

BUREAU OF PUBLIC HEALTH PREPAREDNESS

THE PROTECTING PALMETTO STATE



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PROTECTING THE HEALTH OF ALL SOUTH CAROLINIANS



*Dr. Lilian Peake
Director of Public Health
Department of Health and
Environmental Control*

Although doctors do the critical work of treating diseases and injuries one patient at a time, we at DHEC are charged with addressing disease and injury for the state's population as a whole. As an example, we analyze the links between heart disease, high blood pressure, obesity and diabetes, so we can develop programs to prevent and control heart disease.

That's the essence of public health: ensuring the well-being of entire populations. These populations can be as small as a neighborhood or as large as a region or the entire state.

When health-care providers report an infectious disease outbreak, we are there. When the need arises to plan and prepare for the potential of a new threat like the Zika virus entering our state, we are there. When natural disasters arise — whether a damaging hurricane or a perilous flood — we are there.

That's why it is so important to have a strong public health system not only working to prevent disease, but also monitoring the health and well-being of the people of South Carolina. Being prepared to prevent, respond to, and rapidly recover from public health emergencies is critical for protecting and securing our state's public health.

DHEC employs skilled public health and environmental control professionals who work every day to improve the health of South Carolinians and maintain readiness to respond to public health emergencies. Our team works with hospitals, healthcare providers, state and local government agencies, and other organizations to coordinate and strengthen our preparedness and response capabilities.

When the need arises to plan and prepare for the potential of a new threat like the Zika virus entering our state, we are there.

With the help of federal funds from the Public Health Emergency Preparedness (PHEP) and Hospital Preparedness Program (HPP), DHEC and the healthcare system invest in skilled personnel, planning, training and exercise programs, and equipment so that we are ready to respond to a broad range of hazards that could impact the health of South Carolinians.

What does this all mean to the five million people living in South Carolina? Whether it's providing shelter for special medical needs individuals evacuating their homes during the flood or equipping our schools and teachers with Stop the Bleed kits and training, these stories are prime examples of how federal preparedness funds help protect the health and well-being of South Carolinians. DHEC has worked hard to build a strong foundation to respond to emergencies, which is illustrated in each of the following articles. We may not know when the next disaster will strike, but we do know that the people and organizations responsible must be prepared for whatever comes our way.

INVESTING IN SAVING LIVES: PUBLIC HEALTH PREPAREDNESS PROGRAM

A LIFESAVING INVESTMENT

The Public Health Preparedness Program (PHEP) allows the United States to invest in critical public health resources that contribute to overall national security.

State and local public health departments are uniquely positioned as the first line of defense and people in these agencies act as first responders, outbreak investigators, and participate in recovery efforts following a disaster. Because of the various roles these agencies play, public health preparedness is important before a disaster ever occurs.

The Division of State and Local Readiness (DSLRL), part of the Centers for Disease Control and Prevention, manages PHEP and is charged with providing funds to public health agencies and departments.

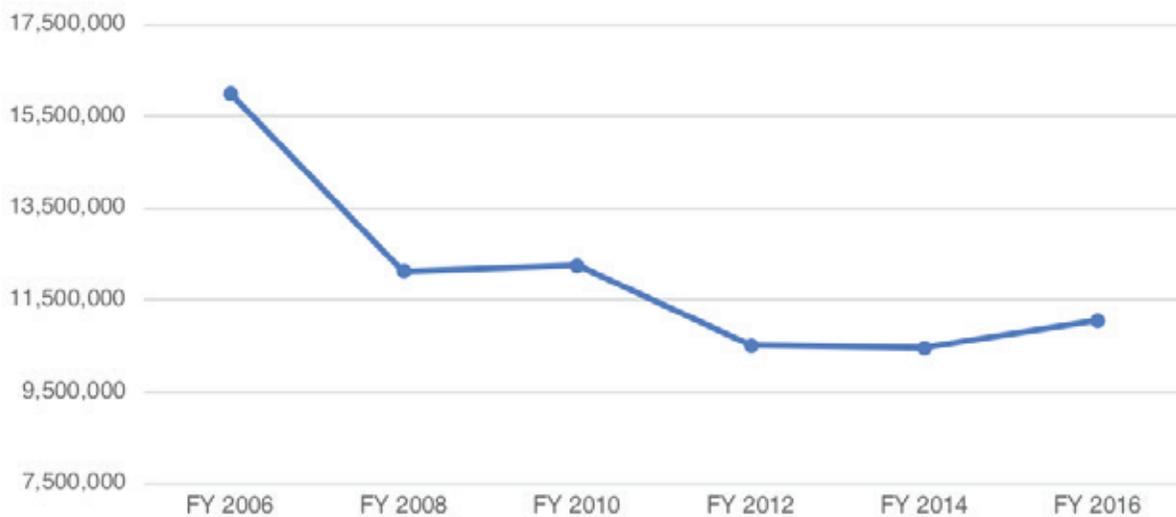
These funds provide for the development of plans and exercises, purchasing equipment, and training to employees and partners—allowing public health agencies to be ready to save lives.

THE PHEP PROGRAM IN ACTION

Key responses that saved lives due to PHEP Program support:

- 2014 Winter Storm
- 2015 Hepatitis A
- 2015 Hurricane Joaquin
- 2015 Flooding
- 2016 Winter Storm
- 2016 Hurricane Matthew

PHEP PROGRAM FUNDING RECEIVED



STORIES FROM THE FIELD:

HURRICANE MATTHEW

SITUATION

Beginning October 1, 2016, South Carolina faced a major threat from Hurricane Matthew. Matthew made US landfall on October 8 as a Category 2 hurricane just southeast of McClellanville, the same town that incurred the wrath of Hurricane Hugo 27 years earlier. Shortly after landfall the storm was downgraded to a Category 1.

INTERVENTION

PHP staff coordinated the agency's effort to ensure that both inpatient medical facilities and citizens with medical needs were evacuated from harm prior to landfall.

IMPACT

- Thirteen hospitals located in the medical evacuation zones received exemptions and sheltered in place
- The coordination of transport for persons without access to private transportation, and facilities whose planned transportation proved inadequate, resulted in direct coordination of over 1,700 individuals moved by the Bureau of EMS and Trauma.

This was the largest Medical Needs Shelter (MNS) operations in the history of the State and resulted in the opening of nine MNS which sheltered a total 131 evacuees.

CRITICAL NEEDS

The PHEP Program supports the following public health and safety functions.



Biosurveillance

Ongoing funds are needed to maintain essential epidemiology positions for staff who perform surveillance and epi investigation activities, including the ability to provide 24/7 response coverage for outbreaks, inquiries regarding high-consequence pathogens, and other events of public health importance.



Countermeasures & Mitigation

PHEP is the primary source of funding for development of these plans and the exercises that sustain them. Cuts to funding places real world limits on training, exercises, and drills that public health and the whole community of first responders need to develop and maintain the skills necessary to confront these scenarios which are not part of their normal daily response or occupation. Reductions in exercises and training translates into a failure to prepare to respond at worst and a decision to deliver a second-rate response at best.



Incident Management

The PHEP Program is vital to Emergency Operations Coordination and the ability to direct and support incidents and events with public health or medical implications. Any reduction in PHEP funding jeopardizes the system that provides incident oversight, organization and supervision, and severely lessens National Incident Management System (NIMS) compliance.



Community Resilience

Losing funding correlates to a reduction in core pillars of resilience including information sharing, surge management, community recovery and fatality management. Collaborative funding for mutual support and augmentation of vital organizations such as the State Coroner's Association do not exist elsewhere. Continuity operations (COOP), post incident public health service delivery, community outreach and inclusion such as ongoing projects identifying vulnerable individuals and at-risk community needs and support requirements either reduce in scope or are eliminated altogether with funding reduction.



Information Management

A loss of funds would result in less public health information training to our staff, which could have an impact on our effectiveness to respond appropriately to a public health emergency.



Surge Management

Cutting PHEP funding, in surge management, would greatly affect our ability to assist the public in areas of sheltering, family reunification, volunteer coordination, and prevention & mitigation of injuries and fatalities, during public health emergency events. This helps to cover costs for training staff & volunteers. PHEP funding decreases would affect our ability to effectively respond when needed.

VOLUNTEERS HELPING THE PALMETTO STATE: PUBLIC HEALTH RESERVE CORPS

DHEC simply could not do its work for the citizens of South Carolina without the Public Health Reserve Corps (PHRC).

Founded in 2006, PHRC is dedicated to helping DHEC carry-out its vision of Healthy People Living in Healthy Communities. Volunteers work hand-in-hand with professional staff on daily activities and during disasters. From physicians and nurses, to administration, computer services and more, PHRC volunteers are committed to the people and communities throughout the state.

PHRC volunteers register at www.scserv.gov and go through a rigorous vetting and training program before becoming an active member of the program. Volunteers then learn and maintain a level of readiness by participating in training and exercises.

Over the last 12 years, PHRC volunteers have provided support to various public health activities and been present at numerous disasters. PHRC volunteers help staff flu clinics each year, as well as participate in immunization campaigns.

Of course, PHRC is also very active before, during, and after a disaster. Volunteers staffed mobile clinics and provided tetanus shots during the 2015 flood and partnered with the American Red Cross to support shelters during Hurricane Matthew in 2016.

PHRC EMPOWERS COMMUNITIES TO HELP SAVE LIVES

PHRC engages with local communities to save lives and build resilience by providing several programs to the public. These classes and trainings teach people about disaster preparedness and life-safety techniques. These programs are designed to empower communities to provide assistance to people following an accident or injury. PHRC has volunteers who are certified as course instructors, and these volunteers go across South Carolina to provide training to individuals, civic groups, colleges and universities, businesses, and churches. Two of the programs PHRC offers are ***Stop the Bleed*** and ***Until Help Arrives***, which provide basic first aid knowledge and skills.



PHRC volunteers attending a hospital preparedness summit.

COMMUNITY OUTREACH

The hallmark of PHRC is its strength in community outreach. PHRC volunteers engage with local communities to build prepared, healthy, and safe communities across the state, long before disasters strike.

An example of PHRC's community outreach is the **Persons with Access and Functional Needs (PAFN) Emergency Preparedness Survey Project**. On June 10, 2017, PHRC volunteers conducted an outreach survey of people with medical needs who live in their homes.



PHRC volunteers getting ready to go out for the PAFN survey.

Volunteers focused on South Carolina's coastal communities, and went throughout Beaufort, Charleston, Colleton, Georgetown, Jasper, and Horry Counties to survey this vulnerable population about their emergency plans for coastal flooding and hurricanes.

The survey operation was a success as volunteers:

- Reached 268 homes
- Spoke with 144 individuals
- Conducted 24 phone surveys
- Conducted 31 on-line surveys

PHRC not only learned a lot from the participants, it also allowed volunteers to provide emergency preparedness information to these residents and help them be ready for the next disaster.

Another example of PHRC's outreach was during South Carolina's 2018 flu outbreak. PHRC volunteers helped staff flu clinics, providing assistance to clinic staff and patients. Some volunteers even provided flu shots. As the flu season got into full swing, PHRC volunteers helped Palmetto Health Richland set up a Blu-Med medical tent to house patients who were discharged from the hospital. The Healthcare Coalitions have assets throughout the state to help hospitals when they get a surge of patients due to an illness outbreak or disaster.

When Palmetto Health Richland put in the call to its regional partners for the tent, PHRC volunteers went into action. They moved the tent from its location in Aiken to the hospital's location and set it up at the hospital within a few hours.

If you or someone you know is interested in becoming a PHRC volunteer, please visit www.scserv.gov for more information.



PHRC volunteers setting up the Blu-Med tent at Palmetto Health Richland.

HEALTHCARE COALITIONS: A RESOURCE FOR SOUTH CAROLINA HEALTHCARE FACILITIES

You've heard the saying, "no man is an island." The same is true in healthcare. Just as "no man is an island," no healthcare facility is either.

Many healthcare providers in South Carolina are part of a large corporation, with access to sister locations throughout the state and corporate financial support. There are also many smaller, independent healthcare facilities in the state. These facilities have limited access to other locations and have limited financial resources, yet they have access to the same resources as their larger peers.

How? Through a healthcare coalition.

FOUR COALITIONS, ONE GOAL

A healthcare coalition is an organization made up of various healthcare agencies that come together to support each other during an emergency.

South Carolina has four healthcare coalitions, each operating in the state's four regions: Lowcountry, Midlands, Pee Dee, and Upstate.



Each coalition has its members come together regularly to discuss issues, share best practices and plan training and exercises. Many coalitions have subcommittees to focus on issues such as communication equipment and sheltering.

The federal government encourages and supports the creation of coalitions across the country to strengthen the nation's healthcare system in preparing for and responding to a disaster. The coalitions are federally funded by the Hospital Preparedness Program grant.

TRAINING

The coalitions offer training to their members as well. The Pee Dee Healthcare Coalition trained many of its members on how to use portable ventilators. During one of its sessions, members got hands-on training on how to properly use the device on a patient.



Ventilator training in the Pee Dee Healthcare Coalition.

Also, when the coalitions buy equipment that their members will use during an emergency, they provide training to ensure everyone knows how to use the equipment properly.

The Lowcountry Healthcare Coalition bought several decontamination tents for its coalition to use during a hazardous materials event. The Coalition held a "decon" tent demonstration so members could get a hands-on look at setting up and taking down a decon tent onsite at a hazardous materials event. The demo also allowed members to see how effective decon is on-site.



Decon tent demonstration for the Lowcountry Healthcare Coalition.

EXERCISES

Coalitions conduct exercises that allow all members to practice their skills and resources. Tabletop exercises are one of the most common types because they are easy to schedule and can be done quickly. A tabletop exercise brings members together to roleplay their parts while discussing how each member would contribute during a disaster.

A full-scale exercise is the highest level of exercise that's done because it requires the commitment and use of a location, equipment, and people. It's a full participation event with actual moving pieces.

The Upstate Healthcare Coalition completed its National Disaster Medical System (NDMS) test using a full-scale exercise. The exercise involved the use of the Greenville-Spartanburg International Airport and a substantial number of coalition members from throughout the region to test their ability to receive a mass influx of patients. Hospitals, ambulance companies, voluntary agencies such as The Salvation Army, Public Health Reserve Corps (PHRC) volunteers, soldiers from Fort Jackson, the state guard, and members from the Civil Air Patrol (CAP) all participated.

CAP members were flown in from Charleston to act as evacuees arriving in the area. They were treated onsite at the medical tents and then sent by ambulance to local hospitals.

THE FUTURE

The goal of every coalition is to be a resource for its members as they serve the public in South Carolina. Coalitions will continue to improve, but they are only as capable as its members, so it's important for members to be actively involved.

To paraphrase another old saying, "Ask not what your coalition can do for you. Ask what you can do for your coalition!"



Upstate Healthcare Coalition's NDMS exercise.

KEEPING THE LINES OF COMMUNICATION OPEN: AMATEUR RADIO OPERATORS ARE PROS DURING A DISASTER

Modern communication systems are so reliable, it's hard to imagine that they might not be there during a disaster. Don't worry though, Public Health Preparedness (PHP) has you covered—it's written in our plans!

For the past five years, PHP has led a monthly Communications Check and also participates with the South Carolina Healthcare Emergency Amateur Radio Team (SCHEART) training network to test information sharing capabilities. These checks have increased the ability of our healthcare coalition partners and Public Health Reserve Corps (PHRC) volunteers to effectively communicate during an emergency.



SCHEART volunteer George Mudd.

Since the beginning of 2017, PHP has had two successes when it comes to communications: once in an exercise and once in a real-life event. PHRC and SCHEART have shown what it takes to perform at a high level and to increase the ability of responders to communicate.

Two examples of a high-level exercise were the National Disaster Medical System (NDMS) exercise, which took place on May 9, 2017, in Columbia and the Emergency Preparedness Survey, which took place in Horry County on June 10, 2017. The NDMS is a federally coordinated healthcare system that helps states during major disasters by providing additional medical personnel and resources. NDMS helps local, regional, and state medical systems respond to a disaster.

Every year, South Carolina puts on a large NDMS exercise. During the 2017 NDMS exercise, over 150 mock patients were flown into Columbia where their injuries were evaluated in a Patient Reception Area (PRA), and then transported to a local hospital.

People always think it's going to be there and don't give a second thought to the possibility of losing communications during disasters.

Recently mandated rules from the Centers for Medicare and Medicaid Services (CMS) have made communication an even higher priority for organizations. Healthcare organizations are working with SCHEART to make sure their communications are always ready when needed. In the past few years South Carolina has experienced hurricanes, floods, tornadoes, hail, and more. For every response, the ability to communicate is crucial. Communication is discussed on a routine basis because of how important it is and how it must be exercised. In fact, many reports have shown communications to be a big bright spot!

SCHEART amateur radio operators were there to provide back-up communications by bringing its communications trailer to use in case of a power failure or cell phone towers weren't working. The operators at SCHEART understood the importance of the exercise and of their work during a disaster.

The Emergency Preparedness Survey was a real-world test of the emergency communications system. It also showed the dedication of SCHEART volunteers, who willingly traveled from across South Carolina to the Pee Dee Region to participate.

The Emergency Preparedness Survey sought to identify and address those in the coastal regions who may be vulnerable to evacuation during a hurricane or tropical storm. Two-person teams went out and visited homes. These teams consisted of a PHRC volunteer and a SCHEART volunteer. During these visits, not only did the teams talk to residents about their preparedness plans, the teams were also able to identify communication "dead spots" in areas along the coast. The "dead spots" were documented and SCHEART is working to improve coverage in those areas.

As Public Health Preparedness continues to focus on communication, it relies on SCHEART to be an active partner. SCHEART has seen an increase in the number of people who want to be trained as amateur radio operators and the number of healthcare facilities that want to train and run exercises with SCHEART.

SCHEART constantly works to improve its services and its capabilities. Most importantly, its members are dedicated to making sure there is always reliable communications during and after a disaster.



Communications exercise



Communications trailers command area

EXERCISING FOR EBOLA - TRANQUIL TERMINUS 2018: BUILDING CAPACITY FOR TRANSPORTING EBOLA PATIENTS

Lessons learned from the Ebola outbreak several years ago led to the U.S. Department of Health and Human Services' (HHS) decision to test the nation's ability to move patients with highly infectious diseases safely and securely to regional treatment centers. Spearheaded by HHS, Lowcountry's Epidemiology (Epi) and Public Health Preparedness teams joined with organizations around the country to participate in the Tranquil Terminus Exercise starting on April 10, 2018.

This was the largest HHS-sponsored patient movement exercise involving the U.S. Department of State, U.S. Department of Transportation, Regional Ebola Treatment Centers, state and local health departments, hospitals, airport authorities, and non-government organizations.

Keeping healthcare workers and everyone involved safe and secure when trying to move Ebola patients takes a tremendous amount of coordination, synchronization and skill. This type of exercise helps ensure that everyone involved is ready for that level of complexity. As seen in the map below, Tranquil Terminus was a truly national exercise.

More than 50 organizations across the U.S. joined forces on April 10 to ensure readiness to move patients from receiving points to treatment centers around the country during an outbreak.



EXERCISE, EXERCISE, EXERCISE

On the day of the exercise, an adult exercise patient arrived at an outpatient clinic at the Medical University of South Carolina (MUSC) in Charleston with symptoms of Ebola. This exercise patient “had traveled to an area with previously known Ebola activity,” said Epi RN Melissa Janney. The exercise patient was transferred to MUSC and placed in isolation. “Regional Epi staff facilitated the evaluation,” said Janney. Lab work confirmed Ebola that evening.

On Wednesday April 11th, a communication and coordination meeting took place among local, state, federal, private sector and non-governmental organization partners to determine whether the exercise patient should be transported to a Regional Ebola Treatment Center. That day, the National Weather Service issued a Hurricane Watch for southeast South Carolina, prompting the decision to transport the exercise patient from MUSC to Emory University Hospital (EUH) in Atlanta, Georgia.

On the morning of Thursday April 12th, the exercise patient was transported by ground ambulance to Charleston Airport, then loaded onto a customized patient-transport aircraft for transport to DeKalb-Peachtree Airport, northeast of Atlanta.

At DeKalb-Peachtree Airport, medical personnel handed the exercise patient off to EMS personnel for transport to EUH. The exercised for Region IV concluded the afternoon of April 12th after the patient was received at EUH. An exercise such as this is critical for developing processes and forming relationships across agencies before an incident occurs that requires everyone to put these plans to use.

“Overall, we think everything went well and we’re planning a debriefing with staff to gather feedback and discuss successes and possible areas of improvement,” said Lowcountry PHP Director Raymond Bartteet.



Medical personnel preparing to transport the exercise patient to the Charleston International Airport.



Preparing the exercise patient for transport to Emory University Hospital.

BRIDGING THE PREPAREDNESS GAP: NATIVE AMERICAN TRIBES BUILDING COMMUNITY RESILIENCY

South Carolina has 14 recognized Native American tribes, but only one federally recognized. The federally-recognized tribe, the Catawba Indian Nation, has received state and federal resources. This allows the Nation to request assistance when an emergency exceeds tribal resources and capabilities. Unfortunately, other state-recognized tribes were ill-prepared for public health emergencies.

In recent years, emergency preparedness has become an important focus for many communities following the flood in 2015, Hurricane Matthew, and Hurricane Irma. However, some tribal entities lack access to the resources and relationships that would help them prepare for a public health emergency.

South Carolina is threatened by both natural and technological hazards that could disrupt day-to-day activities, cause extensive property damage, and create mass casualties. Historically, the greatest risk to the state stems from natural hazards such as fires, tornados, floods, hurricanes, and earthquakes. However, the risks from technological hazards has increased due to the expansion of chemical usage and hazardous material transportation, which can include spent radiological fuel and low-level radiological waste.

DHEC's Bureau of Public Health Preparedness (BPHP), along with the Commission for Minority Affairs (CMA), delivered Incident Command System training to volunteers in Native American tribes across the state as well as assessed their current response plans.



Participants of the Bridging the Gap program.

This training program, ***Bridging the Gap***, focused on public health emergency preparedness specifically for Native American interests. The program focused on three parts: 1) providing emergency preparedness and response training to tribal communities; 2) reviewing and/or drafting public health emergency response plans for the communities and; 3) engaging the tribal communities in preparedness discussions designed to assess gaps and any special needs members of their communities might have that need to be considered in an emergency. The first phase of the project covered emergency preparedness training for all interested tribal entities. The second phase consisted of the community assessment and response plans review. The third phase brought tribes together to discuss ways to cooperate and ways to collaborate to improve their preparedness in case of a disaster.

In total, five tribes participated in the ***Bridging the Gap*** program: the Catawba Indian Nation, the Piedmont American Indian Association – Lower Eastern Cherokee Nation, the Pee Dee Indian Tribe of South Carolina, the Waccamaw Indian People, and the Pee Dee Indian Nation of Upper South Carolina.

SOUTH CAROLINA 2015: HISTORIC RAINFALL AND CATASTROPHIC FLOODS

On October 2, 2015, South Carolina experienced the unexpected— a 1,000-year catastrophic flood. These floods will go down in South Carolina as one of the most prolific rainfall events in modern state history.

In late September 2015, Hurricane Joaquin formed in the Atlantic Ocean. Although the storm never got any closer than about 450 miles off the coast of South Carolina, the state faced a major threat of rain and flooding. Though the first concern was flooding along the coast, heavy rains also brought flooding across the state. Rainfall amounts exceeded 15 inches in a swath from the Lowcountry northwestward through the Midlands up to the Pee Dee region and the South Carolina/North Carolina border.

Rainfall reached greater than 20 inches in Charleston and Berkeley Counties. The Mt. Pleasant area received almost 27 inches of rain! The National Weather Service (NWS) announced that several rainfall records were set at the Charleston International Airport. Downtown Charleston and surrounding

areas flooded, with higher-than-normal tides keeping rainwater from draining into the harbor.

The Midlands saw rainfall amounts greater than 20 inches in Richland and Sumter Counties. The NWS reported several rainfall records at the Columbia Metropolitan Airport as well. DHEC was active before the rains fell. Prior to October 2nd, DHEC PHP staff deployed across the state to support county and state emergency operations efforts.

DHEC worked with local and state emergency management throughout the storm to ensure the public's health and safety. DHEC helped coordinate the delivery of drinkable water to Palmetto Richland and Palmetto Baptist hospitals after they lost their water supply. DHEC's preparation for, and response to, the effects of Hurricane Joaquin showed the importance of being prepared for disasters. This is part of DHEC's mission as it continues to actively assess and respond to public health and environmental needs across the state.

HIGHLIGHTS

- Staffed emergency operations centers around the clock
- Assessed the condition of 469 dams in areas impacted by the storm
- Opened and staffed 9 Special Medical Needs Shelters housing a total of 130 shelterees
- Conducted daily conference calls with 114 inpatient health care facilities including 4 hospitals to ensure they had no unmet needs to carry out their evacuations of over 1,700 patients to alternate facilities statewide
- Purchased and developed a distribution plan that provided for more than 400 tanks of oxygen to residents in need
- Participated in Team SC events in Lowcountry and Pee Dee

PARTNERING TO PROVIDE ESSENTIAL SERVICES: HARVEST HOPE

When a disaster threatens South Carolina, DHEC is focused on the wellbeing of the state's residents. One of the ways DHEC helps is by opening Special Medical Needs Shelters (SMNS) throughout the state.

When South Carolina was hit by Hurricane Irma in 2016, the storm brought whipping winds and relentless rains, which prevented food deliveries to SMNS across the state.

WHAT IS A SPECIAL MEDICAL NEEDS SHELTER?

An SMNS is a shelter with back-up power for people with medical conditions who need access to electricity or refrigeration for their medicines or medical equipment. People in these shelters do not need medical caregivers or hospitalization. They must bring a caregiver with them.

HARVEST HOPE

While the storm was making its devastating impact, Keith Farrell, Chief Operating Officer at Harvest Hope, used his own vehicle to transport meals to SMNS locations when no other option was available. DHEC has now partnered with Harvest Hope to help feed people at SMNS statewide.



Representatives from Samsung, Harvest Hope and DHEC.

SAMSUNG SUPPORTS THE WORK OF HARVEST HOPE

On May 30, 2018, Samsung presented Harvest Hope with a \$35,000 check to support their efforts to feed people at an SMNS around the state. The donation will provide 12,000-15,000 meals for people who may need to come to an SMNS. The meals will be pre-staged at a refrigerated warehouse in Greenville, and at food bank locations in Charleston and Augusta.

Governor Henry McMaster said, "When South Carolina is on the verge of a natural disaster, the last thing we want our people concerned about is whether they will have enough food."

STRENGTHENING EMERGENCY PREPAREDNESS PLANNING: BUREAU OF PUBLIC HEALTH PREPAREDNESS

There are a variety of health-related concerns facing the people of South Carolina: infectious diseases, air and water quality, restaurant inspections, nuclear power plants and dam safety, just to name a few. Many areas of DHEC are committed to the daily tasks of protecting the citizens of South Carolina from these concerns and more. The Bureau of Public Health Preparedness (PHP) focuses on the preparedness and response activities for DHEC in the event of a public health emergency. PHP is charged to protect the health and wellness of people who live, work, and play in South Carolina. How does PHP do this? By bringing together many different pieces of a complex puzzle.



The first piece of the puzzle starts with PHP. PHP coordinates the development of comprehensive preparedness plans that identify the key players who need to be involved and how they need to be involved. PHP first looks at partners in the healthcare system such as hospitals, healthcare providers, emergency medical services and others. PHP then looks at the local, state, and federal agencies that need to be involved.

PHP'S PREPAREDNESS CAPABILITIES:

- Community resilience
- Incident management
- Information management
- Bio-surveillance
- Countermeasures & mitigation
- Surge management

Training is a part of the plan. PHP sees what training is needed and then works to ensure personnel are trained. Part of training includes exercises for personnel to become comfortable working with other agencies and comfortable performing mission essential tasks. Exercises can be table top exercises, with personnel from different partner agencies discussing and walking through the response to a disaster. Exercises can also be full-scale exercises, which means personnel and partner agencies actually using equipment, making radio calls, and practicing moving patients.

All of these things are part of PHP's role to coordinate with healthcare partners and government agencies to provide a unified and effective response. This is PHP's commitment to preparing South Carolina for public health emergencies. These puzzle pieces build and maintain public health capabilities that are used when a disaster strikes.

THE ZIKA THREAT: SOUTH CAROLINA RESPONDS

The many hours of Zika planning paid off when in April 2016 the first travel-related case of the virus found its way to South Carolina. The state projected a Zika case would appear at some point "as more people vacation to countries where the Zika virus is actively spreading," said DHEC Medical Consultant Teresa Foo, M.D. DHEC actively monitors for the arrival "of new diseases in South Carolina in an effort to help stop the spread of the illness," Foo added.

Over the next year, South Carolina would see 57 travel-associated cases of the Zika virus. However, by February of 2018 the number of reported cases of the Zika virus would dwindle down to zero.

Although for the moment we can breathe a sigh of relief, DHEC remains vigilant and ready to respond to Zika.

STOPPING THE SPREAD OF ZIKA

DHEC identifies, tracks, and works to prevent and control the spread of infectious diseases in the state, including mosquito-borne diseases. When Zika became a potential threat, the state was already prepared to combat the spread of the disease. One of DHEC's key strategies was to detect the presence of Zika as early as possible in mosquito populations and in individuals who traveled to areas where the virus was active. DHEC ultimately wanted to prevent the illness from infecting anyone, and to stop the spread when a human case was identified.



Combating Zika took the whole community working together. DHEC coordinated with the private sector, local, and state partners to develop and enhance communications, mosquito surveillance efforts, mosquito control guidance for local government, laboratory testing protocols, disease surveillance, and blood safety monitoring.

HIGHLIGHTS

- Formed Zika Task Force to lead planning efforts within the agency and with community partners
- Used news releases, social media, and public service messages to distribute protection and prevention messages statewide
- Conducted lab tests and posted daily updates to www.scdhec.gov
- Provided trained staff 24/7 to answer questions from healthcare providers and labs
- Participated in the U.S. Zika pregnancy registry

SAVING LIVES IN THE FACE OF DISASTER: HURRICANE MATTHEW

In preparation for the Governor's Mandatory Medical Evacuation for healthcare facilities during Hurricane Matthew, DHEC worked closely with hospitals and nursing homes along the coastline to help prepare for and coordinate the movement of patients to safety.

DHEC Public Health Preparedness (PHP) deployed staff to its central hub of operations, the Agency Coordination Center (ACC) and to the South Carolina Emergency Management Division's Emergency Operations Center to prepare for activation.

Hurricane Matthew was the most powerful storm of the 2016 Atlantic Hurricane Season and made its fourth and final landfall near McClellanville, South Carolina as a category 1 hurricane on October 8th. Matthew will be remembered for its extreme rainfall and deadly flooding.

When the governor issued a State of Emergency, it triggered a state-wide unified emergency response system. DHEC, along with its emergency response partner agencies and organizations, began the process of collaborating and coordinating resources in preparation for Hurricane Matthew.

PHP staff worked to coordinate and collaborate with numerous state and local agencies. DHEC also worked with several non-profit organizations, such as the Red Cross and Salvation Army to help ensure the safety and wellbeing of South Carolinians.

DHEC HURRICANE MATTHEW RESPONSE HIGHLIGHTS

- Coordinated with facilities located within evacuation zones to help with any concerns or unmet needs
- Worked with healthcare facilities and nursing homes to make sure they safely transferred patients to other facilities
- Deployed staff to emergency response centers at Public Works and Engineering, Mass Care, Health and Medical, and Public Information
- Activated DHEC's emergency communication system, CodeRED, to automatically notify dam owners via voice call, text messages, and email so they could prepare for the storm
- Worked with the U.S. Army Corps of Engineers to identify priority dams prior to the storm and conducted rapid post-storm inspections
- Conducted the largest Special Medical Needs Shelter (SMNS) operation in the history of the state, opening nine shelters that supported a total of 131 individuals and their caregivers

HELPING PROTECT THE PUBLIC: SOUTH CAROLINA'S MEDICAL COUNTERMEASURES

Medical countermeasures (MCMs) are FDA-regulated products (vaccines, drugs, devices, etc.) that may be used in a potential or actual public health emergency, such as biological, chemical, radiological/nuclear material, naturally occurring emerging disease, or a natural disaster. MCMs are used to diagnose, prevent, or treat conditions associated with a public health emergency.

THE MEDICAL COUNTERMEASURES PLAN

As part of its mission to ensure public health and healthcare preparedness and response, PHP developed the South Carolina Medical Countermeasures Plan (SCMCMP). The plan describes when and how the state will coordinate with federal, regional, and local partners for storing, securing, and distributing products. The SCMCMP contains information on how to document local, regional, state, and federal supplies of available medicines and materials. The plan is updated every two years, providing critical information on the type and number of supplies and the deployment and distribution of MCMs.

POINTS OF DISTRIBUTION

The foundation of public health and healthcare preparedness is ensuring communities have emergency medical supplies and can distribute them. PHP works with the public health regions and partners to provide emergency medical supplies before, during, and after a public health emergency.

One of the largest private-public partnership is the Point of Distribution (POD) program. There are two types used before and during a public health emergency, Open PODs and Closed PODs. An Open POD is made available to the public at large. People may come in to receive medicines, vaccines, and medical supplies. A Closed POD is not available to the general public. It's used to dispense medicines, vaccines, and supplies to certain patients, medical personnel, their families, law enforcement, first responders, and their families. A Closed POD helps ensure that medical staff and response personnel are protected as they perform life-safety operations.

PRACTICE MAKES PERFECT

PHP continually refines its plan to improve its abilities and capabilities to address the public health and healthcare needs during an emergency. PHP coordinates training and exercises (internally and externally) every year to ensure partners are aware of new developments. Trainings focus on new concepts, procedures, and processes. Exercises focus on validating these new concepts, procedures, and processes. At least once every five years, PHP hosts a state-wide, multi-agency full scale exercise. This exercise is meant to strengthen partnerships, reinforce capabilities, and reassure the public's trust in our ability to meet their needs during a public health emergency.

DEDICATED TO SAVING LIVES: BUREAU OF PUBLIC HEALTH PREPAREDNESS



*Michael A. Elieff
Director
Bureau of Public Health
Preparedness
Department of Health and
Environmental Control*

BPHP, DHEC, and our partners have much to be proud of. Together, we have trained, exercised, or responded to a significant number of events over the past few years. However, now is not the time to rest on our laurels. We must continue to strengthen our relationships, both internal and external, to ensure the best possible results for the citizens of the state.

Unfortunately, bad things happen to good people. We have experienced Zika, historic flooding, multiple hurricanes, Hepatitis A, TB, and a litany of other events as a state. When that happens, we transition our efforts to responding to the event and ensure that we provide a level of service, coordination, information management, resource support, and whatever else is necessary to ensure a positive outcome.

Every single day we are developing plans in response to emerging infectious diseases or updating existing plans; developing and conducting training, drills, and exercises; educating staff, partners, and the public on how to be ready for disasters; working with our vulnerable populations; conducting shelter operations and more.

I am humbled by this team's dedication, effort, thoughtfulness, and concern for those we have the honor to serve and more. We are in a much better place today because of the men and women that do the hard work necessary to make this team successful. And I know that we will be in an even better place at this time next year because of them.





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