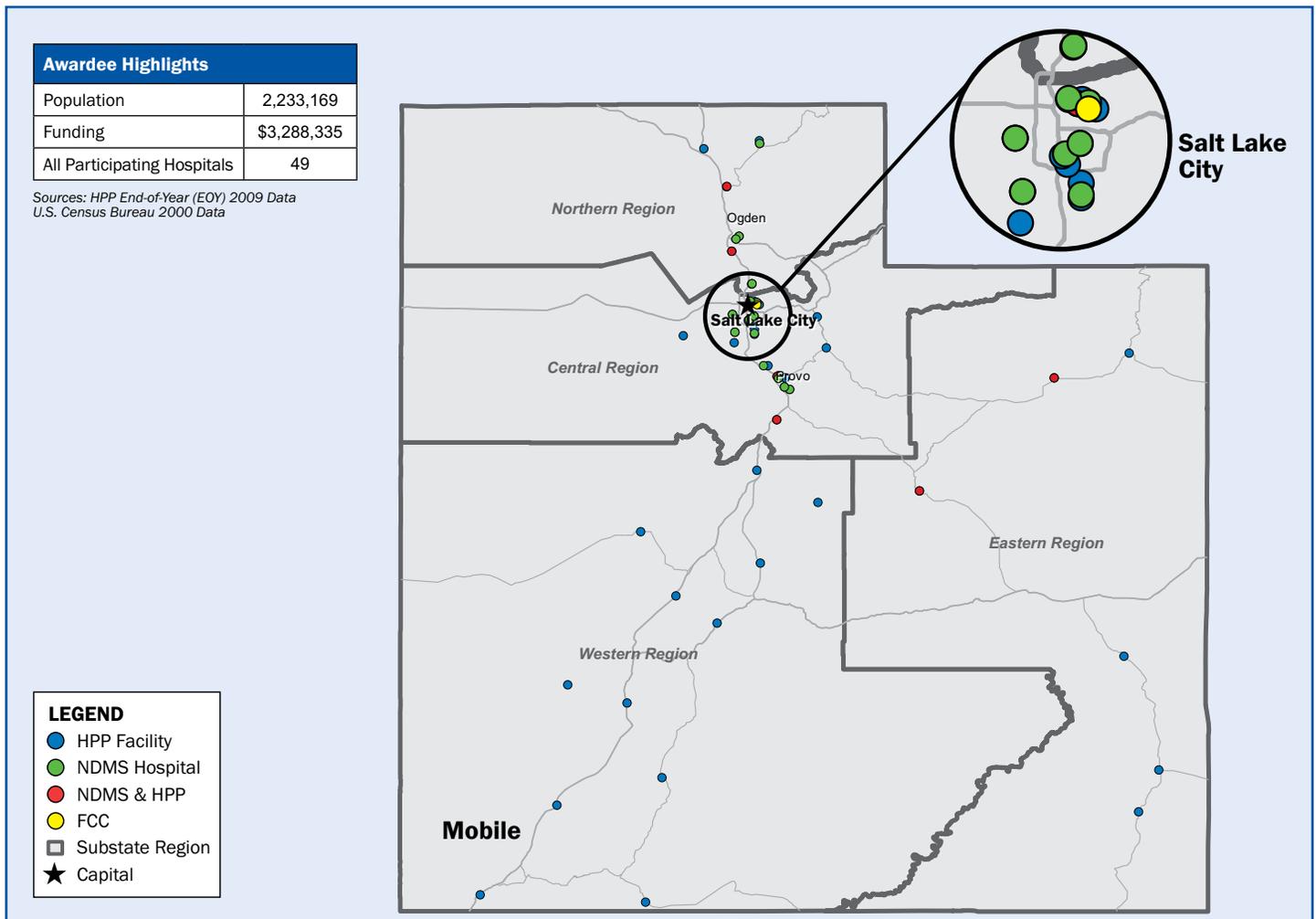
The teams use response trailers with supplies for biohazards, airway management, burns, dressings, and splinting, as well as patient assessment and IV supplies. The additional care capacity provided by the strike teams improves Utah's preparedness for disasters and

will help with community resiliency by taking care of their vulnerable populations.

Utah HPP funds preparedness efforts across the healthcare spectrum through the inclusion of providers such as long-term care facilities. These facilities have been identified as having the personnel, space, and equipment that may be used to support medical surge and patient movement needs in impacted communities.

Projects to support this long-term care inclusion include providing HAM and VHF radios to facilities in conjunction with Utah's Department of Homeland Security to create a statewide long-term care communications network. The State long-term care association worked to increase long-term care facilities participation from 55 to 91 facilities, which significantly increased the number of beds available for this population in a disaster. Including long-term care in regional response coalitions brings extensive experience to the table about the care and treatment of individuals with chronic and disabling conditions.

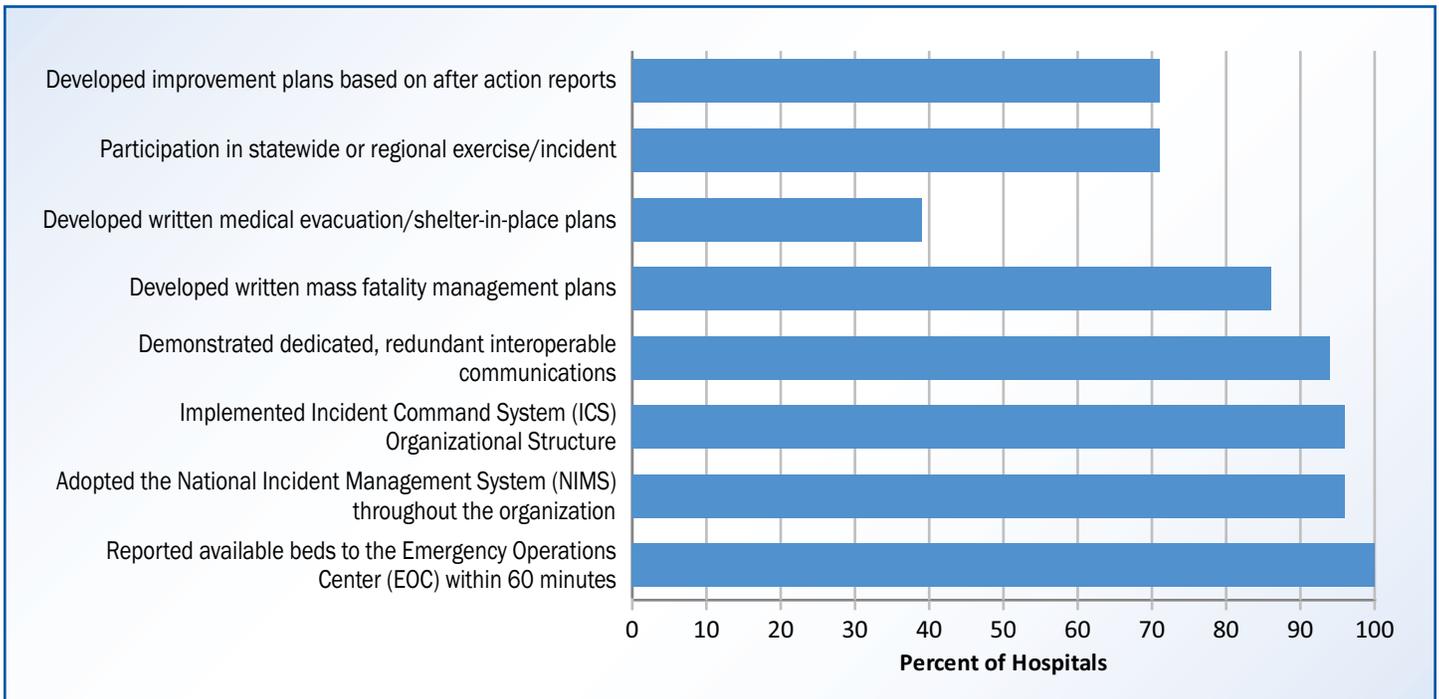
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	94
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	201
Number of 24-hour surge staffed beds per 100,000 population	241
Number of certified trauma centers per 100,000 population	2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	911
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	36

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Vermont Expands Capacity and Medical Capability for Emergency Response

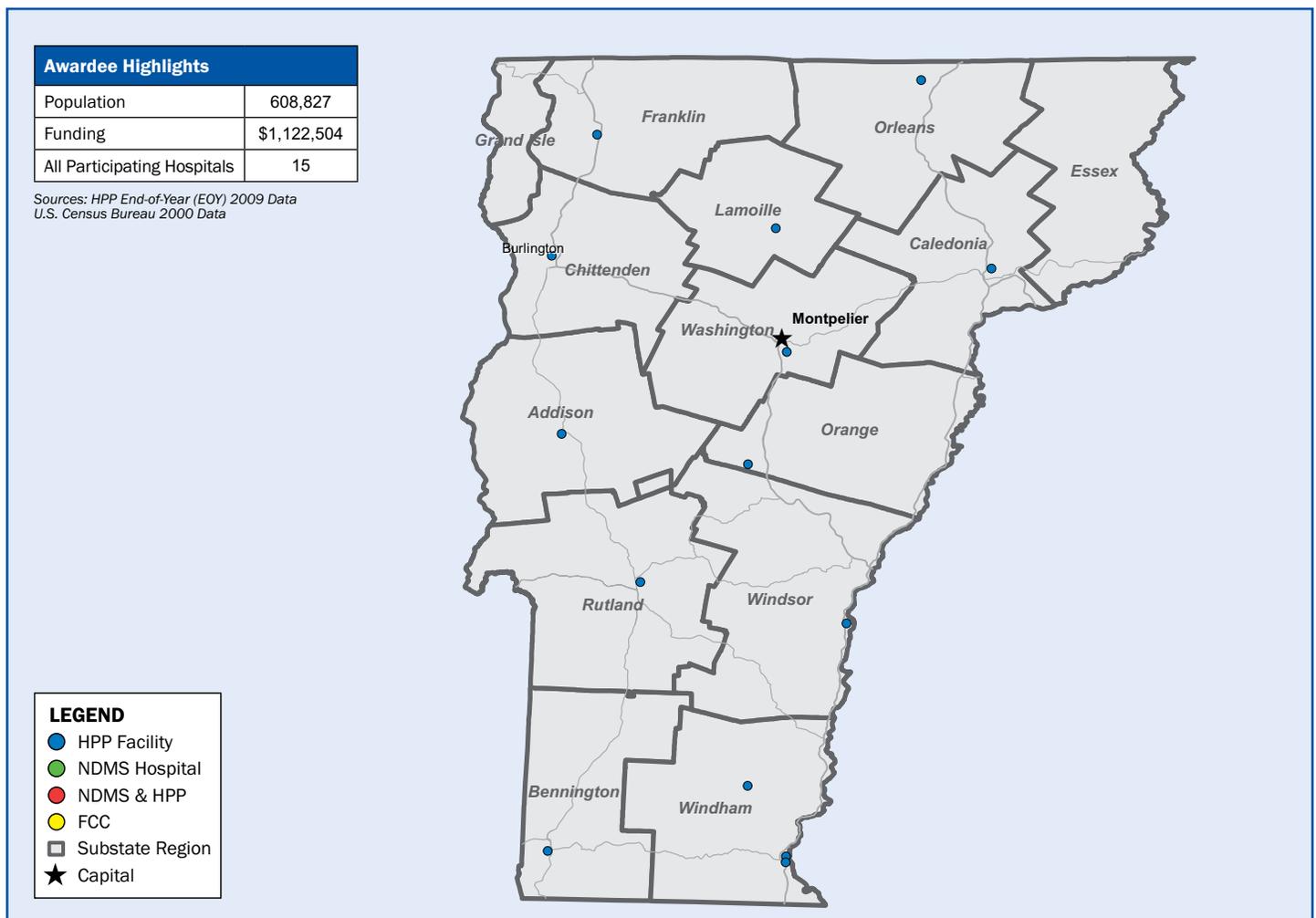
With support from the Hospital Preparedness Program, the Vermont Department of Health continues to increase Vermont’s medical surge and mass care capabilities through collaborations with the Red Cross, hospitals, local community emergency management agencies, Vermont Emergency Management, the New England Center for Emergency Preparedness, schools, and other community partners.

The State now has operational plans in place for eight facilities located in areas of Vermont proportionate to populations. Each location features a medical surge component, designed to provide care for up to 50 patients, as well as a co-located mass care facility which can provide shelter and nutrition for 250 people. Co-locating the medical surge and mass care elements helps keep families together during disasters. Locations selected are inspected for suitability and familiarity within local communities.

A critical element to the success of these plans and facilities is Vermont Emergency Management’s grant program for emergency generators. To date, three generators are operational, one location generator installation is pending, and the remaining locations are working through the application process. Planning groups in three areas continue to define components of location-specific plans based on the plans created by other locations.

A full-scale exercise tested one of Vermont’s medical surge/mass care facilities in September, 2010. The facility demonstrated the capability and capacity to serve 50 people and the local hospital was able to provide information technology infrastructure to support to the medical surge facility. Vermont’s disaster resiliency within communities and throughout the State has grown and will continue to grow.

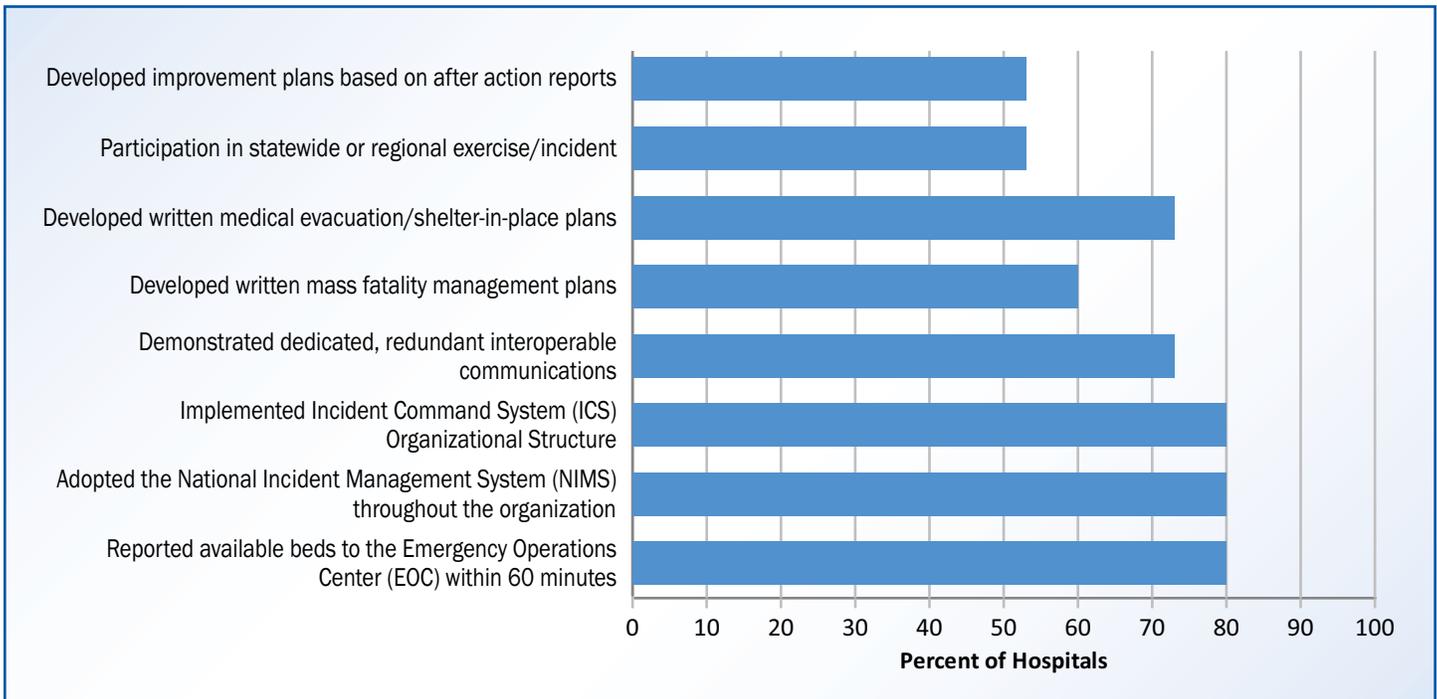
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	80
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	147
Number of 24-hour surge staffed beds per 100,000 population	226
Number of certified trauma centers per 100,000 population	0.2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	569
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	75
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	78

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## VHASS the Latest Virginia Success Story

Events in Virginia's recent history include the Virginia Tech mass shooting event, hurricanes, severe winter storms, H1N1, water and electrical infrastructure losses, the 56th Presidential Inauguration, and the 100th National Scout Jamboree (2010). These events helped shape strategic planning and long-term spending plans for Hospital Preparedness Program (HPP) funding.

A representative example of Virginia's many success stories rests with the Commonwealth's improved ability to share information among healthcare coalition partners in a timely and reliable manner during actual emergency events.

The Virginia Department of Health, in collaboration with the Virginia Hospital and Healthcare Administration and SiteVision, Inc., developed the Virginia Hospital Alerting and Status System (VHASS) as a premier tool to aid in real-time information sharing as well as reporting HPP metrics.

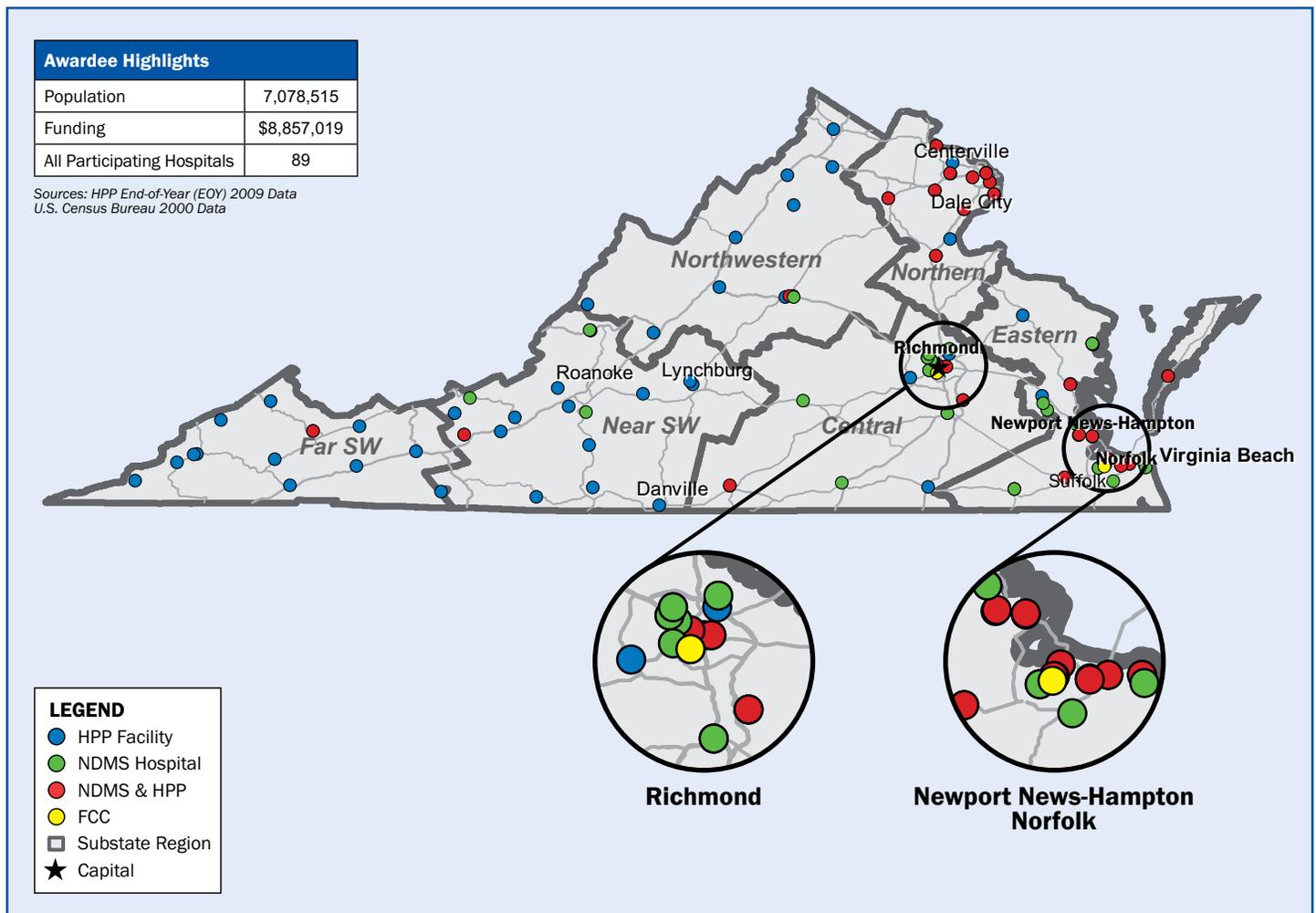
This web-based tool allows participating facilities to report data specific to the HPP's mid-year and end-of-year reports; incorporates an Emergency Operations function that displays clinical status, facility

demographics, bed availability and diversion status; and automates the process for pushing data to the U.S. Department of Health and Human Services' HAvBED system.

VHASS includes emergency messaging and alerting capabilities, a Patient Tracking System that ties directly to Virginia's 2-1-1 System Call Centers, a Resource Tracking Tool for documenting HPP-funded item purchases, and a document library. A key feature of the system is VHASS's Hospital WebEOC page, which provides Statewide and regional event tracking boards, resource status and request boards, Weathersafe information for air transport services, mapping, health-care facility status, and other critical information for incident monitoring and response.

Multiple, redundant communications technologies purchased using HPP funds have been effectively used to develop information sharing technologies that help disseminate critical information quickly and reliably for regional and State-level events. These efforts reflect Virginia's dedication to improving community resiliency.

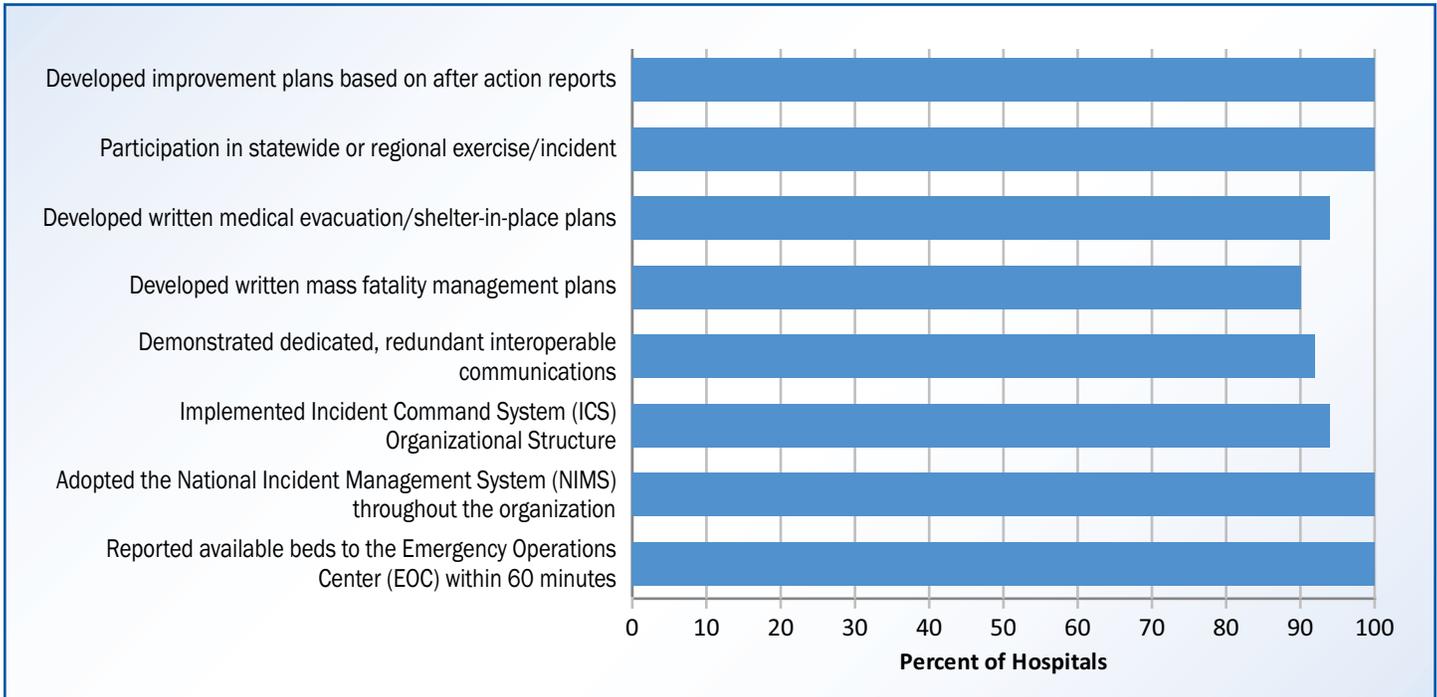
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	92
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	219
Number of 24-hour surge staffed beds per 100,000 population	314
Number of certified trauma centers per 100,000 population	0.2
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	3,912
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	110

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## State and Tribal Partnerships Key in Washington State

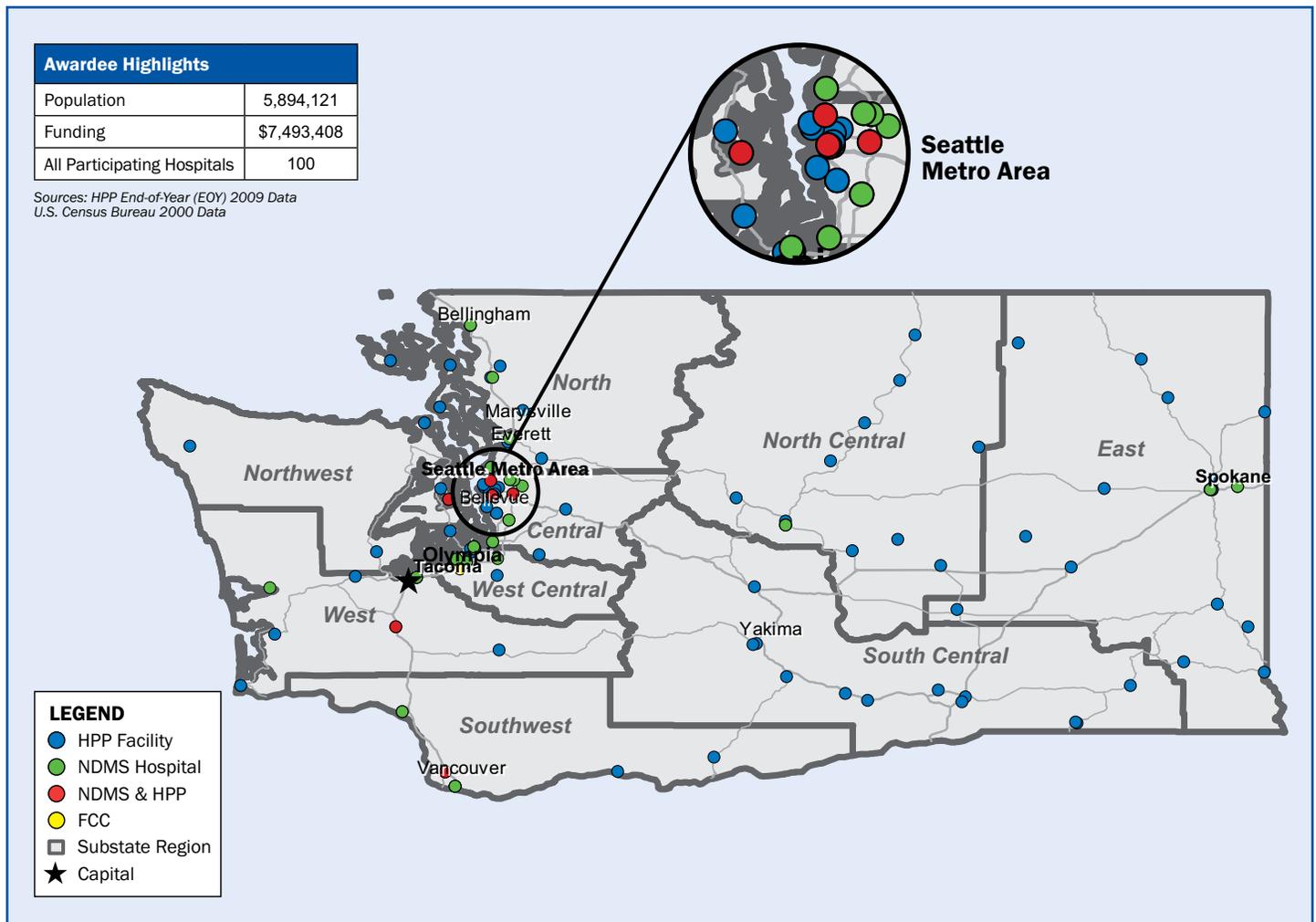
Washington State is home to 29 federally recognized tribes. Tribes are essential partners in the State's public health emergency preparedness efforts, and Washington Hospital Preparedness Program-funded initiatives have strengthened ties between State and tribal programs. The State's Hospital Preparedness Program (HPP) conducted a baseline tribal needs assessment in 2002 and a follow-up assessment in 2010. The program also supported seven annual Tribal Preparedness Conferences to increase tribal preparedness. These discussions led to a regional mutual aid agreement between tribes and county health departments, the first of its kind in the nation.

Representatives of the seven tribes located on Olympic Peninsula partnered with their local county health departments to create the Olympic Regional Tribal-Public Health Collaboration and Mutual Aid Agreement. The agreement covers sharing equipment, personnel, and facilities for emergency response, communicable disease control, isolation and quarantine, and day-to-day public health and medical functions. Most significantly, the agreement allows a tribe to

choose to grant temporary authority to a local health department and to deputize the department's local health officer as the tribal health officer during an emergency. The agreement provides a unique surge capacity to meet public health needs amid a crisis.

Aspects of the new agreement were put to the test in January 2011 when the region participated in Washington's annual Statewide full-scale preparedness exercise. The exercise scenario involved a botulism outbreak. Six of the seven tribes with Mutual Aid Agreements participated. On the Makah reservation, many tribal members were involved. The Port Gamble S'Klallam tribe opened a point of dispensing center to distribute medications. In keeping with the agreement's staff-sharing provision, this point of dispensing was staffed, in part, by members of Jefferson County's Medical Reserve Corps and members of the Suquamish tribe. Discussion is now underway in Southwest Washington on a similar agreement between the Skamania tribe and the county health departments in that region, and it is hoped agreements in other regions will follow.

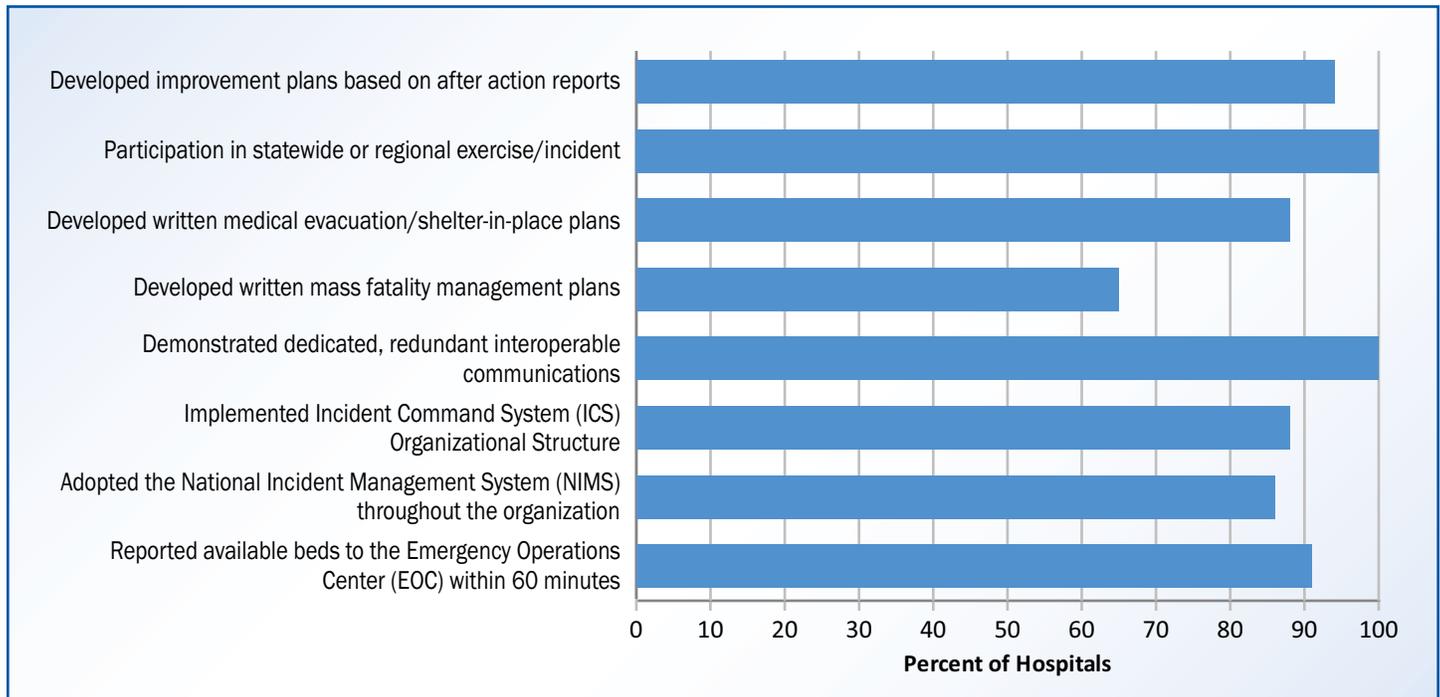
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	157
Number of 24-hour surge staffed beds per 100,000 population	245
Number of certified trauma centers per 100,000 population	2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	164
Time required to report a verified list of available volunteer health professionals ready for deployment	6-12 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	483

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Healthcare System Preparedness Critical to WV's Mining Disaster Response

On April 5, 2010, West Virginia witnessed a tragic mining accident at the Upper Big Branch Mine in Raleigh County, the worst U.S. mining disaster since 1984. A catastrophic explosion led to the entrapment and eventual death of 29 miners. State and local emergency response was immediate, with the rescue and retrieval effort lasting nine days.

Among responding agencies were at least three that receive the Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Program Cooperative Agreement support: the West Virginia Office of Emergency Medical Services, the West Virginia Office of the Chief Medical Examiner, and the West Virginia Bureau for Behavioral Health and Health Facilities. Each agency is an active partner in health and medical preparedness, using Hospital Preparedness Program (HPP) funds to engage staff and community partners, train personnel, develop response plans, purchase equipment and supplies, and practice response.

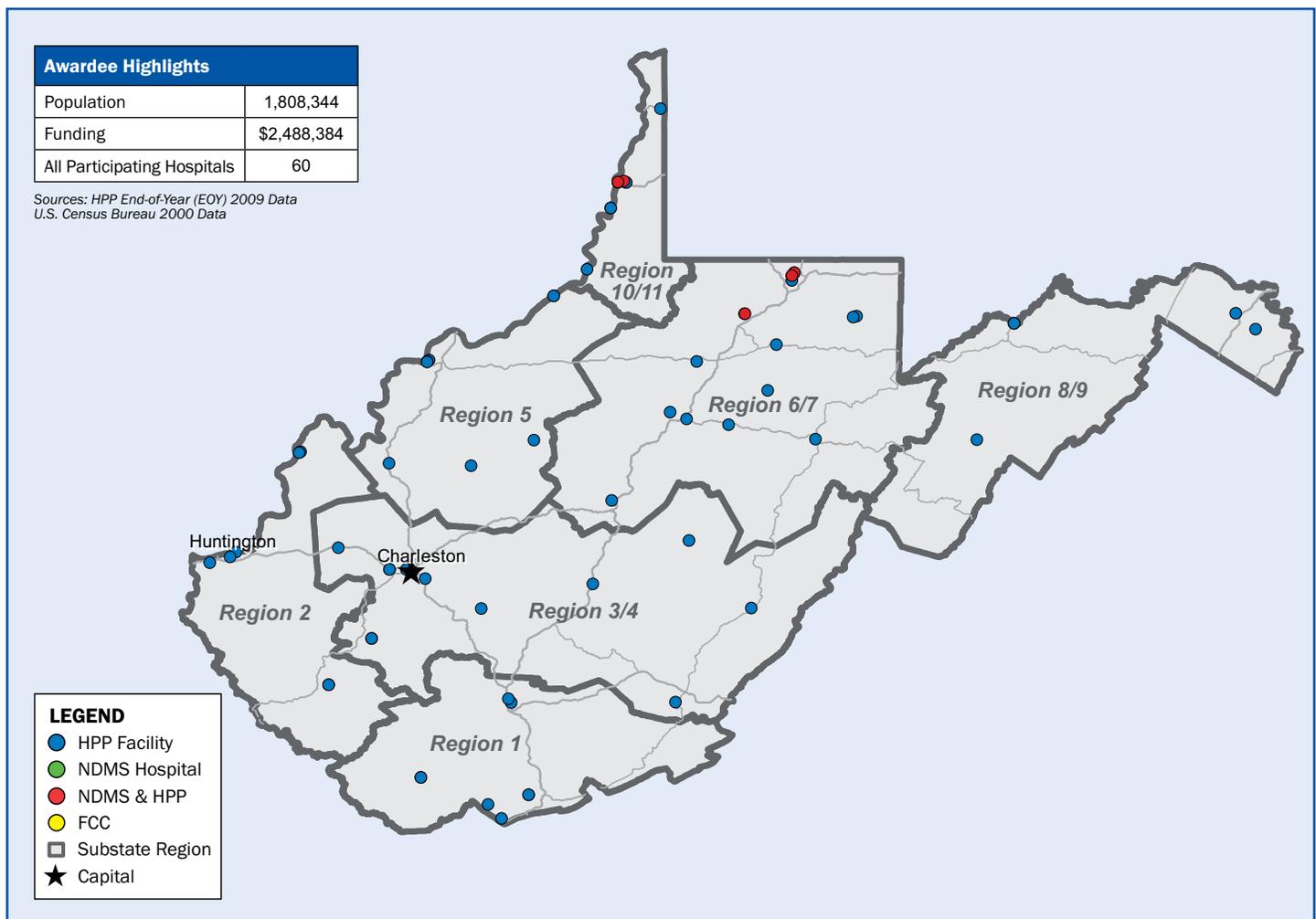
For the mining disaster, the Office of Emergency Medical Services coordinated the dispatch and use of EMS vehicles and crews to treat the

injured and monitor the health of responders. Hoping there would be survivors, they also coordinated with hospitals. Equipment, as well as intra- and interagency partnerships supported by HPP, were available to strengthen their effort.

The Office of the Chief Medical Examiner managed the difficult and sensitive mission of receiving and processing the remains of the 29 deceased miners, working closely with families. ASPR HPP funds provided communications equipment as well as supplies and equipment for their multi-fatality response trailer.

Throughout the multi-day ordeal, the Bureau for Behavioral Health and Health Facilities worked with State and local partners, coordinating critical behavioral health crisis response teams. Prior training and existing partnerships proved vital in providing these much needed services. ASPR HPP funding provided each of these agencies with added skills, planning, partnerships, equipment, and supplies integral to this and other responses.

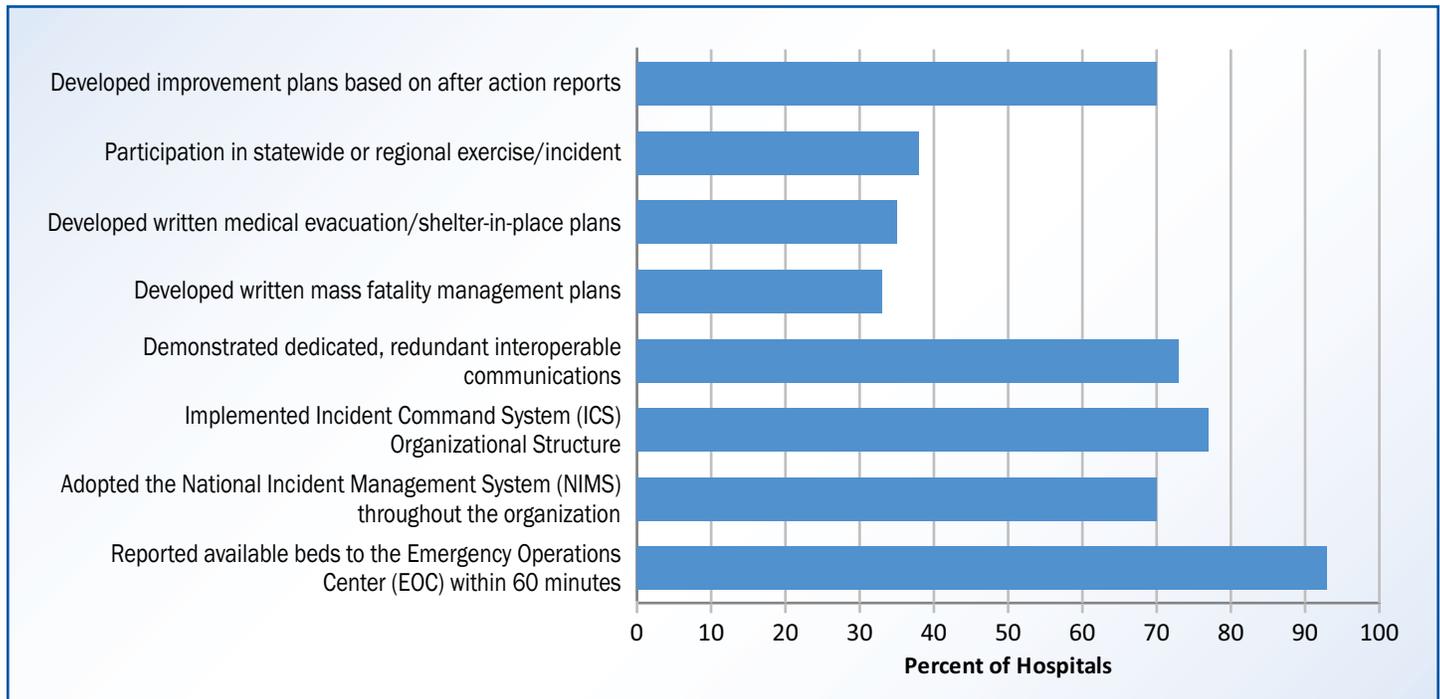
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	73
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	360
Number of 24-hour surge staffed beds per 100,000 population	394
Number of certified trauma centers per 100,000 population	2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	3303
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	217

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Wisconsin HPP Develops Method to Maintain Stockpiles

During the H1N1 outbreak, one Wisconsin hospital needed a high-oscillating ventilator for a patient in severe respiratory distress. Few hospitals maintain this specialized type of ventilator.

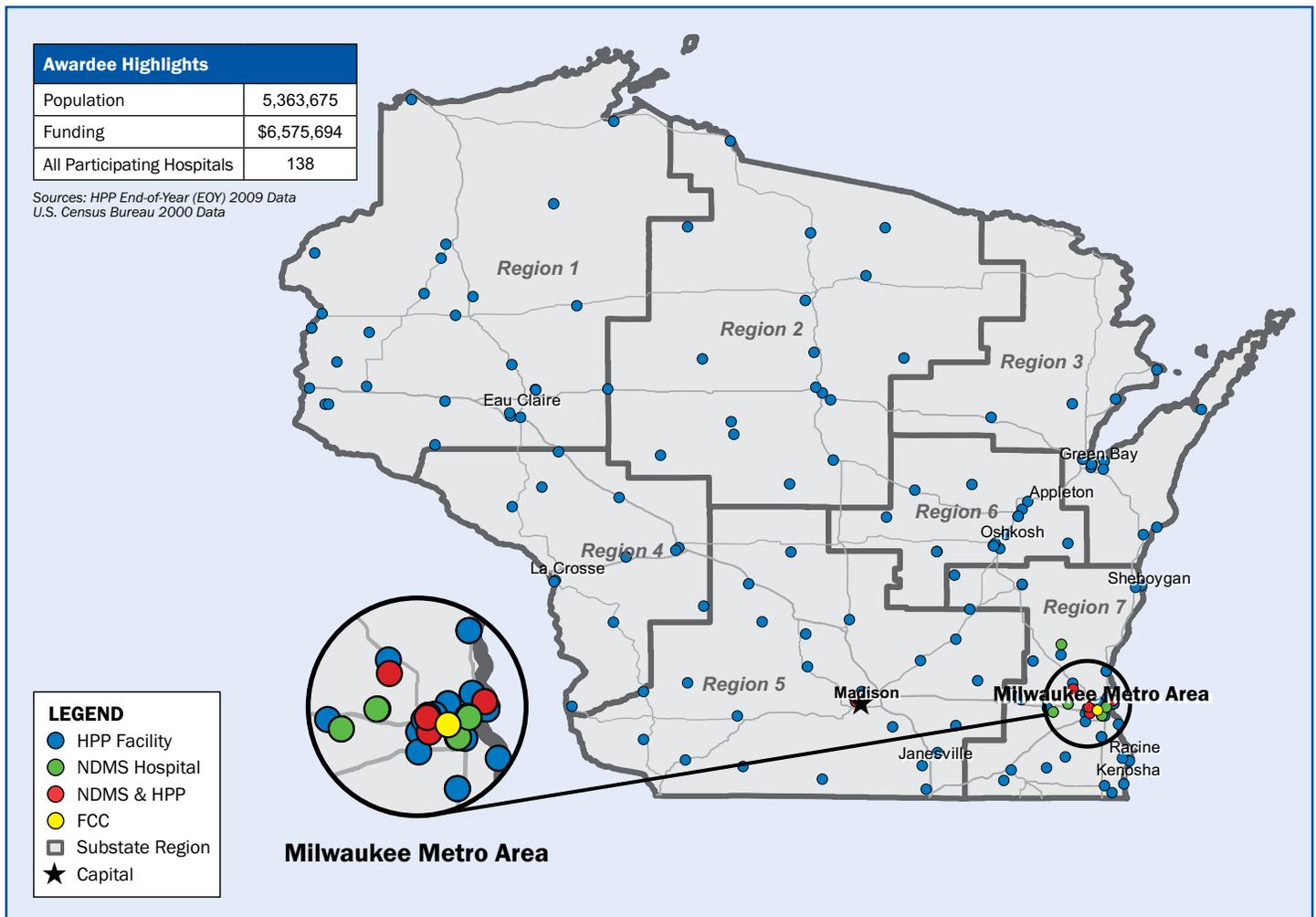
Thankfully, the Wisconsin Hospital Preparedness Program (HPP) maintains a statewide alerting system for hospitals, Emergency Medical Services, public health, law enforcement, fire departments, and other responders, with more than 3,000 registered users. The system is decentralized so that any user can send an alert when necessary.

The hospital alert was sent at 5:30 p.m. Within five minutes, three hospitals responded to the request, willing to lend such a ventilator. One of the donor hospitals was less than an hour's drive from the

requesting facility and the ventilator was delivered immediately to the requesting hospital to treat this critically ill patient.

For more common medical/surgical supplies, pharmaceuticals, and personal protective equipment, the Wisconsin HPP maintains three strategically located stockpiles which have proven beneficial to hospitals during emergencies, especially during the H1N1 outbreak. Recognizing that replacing expiring supplies – while important for hospitals and their patients – is costly and could be sustained only with Federal preparedness funds, the State HPP sought a long-term solution. All three stockpiles are now in a rotation program which allows the Wisconsin HPP to maintain these supplies while the vendor rotates the products for a sustainable annual management fee.

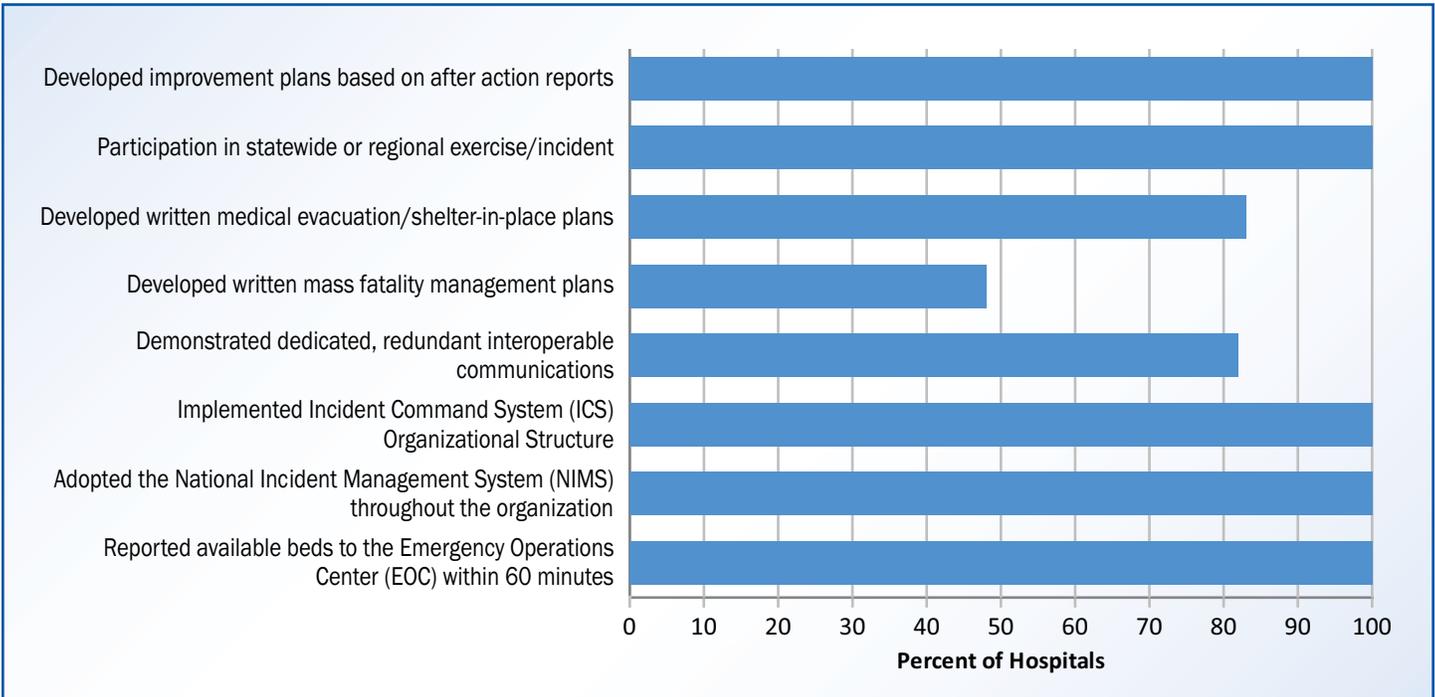
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	82
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	250
Number of 24-hour surge staffed beds per 100,000 population	367
Number of certified trauma centers per 100,000 population	2
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	2589
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	86

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Wyoming Partners for Preparedness

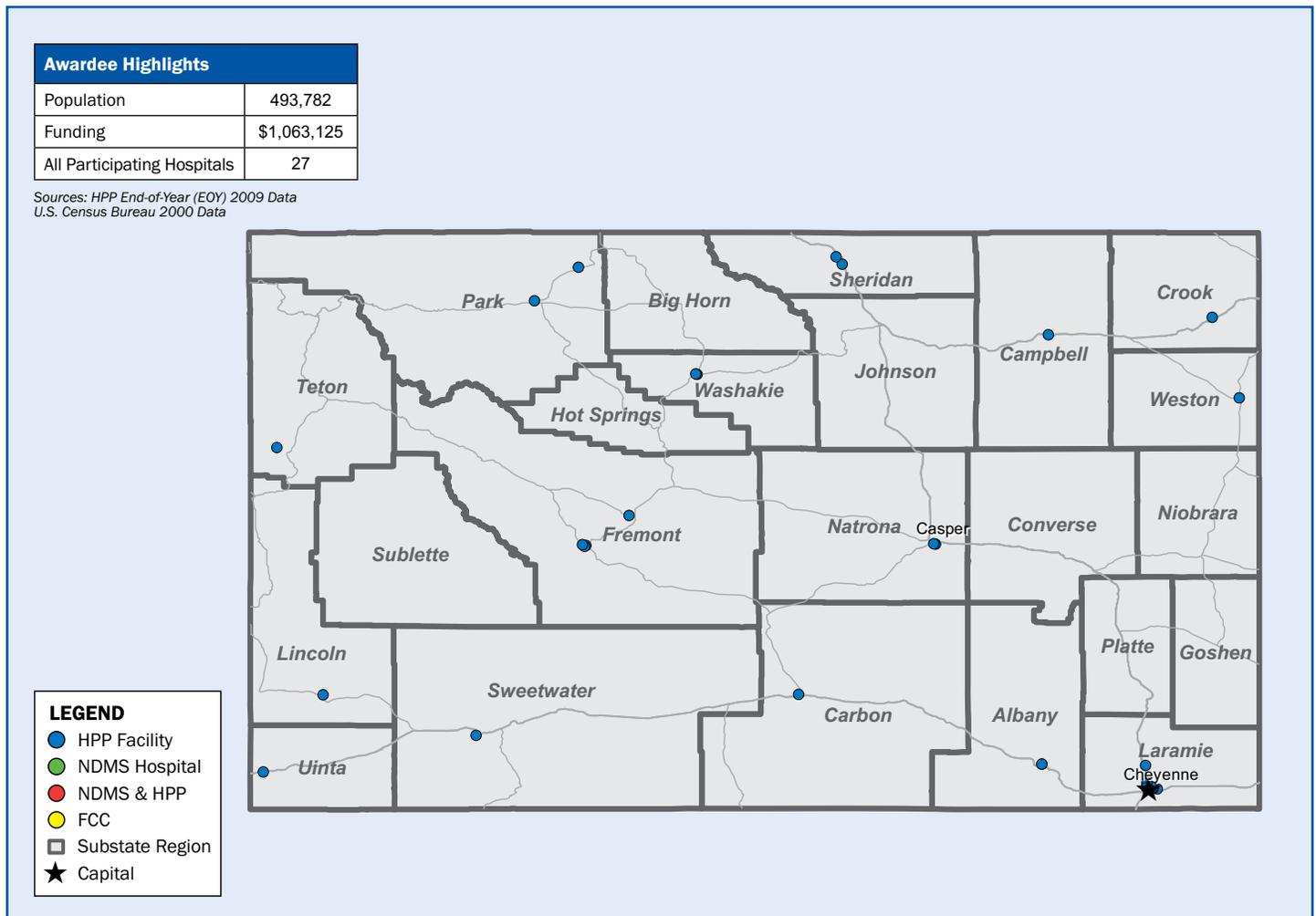
In Wyoming, partnerships promote preparedness and response. To help communities prepare for the worst, Wyoming's Hospital Preparedness Program maintains a strong partnership with the State's Center for Disease Control and Prevention Public Health Emergency Preparedness (PHEP) program to avoid any duplication of effort and to promote a unified "message of preparedness" to hospitals and public health officials. Together they conduct joint planning, exercises, advisory committee meetings, publications, and training. In addition, this partnership supports the preparedness activities of both Wyoming Indian Tribes.

The state Hospital Preparedness Program (HPP) also incorporates the Wyoming Office of Emergency Medical Services, and community ambulance services in planning activities, exercises, drills, training, and resource allocation. Eighty percent of the Wyoming Emergency Medical Services is comprised of volunteers, incorporating EMS into hospital-level preparedness, paramount to patient safety, treatment, and recovery.

As partners, the State HPP and PHEP program dedicated resources and enlisted the help of private providers, University of Wyoming, and consumer groups, as well as State Office of Homeland Security, and the State health department's Developmental Disabilities Division and Aging Division to tackle a difficult issue: supporting residents who are unable to self-evacuate. These partners designed and produced "ready bags" for people unable to self-evacuate, conducted State-wide community meetings, sponsored conferences to address the problem, and promoted inclusion of this population in local, regional, and State-level planning efforts.

The State HPP also formed a partnership to address a need that would arise from a chemical, biological, radiological or nuclear emergency: treating a large number of burn patients. To meet this preparedness need, the program partnered with the Western States Burn Center in Greeley, Colorado, to provide pre-hospital burn treatment training and the Advanced Burn Life Support Course to hospital clinicians and Emergency Medical Technicians. The training that the pre-hospital treatment providers received improves the outcome for burn patients, increasing their chances of reaching stable conditions and recovery.

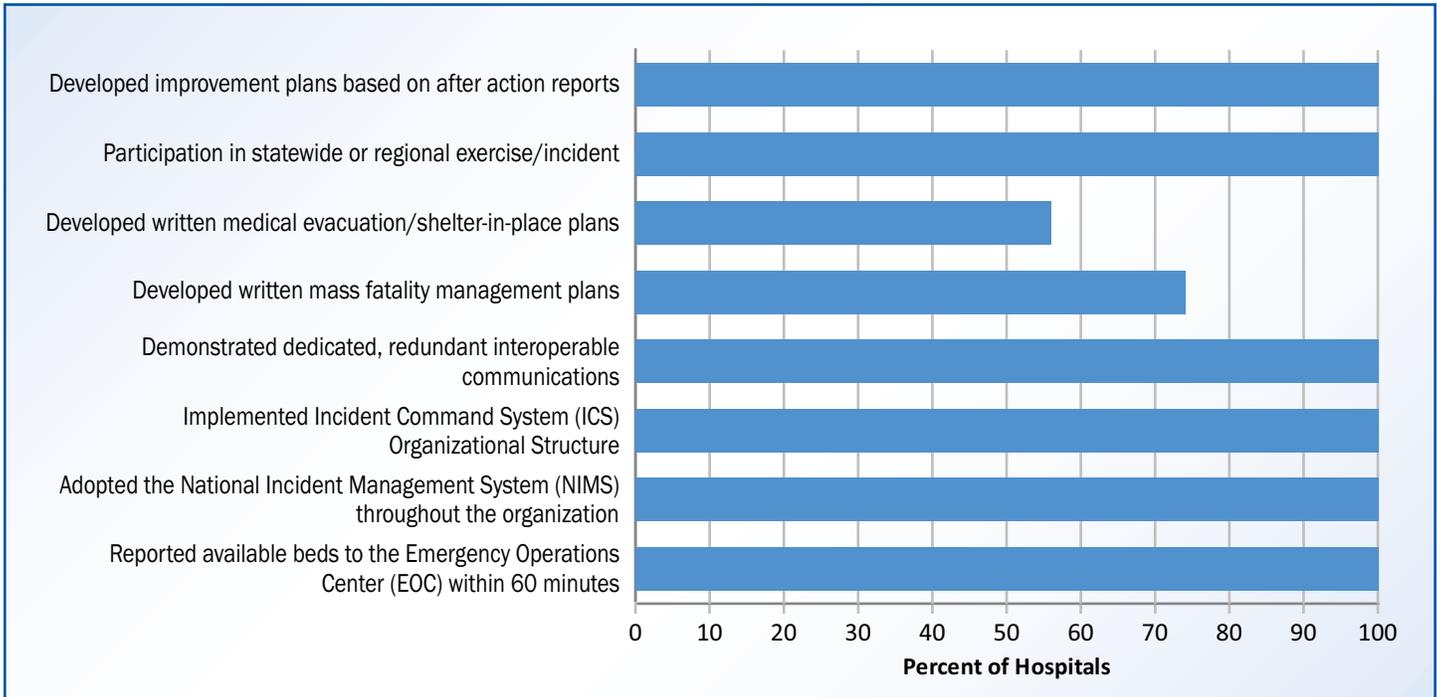
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	85
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	185
Number of 24-hour surge staffed beds per 100,000 population	432
Number of certified trauma centers per 100,000 population	6
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	178
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	197

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Successful H1N1 Campaign through DMAT Support

American Samoa is located in the Southern Hemisphere where rapid laboratory confirmation of the novel H1N1 influenza virus was unavailable and the true degree of disease spread could not be detected. So it was vital to provide vaccine coverage to the priority population groups during the early stages of the flu season.

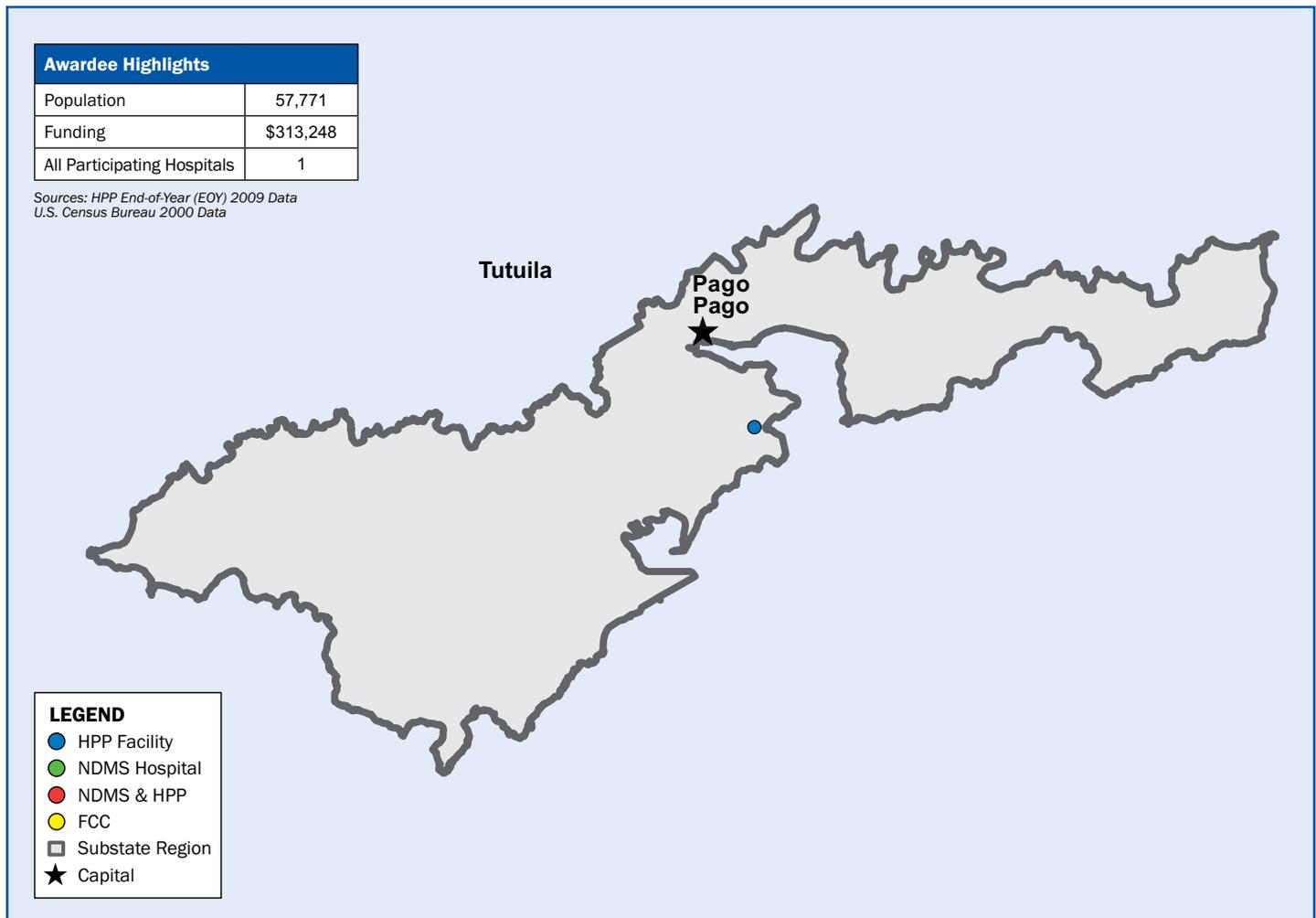
In September 2009 as the territory prepared for a massive vaccination campaign, a tsunami hit American Samoa, and the public health and medical community immediately shifted focus to respond and recover from the destruction and mayhem brought by the storm. The combined medical personnel from territory's lone hospital, LBJ Hospital, and the Department of Health were not enough to take on a vaccination campaign, let alone a vaccination campaign and natural disaster response.

Through the Hospital Preparedness Program (HPP), the Department of Health reached out to a potential partner: the National Disaster Medical System (NDMS). Two NDMS Disaster Medical Assistance Teams with 13 members were on the ground helping the territory respond to medical needs in the aftermath of the tsunami. Perhaps these same teams could provide support for the American Samoa H1N1 vaccination campaign. They did.

As American Samoans recovered from the tsunami, many sought H1N1 vaccine. The U.S. Centers for Disease Control and Prevention allocated 32,000 vaccine doses — pre-filled syringes, nasal sprays, and multi-dose vials — to American Samoa, which the territory received in increments. In assessing the available quantities of the vaccine, American Samoa followed the recommendations of the Advisory Committee on Immunization Practices, targeting pregnant women as well as children and young adults between six months and 24-years old, and medical providers.

The territory-DMAT partnership provided 12,000 vaccinations across the territory — almost a quarter of the population. Of these, approximately 1,500 doses were administered during two Saturday clinics and 9,700 doses were administered at schools, with the remainder administered in community health centers. Of the initial target groups for H1N1 vaccine, American Samoa achieved 53 percent of high school students and 64 percent of elementary school children. According to the Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report, what took 12 days to achieve in American Samoa — thanks to a HPP partnership — took three months to achieve the same levels of vaccination coverage in the mainland U.S.

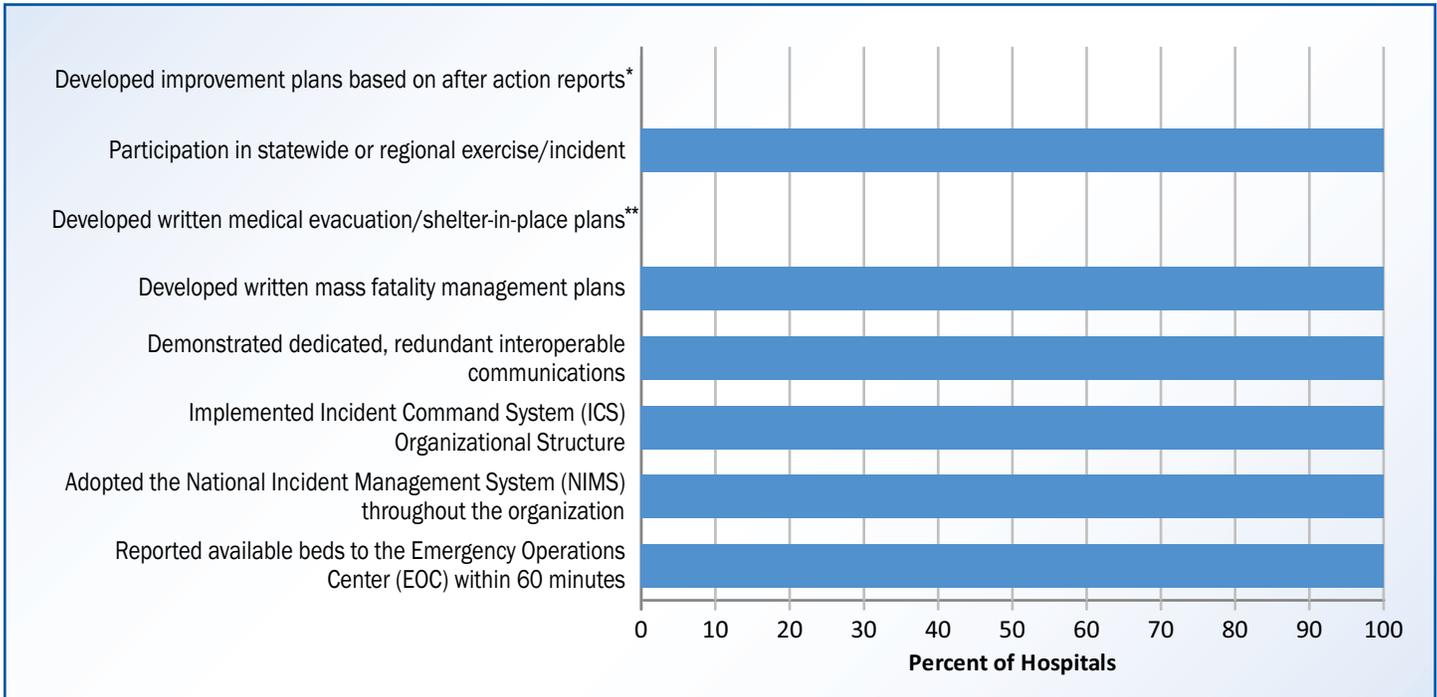
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



\*First improvement plan projected in FY10  
 \*\*Drafted but not signed

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	260
Number of 24-hour surge staffed beds per 100,000 population	438
Number of certified trauma centers per 100,000 population	0
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP volunteers*	N/A
Time required to report a verified list of available volunteer health professionals ready for deployment*	N/A
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	0
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	450

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) Implementation is in Progress

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## Continuous Preparedness Efforts for Guam's Only Civilian Hospital

The Guam Memorial Hospital Authority, a 158 bed acute care hospital, is Guam's only civilian hospital for a *current* population of approximately 180,000. Therefore, hospital officials are constantly preparing the hospital and its skilled nursing facility for all hazards, natural and man-made.

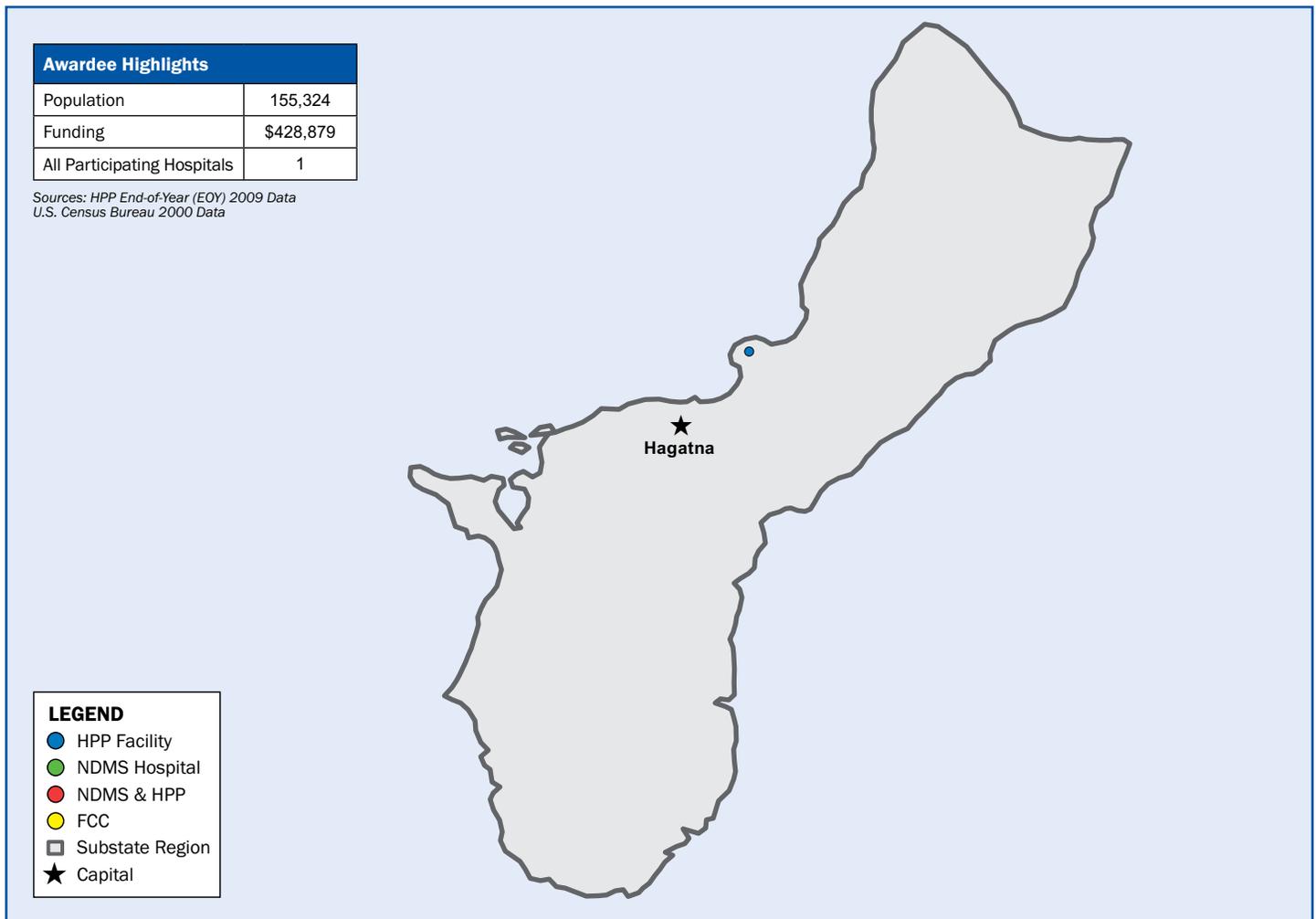
The hospital's last Hazard and Vulnerability Assessment, conducted in February 2010, assisted team members in the facility's Emergency Operations Center (EOC) in further refining all eight EOC management plans. The assessment identified pandemic influenza, drought, and tropical cyclones as the top three naturally occurring hazards and the greatest threats. Guam has experienced several typhoons and super typhoons in recent history, and the hospital is located on the coast. Technological hazards, human hazards, and hazardous materials also ranked as high-risk threats to the island.

In response to the assessment and to improve its emergency operations plans, hospital-wide emergency management planners focused heavily on further developing and testing the organization's mass casualty plan in the first half of 2010 (Exercise Mane'lu), and on its

hospital pandemic influenza plan in the second half of 2010 (Exercise Vigilant Guard). The evaluation of each full-scale exercise was incorporated into appropriate after action reports. Corrective action plans were developed and partially implemented to resolve identified weaknesses. These mitigation strategies were also incorporated into the organization's Performance Improvement Program to monitor timely resolution of all deficiencies.

The hospital also participates in cooperative planning with community emergency management organizations, such as the Guam Pan Flu Taskforce, Guam Homeland Defense, and the Department of Public Health, to communicate the hospital's vulnerabilities and needs. This collaborative planning also helps the hospital assess the community's ability to assist the hospital in preparing for disasters as well as responding to disasters and mitigating the impact, and recovering from emergencies. To test these partnerships and capabilities, in 2010 alone the hospital coordinated and/or participated in 58 emergency management-related training programs and conferences, as well as two community-wide full scale exercises.

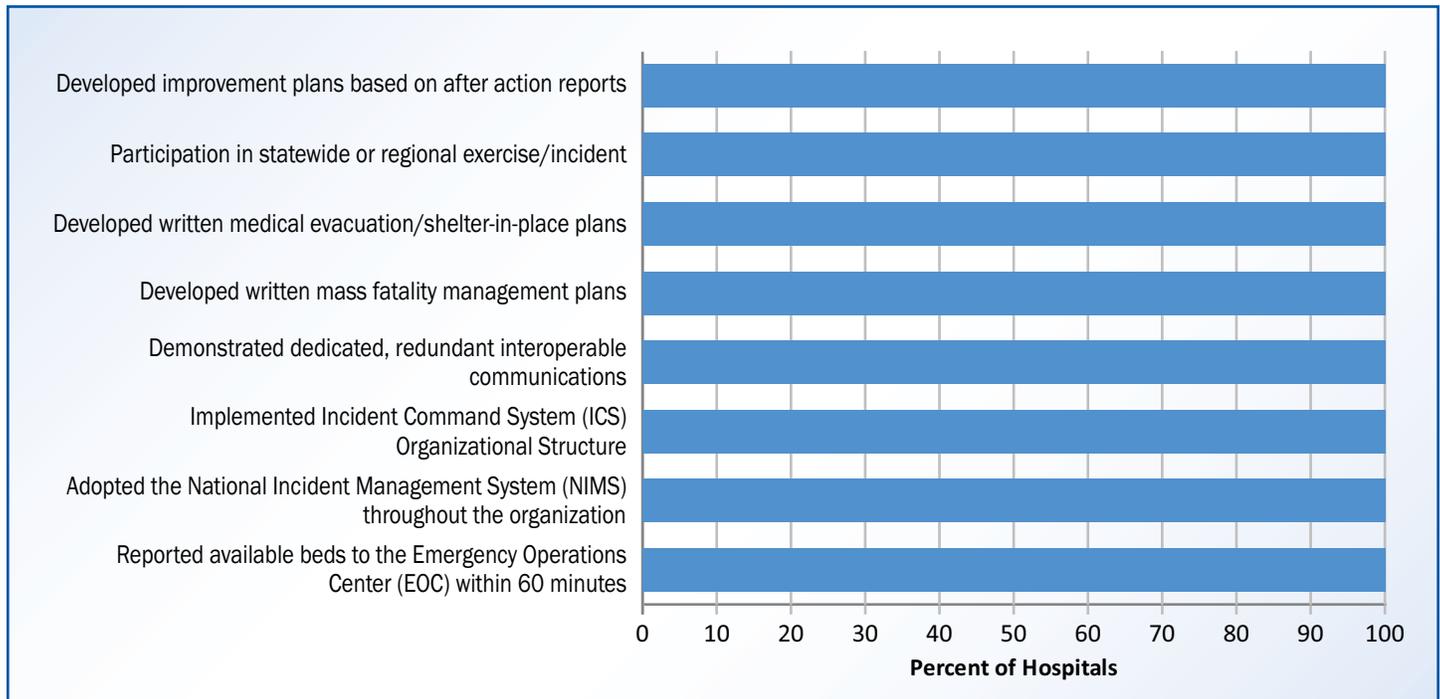
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	102
Number of 24-hour surge staffed beds per 100,000 population	203
Number of certified trauma centers per 100,000 population	0
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	13
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	193

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Republic of the Marshall Islands

## *Environmentally Conscious Preparedness Efforts*

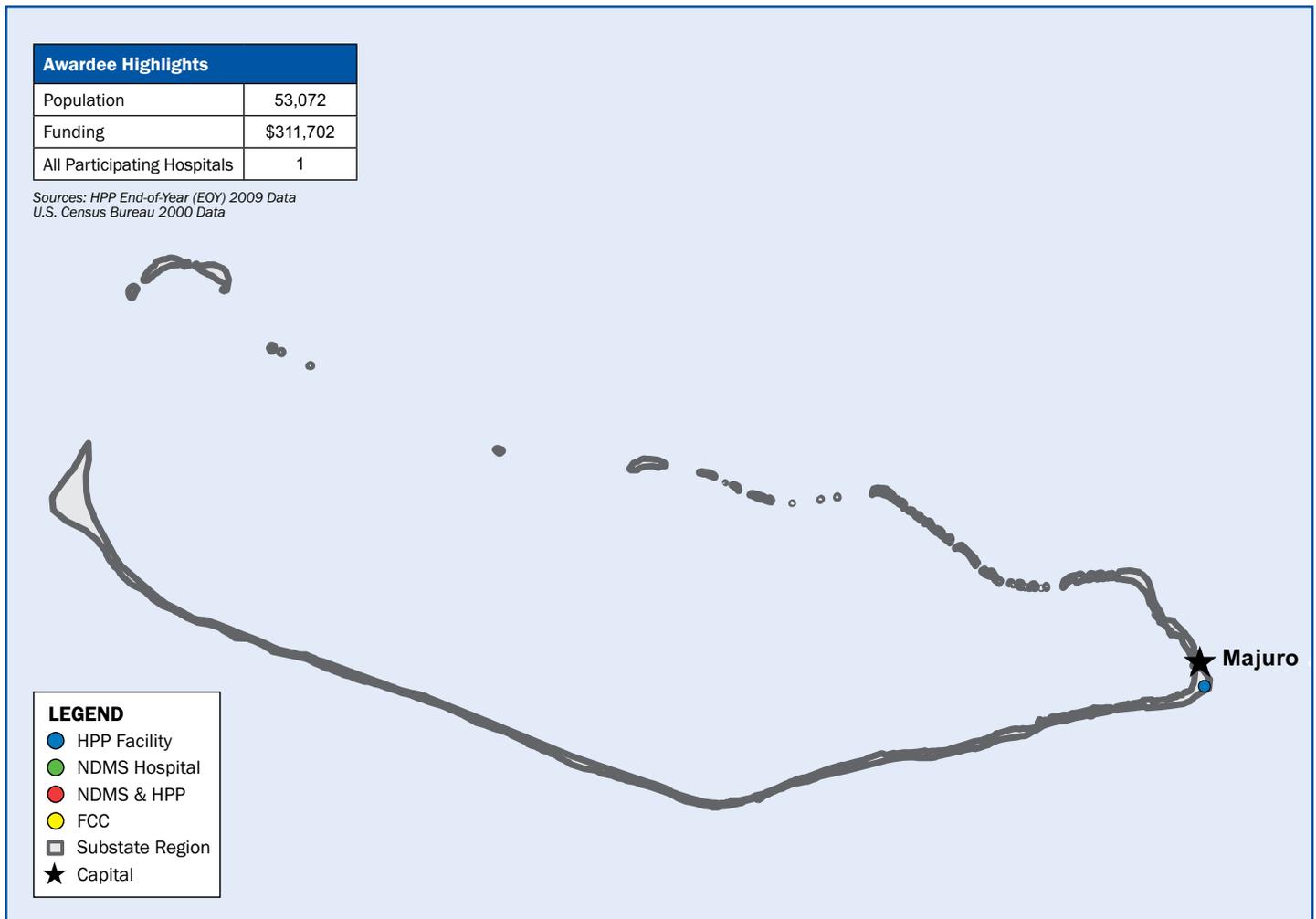
The Marshall Islands is a country made up of 1,225 small islands spread out in two chains of 29 low-lying atolls located over 750,000 square miles in the Pacific. Its neighbors include Hawaii, Japan, the Philippines, and other islands. Due to the geographic layout of the many island chains that make up the Republic of Marshall Islands, communication has been one of the most difficult preparedness areas for the Ministry of Health to address.

Fifty-four health clinics sprinkled across the many different atolls and islets, and one public hospital on Majuro atoll, serve the country's entire *current* population of 67,000. The hospital and the Ministry of Health need to communicate with the outer islands regularly, as well as in the event of a disaster. Recent ring-of-fire events (earthquakes, volcanic eruptions, and tsunamis), pandemics and other disease outbreaks, as well as increased storm activity within the region, have brought the importance of communications to the forefront for this nation.

Furthermore, rising sea levels and drought threaten these low-lying atolls, and environmental responsibility is an essential mindset for the people of the Marshall Islands. The Ministry of Health has combined the need for communications, the lack of reliable electrical power, and environmental consciousness to create a series of solar communications networks with its health centers and hospital through Hospital Preparedness Program funding. Data and voice communication via solar radios is one of the Marshall Islands' biggest achievements, and was of substantial help during the pandemic response in 2010. This communication was also essential in relaying tsunami warnings across the nation following the massive earthquake in Japan.

The Republic of Marshall Islands seeks to prepare for emergencies while remaining environmentally conscious in its preparedness efforts. They are leading the way in solar alternatives and sustainability in their preparedness response efforts.

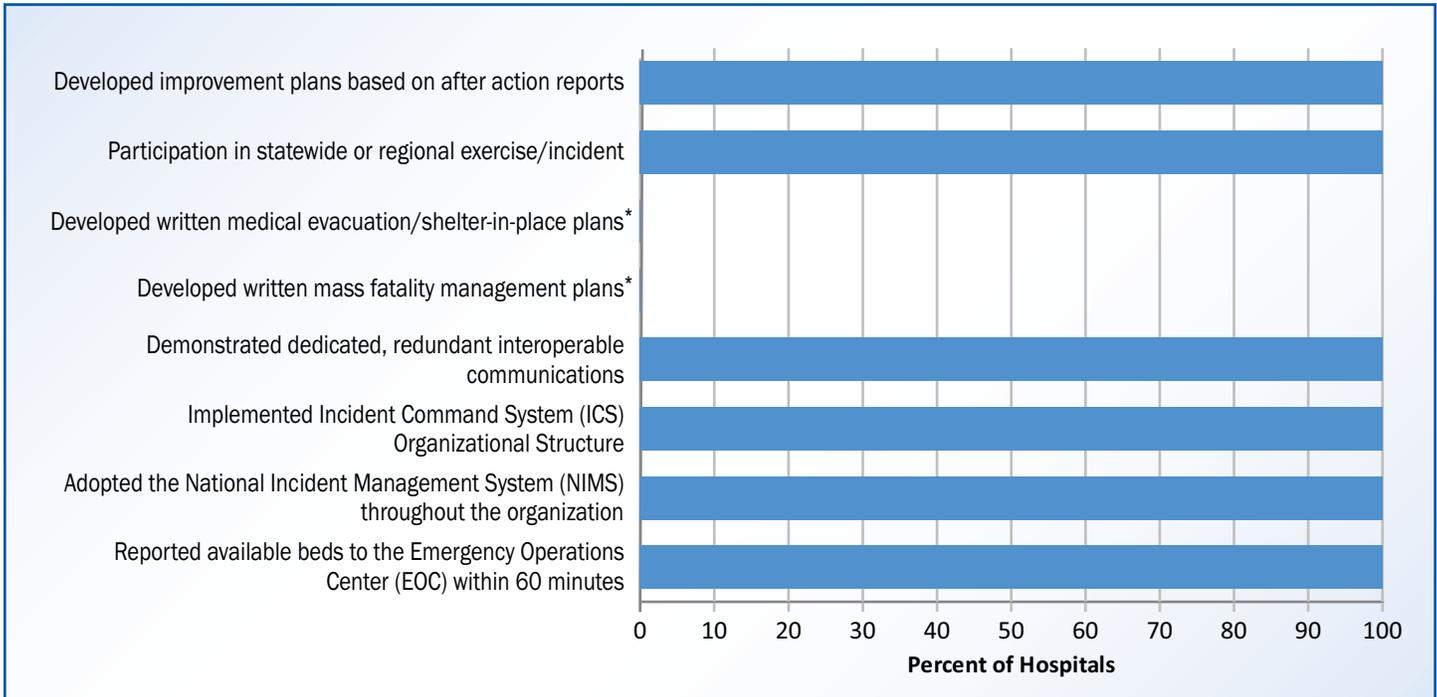
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



\*Drafted but not signed

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	170
Number of 24-hour surge staffed beds per 100,000 population	217
Number of certified trauma centers per 100,000 population	0
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	297
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	33
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	942

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

# Federated States of Micronesia

## *Islands Prone to Disasters Emphasizes Community Resiliency*

The geographical distance among the 607 western Pacific islands that make up the Federated States of Micronesia is a huge obstacle to communications and transportation in any emergency response yet the islands' tropical climate and geography put the territory at high risk for natural disasters.

An annual rainfall of up to 330 inches causes mud slides and quickly deteriorates homes. Drought conditions cause groundwater supplies to dwindle to emergency levels. Tropical typhoons and tsunamis threaten the territory annually. With a GDP of approximately 1,500 dollars per capita, the territory relies on a subsistence economy.

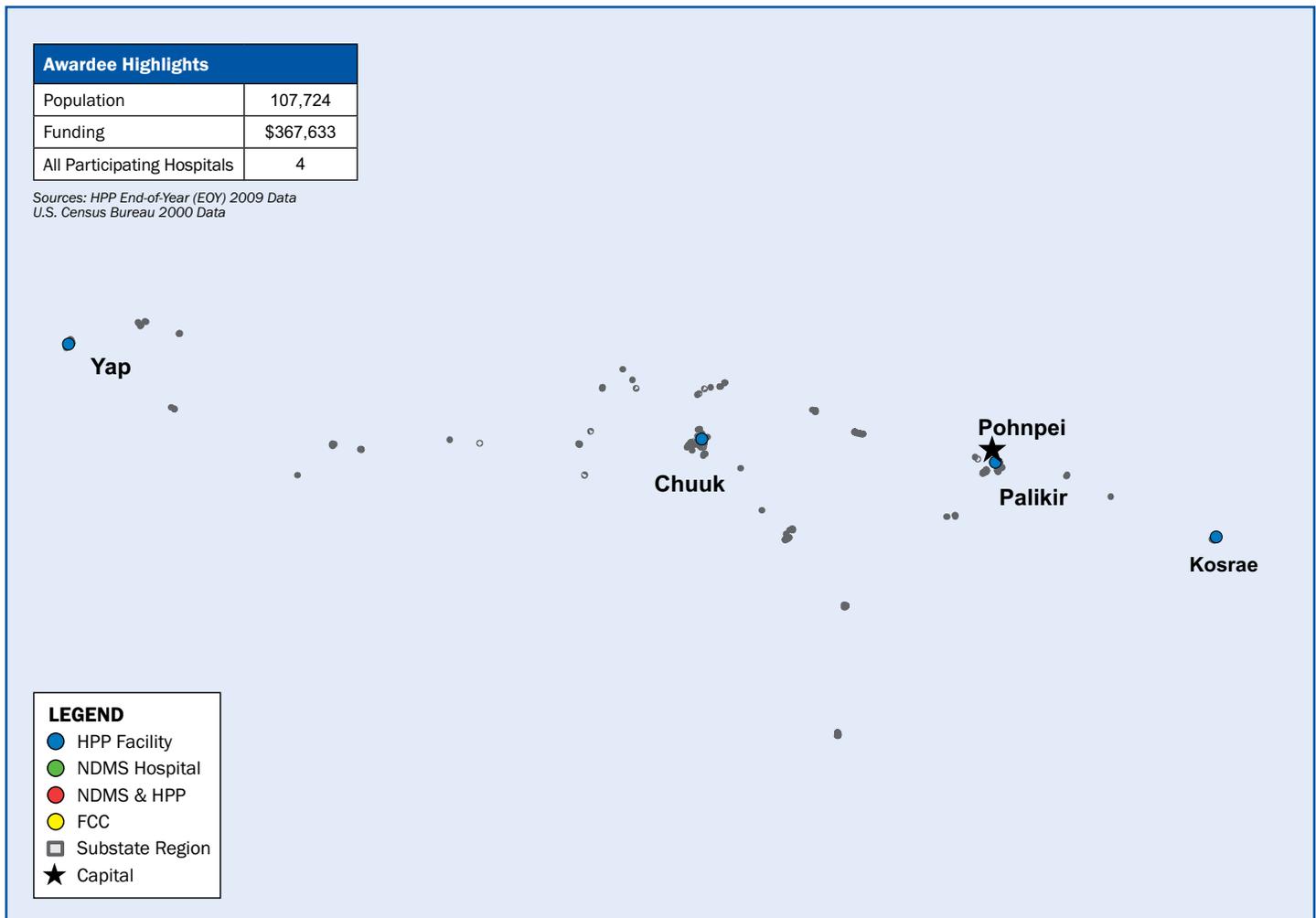
In this environment, preparedness is focused at the community level and is fused with traditional practices. The close-knit communities and strong extended family system support islanders' resilience. The success of this traditional system was demonstrated in the territory's success in the H1N1 vaccination campaign. In that campaign, more

than 50 percent of the population chose to be vaccinated against the 2009 H1N1 influenza in 2009-2010.

The territory highlights this culture and promotes traditional response skills during their annual Public Health and Hospital Emergency Preparedness Summit. The summit brings together government and traditional leaders to share experiences and best practices.

Through exercises and drills, more attention is now given to preparedness and islanders hold a greater understanding of how to mitigate and prepare for disasters and emergency events. Daily communications among hospitals and public health systems, especially on remote and outer islands, is now reliable. Each State has alternate care site tents and cots for its hospital as a backup in case of evacuation. The territory also now has a small cache of personal protective equipment, laboratory test kits and antibiotics for use before assistance arrives.

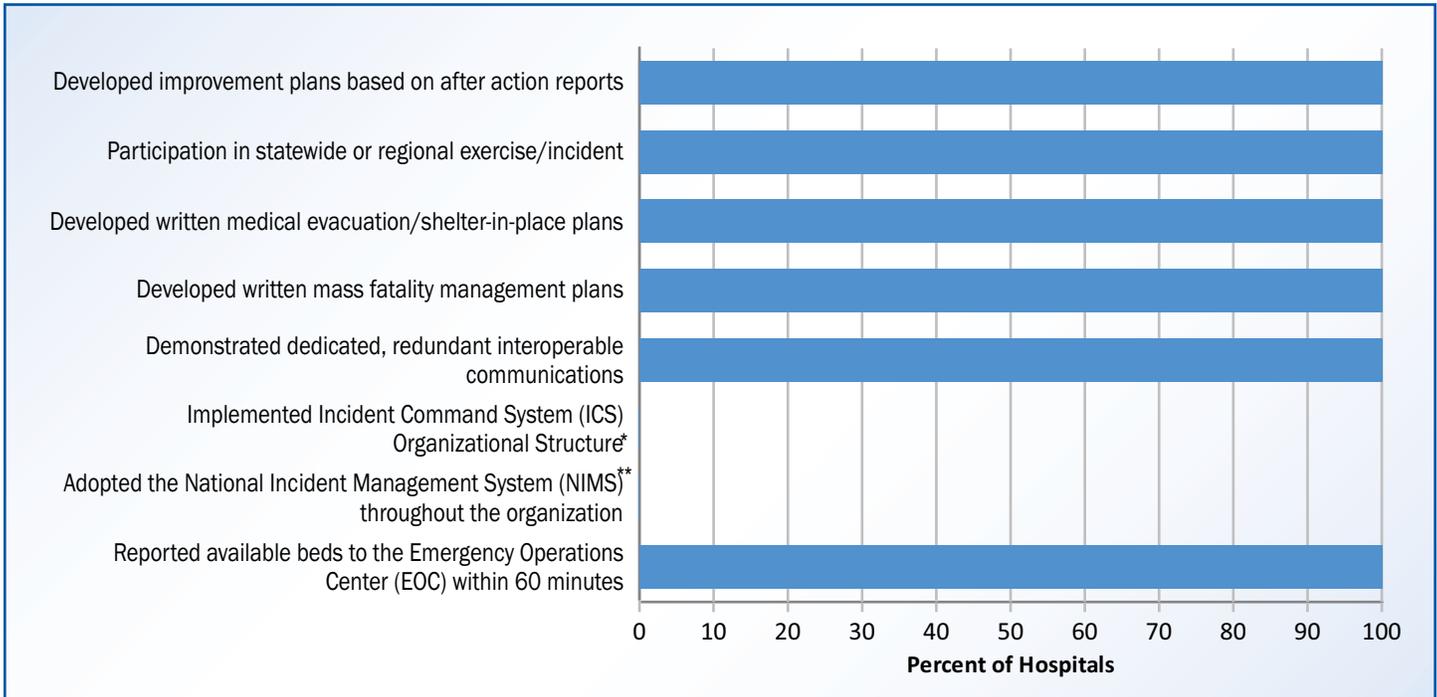
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



\*The Incident Command Structure (ICS) is based on FEMA's guidance but does not meet NIMS Requirements because FSM is an independent nation.

\*\*The National Incident Management System (NIMS) was not adopted because FSM is an independent nation with a different organizational structure.

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	358
Number of 24-hour surge staffed beds per 100,000 population	486
Number of certified trauma centers per 100,000 population	0
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	850
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	0
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	95

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

## *CNMI Address Preparedness Strategically with Diminishing Funds*

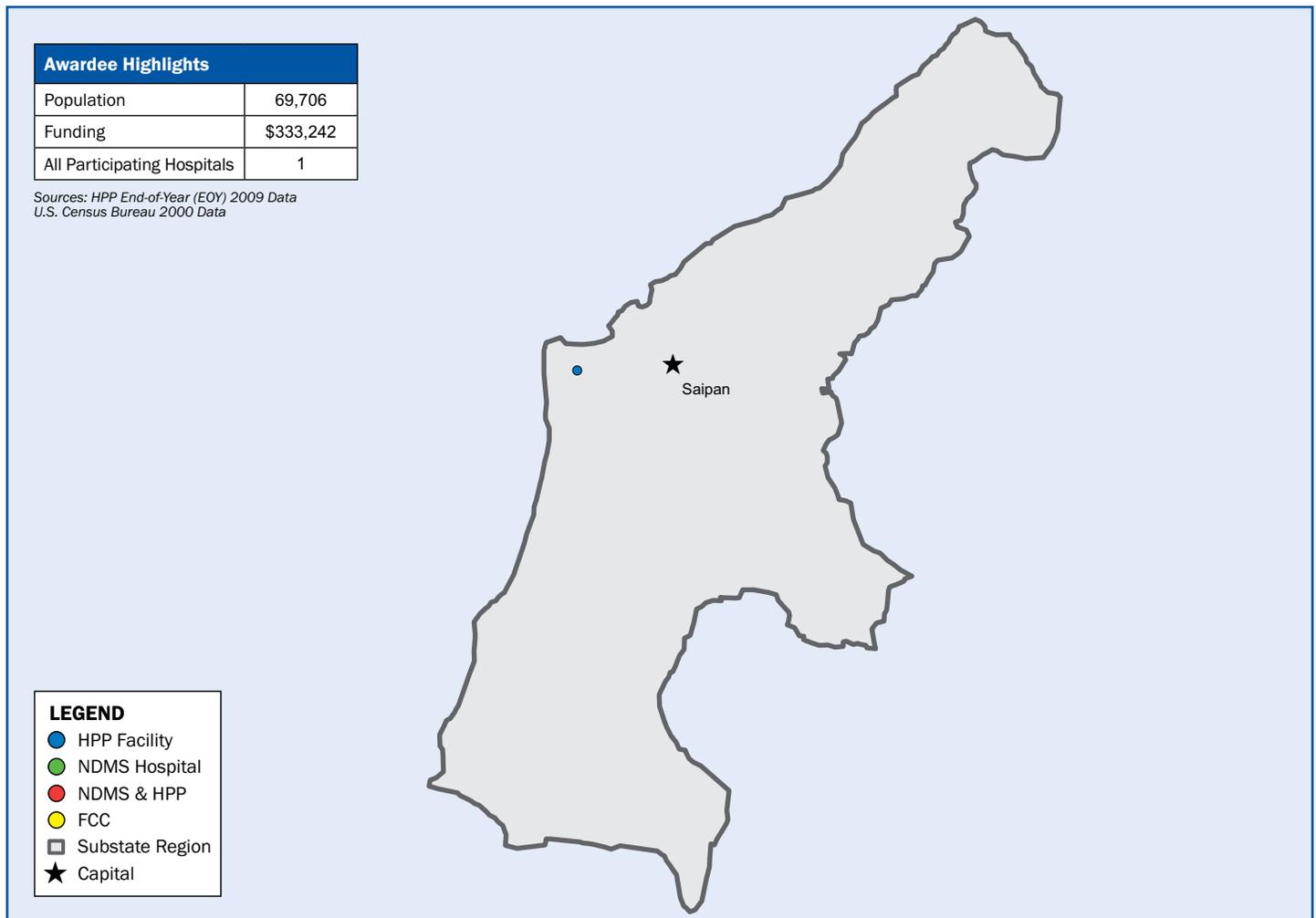
With Federal assistance and partnerships, Commonwealth of the Northern Marianas Islands (CNMI) continues to build local capacity for emergency response.

Being along the flight patterns of birds from Asia, CNMI must continually monitor avian influenza. Last year the health department staff delivered a record 4,500 doses of flu vaccine to residents of the CNMI through the innovative Kung Flu campaign throughout the schools and communities. Yet – perhaps more importantly – the department prepared medical teams and residents for emergencies that might require life-saving vaccinations and/or mass prophylaxis through mass dispensing exercises. New health and infectious disease data collec-

tion capacity, with new syndromic surveillance equipment and staff, are planned for 2011.

CNMI's single hospital, the Commonwealth Health Center is classified by the Homeland Security Office as a critical asset. Therefore, the hospital partners with law enforcement on critical infrastructure protection mitigation projects which are essential to island preparedness. Video surveillance, perimeter fencing around the hospital campus and improved internal access controls has helped with security at the hospital. The hospital and department of health partnered on a communication system which allows communications with emergency responders in real time without interruption.

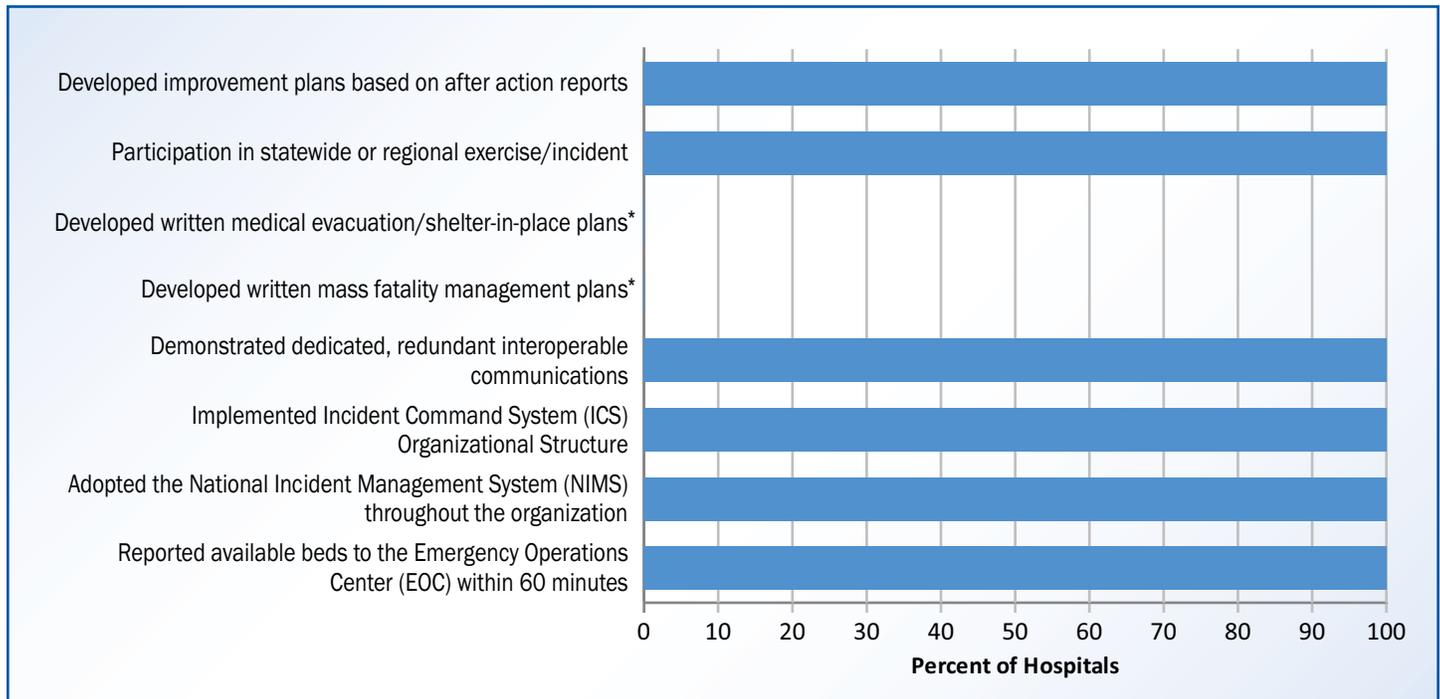
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



\*Drafted but not signed

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	123
Number of 24-hour surge staffed beds per 100,000 population	123
Number of certified trauma centers per 100,000 population	0
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP volunteers*	N/A
Time required to report a verified list of available volunteer health professionals ready for deployment*	N/A
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	33
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	72

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) Implementations is in Progress.

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Palau Makes Big Strides in Preparedness

Over the past three years, Palau has witnessed tremendous improvements in its sole hospital, Belau National Hospital, through assistance garnered via the Hospital Preparedness Program (HPP). The procurement of much needed medical supplies and upgraded equipment improved the capability of Belau National Hospital to respond to daily medical surge. The revision and evaluation of evacuation plans provided Ministry of Health leadership a greater understanding of the hospital's capacity, critical information for the territory's crisis response.

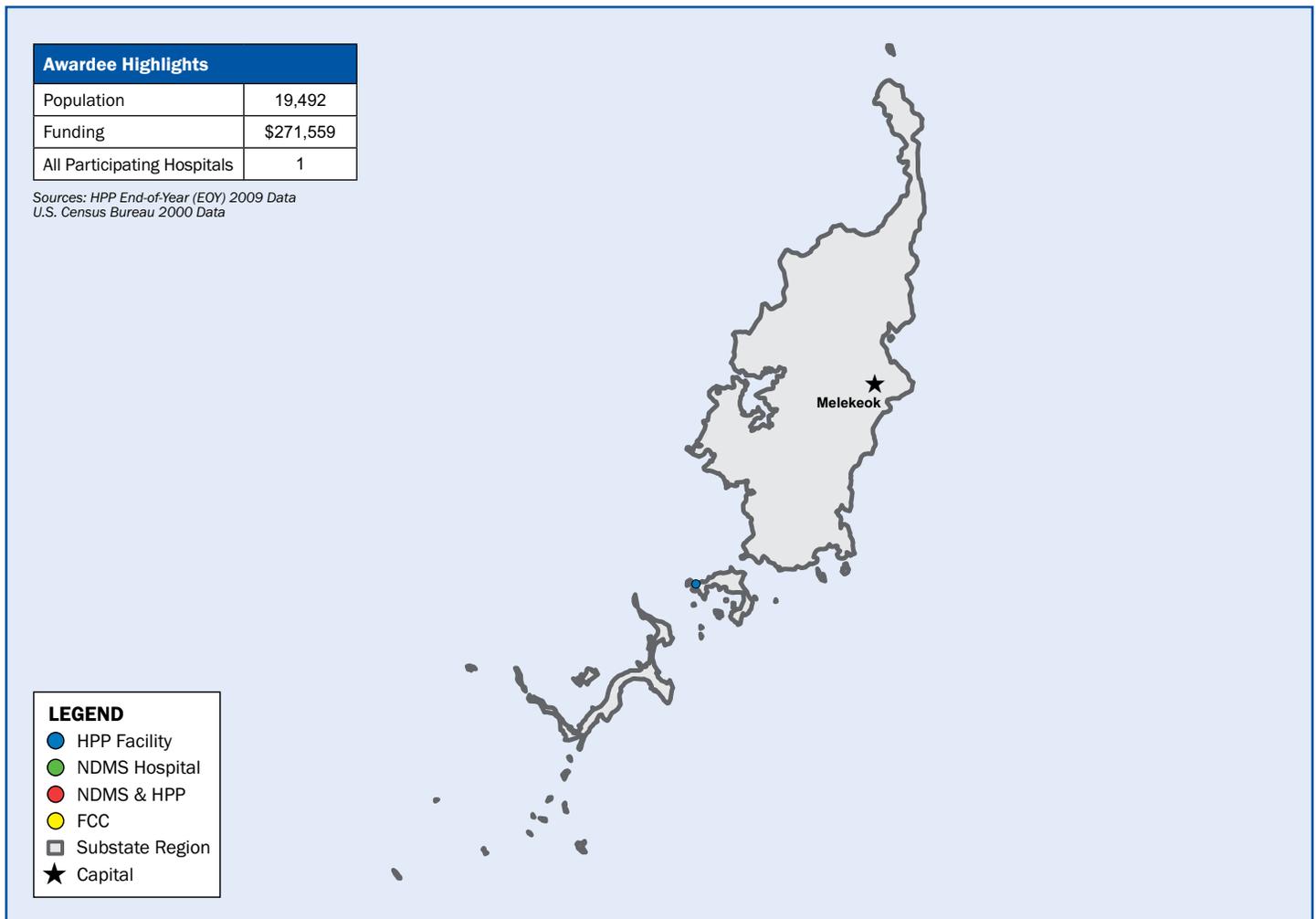
In 2008 new hardware was obtained through HPP, including new handheld radio transmitters and repeaters that were strategically placed throughout the archipelago of Palau to ensure effective interoperable communications with first responders and partner agencies. This communication channel also proved beneficial in connecting the medical dispensaries in other states and the ambulance/EMTs to the emergency room at the Belau National Hospital.

During the response to the 2009 H1N1 epidemic, the Belau National Hospital revised, evaluated, and improved its standard operating pro-

cedures to ensure prevention of an outbreak within the hospital. This included stringent visitation hours and a single point of entry into and out of the hospital. Infection Control provided rigorous surveillance at the wards, the alternative care site, and the point of entry to the hospital. Personal protective equipment and supplies procured during the outbreak were instrumental in outbreak prevention at the hospital as well as at the various points of entry into Palau. Infection Control also provided considerable training to all clinical and allied health workers during the worldwide outbreak.

At the moment, the Belau National Hospital's fatality management plan is under revision and once finalized, will further enhance the hospital's preparedness status. In addition, ongoing HPP-funded training and continuing medical education for healthcare providers on Basic Life Support, CPR/AED, HAZMAT, Decontamination, Basic Trauma Life Support, and Advanced Cardiac Life Support, ensure the preservation and improvement of patient care standards on a daily basis as well as during disasters.

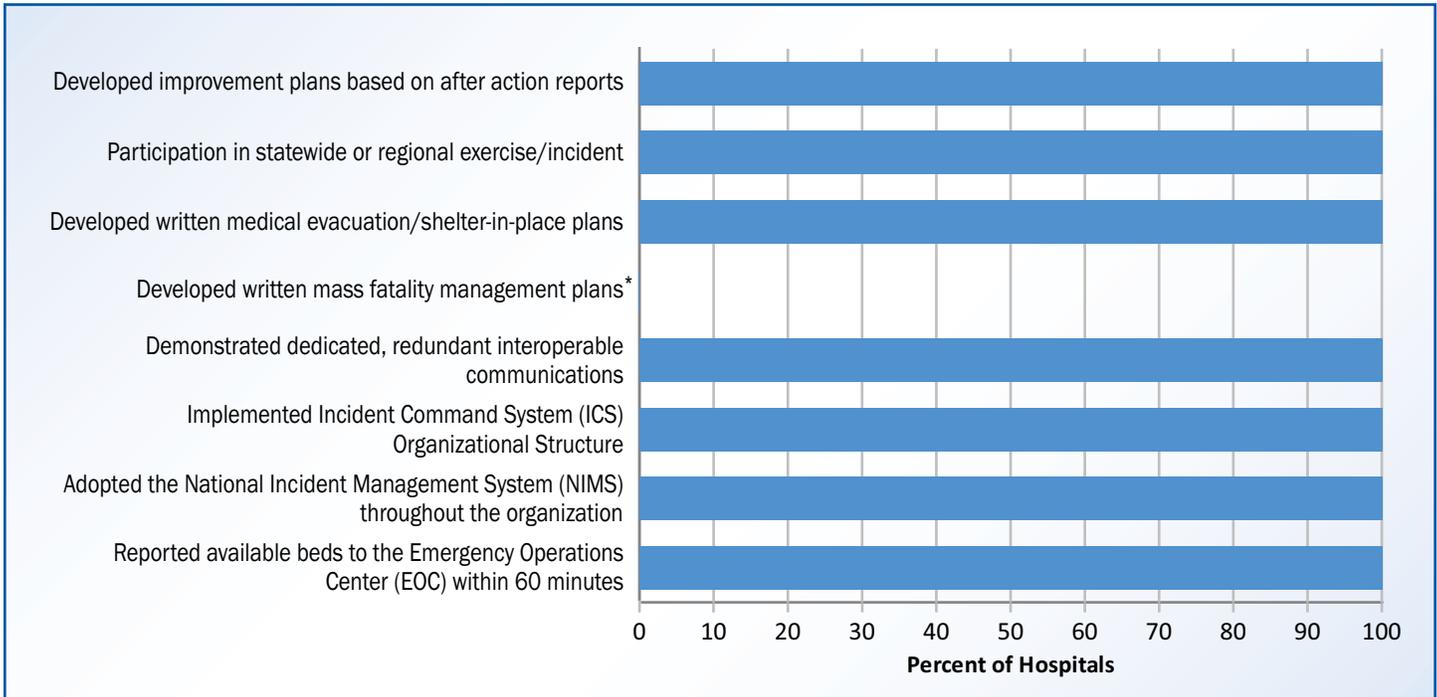
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



\*Drafted but not signed

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	100
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
Surge Capacity	
Number of staffed beds per 100,000 population	503
Number of 24-hour surge staffed beds per 100,000 population	575
Number of certified trauma centers per 100,000 population	0
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP* volunteers	200
Time required to report a verified list of available volunteer health professionals ready for deployment	12-24 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	6
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	308

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information

# Preparedness Efforts Pay Off During Massive Refinery Explosion

On October 23, 2009 a malfunction occurred in one of the fuel tanks at the Capeco gasoline refinery and storage facility. The resulting explosion caused a 2.8 earthquake and ignited 21 gasoline storage tanks.

Fortunately, no deaths occurred during this event, but a massive smoke column covered nearby communities and the pipeline fuel transfer system released a considerable amount of petroleum material. The fire that followed the explosion lasted three days.

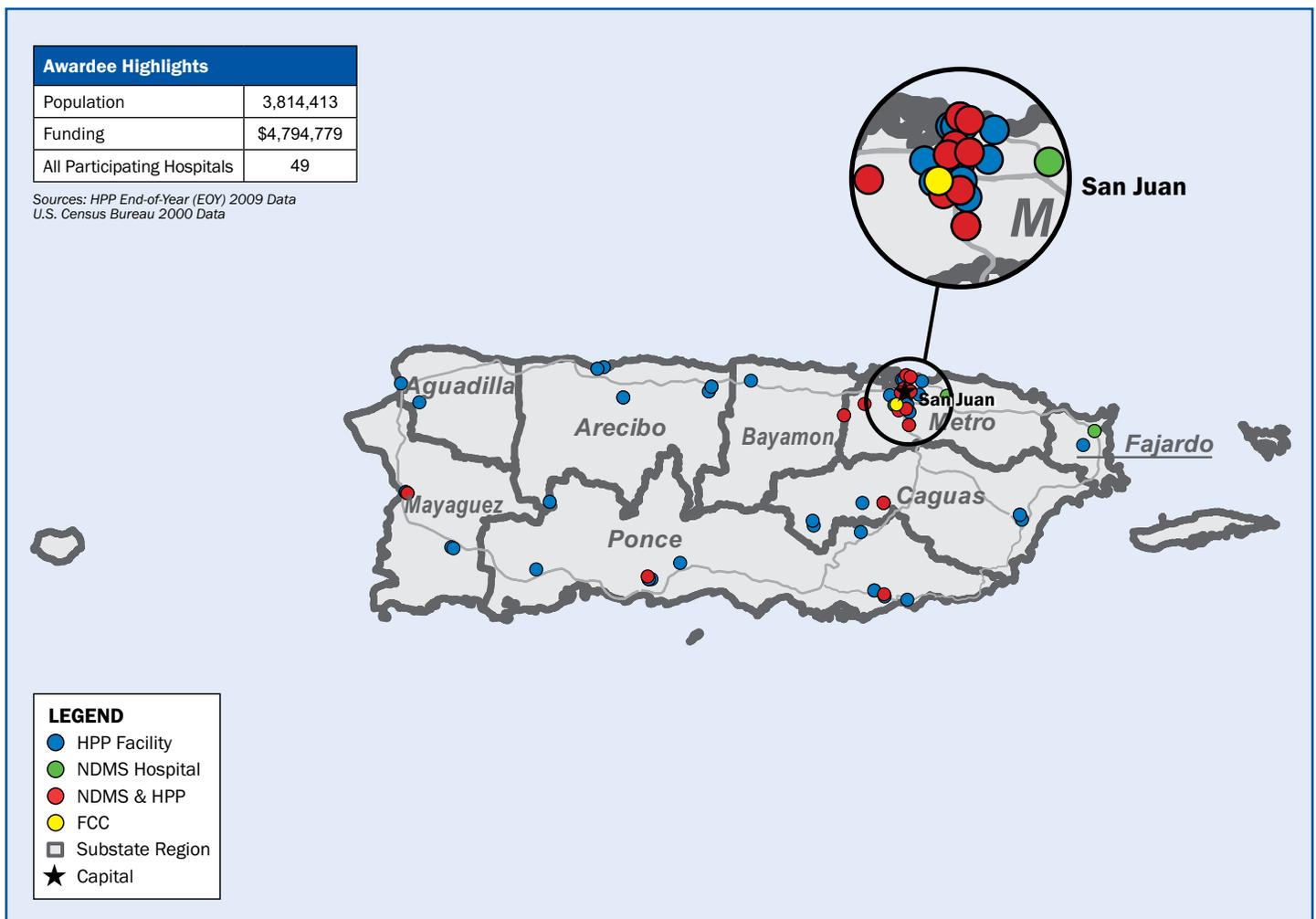
Hospital Preparedness Program (HPP) funds provided the interoperable communication systems, HAvBED, and personal protection equipment (PPE) used in coordinated response to this event. Using interoperable communication equipment, participating hospitals quickly communicated with the Puerto Rico HPP to provide HAvBED reports daily on the number of available hospital beds. In addition, the PPE cache was used to aid first responders working in the surrounding areas.

Likewise, HPP provided crucial assistance in preparation and response during the H1N1 crisis. Increasing influenza vaccination rates has always been a great challenge in Puerto Rico as only five percent of the population gets vaccinations yearly.

During this crisis, the territory signed 30 Memoranda of Understanding with participating hospitals to mobilize nurses, vaccines, and promotional materials during a five-day mass vaccination effort. As a result of these activities, a total of 50 percent of the hospital workforce and 15 percent of the general population – triple the annual number – were vaccinated against H1N1, reducing the spread of the disease and potentially saving lives.

With HPP funds the territory also increased surge capacity in trauma centers and improved the Critical Infrastructure Protection. Puerto Rico has a trauma center where surge capacity has nearly doubled as a result of HPP efforts, and critical infrastructure improvements have increased surge capacity in 10 hospital facilities, better preparing the territory for disaster.

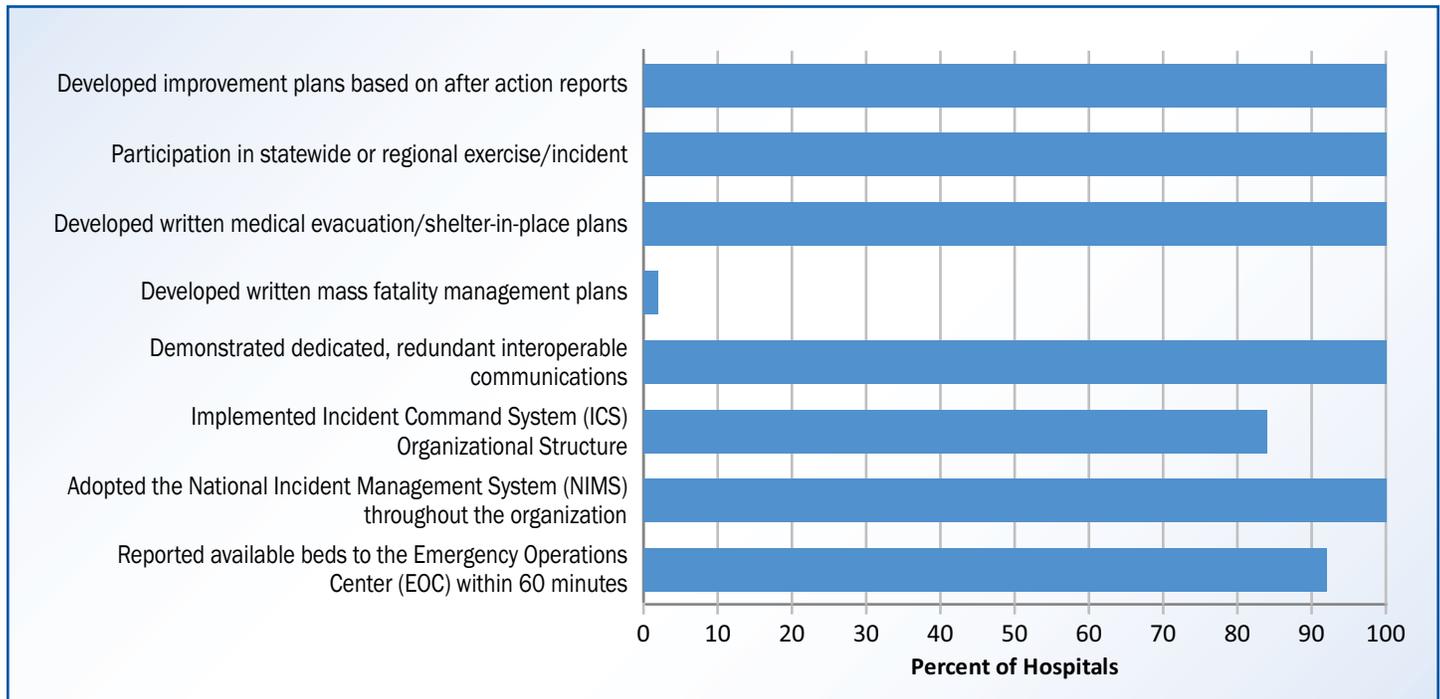
## HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



**HPP Participating Hospitals Preparedness Outcomes (EOY 2009)**



Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
State Reported Data and Information

**HPP Response Capacities and Capabilities (EOY 2009)**

<b>Dedicated Communication Capability</b>	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	57
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	Yes
<b>Surge Capacity</b>	
Number of staffed beds per 100,000 population	248
Number of 24-hour surge staffed beds per 100,000 population	297
Number of certified trauma centers per 100,000 population	0
<b>Disaster and Mass Casualty Incident Capacity</b>	
Number of registered ESAR-VHP* volunteers	51
Time required to report a verified list of available volunteer health professionals ready for deployment	1-6 hrs
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	100
<b>Decontamination</b>	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	45

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)

Sources: HPP End-of-Year (EOY) 2009 Data  
U.S. Census Bureau 2000 Data  
HPP Awardee Reported Data and Information

## Meeting the Unique Needs of an Island Region

The U.S. Virgin Islands has only two hospitals, one on St. Thomas and the other on St. Croix, and three community health clinics located throughout the territory. Hospital Preparedness Program (HPP) funds helped prepare and equip these healthcare facilities for the 2009 H1N1 influenza pandemic.

In the event of public health emergencies such as H1N1 influenza, preparedness is critical to this island territory because of geographical challenges in maintaining communication systems and transporting patients from island to island.

The U.S. Virgin Islands Department of Health monitored healthcare facilities for the number of persons presenting with influenza-like symptoms and also maintained an inventory of available personal protective equipment and supplies.

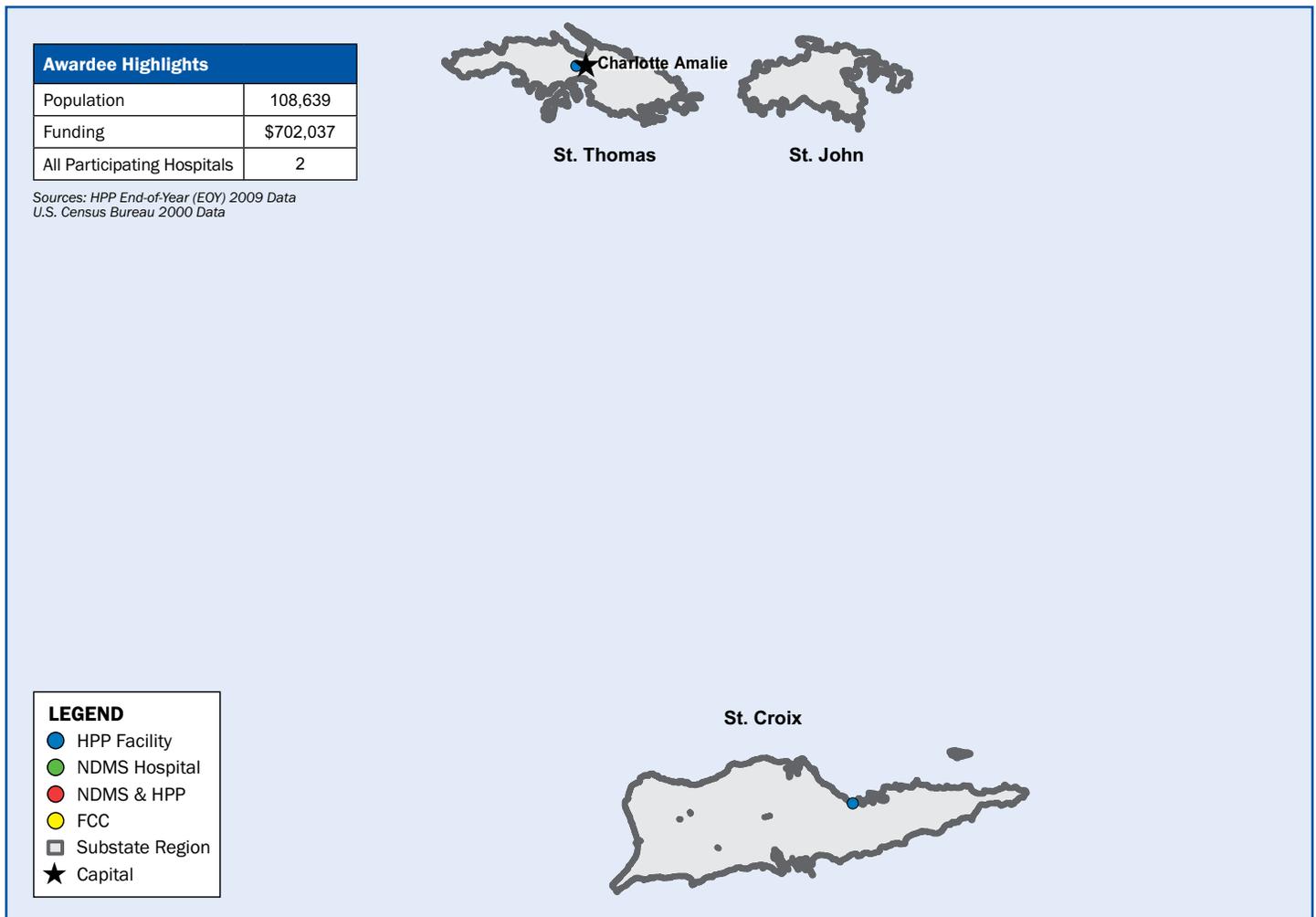
The Department of Health worked closely with the hospitals to monitor the progression of the H1N1 virus. Daily conference calls provided

updates on the number of cases reported and the number of vaccines given.

Emergency Coordinators from the U.S. Virgin Islands Department of Health, healthcare facilities, and the Virgin Islands Territorial Emergency Management Agency developed strategies to keep the stakeholders engaged in emergency planning efforts as well as identified planning needs specific to the islands. Every hospital in the U.S. Virgin Islands developed mass fatality and evacuation plans.

In addition, personal protective equipment such as masks, gowns, and gloves were purchased with HPP funds for the participating hospitals. When the World Health Organization declared the pandemic over, the U.S. Virgin Islands had reported approximately 80 cases and one death. While public health officials and medical providers want those numbers to be zero, the number of cases and deaths could have been much worse had hospitals and public health officials not been prepared.

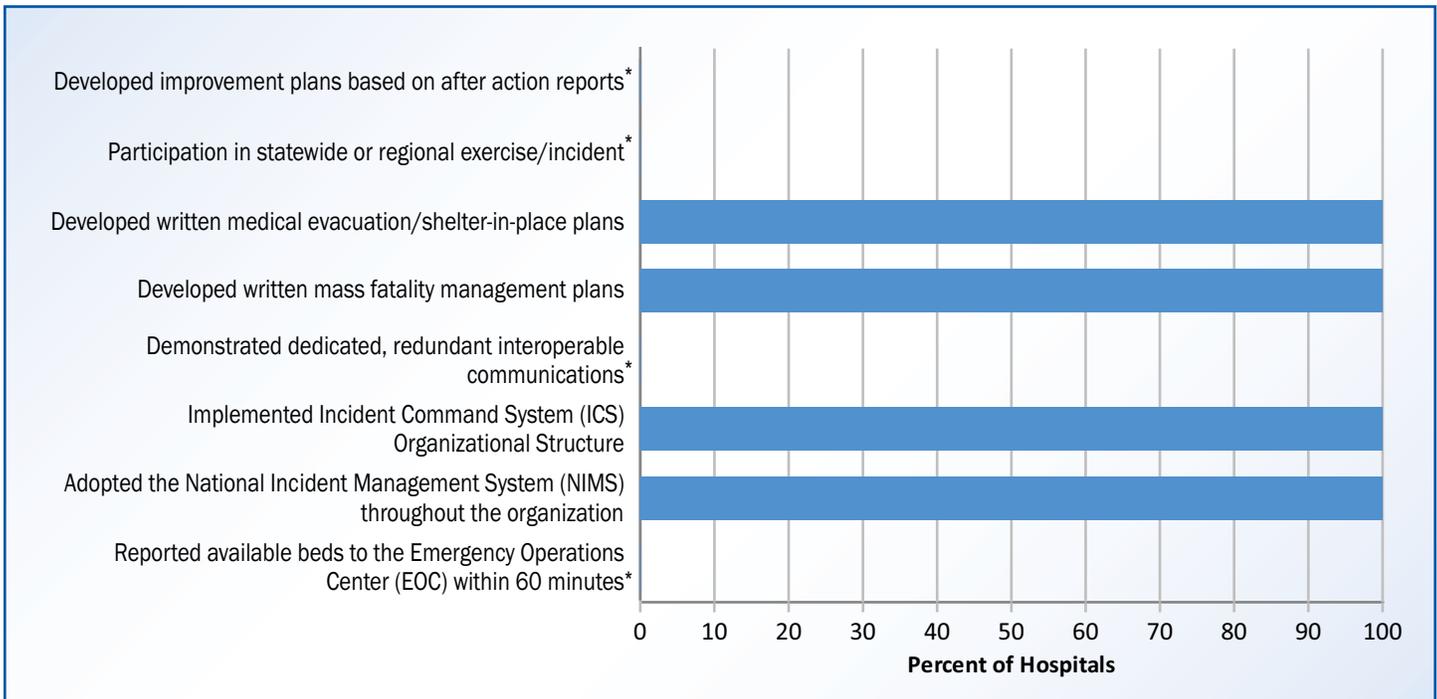
### HPP Participating Hospitals by Region



Sources: EOY09 HPP and NDMS data



## HPP Participating Hospitals Preparedness Outcomes (EOY 2009)



\*Program restructuring underway. Progress expected during FY10.

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 State Reported Data and Information

## HPP Response Capacities and Capabilities (EOY 2009)

Dedicated Communication Capability	
Percentage of participating hospitals that demonstrated sustained two-way communication capacities during an exercise or incident	0
Were dedicated, redundant communication capabilities reflected in exercise evaluations and/or after action reports? (Y/N)	No
Surge Capacity	
Number of staffed beds per 100,000 population	207
Number of 24-hour surge staffed beds per 100,000 population	226
Number of certified trauma centers per 100,000 population	0
Disaster and Mass Casualty Incident Capacity	
Number of registered ESAR-VHP volunteers*	N/A
Time required to report a verified list of available volunteer health professionals ready for deployment*	N/A
Percentage of State regions that can maintain patients in negative pressure isolation in emergency departments	0
Decontamination	
Number of patients that can be decontaminated statewide within a 3-hour period per 100,000 population	0

\*Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) Implementations is in Progress.

Sources: HPP End-of-Year (EOY) 2009 Data  
 U.S. Census Bureau 2000 Data  
 HPP Awardee Reported Data and Information



### Introduction

Strong community partnerships and coalitions are critical to preparedness, response, and medical surge capabilities of healthcare systems. Relationships cultivated through these types of mechanisms allow for better coordination and ultimately strengthen the efforts of response plans and exercises.

Healthcare coalitions are defined as a “single functional entity” of healthcare facilities and other healthcare assets to organize and implement the mitigation, preparedness, response, and recovery actions of medical and healthcare providers in a jurisdiction’s healthcare system (see Appendix D for greater detail). In this context the term healthcare system refers to the broader, community-wide health system that includes hospitals, skilled nursing facilities, nursing homes, hospices, community health centers, home care, physician and other ambulatory care providers, specialty services like dialysis centers, poison control centers, and emergency medical services, and an array of other healthcare providers at the State and local level which, under normal circumstances, may compete with each other.

Partnerships and coalitions unify the management capability of the healthcare system and provide support both when normal day-to-day operations of the health system are distressed, as well as when the system is overwhelmed, and disaster operations become necessary.

### HPP Partnership Awards

In 2007 ASPR’s HPP sought to enhance the ability of hospitals to prepare for and respond to bioterrorism and other public health

events (PHEs) by promoting the development of two different types of healthcare coalitions. These coalitions were created under the ASPR HPP program to promote surge capacity while enhancing community and hospital preparedness for PHEs in defined geographic areas. ASPR funding to support the development and enhancement of these coalitions was awarded through two separate competitive grant processes:

- 1. The Healthcare Facilities Partnership (HFP) program<sup>14</sup>** — This program was designed to catalyze coalition planning and exercises to address common risks and vulnerabilities, increase situational awareness among partners, develop medical mutual aid agreements among public health, emergency management and the private sector, and strengthen relationships among partners before a disaster, so that response and recovery can occur in a more expedited and coordinated manner.
- 2. Healthcare Facilities Emergency Care Partnership (ECP) Program<sup>15</sup>** — This program was designed to focus specifically on the emergency care system and improve its ability to respond by integrating public and private care systems with public health and first responders, improving the ability of the healthcare system to surge in public health emergencies, and strengthening public health emergency medical management and the provision of care and treatment.

<sup>14</sup> DHHS. (2007). FY2007 Healthcare Facilities Partnership (HFP) Funding Opportunity Announcement (FOA).

<sup>15</sup> DHHS. (2007). FY2007 Emergency Care Partnership (ECP) Funding Opportunity Announcement (FOA).

ASPR awarded 11 HFP and 5 ECP one-year grants to a diverse group of healthcare coalitions. Unlike the HPP program, in which funding is distributed to the jurisdictional health department, the HFP and ECP grants were distributed directly to the partnerships themselves. HFP partnerships were located in Alaska, California, Florida, Massachusetts, Minnesota, Nebraska, New York, North Carolina, Pennsylvania, South Carolina, and Washington State. ECP partnerships were located in California (2), the District of Columbia, Indiana, and Rhode Island. These awards allowed HPP to further pilot the model of community-based coalitions as a means to work collaboratively on common preparedness issues and challenges.

Toner et al.<sup>16</sup> from UPMC conducted an external evaluation of HPP's partnership programs and the direct grant funding mechanism, and concluded that coalitions and partnerships have proved to be effective organizations for integration of public health and medical emergency planning and response activities, including instances in which healthcare coalitions have responded successfully to mass casualty events that would otherwise have overwhelmed an individual hospital.

As HPP continues to emphasize community-level healthcare preparedness, these initial pilot investments by HPP allow a window into which readers can learn more about how opportunities and common challenges could be addressed.

### Partnership Awardee Profiles<sup>17</sup>

This section highlights basic information about the activities of the 16 awardees reported to ASPR. Due to the diversity of partnerships and coalitions that were recipients of the HFP and ECP grant awards and the open-ended nature of the grants, the activities described in each profile differ substantially. Nonetheless, they demonstrate that communities are able to identify and successfully address common challenges in their healthcare preparedness. Readers who are interested in learning more about the particular partnerships and coalitions are encouraged to contact the partnership directly at the address identified in Appendix E.

## 1. City and County of San Francisco (CCSF) Partnership (San Francisco, CA)

The scope of the project was to integrate triage and non-acute services for medical health response and disaster health services into the Community Hub Program (develops capacity of community-based providers to provide onsite critical services post disaster), and to develop guidance on how to integrate healthcare volunteers to supplement existing personnel levels following a disaster. The partnership was able to develop an innovative disaster response plan based on the "hub site"

mode by focusing on a collaborative community planning process emphasizing healthcare surge and communications; creating, evaluating, and finalizing a Volunteer Health Professionals Plan (VHPP); providing extensive exercise and training opportunities to the CCSF region; and purchasing and distributing emergency management equipment to selected clinics.

## 2. Medical Emergency Preparedness-Pediatrics Project (Anchorage, AK)

The scope of the project was to improve pediatric medical surge capacity and access to disaster medical care for Alaskan children by collaborating with the All Alaska Pediatric Partnership (AAPP), and to improve the emergency hospital capacity of two Anchorage pediatric critical care hospitals by 100 percent with normal standards of care, and by 200 percent with altered standards of care. The Project need was recognized when within eight weeks of an epidemic of a respiratory syncytial virus (RSV) in a remote, rural area of Alaska, 53 children (many infants) were hospitalized, and 28 were sent for intensive care to Anchorage which is 720 miles away and has the only two pediatric ICUs in the State. The partnership was successful in increasing pediatric surge

capacity across the State by: leveraging AAPP's existing partnership between pediatric healthcare institutions and government agencies, and identifying new partners; developing pediatric standards of care by altering adult standards of care; encouraging knowledge-transfer and providing vital pediatric training for Alaska's healthcare community; testing Anchorage hospitals' pediatric surge capacity with real scenarios that focused on pediatric respiratory issues; and purchasing supplies and equipment to enhance existing stockpiles, including pediatric-capable ventilators and a "Go Kit" to assist rural villages with pediatric surge.

## 3. Broward County Healthcare Coalition (BCHC) (Fort Lauderdale, FL)

The scope of the project was to implement a web-based critical event management tool (*CommandAware*) in participating hospitals and with BCHC partners in Southeast Florida, to use the *Critical Incident Management Systems for Healthcare* project to minimize the operational disruption of a public health emergency, while ensuring the health and safety of Broward County communities, and to improve emergency management throughout south Florida (including Broward, Miami-Dade, Monroe, and Palm Beach Counties). The *CommandAware* software

was successfully integrated into each partner organization's information technology system and provided real-time communication to over 45 hospitals and key partners in South Florida. Each *CommandAware* partner developed a customized integration strategy to ensure optimal utilization of the software. Data from After Action Reports (AARs) were used to improve emergency responses. BCGC developed its Internet-based communication and situational awareness system, and the project was able to be secured for three additional years.

<sup>16</sup>The Next Challenge in Healthcare Preparedness: Catastrophic Health Events. (January 2010). Prepared by the Center for Biosecurity of University of Pittsburgh Medical Center for the U.S. Department of Health and Human Services under Contract # HH-So100200700038C.

<sup>17</sup>FY 2007 Progress Reports and Summary Reports from the HPP Healthcare Facilities Partnership (HFP) and HPP Emergency Care Partnership (ECP) Programs

### 4. Partnership for Effective Emergency Response (PEER) (Boston, MA)

The scope of the project was: to enhance the capacity of the Greater Boston metro area to respond to health emergencies and disasters; build a coalition of multi-jurisdictional, multi-disciplinary healthcare entities with strong leadership, transparent organizational structure, and involvement of staff from local and State organizations; and facilitate information sharing via the development of communication protocols and subsequent training. The partnership created a multi-disciplinary and cross-regional coalition; provided robust learning opportunities by developing and providing training for up to 50 percent

of partner staff; conducted functional exercise activities that resulted in outcomes used to revise the Continuity of Operations (COOP) plans and protocols; helped hospitals and healthcare facilities meet NIMS compliance; promoted MSAR system registration to attract, enroll and retain volunteer health professionals; and conducted a mid-year program assessment of the effectiveness of its collaboration. In particular, PEER was able to strengthen community integration and communication in three public health regions.

### 5. Minneapolis and St. Paul Metropolitan Partnership (Minneapolis, MN)

The scope of the project was to establish an emergency management network through the Metropolitan Hospital Compact (MHC) and the Regional Hospital Resource Center (RHRC). The coalition: provided a forum for community planning, such as for continuity of operations (COOP) for area hospitals, regional mass fatality planning meetings, training and staff education, and finalizing and adopting the Pediatric Regional Plan for mass casualty events; conducted regional tabletop exercises, full-scale hospital exercises, and training, including two full-scale exercises involving a radiologic dispersion device, and a tabletop and functional exercise of the Chempack<sup>18</sup> regional plan; strengthened its EMS services by overseeing the creation and implementation of a

regional EMS Mutual Aid policy agreement and operational protocols for EMS strike teams; increased the number of providers registered for Minnesota Responds (joint ESAR-VHP and MRC) program by 82 people; enhanced Emergency Behavioral Health (BH) and Public Health services by establishing a disaster BH incident command system and plan for BH strike teams; and purchased two multi-patient buses and a Mobile Medical Unit (MMU) to improve surge capacity for rapid evacuation of healthcare facilities and mass casualty events. The MMU was fully operational during the Republican National Convention in August 2008. The partnership was successful in developing mobile medical assets under joint authority with the State of Minnesota.

### 6. Rural Nebraska Medical Response System (Elkhorn, NE)

The scope of the project was to improve community emergency response during an event by way of the tele-trauma and alternate care site (ACS) program. Although implementation of tele-trauma program required more time, it fostered collaboration between hospitals during public health emergencies. All hospitals in the State have made progress with NIMS as a result of conducting exercises, analyzing emergency responses to past events (e.g., the Cherry County fires), and collaborating on emergency community planning as a partnership. The partnership: developed and distributed a Volunteer Plan to

manage volunteers during an emergency, incorporating the Medical Reserve Corps (MRC) plan; developed and revised an ACS template that was used to test hospital ACS plans; and developed and shared four Memorandums of Understanding (MOU) templates and aid agreement (the Tri-Cities MRS agreement was employed during a tabletop exercise in August 2009). The partnership was successful in covering a large geographic area and became the first State in Region 7 to have comprehensive coverage by MRC units.

### 7. New York State (NYS) - Burn Surge Partnership (New York)

The scope of the project was to develop and test a model system for burn care integration among multiple partners. As a result of the project, the partnership was able to establish a framework for timely and effective surge capacity for the care of burn-injured patients during a mass casualty incident (MCI), and create an integrated medical care system that can be adapted to mitigate other mass casualty scenarios, such as pediatric care. The partnership established, equipped, and staffed

two virtual burn consultation centers (VBCCs). Workgroups identified patient tracking challenges and developed an Electronic Decision Matrix and Database (EBDM) to facilitate the triage of burn patients. Lastly the project tested equipment capability and protocols during exercises. The State believes it is has a model that can be reproduced anywhere throughout the country.

### 8. Project MoVES (Modeling via Evacuation Scenarios ) WakeMed Health and Hospitals (Raleigh, NC)

The scope of the project was to assist healthcare facilities in evaluating their own disaster preparedness, and achieve full NIMS compliance through the development, implementation, and evaluation of a novel and comprehensive multi-healthcare facility disaster exercise. Project MoVES was the first proposal to develop, implement, and evaluate a system-wide evacuation and surge scenario involving a range of patient acuities from multiple healthcare venues. The use of high-

fidelity patient simulators enhanced disaster exercises as it allowed facilities to represent the most critically ill patients in order to evaluate the physical response of high-acuity patients to evacuation and transport. The project was able to collect and analyze a significant amount of data related to hospital incident command and disaster response, and at the same time focused its evacuation based on its local hazard vulnerability analysis (HVA).

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<sup>17</sup>CHEMPACK is a voluntary part of the Strategic National Stockpile Program operated by the CDC for the benefit of the U.S. civilian population, to provide a sustainable nerve agent antidote in the event of a terrorist attack.

### 9. Healthcare Facilities Partnership of South Central Pennsylvania (Hershey, PA)

The scope of the project was to improve surge capacity and enhance community and hospital preparedness for public health emergencies in defined areas within South Central Pennsylvania. The partnership was able to: analyze, address, and strengthen Pennsylvania's situational awareness using community planning; develop three high fidelity simulations for a pandemic flu epidemic, blast/mass casualty,

and hospital evacuation; train over 1,000 personnel within 17 facilities; use its exercises as an entire partnership to enhance ESAR-VHP and NIMS compliance; and contribute to the development of surge preparedness performance measures. Ultimately, the partnership project developed a webinar system for enhanced communication, situational awareness, education, and training using simulation modules.

### 10. Charleston - Roper St. Francis Foundation (Charleston, SC)

The scope of the project was to develop and implement a strong centralized command through use of a regional healthcare coordinating center (RHCC). The RHCC was intended to function as a conduit, coordinating information and resource requests to and from the Hospital Command Center and the ESF-8 of each county emergency operations center (EOC). The State established the RHCC to address the vulnerabilities of three of its most vulnerable geographically isolated counties, which were further subdivided into 18 zones. The partnership project enabled health agencies, clinics, hospitals, and EMS healthcare providers to coordinate and plan for responding and recovering from all

hazard disasters. Medical caches were placed in each of the 18 zones and field hospitals were placed strategically in the tri-county region. The partnership developed and implemented a Statewide Emergency Registry of Volunteers (SCSERV) electronic database to pre-register volunteer healthcare professionals, and through use of the United Way's 211 call center was able to distribute information to and perform outreach with the current at-risk population, ensuring awareness of evacuation procedures and trauma/first aid care prior to a disaster ever happening.

### 11. King County Healthcare Coalition (Seattle, WA)

The scope of the project was to facilitate collaborative emergency planning among regional healthcare providers and organizations, and to conduct an evaluation of seven specific projects and an overall program evaluation of the King County Health Care Coalition (HCC). A unique desirable outcome was that the project was able to add nonhospital agencies and providers to the partnership and to the Emergency Support Function (ESF) 8 response. The project established the Health and Medical Area Command Space, a fully equipped facility to sustain

an emergency response, should the primary location become critically damaged; developed and tested a Volunteer Management System (VMS) to manage volunteers during a full-scale exercise; used its Pediatric workgroup to develop guidance on how to integrate obstetrics and pediatric services into King County's HCC emergency response plan; and enhanced emergency preparedness strategies for hospice and palliative care. Findings from the HCC workshop evaluation showed that participants increased their level of emergency preparedness.

### 12. Enhancing Surge Capacity and Partnership Effort (ESCAPE) (Davis, CA)

The scope of the project was to address challenges of surge capacity and strengthen ties to implementation sites, develop bedside crisis care guidelines to maximize population health outcomes, and to use telemedicine and radio frequency identification (RFID) tracking to increase efficient use of resources (people, equipment, and supplies). The partnership imitated UC Davis' successful and innovative telemedicine program (which provides more than 40 specialty healthcare

services remotely to over 85 predominantly rural sites in California) to increase care options in a healthcare surge event and expand capability to additional hospitals and other types of healthcare providers. It developed standardized crisis care and resource guidelines that could be uniformly and equitably distributed across the region and among all healthcare providers. Healthcare data modeling was also enhanced to predict certain outcomes in a surge situation.

### 13. District of Columbia Emergency Healthcare Coalition (DCEHC) (Washington, D.C.)

The scope of the project was to provide a comprehensive and reliable framework and infrastructure for emergency preparedness across the full spectrum of patient care and to make continuous improvements in responding to a public health emergency within the nation's capital. As a coalition, the partnership: crafted a system vulnerability analysis (HVA); developed and distributed the Regional Emergency Operations Plan (EOP) from the HVA; replaced the aging Hospital Mutual Aid Radio System (HMARS) with new models and expanded the system to include all members of the coalition as well as Hospital Coordinating Centers; upgraded and expanded a Healthcare Information System (HIS) to share incident information among hospitals; linked seven hospitals with the Emergency Department Information Technology (ED IT) Sys-

tem, allowing nonclinical information sharing for family reunification during emergencies; sponsored two D.C.-wide exercises with participation by coalition members, including, a first-ever partial evacuation of a healthcare facility; participated with the four other ECP grant recipients to conduct a two-day lessons learned conference on HPP's ECP grant model; and held a "Best Practices for Hospital Security" conference sharing information on lessons learned from the D.C. hospital security assessments, secure hospital design, forensic patient management, and the hospital shootings in Baltimore, Maryland and Blacksburg, Virginia. The outcome of the project was that the healthcare coalition response team is now an integral part of the jurisdictional response system.



### 14. Managed Emergency Surge for Healthcare (MESH) (Indianapolis, IN)

The goal of the project was that all area hospitals would be prepared to work together during a response that would require the project to increase its overall surge capability and capacity, and to develop technology programs that would allow partners to manage supply and drug inventories at area hospitals, allow paramedics access to patient information in ambulances, facilitate staff sharing among hospitals during a prolonged event, and address legal issues such as advanced licensing of alternate care sites. The Partnership was able to complete implementation and exercising of the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) and a volunteer management software system that registers non-medical volunteers and implement other technology to enhance surge capacity, including regional materials management software, an expanded bed diversion program, and expansion of Siren e-PCR (the only known two-way ambulance electronic patient records system in the U.S.). The Partnership completed a needs assessment of community health centers (CHCs) in Central Indiana, resulting in training and technology for CHCs, CHCs participating in a tabletop exercise, and developing a CHC cache (PPE,

pharmaceuticals, and other items) for use in disasters. A comprehensive mass fatality plan and regional surge policies were developed that included degradation of services and altered standards of care. Reimbursement best practices were created for hospitals to use in responding to disasters (e.g., helping hospitals provide compensated care through medically appropriate management of surge, planning for revenue capture from alternate care sites and non-hospital venues, planning for challenges associated with billing for shared staff across networks, and working as a network to facilitate government declarations to ease regulatory burden or increase reimbursement). Standardized training and education curricula was developed and implemented. that was customizable based on individual HVAs, and the Partnership worked with the County Health Department and the County Emergency Management Agency to develop plans and conduct tabletop and functional exercises involving central Indiana hospitals, including a mass fatality exercise and an exercise on the legal challenges faced by healthcare entities and government agencies in a disaster.

### 15. Pediatric Disaster Resource and Training Center (PDRTC) (Los Angeles, CA)

The scope of the project was to address the gaps in a potential pediatric disaster identified by a statewide consortium and to close remaining special needs planning gaps of the pediatric population. The partnership: developed education, training, and exercises specifically targeted to audiences who would care for pediatric patients in a public health emergency, (e.g., Surge World, an online simulation triage game, and Disaster Olympix, where teams compete on their knowledge, resourcefulness, and innovation in multiple areas of disaster preparedness);

developed Pediatric Emergency Decision Support System (PEDSS), an emergency planning software tool intended for hospital emergency planners; purchased five telemedicine robots for use in local pediatric intensive care units enabling physicians to interact with pediatric patients, families, and staff via laptop computers when they were not available at the hospital; and launched a comprehensive assessment of pediatric supplies and equipment at all Disaster Resource Centers and at some of the largest hospitals in Los Angeles County.

### 16. Rhode Island Partnership (Providence, RI)

The scope of the project was to develop and share best practices with other health systems to further strengthen and enhance emergency planning and preparedness throughout the country and enhance ability to track patient movement and coordinate care from the pre-hospital arena to hospitals during day-to-day operations and times of healthcare emergencies. The partnership developed a novel interoperable communication system called RESCQ, a portable communications solution that can be rapidly deployed during an emergency, communications outage, or temporary event to provide voice and data communications capability through a direct satellite link; and the Patient Tracking System (PTS) which is web-based and is used to track patients with bar-coded wristbands who would be transported by EMS to hospitals in

Rhode Island (all State hospitals and 107 rescue vehicles within the State were outfitted, comprising 35 EMS agencies in 29 towns). The partnership hired a NIMS manager and a team of trainers to targeted NIMS compliance. A total of 21 ICS-300 and 400 courses were delivered to 443 participants representing 26 unique healthcare organizations. The project manager and program staff were able to identify the positive effect of the training courses through observation of exercises that were conducted after training sessions concluded. The exercises were conducted under an HSEEP-compliant process in coordination with other partner agencies and were designed to test not only ICS response, but also the Patient Tracking System (PTS) and Rapid Emergency Satellite Communications System (RESQ) platforms.



## Introduction

The National Health Security Strategy (NHSS),<sup>19</sup> released in December 2009, has two main goals: enhance community resilience and improve response capability. Recent disasters have highlighted the need for both of these goals to be fully achieved. The HPP has demonstrated that it has supported these goals, but perhaps has not reached the full potential of either.

Reviews of the HPP have noted that while HPP has improved the resilience of U.S. hospitals and increased their capacity to respond to common disasters, gaps in the ability to respond to catastrophic disasters remain (UPMC-Toner).<sup>20</sup> In its June 13, 2008 report,<sup>21</sup> the GAO noted that although hospitals have made improvements in their levels of preparedness, there are gaps in developing altered standards in care. A recent CDC (NCHS) report on hospital preparedness notes that hospitals are better prepared, but most lack plans for a radiological/nuclear event.

Real events have revealed gaps in the healthcare system that require attention. The Deepwater Horizon oil spill crisis illustrated a disas-

<sup>19</sup>DHHS. (2009). National Health Security Strategy, from <http://www.phe.gov/Preparedness/planning/authority/nhss/strategy/Documents/nhss-final.pdf>

<sup>20</sup>Hospitals Rising to the Challenge: The First Five Years of U.S. Hospital Preparedness Program and Priorities Going Forward. (March 2009). Prepared by the Center for Biosecurity of University of Pittsburgh Medical Center for the U.S. Department of Health and Human Services under contract #HHSO100200700038C.

<sup>21</sup>U.S. Government Accountability Office. (2008, June). States Are Planning for Medical Surge, but Could Benefit from Shared Guidance for Allocating Scarce Medical Resources. (Publication No. GAO-08-668). Retrieved from GAO Reports Main Page via GPO Access database: <http://www.gao.gov/new.items/d08668.pdf>

ter for which mental and behavioral health effects were a significant concern, particularly for an already beleaguered region that was confronted with an environmental disaster that threatened the economic way of life for so many of its citizens. The pandemic, as previously mentioned, showed us how the various components of the healthcare community need to be better integrated to successfully respond to a global crisis. The earthquake in Japan, and subsequent tsunami and nuclear reactor catastrophe, provide an example of how the responder community must effectively communicate complex information to populations to relieve anxieties and prevent panic.

As a prelude to change, HPP proactively sought feedback from stakeholders and subject matter experts (SMEs) to help inform the way ahead for the program. Our stakeholders requested a more streamlined program with better integration of the administrative functions and improved coordination of the priorities among the various Federal preparedness grants and cooperative agreements. They also expressed a desire for the program to be more inclusive of the entire healthcare community and to engage the non-healthcare community in preparedness activities.

These SMEs noted that the program needs to continue in the direction of capabilities-based planning, and yet also voiced strong support for two additional enhancements: the shifting from facility-level to community-level preparedness goals, which can be accomplished through the development of robust healthcare coalitions, and development of a realistic, standardized exercise program.



### The Way Ahead

Beginning in Fiscal Year (FY) 2012, HPP and PHEP will be on a unified project cycle.<sup>22</sup> Work is already underway to better coordinate the HHS preparedness grants. Discussions on a common proposal mechanism and reporting system are in the advanced stages. Articulation of the capabilities needed to achieve healthcare preparedness is being developed in collaboration with stakeholders. In addition to aligning HHS programs, HHS expects that its programs will be aligned with preparedness programs of other Federal agencies wherever appropriate.

Development of healthcare coalitions to enhance efficiency has been piloted by HPP for

<sup>22</sup>The first of these new cycles for HPP will be four years, because PHEP began year one of a five-year cycle in 2011. It is anticipated that in 2016, both programs will be on five-year planning cycles.

several years, and the concept is ready for expansion. Ideally, coalitions should enhance the efficiency and effectiveness of preparedness and response in a community or region, and interface with jurisdictional health and public health authorities. Consistent with the “Whole Community” approach articulated by FEMA, coalitions must be able to serve the various populations that comprise their communities, including children, pregnant women, the elderly, and those who are vulnerable in other ways. In addition, promoting integration of mental and behavioral health into public health and medical preparedness activities will enhance individual and community resilience. HPP also recognizes that preparing the non-medical community is essential for a successful response. Individuals, families, and private partners must be engaged in preparedness activities. The

healthcare community has a critical role in preparing them for this important role.

Performance measures that reflect the needed capabilities will be used to assess the level of preparedness for coalitions. Using local real events to demonstrate higher-level functionalities is an important way for participants to assess their progress. Preparedness activities must be incorporated into the daily practices of healthcare.

Finally, the future for HPP includes follow-on reports such as this one. The success of ASPR’s Hospital Preparedness Program is entirely dependent on the hard work and innovation of our partners. This report is a tale of progress, dedication, and excellence. As we move into the future, we need to be able to continue to measure and document the success we have achieved. Those accomplishments enable us to enhance community resilience and improve our national response capability.



# Appendix A

## Acronyms

ACS	Alternate Care Sites
AED	Automated External Defibrillator
ARC	American Red Cross
ASPR	Assistant Secretary for Preparedness and Response
BAH	Booz Allen Hamilton
BCHC	Broward County Healthcare Coalition
CCSF	City and County of San Francisco
CDC	Centers for Disease Control and Prevention
CPR	Cardio Pulmonary Resuscitation
CRI	Cities Readiness Initiative
DMAT	Disaster Medical Assistance Team
DHS	Department of Homeland Security
DoD	Department of Defense
DRCs	Disaster Resource Centers
ECP	Emergency Care Partnership Program
EDMD	Electronic Decision Matrix and Database
EDs	Emergency Departments
EM	Emergency Management
EMP	Emergency Management Program
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EOY	End of Year
ESAR-VHP	Emergency System for Advance Registration of Volunteer Health Professionals
ESF	Emergency Support Function
FCCs	Federal Coordinating Centers
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
GIS	Geographic Information System
HAvBED	Hospital Available Beds for Emergencies and Disasters
HAZMAT	Hazardous Materials
HCMC	Hennepin County Medical Center
HFP	Healthcare Facilities Partnership
HHAN	Health and Homeland Alert Network
HHS	Department of Health and Human Services
HPP	Hospital Preparedness Program
HPTC	Hospital Preparedness Training Center
HRSA	Health Services and Resources Administration

HSEEP	Homeland Security Exercise and Evaluation Program
HVA	Hazard Vulnerability Analysis
ICS	Incident Command System
ICU	Intensive Care Unit
IND	Improvised Nuclear Device
IT	Information Technology
MAC	Multi-Agency Coordination
MCI	Mass Casualty Incident
MHC	Metropolitan Hospital Compact
MOA	Memorandum of Agreement
MOU	Memoranda of Understanding
MoVES	Modeling via Evacuation Scenarios
MRC	Medical Reserve Corps
MSCC	Medical Surge Capacity and Capability
NDMS	National Disaster Medical System
NHSS	National Health Security Strategy
NIMS	National Incident Management System
NRF	National Response Framework
NYCDOHMH	New York City Department of Health and Mental Hygiene
NYSDOH	New York State Department of Health
PAHPA	Pandemic and All Hazards Preparedness Act
PEDSS	Pediatric Emergency Decision Support System
PEER	Partnership for Effective Emergency Response
PEPP	Pediatric Education for Prehospital Professionals
PH	Public Health
PHE	Public Health Emergency
PHEP	Public Health Emergency Preparedness
PPE	Personal Protective Equipment
RHCC	Regional Healthcare Coordinating Center
RHRC	Regional Hospital Resource Center
RIH	Rhode Island Hospital
SME	Subject Matter Expert
SMRS	State Medical Response System
UPMC	University of Pittsburgh Medical Center
VA	Department of Veterans Affairs
VBCC	Virtual Burn Consultation Centers
WHC	Washington Hospital Center

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# Appendix C

## Hospital Preparedness Measures used as Proxy in Awardee Profiles, EOY 2009

### Awardee Highlights

- Population is from the 2000 Census data.
- Funding of the awardees is found in the official notice of grant award (NGA) for FY 09.
- Participating hospitals and healthcare facilities are facilities that directly or indirectly receive HPP funding during the current project period.

### Preparedness Outcomes

- Report the number of hospitals that have developed improvements plans based on after action reports (Number)
- Report the number of participating hospitals that have participated in at least one statewide exercise, regional exercise, and/ or incident during the current reporting period (Number)
- Report the number of participating hospitals that have written plans to address medical evacuation/shelter-in-place (Number)
- Report the number of participating hospitals that have written plans to address mass fatality management (Number)
- Report the number of participating hospitals that demonstrated dedicated, redundant communications capability, during an exercise or incident (Number)
- Adoption 2 : Command and Management ICS Organizational Structure
- Adoption 1: Adopt NIMS throughout the healthcare organization
- Report the number of participating hospitals that can report available beds, according to HAvBED definitions, to the State EOC within 60 minutes or less of a State request at least once during the current project period (Number)

### Response Capacities And Capabilities

- Report the number of participating hospitals that demonstrated sustained two-way communications capabilities, during an exercise or incident (Number)
- Are demonstrations of dedicated, redundant communications capabilities during an exercise or incident reflected in exercise evaluations and/or after action reports? (Y/N)
- State Total of Staffed Beds (The total number of beds that are physically available for which staff is on hand to attend each patient occupied bed. Staffed beds include both vacant and occupied beds.) (Number)
- State Total 24-Hour Surge Bed Capacity (The total number of available staffed beds that can be made available within 24-hours of an incident or exercise.)
- Please report the number of trauma centers to include all levels according to the American college of surgeons in the State only and then the number of trauma centers receiving funding
- How many volunteer health professionals are currently registered in the ESAR-VHP system? (Number)
- Report in hours how much time it took the State/Territory to report a verified list of available volunteer health professionals, by discipline and credential level to a requesting body or HHS SOC during the current project period (Number)
- Report the number of sub State regions that can maintain patients in negative pressure isolation in EDs (Number)
- How many ambulatory and non-ambulatory patients can be decontaminated in the State within a 3-hour period? (Number)

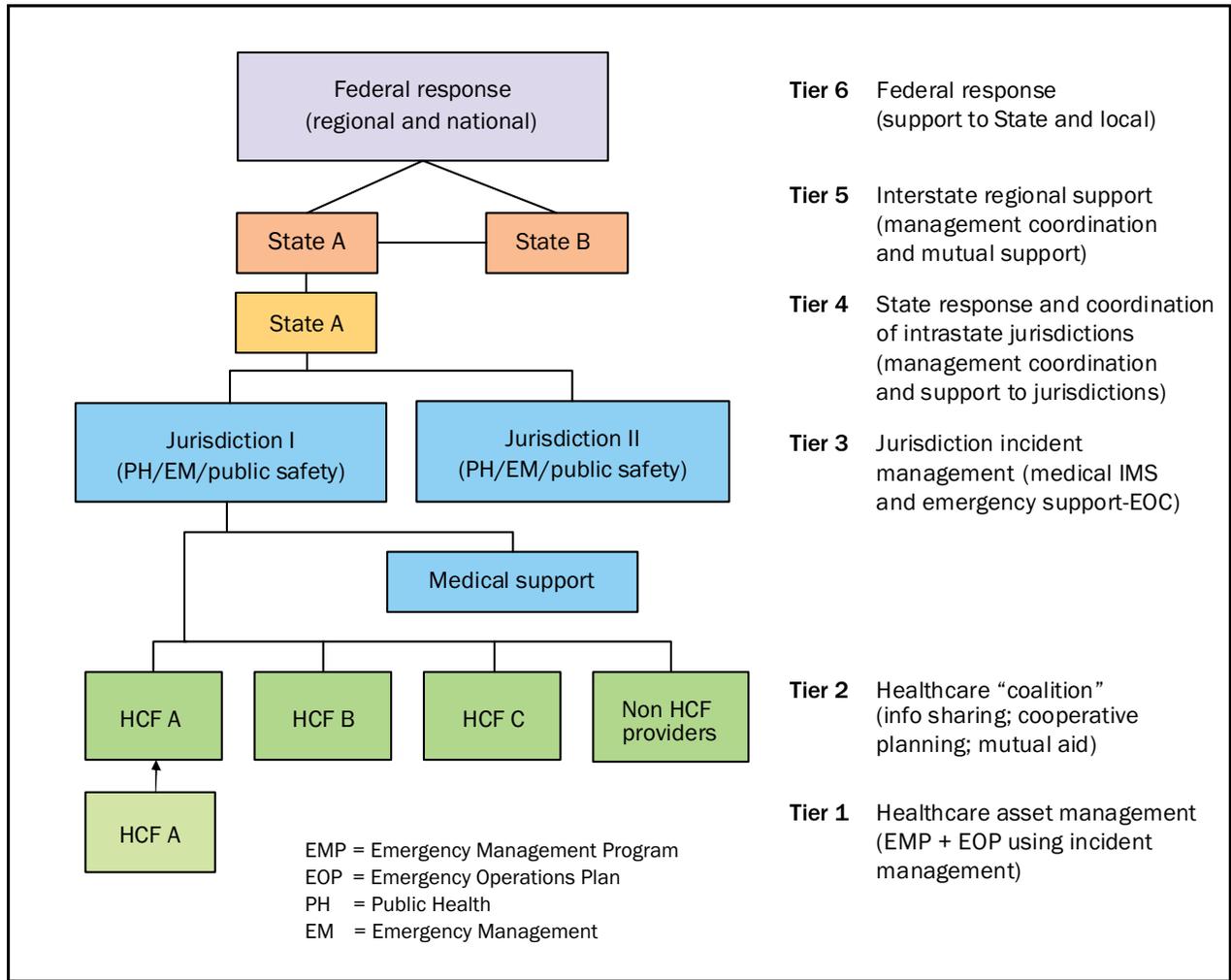
# Appendix D

## The Healthcare “Coalition” as described in the MSCC<sup>22</sup> Handbook

Healthcare coalitions are defined as a “single functional entity” of healthcare facilities and other healthcare assets to organize and implement the mitigation, preparedness, response, and recovery actions of medical and healthcare providers in a jurisdiction’s healthcare system. Figure 1 depicts the scheme reflected in the six-tiered response of the MSCC Handbook. The UPMC further define

coalitions to be more of a hybrid that extends across Tiers 2–3, as they start to include local or State response agencies such as EMS, emergency management, and public health and other non-hospital based healthcare partners.<sup>24</sup> Each organization maintains its own authority during the processes of coordination and cooperative planning, formalization and implementation of mutual aid, and incident response.

**Figure 1: MSCC Management Organization Strategy**



<sup>23</sup>DHHS. (September 2007). Medical Surge Capacity and Capability: A Management System for Integrating Medical and Health Resources During Large-Scale Emergencies (Prepared under Contract Number 233-03-0028)

<sup>24</sup> The UPMC first 5 years

# Appendix E

## HPP-Funded Partnership Grantee Contact Information

### Healthcare Facility Partnership Grantee

HPP Funded Partnership Entity	Address	City, State/Zip	Contact
Boston University School of Public Health	Trustees of Boston University Boston University Medical Campus 715 Albany Street	Boston, MA 02118	Mr. Harold Cox
King County Healthcare Coalition	Seattle King County Department of Public Health 410 Fifth Ave, 13th Floor	Seattle, WA 98105	Ms. Cynthia Dold
City and County of San Francisco (CCSF) Partnership	San Francisco Department of Public Health 101 Grove Street, Room 330	San Francisco, CA 94102	Ms. Mary Ellen Carroll
Roper St. Francis Foundation	Roper St. Francis Foundation 69 Barre Street	Charleston, SC 29401	Ms. Page Bullington
North Broward Hospital District	North Broward Hospital District 303 SE 17th St.	Fort Lauderdale, FL 33316	Ms. Jeanne Eckes- Roper
Pennsylvania State University - Hershey Medical Center	Pennsylvania State University Hershey Medical Center 500 University Drive	Hershey, PA 17033	Dr. Thomas Terndrup
WakeMed Health Care System	WakeMed 3000 New Bern Ave.	Raleigh, NC 27610	Mr. Jack Radford
Elkhorn Logan Valley Public Health Dept	Elkhorn Logan Valley Public Health Department 210421 St. Circle, PO Box 779	Wisner, NE 68791	Ms. Kathy Nordby
Hennepin Healthcare System	Hennepin Healthcare System, Inc. 701 Park Ave. S	Minneapolis, MN 55415	Mr. Mark Lappe
Alaska Dept of Health and Social Services	Alaska Department of Health and Social Services 3601 C Street, Suite 756	Juneau, AK 99503	Ms. Sally Abbott
New York State Dept of Health	New York State Department of Health Hedley Park Place 433 River Street	Troy, NY 12180	Mr. Robert Burhan

## HPP-Funded Partnership Grantee Contact Information

### Emergency Care Partnership Grantee

HPP Funded Partnership Entity	Address	City, State/Zip	Contact
Health and Hospital Corporation of Marion County	Indiana University School of Medicine 1050 W. Wishard Blvd, RG 2200	Indianapolis, IN 46202	Mr. Charles Miramonti
Rhode Island Hospital	Rhode Island Hospital 593 Eddy Street	Providence, RI 02903	Mr. Peter Ginaitt
Children's Hospital of Los Angeles	Children's Hospital of Los Angeles 4650 Sunset Blvd, MS #100	Los Angeles, CA 90027	Mr. Jeffrey Upperman
The Regents of the University of California -Davis	University of California, Davis 2315 Stockton Blvd.	Sacramento, CA 95817	Mr. Christian Sandrock
MedStar Health, Inc., DBA Washington Hospital Center	Washington Hospital Center 110 Irving Street, NW, Annex 4	Washington, DC 20010	Mr. Craig DeAtley

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