

DEMSSOC

2017

Delaware Emergency Medical Services Oversight Council



18th Annual Report

The Honorable John Carney, Governor





DELAWARE EMERGENCY MEDICAL SERVICES OVERSIGHT COUNCIL

April 15, 2018



To the Citizens of Delaware:

On behalf of Governor John Carney, as the Chair of the Delaware Emergency Medical Services Oversight Council (DEMSOC), I am pleased to present the 2017 DEMSOC Annual Report.

The Delaware Emergency Medical Services Oversight Council (DEMSOC) was formed pursuant to the Delaware Emergency Medical System Improvement Act of 1999 (HB332). DEMSOC is charged with overseeing Delaware's Emergency Medical Services (EMS) system to ensure that all elements of the system are functioning in a coordinated, effective, and efficient manner. Delaware's EMS system is focused on improving the quality of life for the citizens of and visitors to Delaware by reducing morbidity and mortality rates. The continuous development and improvement of Delaware's EMS System is a high priority for DEMSOC's membership that includes professionals from multiple EMS provider agencies, representatives from agencies that frequently work with and support EMS, and private citizens knowledgeable in the delivery of EMS care.

State funding for agencies and organizations, specifically fire and EMS, that support the EMS system has been reduced over the past several years. The duties of DEMSOC under Delaware Code include the responsibility to make legislative recommendations to the Governor and General Assembly. In 2017, at its regularly scheduled December meeting, a motion was made and unanimously passed to request a restoration of the statewide paramedic reimbursement of the counties back to 30% of actual expenditures. The DEMSOC supports the restoration of previous reductions in Grant-in-Aid appropriations and supports the establishment of a dedicated revenue source for reimbursement and sustained support of EMS service delivery in Delaware.

This year's DEMSOC report is designed to inform others about Delaware's Emergency Medical Services (EMS) system and heighten awareness of the issues that most directly affect the delivery of EMS service and the quality of EMS patient care. Throughout the year we have witnessed great achievements in the emergency services community and this report attempts to capture those successes as well as to build the framework for addressing system challenges, current and anticipated. Additionally, this year we have added a focus on value-added services provided by the emergency services agencies and organizations.

As you review this year's annual report, I encourage you to use the information provided to increase your awareness of the important and vital role of Delaware's EMS system and ask for your continued support for the dedicated individuals and groups that work hard to ensure that our EMS system remains a leader among its peers.

Respectfully yours,

Robert A. Stuart, Chair
Director, Sussex County EMS



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Introduction

The Delaware Emergency Medical Services Oversight Council (DEMSOC) annual report represents an overview of the available information regarding the progress and state of Delaware's EMS system. The inaugural report, published in 2000, enabled DEMSOC to establish a baseline from which to measure the impact of changes and growth in Delaware's EMS system. DEMSOC presents this annual report in accordance with Title 16, Chapter 97, §9703 of the Delaware Code.

It is DEMSOC's vision that Delaware's EMS system represents true excellence in out-of-hospital health care.

As you read the 2017 Annual Report, we are confident that you too will be proud of the State of Delaware's Emergency Medical Services current capabilities, and marvel at the progress that has been made in the previous 17 years. This report will focus on the data metrics from the Delaware Emergency Medical reporting System (DEMRS). The DEMSOC members are encouraged by the system's successes, optimistic about the future and are looking forward to continuing enhancements to the EMS services provided to the State in the years to come.

What EMS Does

The goal of Delaware's Emergency Medical Services (EMS) system is to provide the right level of care at the right place at the right time and transport to the appropriate care facility. This is accomplished through a well-coordinated tiered system of response that includes many agencies. Each agency has an integral role in providing the highest level of prehospital medical care to the citizens and visitors of the State.

EMS in Delaware includes:

- Public safety dispatch centers
- Ground and air ambulance services
- Fire services
- County paramedic services
- Law enforcement agencies
- Local and State EMS agencies
- Hospitals and specialty care centers
- Training institutions and organizations
- Citizen, professional, and technical advisory groups
- Other governmental and voluntary organizations

Who We Are:

- 1,300 Certified First Responders
- 1,497 EMT-Basics
- 317 Paramedics
- 210 Dispatchers
- 8 Medical Directors

EMS services provided to the State of Delaware include:

There are 54 Basic Life Support (BLS) ambulance agencies comprised of a combination of paid and volunteer EMS providers. Paramedic Advanced Life Support (ALS) services are provided state-wide by the three counties while the Delaware State Police Aviation Division is the primary provider of 911 air services with one private air medical service providing backup response. Additionally, the state is serviced by ten BLS inter-facility medical transport services, six ALS inter-facility medical transport services and one specialty hospital transport service. The units that respond to 911 calls for service receive their directions from certified dispatch centers located throughout the state.

- 135 BLS ambulances providing 911 services
- 99 BLS ambulances providing non-emergency services
- 21 Full Time & 3 Part Time ALS units providing 911 services
- 7 ALS Supervisor units
- 4 Air Medical helicopters providing 911 services
- 6 ALS agencies providing non-emergency services

The majority of 911, emergency patient transportation is provided by the volunteer/career BLS fire-based ambulance services and the Delaware State Aviation Division. ALS services are provided through a system of chase or intercept paramedic units operated by the three counties. These ALS units respond in conjunction with the BLS transport units. In 2017, the EMS system in Delaware responded to the following incidents: (information based on EMS patient care reports)

- 231,198 Statewide Total Run Reports
- 136,920 Non-trauma incidents
- 144,499 Basic Life Support Incidents
- 31,201 Trauma Incidents
- 86,699 Paramedic Incidents
- 9,084 Pediatric Incidents (0-17yrs)
- 4,745 ALS Cardiovascular Incidents
- 247 Air Medical Transports

Delaware EMS System Oversight

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Delaware Emergency Medical Services Oversight Council (DEMSOC)

The Delaware Emergency Medical Services Oversight Council (DEMSOC) was formed pursuant to the Delaware Emergency Medical Services Improvement ACT of 1999 HB332). The council is charged with monitoring Delaware’s EMS system to ensure that all elements of the system are functioning in a coordinated, effective, and efficient manner in order to reduce morbidity and mortality rates for the citizens of Delaware. It is also charged with ensuring the quality of EMS services in Delaware.

DEMSOC consists of 21 members appointed by the Governor. Serving on the council is the Secretary of Homeland Safety & Security, Rob Coupe, Secretary of Delaware Health and Social Services, Kara Walker. DEMSOC also includes representatives from the following agencies: the Governor’s Office, each county government, the Delaware State Fire Prevention Commission, The Delaware Volunteer Fireman’s Association and its Ambulance Committee, The Delaware Healthcare Association, The Delaware Police Chief’s Council, The Delaware Chapter of the American College of Emergency Physicians, The State Trauma System Committee, The Medical Society of Delaware, The Delaware State Police Aviation Section, The EMSC Advisory Committee and the State EMS Medical Director. There is a representative for practicing field paramedics and three at large appointments for interested citizens, one from each county. The Office of Emergency Medical Services is assigned to Delaware Health and Social Services Division of Public Health and is the regulatory authority for the paramedic system and provides medical oversight to the state’s EMS system.



Robert Stuart



Sec. Rob Coupe



Sec. Kara Walker



Lawrence Tan



Colin Faulkner



Dr. Ross Megargel



Wayne Smith



Dr. Steve Murphy



Dr. Bruce Nisbet



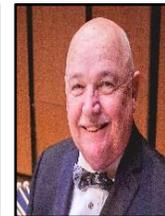
Romain Alexander



Jason Baxley



Mike McMichael



Glenn Luedtke



Dr. Maria Carmen
G. Diaz

Not Pictured: Norman Barlow, Alan Robinson, Richard Perillo, Michael Polnerow, Kate Groner, Dana Bowerson, Member-at-large/Kent: vacant

Delaware EMS Oversight

Delaware is a frontline leader in prehospital emergency care through comprehensive coordination, development and evaluation of the statewide emergency medical services system. The Delaware EMS system is a two tiered EMS delivery system with shared oversight of Basic Life Support services and personnel by the State Fire Prevention Commission and Advanced Life Support services and personnel by the Office of EMS within the Emergency Medical Services and Preparedness Section of the Division of Public Health within the Department of Health and Social Services.

The Office of Emergency Medical Services (OEMS) ensures the quality of emergency care services, including trauma and prehospital advanced life support capabilities, through the coordination and evaluation of the emergency medical services system. The Office of Emergency Medical Services is part of the Emergency Medical Services and Preparedness Section.

EMS Medical Direction is provided by emergency medical physicians that are employed by the Office of EMS. They provide medical direction to both Advanced Life Support (ALS) and Basic Life Support (BLS) services.

The Delaware State Fire Prevention Commission (SFPC) oversees Basic Life Support (BLS) services through the Ambulance Service Regulations. The BLS regulations address administrative, operational and provider requirements. This includes emergency as well as non-emergency ambulance services.

Delaware EMS Oversight Triangle



Emergency Medical Services and Preparedness Section

EMSPS works with a variety of federal, state, local, and private sector groups to ensure the state is prepared to deal with any public health emergency. This Section houses the *Office of Preparedness* (OP) and the *Office of Emergency Medical Services* (OEMS).

Office of Emergency Medical Services (OEMS)



The mission of the Office of Emergency Medical Services is to assure a comprehensive, effective, and efficient statewide emergency medical care delivery system in order to reduce morbidity and mortality rates for the citizens of Delaware. The OEMS ensures the quality of emergency care services, including trauma and prehospital advanced life support capabilities, through the coordination and evaluation of the emergency medical services system, within available resources.

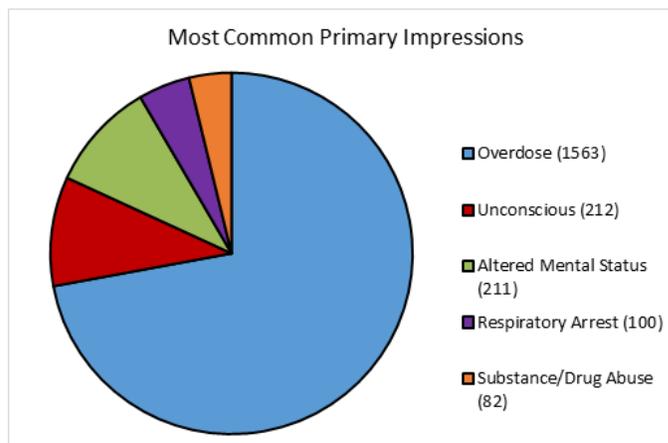
Highlights for 2017

Naloxone program for BLS and Police agencies

The issue of heroin and opioid overdoses has become a problem of epidemic proportions across the nation; unfortunately Delaware has not been spared the effects.

In an effort to better understand the overdoses that are occurring with the state, the OEMS reviewed data collected from the Delaware Emergency Medical Reporting System (DEMRS). It was found that there were over 2714 suspected overdose patients treated by EMS in 2017. This number has increased significantly from 2016 with just over 1500 suspected overdose patients.

Overdose patients may present with “other” problems as reported by family members and bystanders.



Opioid Epidemic

Delaware is taking a System of Care approach to Acute Overdose Management. A strategy map has been developed for addressing the crisis in the State with nine identified objective areas:

- Reduction in substance abuse and overdose deaths
- Prevent life threatening adverse outcomes
- Diagnose and treat addictions and substance use disorders
- Reduce the need to self-medicate, control access to addictive substances and promote protective factors
- Surveillance
- Communication
- Grants, contracts and payment strategies
- Partnerships
- Workforce

The State is also engaged in the following activities: Drug Monitoring Initiative (DMI), Addiction Action Committee (AAC) and Delaware Overdose fatality Review Commission (DOFRC).

Stroke System of Care

The Stroke System of Care Committee, formed in November 2016, continues to meet on a quarterly basis. In 2017, leadership positions were nominated and official appointments for the committee were completed by the Director of the Division of Public Health. The data and quality subcommittee also meet on a quarterly basis, to address existing data and sources, desired performance and outcome measures, data gaps and case review methodology to share best practices and learning opportunities.

Stop the Bleed

The Emergency Medical Services and Preparedness Section, Office of Emergency Medical Services (OEMS) began the Stop the Bleed Program, a national campaign through the Department of Safety and Homeland Security in October 2017. OEMS staff trained 60 Delaware Medical Reserve Corps (DMRC) members on “Stop the Bleed” with the use of the Tourniquet “Leg” Trainer to provide training in the community and health care system. An OEMS staff member instructed staff at DEMA (Delaware Emergency Management Agency) and hospitals have borrowed the leg to train medical staff and office staff. Several school nurses have trained staff, students, HOSA (Health Occupations Students of America) members, and PTO (Parent Teacher Organization) members on “Stop the Bleed”. To date, we have trained 988 people (619 adults, and 369 under the age of 18). OEMS will continue to coordinate training for the “Stop the Bleed” program.

Emerging Infectious Diseases

The OEMS manages the Hospital Preparedness Program (HPP) and HPP Ebola Preparedness and Response Activities grant efforts and has played an integral part in the planning and response for a potential Ebola patient should they present in Delaware. The OEMS is the lead Delaware agency for the Region III Ebola and Emerging Infectious Disease planning efforts. This has expanded to include planning for other High Consequence Infectious Disease. The OEMS role is predominately to ensure the safety and health of the emergency responders. OEMS through the Healthcare Preparedness coalition has worked with the acute care hospitals, EMS agencies, Homeland

Security Department of Defense (National Guard and Dover Airforce Base) as well as regional partners to ensure the most appropriate response, and care for the patient and ensuring the safety of the providers.

Each year the HPP Ebola Preparedness and Response Activities grant requires a no-notice drill. This year the drill consisted of two patients presenting at an off-site hospital office; patients were a parent and child. The drill assessed frontline facilities ability to identify and isolate a patient in an appropriate timeframe and coordination between the frontline facility and the Division of Public Health on identification and transport of suspected Ebola patient. The patient was transported by a Special Operations Transport Team to the state's designated assessment facility.

Responsibilities of the OEMS also include:

Advanced Life Support Services (ALS): The OEMS ensures highly trained paramedics are providing quality emergency care to the citizens and visitors of Delaware. The OEMS is responsible for coordination of training, certification, financing, and oversight of the state's paramedic system.

Statewide Trauma System: This program is responsible for coordination of hospitals and provider agencies to ensure optimal care for trauma patients.

Prehospital Patient Care Reports: Delaware Emergency Medical Reporting System (DEMRS) is a comprehensive web-based EMS data collection and reporting system that provides convenient access to field providers and to the receiving facilities.

EMS Medical Direction: This program is responsible for providing medical oversight of the statewide EMS system (Advanced/Basic Life Support and Emergency Medical Dispatch), review and modification of the statewide standard treatment protocols; oversight of medical command facilities, conducting research and oversight of the statewide EMS quality assurance program.

Emergency Medical Services for Children (EMSC): The goal of this program is to improve emergency care for children in the State of Delaware through specialized activities. Safe Kids Delaware is one of the programs within EMSC.

Hospital Preparedness Program: The Office of EMS manages the Hospital Preparedness grant program funded by the Office of the Assistant Secretary for Preparedness and Response, (ASPR).

Hospital Preparedness Program (HPP) Ebola Preparedness and Response Activities: The Office of EMS manages the HPP Ebola Preparedness and Response Activities funded by ASPR until 2020.

First State, First Shock Early Defibrillation Program: This program provides automatic external defibrillators to organizations within DE. This program is responsible for providing data collection, training, and prevention activities in support of initiatives to reduce cardiac arrest deaths in Delaware.

EMS Infectious Disease Exposure Monitoring: The need for an effective infection control program has always been an essential and integral part of the prehospital practice in Delaware because there is both the risk of healthcare providers acquiring infections themselves and of them passing infections on to patients. Preventative and proactive measures offer the best protection for individuals and organizations that may be at an elevated risk of exposure to these infectious diseases.

State Regulations promulgated through OEMS:

Delaware Medical Orders for Scope of Treatment (DMOST) Act: The purpose of House Bill 64: This Act authorizes the use of Medical Orders for Scope of Treatment in Delaware. This document, a “DMOST form,” will allow Delawareans to plan ahead for health-care decisions, express their wishes in writing, and both enable and obligate health care professionals to act in accordance with a patient’s expressed preferences. The statute authorizes a medical order which is transportable, standardized, and implements a patient's end-of-life care preferences.

Delaware Trauma System Regulation: The State Trauma System regulations were first promulgated in 1997 to add detail to the Trauma System enabling the legislation of 1996. Subsequent revisions were enacted in 1999 and 2001. The regulations include sections on the Trauma Center Designation Process, Trauma Center Standards, Triage, Transport and Transfer of Patients, and the Trauma System Quality Management Plan.

Air Medical Ambulance Service Regulation: The purpose of this regulation is to provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware. These regulations intend to ensure that patients are quickly and safely served with a high standard of care and in a cost-effective manner.

Early Defibrillation Provider Regulation: The purpose of this regulation is to establish the criteria for training and the right for emergency responders to administer automatic external cardiac defibrillation in an out-of-hospital environment.

Advanced Life Support Interfacility Regulation: The purpose of this regulation is to permit the use of paramedics, under the oversight of the Division of Public Health, to manage patients while in transit between medical facilities or within a healthcare system. It includes approval of an organization to provide service using paramedics, as well as defining their scope of practice and medical oversight.

Organ and Tissue Donor Awareness Board: The Office of EMS provides staff support and represents Delaware Health and Social Services on the Delaware Organ and Tissue Donor Awareness Board (OTDAB). Created by Delaware Code, Title 16, Chapter 27, Anatomical, Gifts and Studies, §2730, this Governor-appointed board has the responsibility of promoting and developing organ and tissue donor awareness programs in Delaware. These programs include, but are not limited to, various types of public education initiatives aimed at educating residents about the need for organ and tissue donation and encouraging them to become designated organ and tissue donors through the Delaware organ and tissue donation registry.

As of March 5, 2018, there were 474 Delaware residents waiting for an organ transplant with over 380 of those residents waiting for a kidney transplant. In the state of Delaware 419,040 people with a driver's license or state identification card (51.6% of all) have designated themselves as organ and tissue donors as of February 1, 2018. In order to promote donor designation among Delaware residents, OTDAB partners with the Gift of Life Donor Program and other supporting organizations on public education and awareness projects. The current goal is an increase of 7,000 donor designations by January 1, 2019. For more information, visit www.donatelifede.org.

Office of Preparedness

Planning Projects

Family Assistance Center:

EMSPS in coordination with Delaware Division of Forensic Science, Delaware Health and Social Services and other stakeholders developed the Family Assistance Center Plan. This plan creates a mechanism to allow stakeholders to jointly support family needs in the aftermath of a mass fatality or mass casualty incident. The plan will allow for stakeholders to coordinate with families through the process of identification, recovery, support, and resources that are needed throughout the duration of the incident. This plan clearly identifies which agencies are responsible for these key functions.

Mass Fatality Management:

EMSPS chose to highlight mass fatality management during the 2017 Preparedness Symposium. Speakers from Amtrak Emergency Management and the National Transportation Safety Board discussed carrier accidents that could occur within Delaware and what the management of such an incident would look like. EMSPS is coordinating with the Division of Forensic Science in the redevelopment of their internal plan and procedures for mass fatality.

EMSPS placed the morgue trailer into operational service in June 2017, this support vehicle will help better maintain operational capabilities during a mass fatality incident.



Points of Dispensing (PODs):

EMSPS maintains a robust Open and Closed POD plan and system which would be employed in the event of a Public Health Emergency that required medication and/or vaccination distribution. EMSPS partners with health and emergency management partners throughout the year to distribute potassium iodine (KI) as well as flu vaccinations as a method to exercise the plan and distribute medication to large volumes of people.

Emerging Infectious Diseases

Ebola:

EMSPS developed a draft High Consequence Infectious Disease Surveillance and Response Plan. The plan is designed to serve as an all-inclusive guide for a coordinated response to an infectious disease emergency. EMSPS launched a mobile preparedness app for mobile devices that provides Delaware residents and visitors with a mobile tool and E-guide identifying general information on signs, symptoms, and prevention actions for infectious diseases. It also includes contact information and a mapping function to direct individuals to healthcare and emergency medical facilities. The app is available and free to download from the App Store (Apple) and Google Play Store (Android) via mobile devices.

EMSPS acquired a morgue trailer funded by the Ebola and Infectious Disease grant. This trailer was designed for proper storage and decontamination which could result from a high consequence infectious disease. EMSPS conducted a tabletop exercise to discuss scenarios and validate the Ebola ConOps plan.

Zika:

The Division of Public Health continues to manage funding to help combat Zika by enhancing surveillance and response activities. This money has been used for community outreach, advertising, lab testing, and control measures. DPH created a Zika Action Plan which focuses on protecting the Delaware population, specifically pregnant women and their unborn babies from the consequences of Zika virus disease. This plan is organized in eight response domains that explain in detail the CDC recommended activities as adapted to Delaware. EMSPS's Office of Preparedness sponsored a Zika Preparedness Tabletop Exercise to validate the Zika Action Plan. The exercise was a success with 32 participants attending including representatives from Public Health, Department of Natural Resources Mosquito Control, and Department of Agriculture.

Mass Care and Vulnerable Populations

Mass Care:

EMSPS coordinates with state and non-governmental organizations to be able to provide mass care to the Delaware population in a disaster. This year EMSPS hosted a mass care tabletop exercise with Department of Health and Social Service partner agencies to discuss roles within a mass care incident. Additionally participation in a second tabletop exercise allowed the testing and validation of the 33 State trained shelter managers.



Long Term Care & Home Health Care Preparedness:

EMSPS has coordinated with long term care and home health care stakeholders to participate in a full scale exercise. The exercises in conjunction with other state agencies allowed all stakeholders to test the newly implemented preparedness plans and requirements required by the Federal Government Centers for Medicare and Medicare Services (CMS).

People with Access and Functional Medical Needs (PWAFFMN):

The Emergency Preparedness Planning for Persons with Access, Functional and Medical Needs (PWAFFMN) Committee Meeting was established in the summer of 2013 to best plan for the varied and unique emergency preparedness needs of Persons with Access, Functional and Medical Needs. The PWAFFM Committee has had disability and emergency preparedness experts as presenters to facilitate educational awareness of AFN. The PWAFFMN includes state and local emergency managers, health and social service agencies, community organizations, advocates for people with disabilities, and those with disabilities themselves. The group has now advocated and developed several mitigation projects. Mitigation Projects include: development of the Preparedness Buddy

Brochure planning tool for all populations; providing American Sign Language interpreters for meetings, trainings, exercises, and POD events; establishing the Functional Information and Support Center (FISC) in the State Health Operations Center (SHOC) designed to provide access to a compilation of experts in various Access and Function Needs (AFN) areas to address unique needs of the AFN population. The HHS emPOWER Program is a compilation of Medicare datasets which can be used for planning for the needs of the AFN population. This program will allow Public Health to support Emergency Management partners throughout the state in the identification of persons who require power for medical devices during an emergency event. This information would be shared from the Federal government at the time of a request immediately before, during or after a disaster situation where power could be compromised.

Training, Education and Outreach:

Throughout the year on a weekly basis staff from EMSPS attends community events and meetings throughout the state. These outreach opportunities allow EMSPS to reach thousands of persons annually within the State. Training, resource and educational materials are distributed on a variety of preparedness topics. These activities and materials allow people to be better prepared for and more able to recover from a disaster event.

State Health Operations Center Exercises:

This year EMSPS conducted an exercise of the State Health Operations Center (SHOC). The exercise planning team selected three capabilities required at every real world event. Using the Incident Command System (ICS), each section activated with a total of 69 personnel to meet exercise objectives in response to a simulated Category 3 hurricane impacting Delaware's residents and tourists alike during Labor Day weekend. The exercise tested response procedures while building collaboration amongst team members. The event was a success as participants fulfilled their SHOC roles while meeting exercise objectives.



Additionally this year EMSPS participated in a mass care exercise coordinated by the Delaware Emergency Management Agency (DEMA). More than 20 staff from the Division of Public Health, EMSPS, the Office of Health Risk Communication, the Radio Amateur Civil Emergency Services standby amateur radio volunteers, Delaware Healthcare Facilities Association, and the Division of Long Term Care Residents Protection participated. The goals of DEMA's Full Scale Mass Care exercise including disaster recovery, mass feeding, and volunteer management. In addition, SHOC supported the simulated evacuation and medical surge of Long Term Care Centers and Hospice Centers throughout the state.

Delaware State Fire Prevention Commission (SFPC)

Submitted by the Delaware State Fire Commission



The State Fire Prevention Commission is charged with the protection of life and property from fire for the people of Delaware and to oversee the operation of the Delaware State Fire Marshal's Office and the Delaware State Fire School. The Commission has always been truly dedicated to the health and well-being of every man, woman and child in Delaware. And have done so, since 1955, with no compensation except for the knowledge that we have played a small part in making Delaware a safe and wonderful place to live.

The Statutory responsibilities of the Delaware Fire Prevention Commission are to promulgate, amend, and repeal regulations for the safeguarding of life and property from hazards of fire and explosion. The Statutory responsibilities of the State Fire Prevention Commission may be found in Title 16, Chapter 66 & 67 of the Delaware Code and are summarized as follows but not limited to:

- The Commission consists of seven persons appointed by the Governor.
- They have the power to promulgate, amend and repeal regulations for the safeguarding of life and property from hazards of fire and explosion.
- Prior to promulgation, they shall hold at least one public hearing on each regulation, amendment or repealer and shall have the power to summon witnesses, documents and administer oaths for the purpose of giving testimony.
- They shall appoint the State Fire Marshal and State Fire School Director.
- The Commission shall have power to authorize new fire companies or substations; resolve boundary and other disputes; prohibit cessation of necessary fire protection services.
- The Commission is empowered to enforce its orders in the Court of Chancery.

Volunteer Ambulance Company Fund

The 147th General Assembly amended Title 11 section 4101; this amended Title established the Volunteer Ambulance Company Fund. Furthermore, the "State Fire Prevention Commission" (SFPC) was tasked with providing these funds to Volunteer ambulance companies on a proportionate basis across the state and this number being based on approved dispatched ambulance runs.

The SFPC developed the methodology and disbursement plan. Reports are pulled to show the ambulance runs per agency and statewide from the Delaware Emergency Medical Reporting System (DEMRS).

The DEMRS data shows all run types to include BLS Transport, Cancellation, Patient Refusal, Public Service, Standby Only, Agency/Assist, DOPA/DOA, Unable to Locate patients/scene, Termination of Resuscitation and Transfer of Care. In order to assure the validity of the

information a Quality Assurance/Quality Improvement validation score of 85 percent is used as the minimum validity accepted as accurate reports. The reports mentioned above are entered by the providers who operate within the BLS system.

Since the inception of the fund, the SFPC has distributed \$6,843,531.00 for the period of December 24, 2014 until December 31, 2017. The funds are distributed on a bi-annual basis.

-Alan Robinson, Jr., Chairman Delaware State Fire Prevention Commission

2017 Investigator II/Compliance Officer Statistics

Complaints Received.....	74
Investigations on Existing Cases.....	27
Interviews.....	19
New Ambulances.....	7
Ambulance Inspections.....	221

Ambulance Inspection Deficiency Notices:

Critical.....	1
Cautionary.....	19
Watchful.....	76

EMT Certification and Ambulance Licensing

The Commission has fully transitioned EMT Certification and Ambulance Licensing that was previously tasked to the Delaware State Fire School. In FY18, the Fire Prevention Commission hired an Administrative Specialist II to assist in processing these additional responsibilities.

Delaware State Fire School (DSFS)



Introduction

Delaware Code, Title 16, Chapter 66, §6613-6618, mandates the Delaware State Fire School to: (1) provide firefighters with needful professional instruction and training at a minimum cost to them and their employers; (2) develop new methods and practices of firefighting; (3) provide facilities for testing firefighting equipment; (4) disseminate the information relative to fires, techniques of firefighting, and other related subjects to all interested agencies and individuals throughout the state; and (5) undertake any project and engage in any activity which, in the opinion of the State Fire Prevention Commission, will serve to improve public safety.



New Castle County Division



Kent County Division



Sussex County Division

The agency EMS objectives established to achieve the EMS goal are:

- To certify basic life support personnel as State of Delaware Emergency Medical Technicians.
- To provide BLS training to the first responders and citizens of Delaware.

2017 Accomplishments

Agency conducted EMS training in 2017:

Emergency Medical Technician – 9 classes – 227 students

Emergency Medical Technician Refresher – 23 classes – 483 students

Delaware Emergency Medical Technician Reciprocity – 6 classes – 64 Students

Emergency Medical Responder – 14 classes – 198 students

Emergency Medical Responder Refresher – 25 classes – 170 students

Continuing Education Programs – 126 classes – 1,534 students

Conduct training for 65 EMTs of the BLS Protocol Standing Orders.

2017 Goals

To review, update, and develop DSFS Continuing Education Programs.

Conduct training for the 1,599 Delaware EMTs and 1,285 Emergency Medical Responders.

Provide students access to on-line CEU training.

Provide students blended learning EMS training programs.

Enhance & promote psychomotor skills practice in all EMS Courses.

Summary

To continue the Delaware State Fire School's vision for the EMS programs by providing quality education to willing individuals, creating partnerships among the various agencies and to always offer the most progressive EMS training available.



Grover P. Ingle - Delaware State Fire Marshal

The Delaware Office of the State Fire Marshal provides investigation, enforcement and technical service support to the citizens and visitors of Delaware. The agency operates three divisional offices located in New Castle, Dover, and Georgetown. The agency employs 51 fulltime employees and 2 part time employees.

In 2018, the agency will move forward with the continued need to promote residential fire sprinklers. The State Fire Marshal was tasked by the Delaware legislature to develop and implement the educating of new construction home owners and the availability of residential sprinklers in newly constructed homes. Brochures have been developed by staff to be given to all prospective new construction homeowners through the builder.

There were 11 fire fatalities in 2017. Of those 11 deaths, 10 were in homes without an operating smoke alarm. It will always be a never-ending task to make sure all homes in the State of Delaware having operating smoke alarms. Electric powered smoke alarms with battery back-up interconnected throughout the home are the preferred fire protection configuration. Having a fire escape plan is also very important.

Deputy fire marshals investigated 63 incidents involving a nonfatal, fire related injury in 2017. Twenty injuries were the result of smoke inhalation. Forty-one injuries were burns. There were two other injuries that involved a laceration (1) and contusion (1).

In 2018, the Delaware State Fire Marshal and staff will continue to provide a fire safe environment for all citizens and visitors of Delaware. The Delaware Office of the State Fire Marshal is an independent State agency under the Delaware State Fire Prevention Commission.

Join us at www.statefiremarshal.delaware.gov or email us at Fire.Marsh@state.de.us

Medical Direction

EMS Medical Direction

This program is responsible for providing medical oversight of the statewide EMS system (Advanced/Basic Life Support, and emergency medical dispatch), review and modification of the statewide standard treatment protocols, oversight of medical command facilities, conducting research and oversight of the statewide EMS quality assurance program.

Medical direction involves granting authority and accepting responsibility for the care provided by EMS, and includes participation in all aspects of EMS to ensure maintenance of accepted standards of medical practice. Quality medical direction is an essential process to provide optimal care for EMS patients. It helps to ensure the appropriate delivery of population-based medical care to those with perceived urgent needs. (National Highway Traffic Safety Administration).

Delaware's Emergency Medical Services (EMS) responds to and provides medical care to victims of illness and trauma through a statewide coordinated medical system of EMS responders. EMS responders include 911 dispatchers, first responders, Basic Life Support (BLS) providers, paramedics or Advanced Life Support (ALS) providers, and on-line emergency physicians who oversee individual patient care. All of these EMS responders are medically coordinated through protocols and training directed and overseen by a select group of Board Certified Emergency Physicians licensed in Delaware.

Delaware employs emergency physicians to devote part of their professional efforts to the State EMS system. They include:

- State EMS medical director
- State BLS EMS medical director
- County EMS medical directors (one for each county)
- County associate EMS medical directors (one for each county)

The BLS and county medical directors are accountable to the state EMS medical director. The medical directors meet regularly to review statewide treatment protocols, quality issues, new medical techniques and equipment in a continuing effort to provide the citizens of Delaware with the most up-to-date and appropriate EMS care possible. All EMS medical directors are required to take the National Association of Emergency Medical Services Physicians' (NAEMSP) Medical Directors course.

Delaware's EMS Medical Directors assure quality care to patients through interactions with other physicians, hospitals, citizen groups, and organizations such as, the American Heart Association and the Medical Society of Delaware. They perform retrospective review of aggregate patient care data from the providers to determine the effectiveness of the treatment protocols. Concurrent medical oversight occurs through interactions with EMS personnel during shifts in Delaware hospital emergency departments, medical director ride a longs with EMS providers and by real time monitoring EMS radio reports. High risk procedures and critical care cases are identified for automatic medical direction review.

2017 Accomplishments

The EMS Medical Directors reviewed, updated and implemented the Statewide Treatment Protocols for Paramedics.

The EMS Medical Directors have continued their involvement in EMS research to improve care in the Delaware and to across the country. There were two (2) studies presented during regional and national conferences.

2018 Goals

DMOST: This legislation was passed and signed into law in 2015, regulations have been written and EMS implementation occurred in the spring of 2016. DMOST allows patients and their physicians to quickly identify their wishes as to their desired level of care as they approach their anticipated death. This allows for a standard process and the development of an easily recognized and interpreted document for EMS and emergency medicine providers to know at the critical point of time as to an unresponsive patient's desire for full resuscitation or some lesser level of care. In the absence of a DMOST document requesting a lesser level of care, emergency care providers must assume that an unresponsive patient wants everything done possible to maintain their life. While this legislation has been in place and implemented almost two years ago, our EMS providers are not seeing these documents in the field and emergency medicine physicians are not seeing these documents in the emergency departments. Instead, we are now seeing "home grown" documents coming from nursing facilities, home nursing groups and palliative care groups. The EMS medical directors hope to encourage administrators of these groups to push for wider utilization of the DMOST form. To date, **DMOST has not improved EMS provider's care** to the level of care desired by some of our patients.

Mobile Integrated Healthcare - Community Paramedicine: As hospitals become increasingly responsible for a patients' outcome after discharge from the hospital and in an attempt to prevent emergency department visits and hospital readmissions there is a movement across the country to move back to medical home visits. In an effort to make home visits available to a large number of patients, physicians' extenders are being utilized across the country. These physician extenders come in many varieties from nurse practitioners and physician assistants, respiratory therapist, to care managers and social workers, to paramedics and EMTs and to home health aides. In Delaware, as across the country there is a strong interest in utilizing paramedics and EMTs for a number of these patient care missions due to their familiarity with the prehospital environment and equipment. In Delaware however, to utilize paramedics and EMTs for non-emergency work under the control of non-emergency physicians will require a change in the Delaware EMS legislation.

Interfacility Critical Care Transports: While Delaware has a very good interfacility critical transport company serving patients across the state, they are unable to meet the needs of all of our patients. We hope to develop standards of care for interfacility transports of critically ill and injured patients in cooperation with our current critical care transport providers, EMS agencies, nursing agencies and medical facilities to insure the safe and timely transportation of critical patients from facilities to area tertiary referral centers. These protocols will need to establish training curriculum, required equipment, and medical orders for treatment. In many systems, there is a merger between BLS, paramedics and critical care nursing which may require enabling legislation to establish state and medical oversight of the program.

EMS Critical Medication Shortages: EMS and medical providers have been dealing with another round of severe medication shortage leading to emergent medication substitutions in our patient care protocols and denial of established practices. We have run out of diltiazem a medication used for dangerous rapid heart rates. Normal saline, a resuscitative intravenous fluid is in extreme short supply as a result of the hurricanes that devastated Houston and Puerto Rico. We have also nearly run out of ketamine which is used as an emergent sedative for patients with excited delirium, usually the result of cocaine, crack or PCP intoxication. Ketamine is also used as a “non-addicting” treatment for severe pain, instead of opiates.

Opiate Overdoses: We continue to see very high numbers of narcotic overdoses. We continue to give just enough naloxone (Narcan) to keep the patient breathing but not to bring them to a fully awake state. We prefer to avoid precipitating full narcotic withdraw which often leads to acute agitation and can lead to patient and provider injury. A side benefit of this medical approach to the narcotic overdose patient is EMS transport to a medical facility where various treatment and counseling services may be recommended and provided. Narcotic overdoses are taxing our EMS providers with a ten percent (10%) increase in EMS run volume over base years. We have found that we have responded to some patients five (5) and six (6) times over a year. This increase run volume is leading to some “EMS Provider Burnout” and “Compassion Fatigue”. The Delaware EMS system supports the Delaware Public Health concept of an “Opiate System of Care.” An Opiate System of Care may create special EMS opiate patient care protocols, alternative patient destinations which all should lead to a more effective withdraw symptom prevention and leading to counseling and recovery.

EMS Quality Assurance and Improvement: The DEMRS or EMS patient care record system has been a success with regards to improved readability of individual patient care information and delayed access to patient information, for hospital quality processes. Patients and the state budget will benefit from a dedicated EMS data management process that will allow EMS physicians and managers to improve treatment algorithms. Improved treatment algorithms will improve patient outcomes and eliminate ineffective treatment algorithms focusing resources where they will be most effective.

EMS Safety A Culture We Can Live With

The Delaware Office of Emergency Medical Services (OEMS) is committed to insuring the safety of EMS providers throughout the state and providing information to insure a safe working environment for all EMS providers, both career and volunteer.

A report published by the National Institute of Occupational Safety and Health (NIOSH) in 2017 notes that over 22,000 EMS workers were treated in emergency department for work-related injuries. Full-time workers with less than 10 years' experience were injured most frequently. The most common causes of injury were from excessive body motion (excessive physical effort, repetitive motion, and improper posture), exposures to harmful substances, slips/trips/falls, motor vehicle collisions, and violence/assaults.

There has also been a great deal of attention paid to the subject of stress. According to a 2015 article published in JEMS, of 4,000 first responders surveyed, 6.6% had attempted suicide – a rate ten times the rate in the public. Programs like CISM and the Code Green Campaign hope to improve mental health within our responder community.

Another hot issue related to EMS safety is that of responder fatigue. EMS providers work long hours in various shift configurations. Many of them work for multiple agencies to supplement their incomes. Organizations such as the National Association of EMS Physicians, the National Association of EMTs, and the National Association of State EMS Officials are looking at the problem from a national level with the hope of making the workplace safer in our communities.

One challenge that presents to the EMS industry relates to accurate reporting mechanisms. Our nation's EMS system is not a "one size fits all" model. Some EMS responders fall under the realm of firefighters. Others may be included in statistics related to health care providers. Variations in classification and industry descriptions creates difficulty in fully assessing the extent of the problem.

The NIOSH article provides some recommendations to improve EMS safety. The good news for Delaware is that many of their suggestions are already in place. Services have access to CISM resources. The Delaware State Fire School provides training on managing violent encounters through DT4EMS and safe vehicle operations through EVOC. Agencies are required to have plans for exposures to bloodborne pathogens. We still have many areas to improve such as ensuring our providers come to work well rested and in the best possible physical condition.

Our strength lies in the number of exceptionally talented people and organizations whose passion leads them to make our job safer. As EMS providers, we must work towards creating a culture of safety in our organizations. A culture of safety for ourselves, our patients, and our community. EMS providers are encouraged to read "Strategy for a National EMS Culture of Safety", a document produced from a joint effort between NHTSA, the EMS for Children (EMSC) Program, and the American College of Emergency Physicians (ACEP) (www.ems.gov/safety.html).

EMS System Evaluation

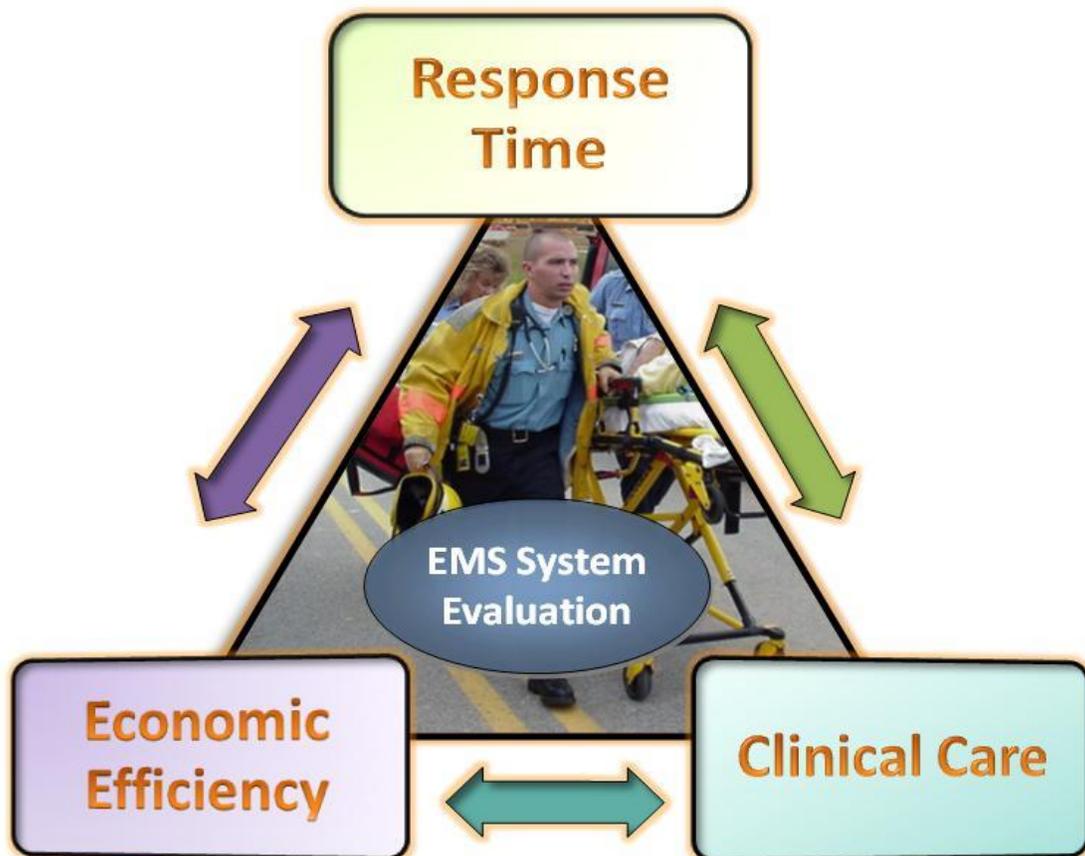
EMS System Evaluation	31
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Clinical Performance	33
Response Time Performance	37
EMS System Cost	41

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System Evaluation

Evaluation is the essential process of assessing the quality and effects of EMS, so that strategies for continuous improvement can be designed and implemented. (National Highway Traffic Safety Administration)

The National Association of Emergency Medical Services Physicians (NAEMSP) has identified three related variables for measuring EMS system performance; clinical performance, response time reliability and economic efficiency. These variables are interdependent for overall system success. Focusing the majority of resources on any one variable is done at the expense of performance potential in the other variables. For example, extreme cost cutting measures will have a detrimental impact on clinical performance and response time reliability. Also, if a system places all of its efforts on response time performance there will be a significant increase in costs as well as a decrease in clinical performance.



Prehospital Patient Care Report

In Delaware, data from the Delaware Emergency Medical Reporting System (DEMRS) is a comprehensive electronic patient care report (ePCR) producing data system which provides convenient access to the field providers for input of pertinent patient data in a timely fashion while concurrently standardizing EMS service provider data into a statewide data collection and reporting system. DEMRS provides services to all private/public/volunteer EMS/ALS/BLS services including but not limited to ALS providers, BLS providers, first responders, Trooper medics, A.I. duPont Hospital for Children, Wilmington Hospital, St Francis Hospital, Christiana Hospital, Beebe Healthcare, Nanticoke Hospital, Milford Hospital, Kent General, billing companies and inter-facility transport services. This allows DEMSOC a continued review of operational and clinical data for the ALS and BLS providers during emergency and non-emergency transports.

The current requirements for patient care report completion is that every attempt shall be made to complete the ePCR prior to leaving the receiving facility. In the absence of extraordinary circumstances an ePCR should be submitted to the receiving facility within four (4) hours of patient disposition. EMS providers must complete and submit an ePCR to the receiving facility prior to going off duty.

Enhancements to our system:

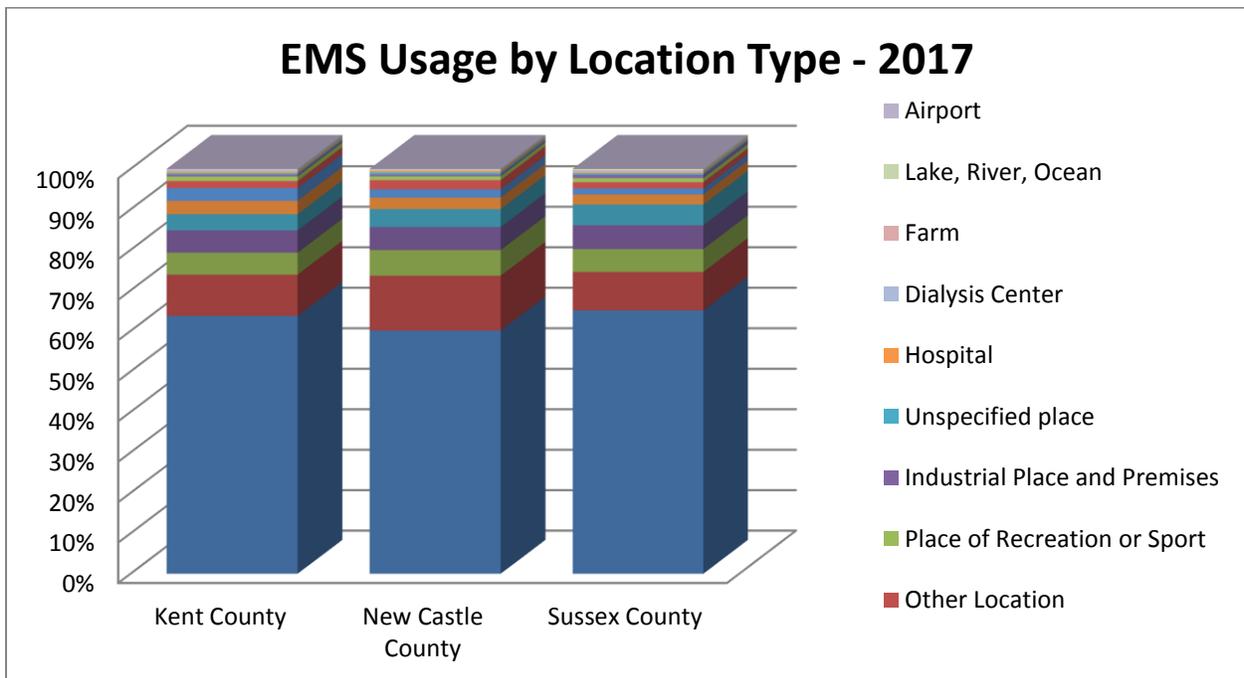
The Delaware Emergency Medical reporting System (DEMRS) transitioned to an updated operating system called Elite on January 1, 2018. This upgrade to Elite makes us NEMSIS 3.4 compliant and offers enhancements for the patient care providers while entering patient care reports.

Clinical Performance

EMS systems were originally developed to reduce fatalities from traumatic injuries, especially from motor vehicle crashes. It was noticed during military conflicts that patients had better outcomes when injuries were quickly stabilized in the field and the patient was then transported to a care center. The original EMS system mimicked this with the vast majority of the emphases placed on traumatic injuries. As the science and practices of prehospital care progressed over the years, so did the scope of the EMS provider. The evolution of evidence based practices with cutting edge technologies work in tandem to improve the clinical outcome for all types of patients. The EMS system is inclusive of many different disciplines; trauma, cardiac care, medical care, pediatric care, medical transportation, public health and domestic preparedness just to highlight a few.

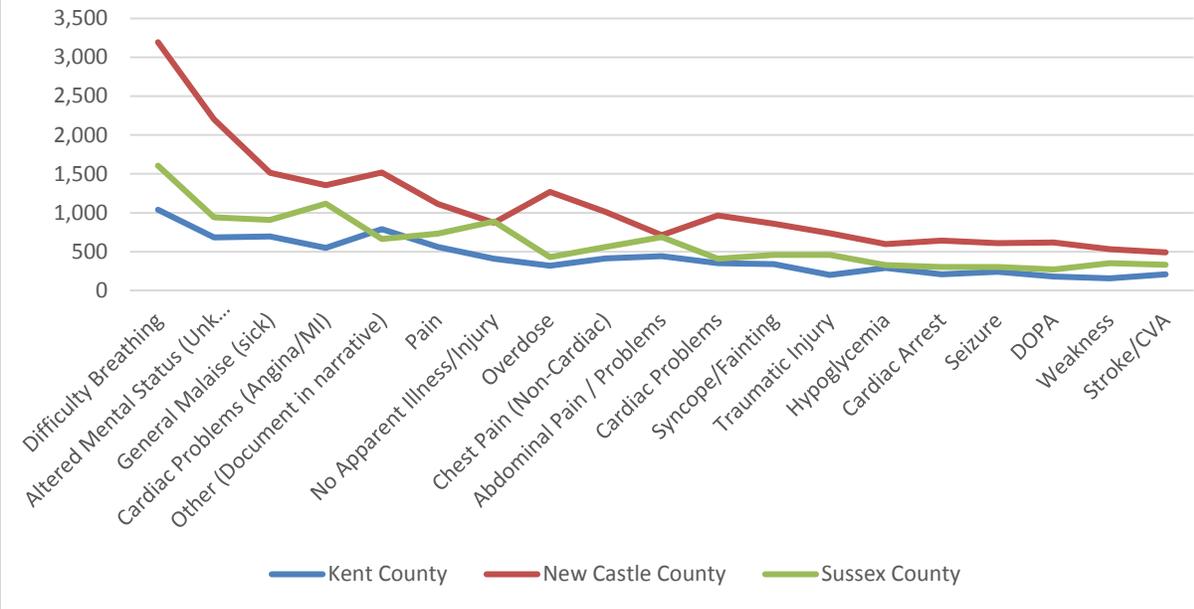
EMS provides care for those with perceived emergency needs and, when indicated, provides transportation to, from, and between health care facilities. Mobility and immediate availability to the entire population distinguish EMS from other components of the health care system (National Highway Traffic Safety Administration).

(All data used for this section and throughout the report were, unless noted otherwise, extrapolated from the Delaware Emergency Medical Reporting System (DEMRS). Please note for this report, Advanced Life Support (ALS) and BLS data are reported separately. While reading this report please do not combine the ALS and BLS data. Doing so would lead to inaccurate totals.)

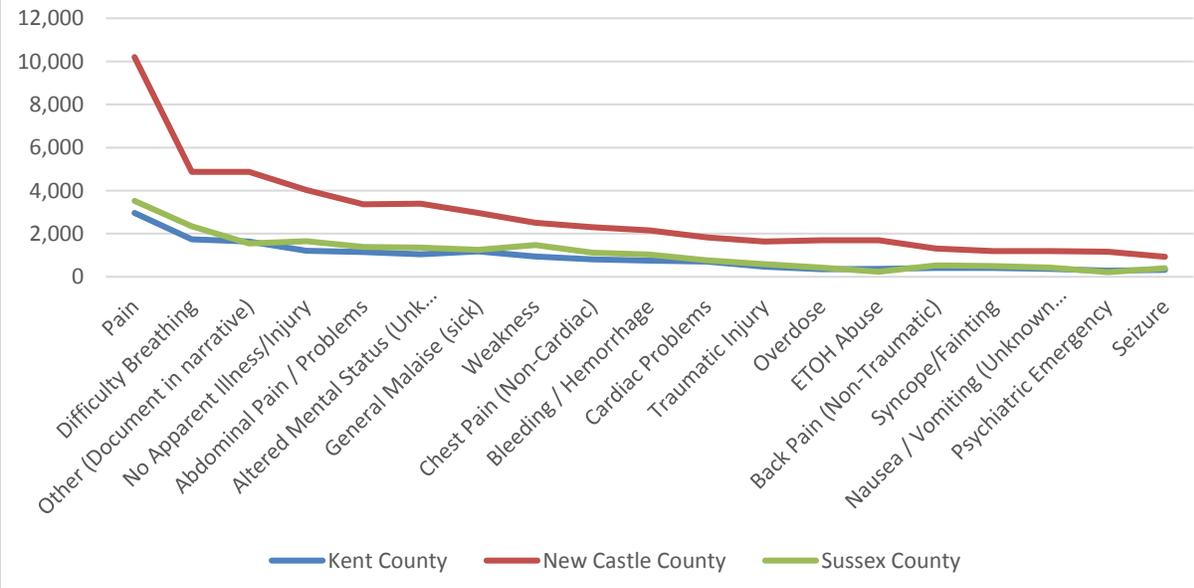


Primary Impression is the EMS provider's evaluation of the patient based on: signs, symptoms, patient's chief complaint and other factors. These graphs do not take into account the type of patient (medical, trauma). The primary impression of other is defined in the patient narrative and not able to query.

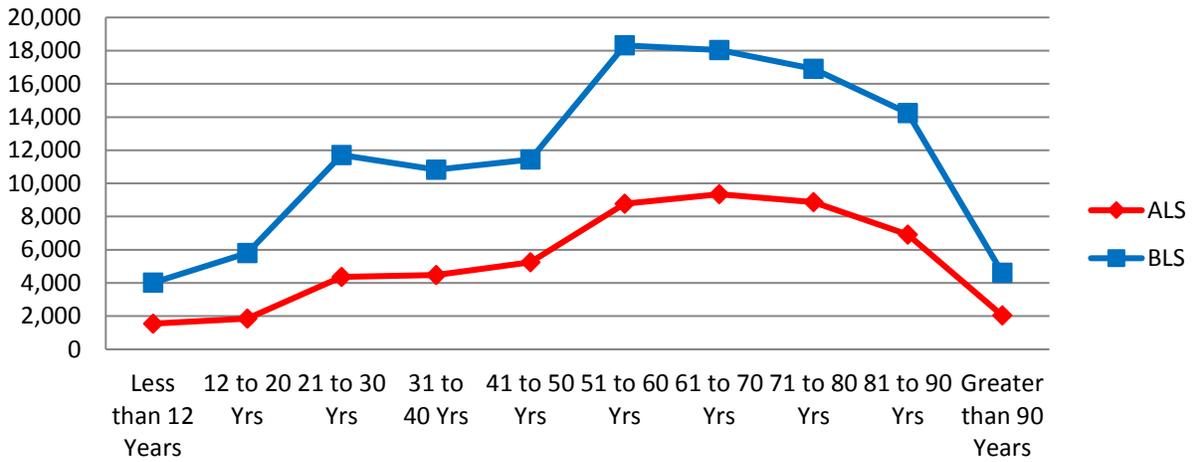
Most Common Patient Presentation by Primary Impression, ALS 2017



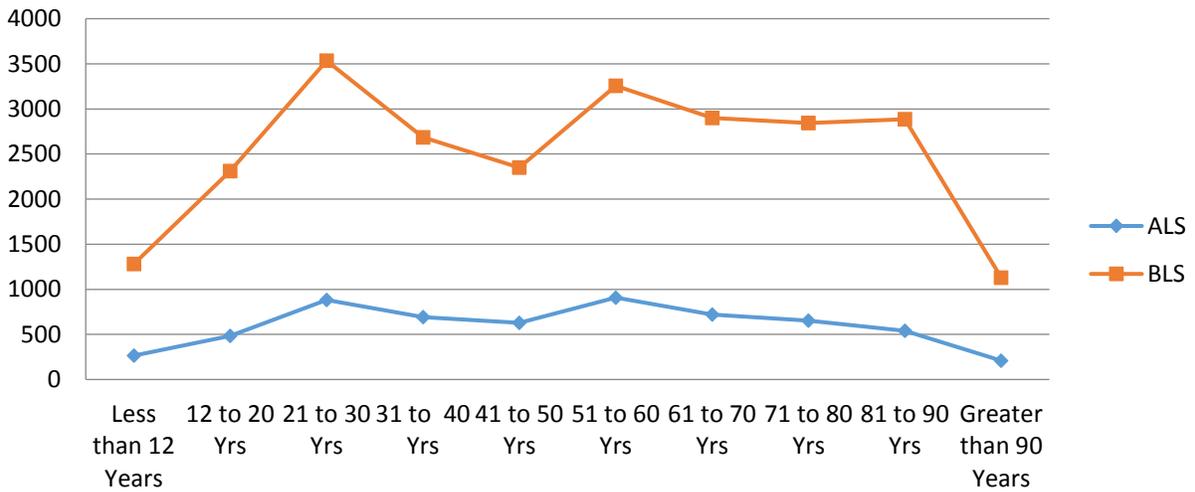
Most Common Patient Presentation by Primary Impression, BLS 2017



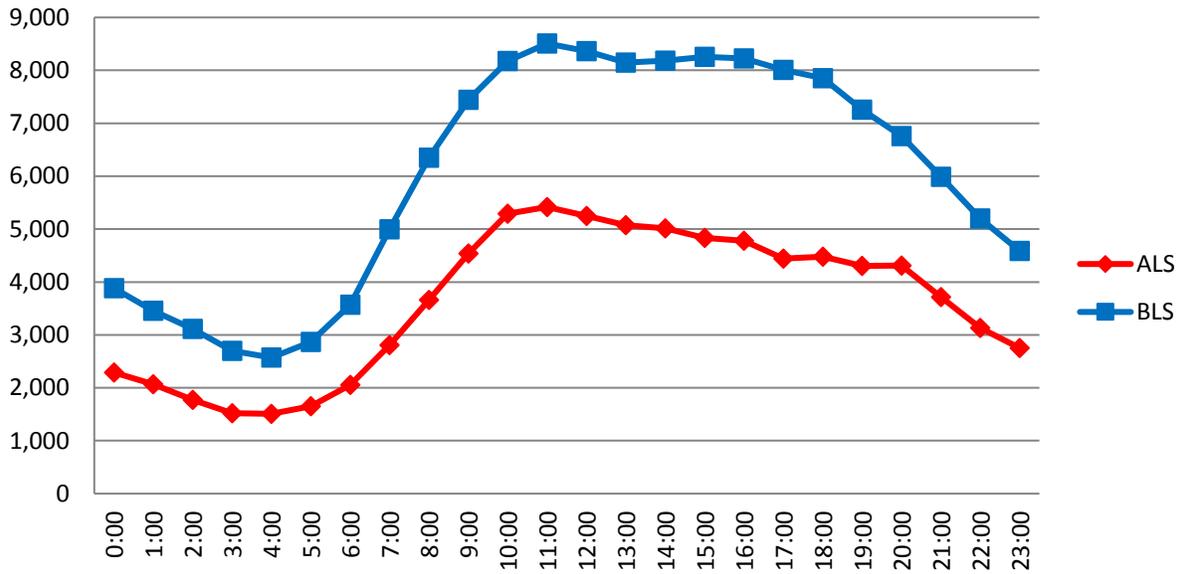
ALS and BLS Patient Age Comparison - 2017



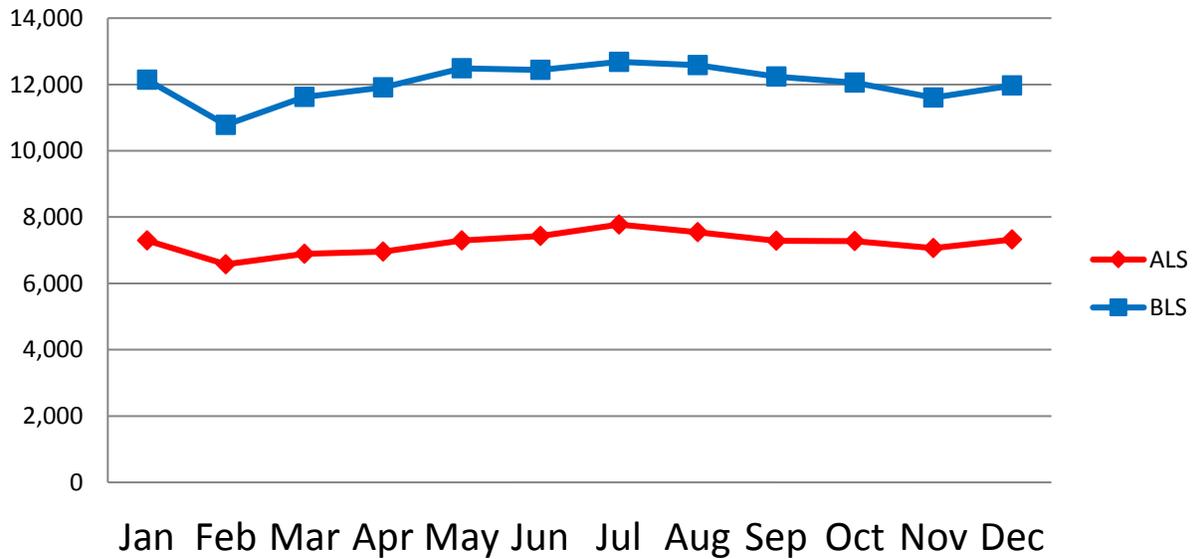
ALS and BLS Patient Age Comparison - 2017 Possible Injury Patients



Time of Day When EMS Incidents Occur - 2017



ALS/BLS Incidents by Month - 2017



Response Time Performance

The Delaware EMS system measures response time performance in fractiles. Fractile response refers to how the response time is measured against an established performance goal. For example, if a response goal is 8 minutes, the fractile response time is a percentage of the responses within that 8 minute goal. A 90% fractile response indicates that 90% of the time the response time was within 8 minutes or less. Numerous factors affect response time performance including geography, baseline resource availability, and call volume and deployment strategies.

The response time goals for the Delaware EMS system adopted by the EMS Improvement Committee are based on cardiac arrest survival research. These response goals are nationally recognized and cited by both NFPA (1710) and the American Ambulance Association guidelines. It is recognized that these are ideal goals. Response time performance measure is one of several performance goals and is not a single predictor of the health or success of an EMS system.

The performance goals for Delaware's EMS System recognizes that not all emergencies are life threatening and do not require maximum resource response. The Emergency Medical Dispatch system is a systematic approach (protocol) that assists dispatchers in identifying which 911 calls require maximum response, and identifies calls as:

Alpha – Requires a BLS response. Example is a minor burn.

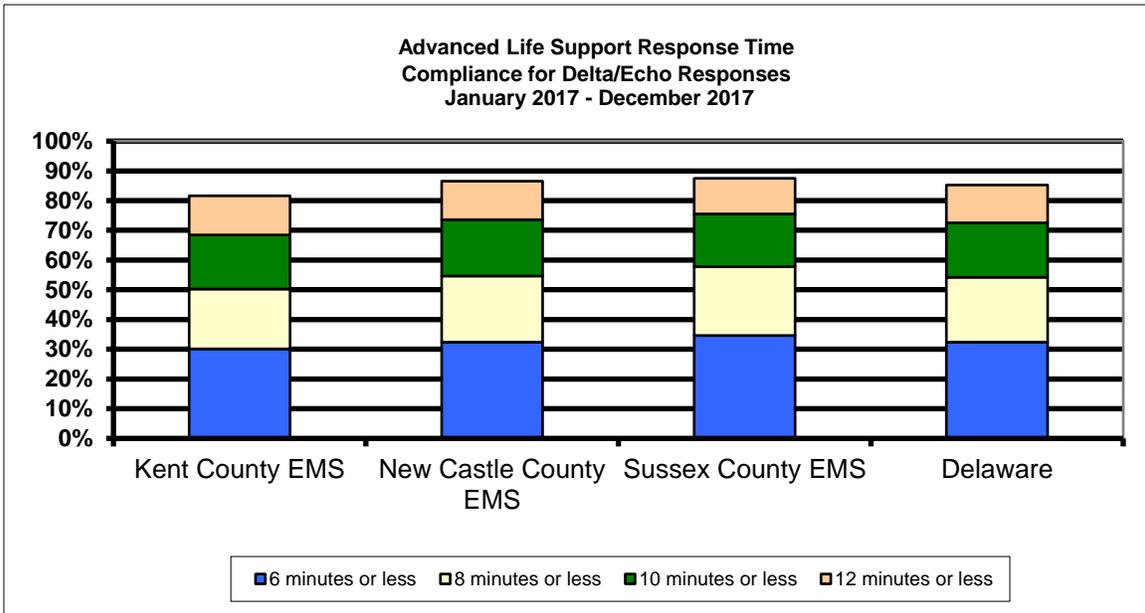
Bravo – Requires a BLS response. Example is with unknown patient status.

Charlie – Requires ALS and BLS response. Example is burns with difficulty breathing.

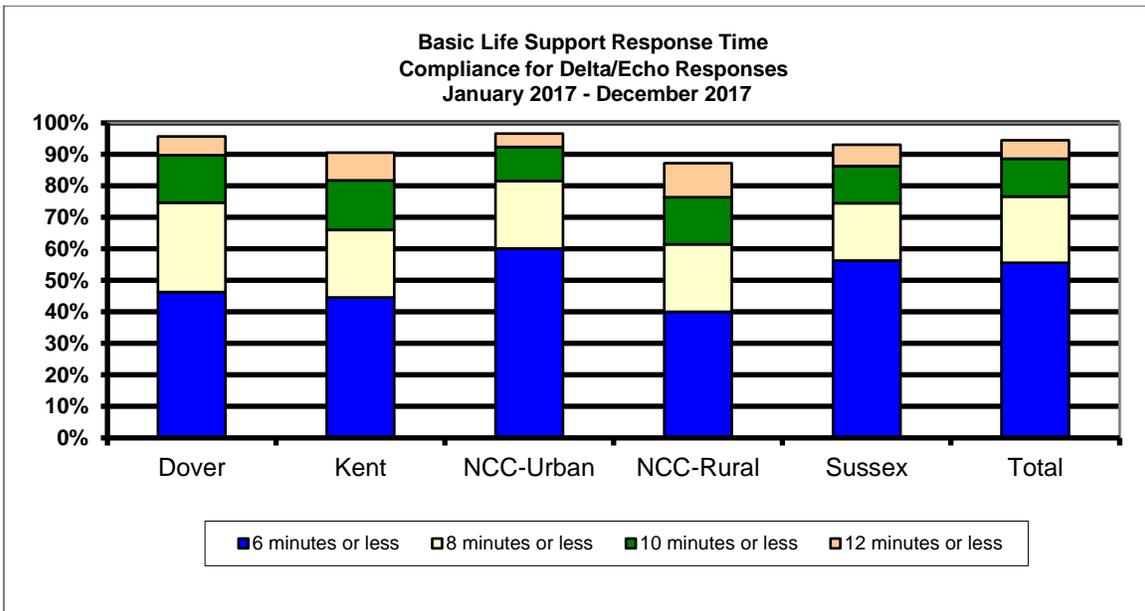
Delta – Requires ALS and BLS response. Example is an unconscious burn victim.

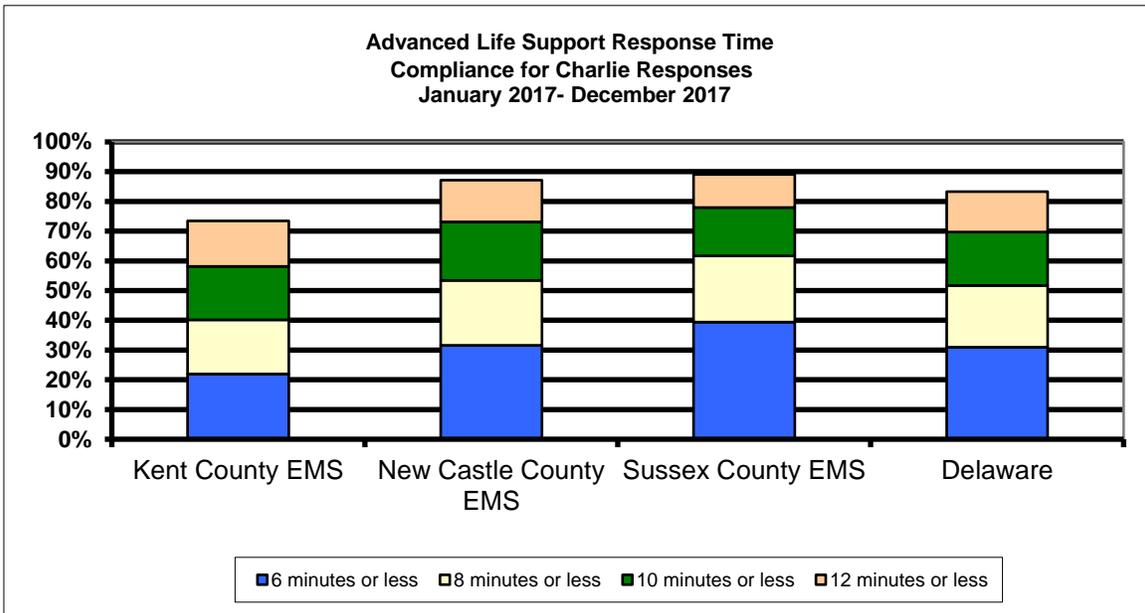
Echo – Response type not addressed in the legislated response time goals, but it requires a maximum response to include available first responders. Example would be a cardiac arrest.

Omega – Response type not addressed in the legislated response time goals. An example of an Omega response is a dispatcher, while remaining online with the caller, connects to a poison control center for instructions.

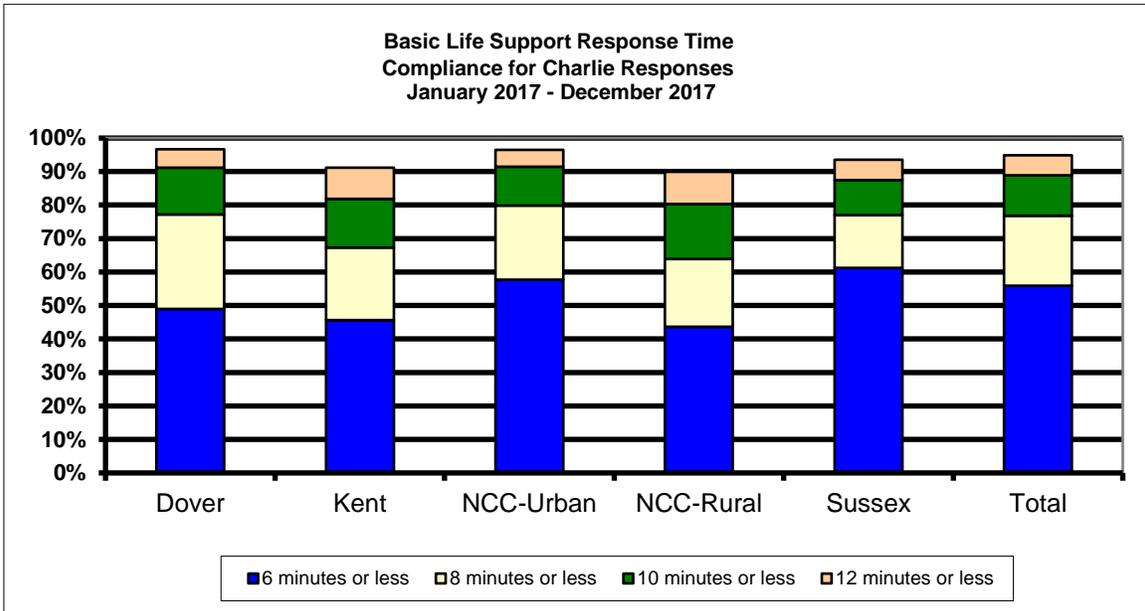


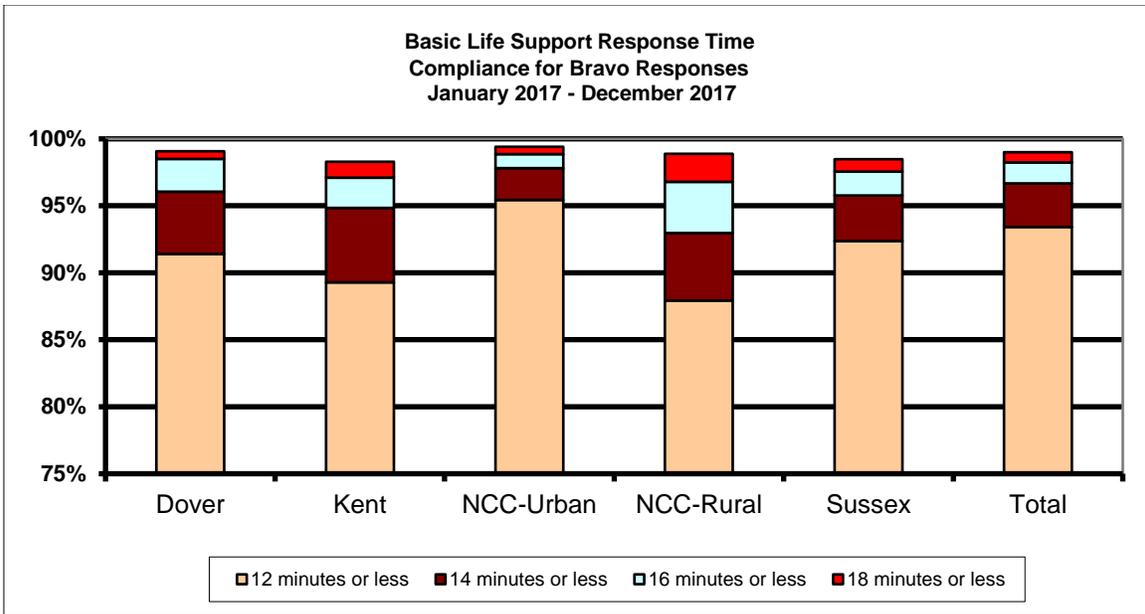
Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Delta calls on at least 90% of the time. BLS ambulance unit on scene within 10 minutes of the receipt of Delta calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



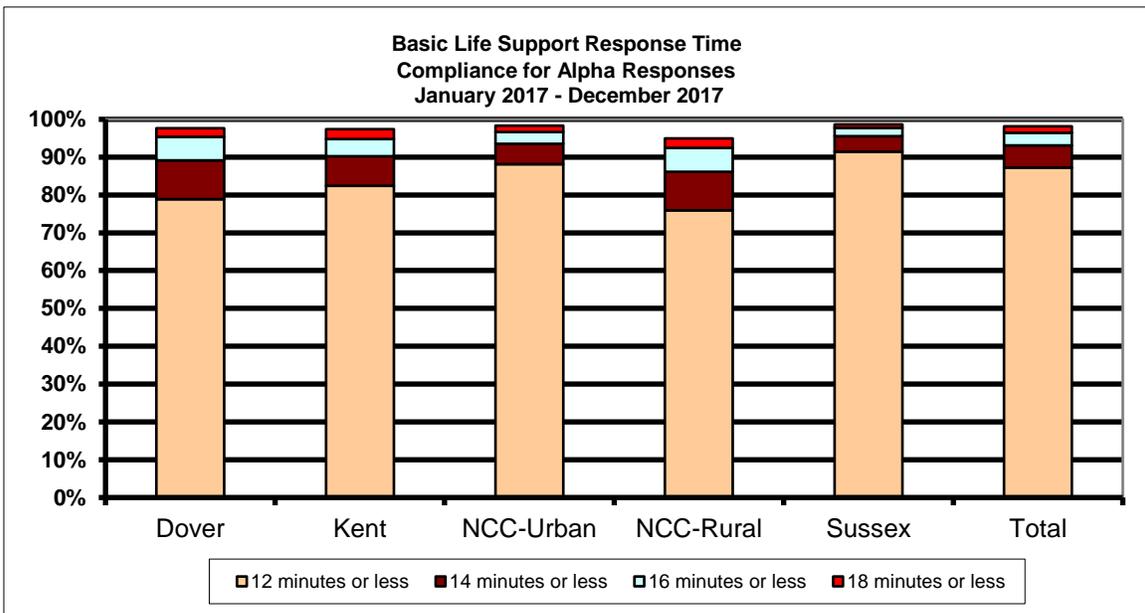


Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Charlie calls on at least 90% of the time. BLS ambulance unit on scene within 12 minutes of the receipt of Charlie calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



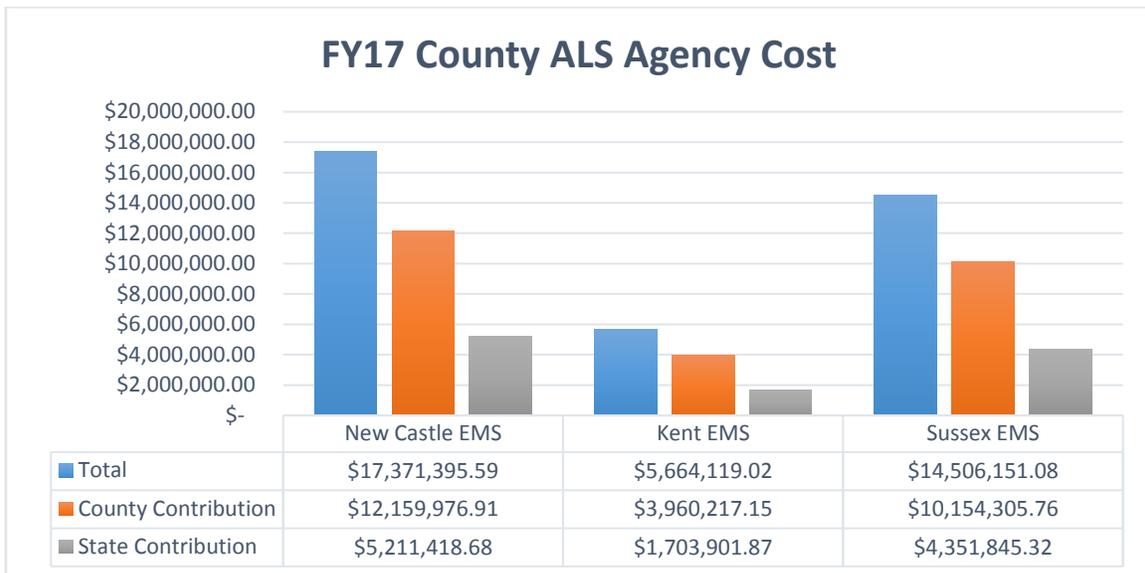


Goal: BLS ambulance unit on scene within 12 minutes of the receipt of Bravo calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



Estimate of EMS System Cost

The Statewide Paramedic Services Act of 1990 was adopted to establish a framework for the creation of an effective and efficient means for the provision of advanced life support services to the citizens of the State regardless of their economic status, who require such services without prior inquiry as to the patient’s ability to pay. The statewide paramedic funding program was established for the purpose of state participation with the counties in the financing of the statewide paramedic program. The counties are reimbursed through the State’s Grant in Aid funds for portions of their expenditures for delivery of paramedic services. By law, the State of Delaware is obligated to reimburse the three counties to operate paramedic services. The law stipulates that these costs must have been incurred by the county for the direct costs to operate paramedic services. Upon inception of the Paramedic Services Act of 1990 the reimbursement level to the counties was 60 percent and has been gradually reduced to the current level of 30 percent in Fiscal year 2011.



House Bill 332 outlines the requirement for EMS agencies to report cost. “All components of the EMS system should report revenues and expenses so that the system can be continually evaluated for its cost effectiveness. Members of the General Assembly, the Governor, the public and other policy makers should know the costs of Delaware’s EMS system in order to measure its effectiveness”.

Sussex County Paid Personnel by Agency

Agency name	Phone number	Total Paid Personnel	Shifts covered
Blades Fire Co.	629-4896	4FT - 12PT	24H
Bridgeville Fire Co. 72	337-3000	4FT- 15PT	12H
Dagsboro Fire Co. 73	732-6151	5FT - 5PT	24/7
Delmar Fire Co.	846-2530	8FT - 7PT	24/7
*Ellendale Fire Co. 75	422-7711	3FT - 20PT	24/7
*Frankford Fire Co. 76	732-6662	4FT - 5PT	24/7
Greenwood Fire Co. 78	349-4529	1FT - 30PT	12H
Gumboro Vol. Fire Co. 79	238-7411	6FT - 5PT	12H
Laurel Fire Dept. 81	875-3081	7FT - 4PT	24/7
Lewes Fire Dept. 82	645-6556	13FT - 20PT	24/72
*Memorial Fire Co. 89	422-8888	2FT - 4PT	24/7
Mid Sussex Rescue Squad Inc.	945-2680	10FT - 25PT	
Millsboro Fire Co 83	934-8359	10FT - 16PT	24/72
Millville Vol Fire Co. 84	539-7557	15FT - 23PT	24/72
Milton Fire Co. 85	684-8500	5FT - 15PT	24/7
Rehoboth Beach Vol. Fire Co. 86	227-8400	15FT - 15PT	24/7
Roxana Vol. Fire Co. 90	436-2300	7FT - 20 PT	24/72
Seaford Vol Fire Co. 87	629-3112	10FT - 23PT	24/7
Selbyville Fire Co. 88	436-8802	4FT - 4PT	
*based on 2016 report			

Kent County Paid Personnel by Agency

Agency Name	Phone number	Total Paid personnel	Shifts covered
Bowers Fire Co. 40	335-5966	14PT	12H
*Camden-Wyoming Fire Co. 41	697-3201	7FT-19PT	24/7
*Carlisle Fire Co. 42	422-8001	2FT-19PT	24/7
Cheswold Fire Co. 43	736-1516	5FT-21PT	24/7
Clayton Fire Co. 6	653-7317	0	0
Felton Community Fire Co. 48	284-4800	6FT-13PT	24/7
*Frederica Vol. Fire Co. 49	335-3235	8PT	12H
Harrington Fire Co. 50	398-8931	2FT- 30PT	12H
*Hartly Fire Co. 51	492-3677	1FT 8PT	8H
Leipsic Fire Co. 53	674-0829	10EMT 15 Drivers VOL	
Magnolia Vol. Fire Dept. 55	335-3260	27PT	24/7
*Marydel Fire Co. 56	492-9917	VOL 7EMT, 6EMR	24/7
Smyrna American Legion 64	653-6465	10FT- 20PT	12H
South Bowers Fire Co.	335-4666	60 VOL	
*based on 2016 report			

New Castle County Paid Personnel by Agency

Agency Name	Phone number	Total Paid Personnel	Shifts covered
*Aetna Hose Hook & Ladder	454-3310	8 FT - 40 PT	24 hour coverage
*Belvedere Fire Co. 30		1 FT - 15 PT	12H
*Brandywine Hundred Fire Co. 11	764-4901	8 FT - 10 PT	24/7
*Christiana Fire Co. 12	737-2433	10 FT - 45 PT	24/7
Claymont Fire Co. 13	798-6858	3 FT - 30PT 0VOL	24/72
Cranston Heights Fire Co. 14	998-3140	7 FT - 39 PT	24/7
Delaware City Fire Co. 15	834-9336	6 FT - 15 PT	24 On ~ 72 Off
*Elsmere Fire Co. 16	999-0183	4 FT - 15 PT	24/7
Five Points Fire Co. 17	994-2245	2 FT - 25 PT	24/7
Goodwill Fire Co.	328-2211	9 FT-10 PT	24/7
Hockessin Fire Co. 19	239-5279	10 FT - 23 PT	24/7
*Holloway Terrace Fire Co.	654-2817	25 PT	24/7
*MillCreek Fire Co. 21	998-8911	10 FT - 18 PT	24/7
*Minquadale Fire Co. 22	652-0986	8 FT - 12PT	24/7
Minquas Fire Co. 23	998-3474	1 FT 18 PT	24/7
Odessa Fire Co. 24	378-8929	20 PT	24/7
Port Penn Vol. Fire Co. 29	834-7483	4 FT - 30 PT	24/7
Talleyville Fire Co.	478-1110	11 FT- 20 PT	24/7
Townsend Fire Co. 26	378-8111	1 FT - 20 PT	10H
Volunteer Hose Co.	378-7799	9 FT- 20 PT	24/7
Wilmington Fire Department 100	571-4410	156	24/72
Wilmington Manor Fire Co.	328-3209	10 FT - 26 PT	24/7
*based on 2016 report			

Aviation and Dispatch Center Cost

Delaware State Police Aviation:

Total Costs:	\$5,377,451.00
Personnel:	\$3,981,000.00
Contractual	\$1,075,259.00
Supplies & Materials	\$321,192.00

Dispatch Centers

New Castle County 911 Center (*Fire/EMS Only*):

Total Costs:	\$5,534,120.00
Personnel:	\$5,503,582.00
Equipment:	\$5,000.00
Training:	\$25,538.00

Kent County 911 Center:

Total Costs:	\$2,903,400.00
Personnel:	\$2,349,500.00
Equipment:	\$144,300.00
Training:	\$10,100.00

Sussex County 911 Center:

Total Costs:	\$2,386,012.00
Personnel:	\$1,298,657.00
Equipment:	\$168,500.00
Training:	\$16,595.00

Seaford 911 Center:

Total Costs:	\$623,657.00
Personnel:	\$588,327.00
Equipment:	\$35,330.00
Training:	\$0.00

Rehoboth 911 Center:

Total Costs:	\$626,477.00
Personnel:	\$597,263.00
Operational:	\$23,856.00
Training:	\$5,358.00

Specialty Care

Trauma 47

Stroke 51

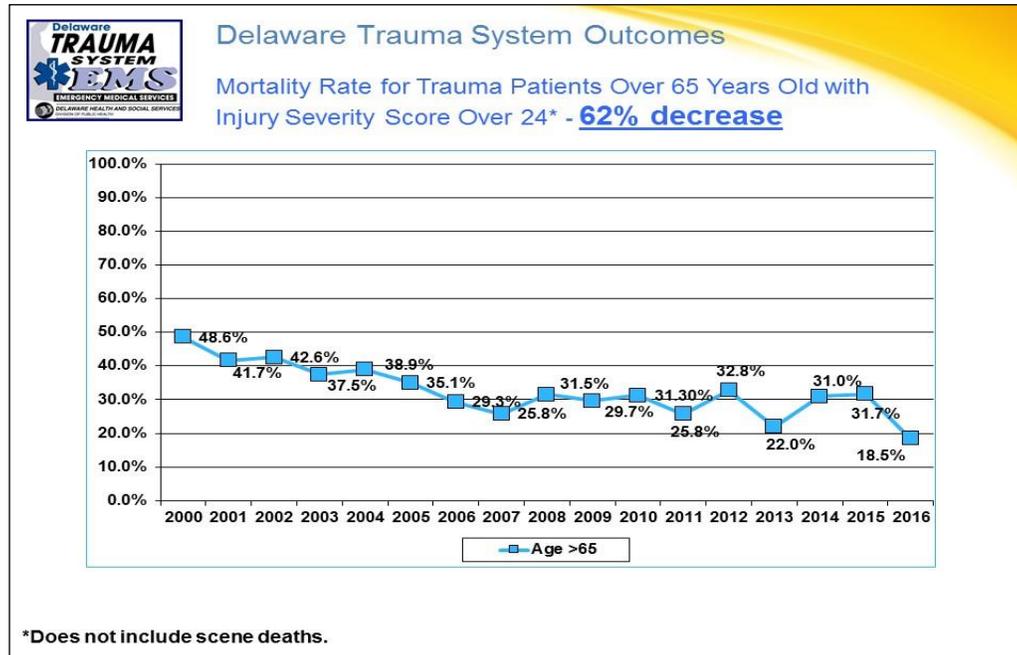
Emergency Medical Services for
Children 53

First State/First Shock 55

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The Delaware Trauma System

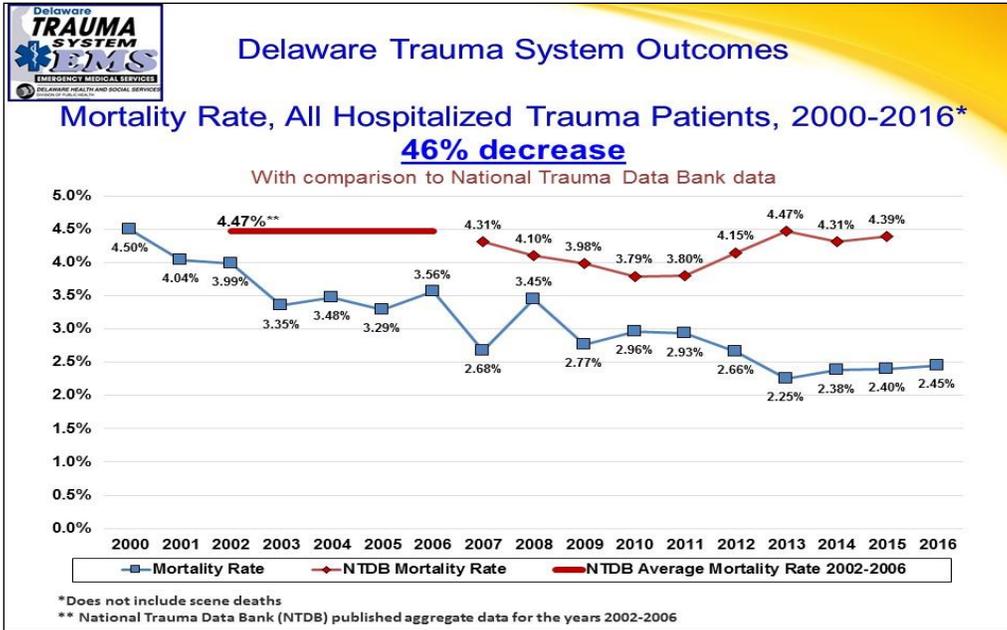
Introduction – Trauma System Outcomes



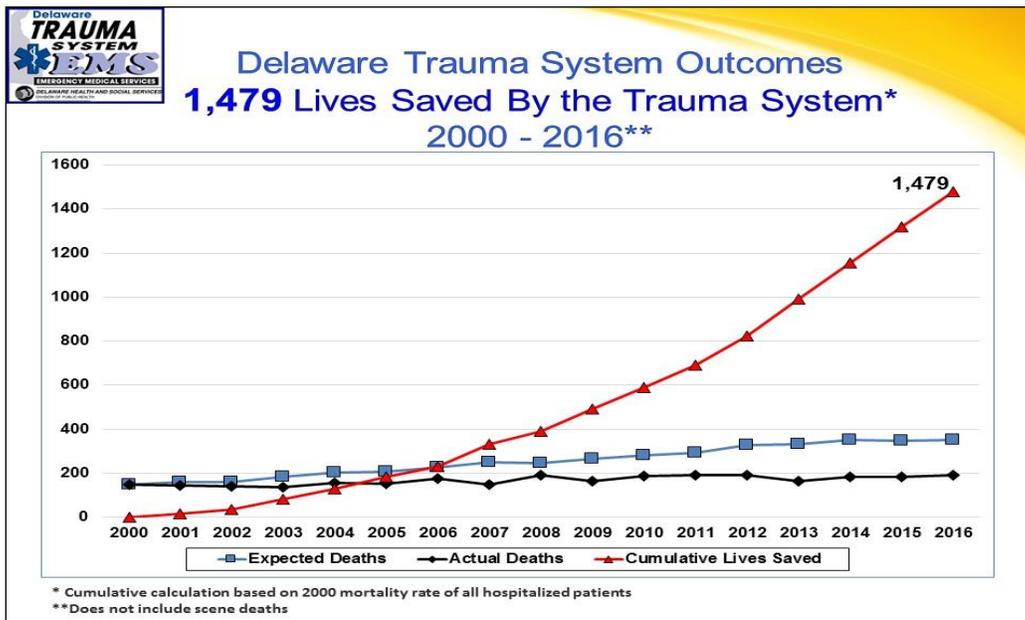
June 30, 2017 marked the 21st anniversary of the passage of legislation creating Delaware’s Statewide Trauma System. **January 20, 2018** marked the 18th anniversary of the implementation of that statewide Trauma System. We are now able to look back and clearly see, through the data, what has been accomplished for the people of Delaware over those years. The graph above shows that the mortality rate for seniors, who do not recover as quickly from injury as younger people do, has dropped by over half. Delaware is a safer place to live now than it was in 2000.

With the guidance of OEMS and the dedication of many individuals statewide, Delaware has developed one of the nation’s few truly inclusive statewide Trauma Systems, in which every acute care hospital participates in the Trauma System and has met the standards for American College of Surgeons verification and state designation as a Trauma Center. Most importantly, this means that no matter where in the state people are injured, they enter a system of care that follows the same guidelines, regulations, and standards and makes sure they are cared for in the facility best able to manage their injuries. Since July 1996, over **116,000** people have been cared for by Delaware’s Trauma System.

As seen in the next graph, not only has the overall mortality rate for all patients hospitalized due to injury decreased by 46% since 2000, but the rate has consistently been lower than the national mortality rate for injured persons. Again, this data shows that Delaware is a safer place to live now than it was 18 years ago.



This data translates into lives saved. The graph below shows that **1,479** injured people survived who would not have done so had Delaware's Statewide Trauma System not been implemented.



American College of Surgeons Committee on Trauma (ACS COT) review teams visit each Level 1, 2, and 3 Trauma Center and report on the facility's compliance with ACS COT Trauma Center Standards before a hospital can be designated as a Delaware Trauma Center. Reviews must be successfully completed every three years for a hospital to retain its state Trauma Center designation status. Current Trauma Center designations are:

REGIONAL LEVEL 1 TRAUMA CENTER - *Christiana Hospital, Christiana Care Health System*

PEDIATRIC REGIONAL LEVEL 1 TRAUMA CENTER - *Nemours / Alfred I duPont Hospital for Children*

COMMUNITY LEVEL 3 TRAUMA CENTERS - *Bayhealth Kent General Hospital; Bayhealth Milford Memorial Hospital; Beebe Healthcare; Nanticoke Health Services; Saint Francis Healthcare; Wilmington Hospital, Christiana Care Health System; Peninsula Regional Medical Center (Salisbury Maryland) via reciprocity.*

2017 Accomplishments

Research has shown that the coordination of resources which takes place as a Trauma System develops can result in dramatic reductions, up to 50%, in preventable deaths due to injury (Mann NC, Mullins RJ, MacKenzie EJ, et al. Systematic review of published evidence regarding trauma system effectiveness. *J Trauma.* 1999;47(3 suppl):S25-S33).

Delaware's Statewide Trauma System has saved lives for over 20 years and has grown to be an example of the above 1999 prediction. Many of its leaders have been at the forefront of the growth and evolution of this system of time-critical care of the injured during that entire time period. Two new systems of care, the Delaware Pediatric System and the Delaware Stroke System, have been modeled after this successful initial system. And two Trauma System Participating Hospitals made the commitment and became Level 3 Trauma Centers, a benefit not only to their communities but also to the Trauma System overall.

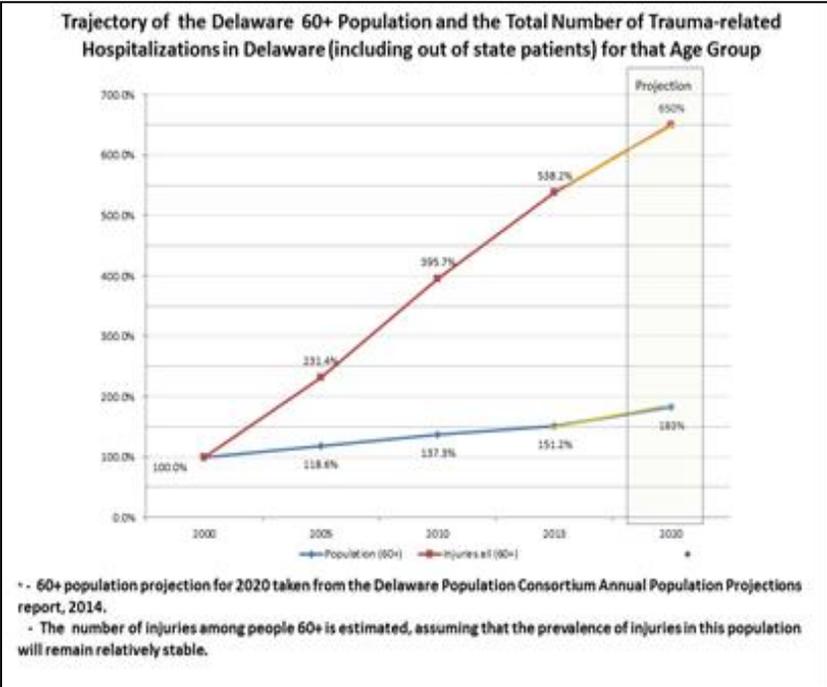
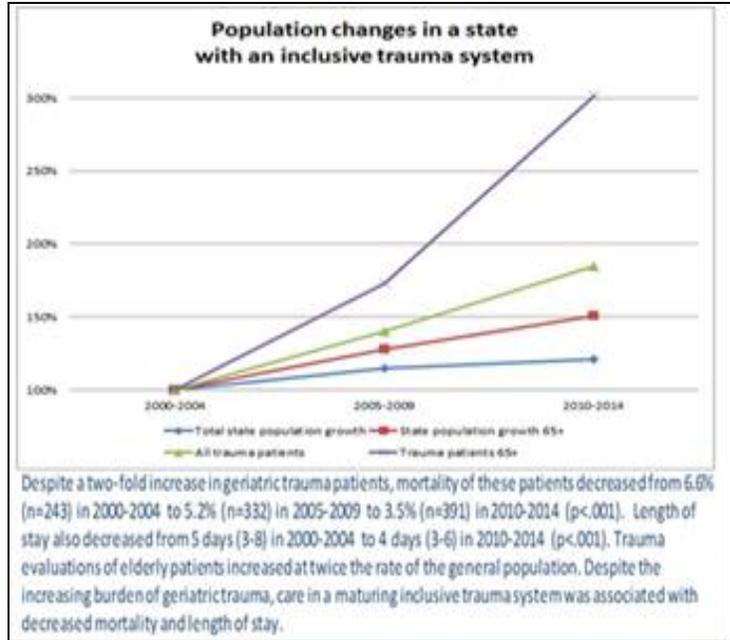
The National Highway Traffic Safety Administration (NHTSA) review team for Delaware's May 2016 EMS System Reassessment site visit said this in their final report:

“The Trauma System is justifiably a point of pride for the state of Delaware. The success of the system to get the right patient to the right care at the right time is measured not only in national accolades but also in the salvaged lives of the citizens of Delaware. The outcomes of this comprehensive, voluntary, inclusive system, now in its 20th year, are a testament to the network of professionals and organizations willing to collaborate in the tough job of saving injured lives.”

2018 Challenges

As shown in the first graph below, injury hospitalizations have increased faster than the population growth over the first 15 years of the Trauma System's development. There is no indication that this pattern will change in the near future. The biggest challenge to the System is to keep up with the increasing usage, and to continue working, through injury prevention, to decrease the number of injuries among Delawareans. The projected usage of the Trauma System by those over age 60 by 2020 as shown in the following graph, is even more impressive.

Lack of any funding support for the Trauma System continues to be a challenge. This issue has never been pursued to the legislative level. While Delaware hospitals have been motivated to “do the right thing for their communities”, they are facing the same financial challenges as Trauma Centers across the country---increasing patient volumes, managed care, lifestyle preferences of physicians that do not wish to take trauma call, malpractice insurance costs, uncompensated care, and expectations of physicians for payment to participate in trauma programs. Some Delaware Trauma Centers are finding a source of reimbursement through billing for trauma activations and substance abuse Screening and Brief



Intervention and Referral programs. A Legislative Team has been formed by the Trauma System Committee to look more closely at this issue.

Summary

Supporting the statewide Trauma System and its injury prevention programs as part of the state’s economic responsibility will yield a substantial return through decreased injury-related deaths and permanent disabilities with loss of productivity, and will result in a healthier and safer Delaware. Delaware’s Statewide Trauma System continues to mature, with the same goal it has had since it was born...saving lives.

Delaware Stroke System of Care

Introduction

The Delaware Stroke System Committee, as described in Title 16 Chapter 97. Section 9704 (j), met for the first time on November 16, 2016. The committee's initial task was to make a recommendation by December 30, 2016 to the Director of Public Health, based on Delaware stroke data, on whether outcomes for Delaware stroke patients are likely to improve with the adoption of a Statewide Stroke System.

The members of the Delaware Stroke System Committee made a unanimous recommendation to move forward with a Stroke System of Care, based on Delaware stroke data and that of related programs. They believed that an organized system of stroke care would result in better outcomes for stroke patients as has been demonstrated by the Delaware Trauma System, and will assist in decreasing the existing disparities identified in the populations most affected by this disease.

The impact of strokes on individuals and their families in the state of Delaware is significant. The Delaware Vital Statistics Annual Report 2015 (page 168) states that Cerebrovascular Disease is the 4th leading cause of death overall in the state. However, it is the 3rd leading cause of death in black non-Hispanics.

Delaware stroke mortality rates for both white and black races declined 37 and 43 percent, respectively, between 1990-1994 and 2011-2015. While this is good news, it has to be noted that the stroke mortality rate for the black population remained approximately 38 percent higher per 100,000 population than that for the white population between 2011 and 2015 (Delaware Vital Statistics Report 2015 page 172).

Delaware population changes also impact the future need for efficient and effective care of stroke patients. The total Delaware population increased 21.3% (from 786,393 to 954,077) between 2000 and 2016. However, the 65 years and older population in Sussex County grew an amazing 86.8%, in the same timeframe. Kent and New Castle Counties also saw growth in this demographic, with 51.3% and 39.5% increases respectively (Delaware Population Consortium Annual Projections). This demographic trend is unlikely to change, and highlights the need for an organized system of stroke care that will be able to efficiently manage increasing utilization.

2017 Accomplishments

- The Stroke System of Care Committee began meeting in November 2016 and meets quarterly.
- Stroke Center Certification occurs through the Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
- The Nominating Subcommittee nominated candidates for these leadership positions:
 - Stroke System Medical Advisor
 - Stroke System of Care Committee chairperson
 - Data and Quality Subcommittee chairperson
 - Nominating Subcommittee chairperson
- Appointments by the Director of the Division of Public Health for each were completed.
- The Data and Quality Subcommittee meets quarterly and is working to identify these items:

- Existing data and sources
- Desired performance and outcome measures
- Data gaps
- Case review methodology to share best practices and learning opportunities
- A Prevention/Public Education Subcommittee is planned for the future.

2018 Challenges

It is well stated in the literature that stroke is a time-sensitive condition. The time from onset of symptoms to the time of treatment have a significant impact on the outcome of the stroke patient (Saver JL, Fonarow GC, Smith EE, Reeves MJ, Grau-Sepulveda MV, Pan W, Olson DM, Hernandez AF, Peterson ED, Schwamm LH. Time to Treatment with Intravenous Tissue Plasminogen Activator and Outcome from Acute Ischemic Stroke. JAMA. 13; 309(23):2480-2488. doi:10.1001/jama.2013.6959). Systems of care include not only patient management from time of incident through hospital discharge but also public education and disease prevention. Based on the data from the Delaware American Heart Association Stroke Registry, there are still a significant number of stroke patients, approximately 34-36%, who are not activating the 911 system and are arriving to hospitals by personal vehicle. This is a significant percentage of people with potentially life-threatening illness who are risking death by delaying care. Patients who arrive at the hospital via 911 services have a shorter timeframe from onset of symptoms to treatment. Additionally, they can receive lifesaving measures from prehospital providers should they have a sudden decline in their status in route to the hospital. Public education efforts need to be increased in order to address this problem.

Summary

A Delaware statewide Stroke System of Care will provide

- an organized approach to stroke management and care throughout the continuum of care,
- coordination of care and inter-facility transfer among hospitals,
- a statewide database on stroke incidence, management, and outcome,
- a statewide quality program to identify opportunities for improvement and share best practices,
- the ability to identify increased utilization of resources as the most affected segments of the population increase, and
- a data-driven public education program that is targeted to the high-risk geographic and demographic segments of Delaware's population.

With utilization of these tools, more efficient and more effective stroke care will evolve, and will be able to be demonstrated by such measures as mortality rate, incidence rate, and hospital length of stay. The citizens of Delaware can only benefit from this initiative, a partnership of the Delaware stroke care community, working together to provide the best care for their neighbors, friends, and all who live or visit the state of Delaware.



Emergency Medical Services for Children

Introduction

Delaware was awarded its first EMSC grant through HRSA's Maternal and Child Health Bureau in 1997. The Delaware EMSC program works to support a high quality emergency care system that provides optimal care for ill and injured children. It implements and evaluates the EMSC Performance Measures as directed by the federal program.

The Delaware EMSC Advisory Committee is chaired by a pediatrician who advises on program development and represents the EMSC program on the Delaware Emergency Medical Services Oversight Council (DEMSOC). EMSC promotes the medical home concept, encourages cultural diversity and cultural competency in the healthcare workforce, and plans methods of integration of EMSC priorities into statutes, regulations, and everyday healthcare practice.

All ED's must have the staff, policies, equipment, and supplies in place to care for children. Children respond differently than adults to illness and injury. They have unique physical, emotional and physiological needs that require a specialized approach to care.

2017 Accomplishments

In 2017, the State EMSC Advisory Committee and EMSC Program focused on the following activities:

The Pediatric System's Pediatric Emergency Care Facility Recognition Program recognized Delaware's two Freestanding Emergency Departments as Level 4 PECF's. Both the Christiana Care Middletown location and the Bayhealth Smyrna location had site visits in March as part of the process of recognizing them in the PECF program. We will also start implementing Metrics 1-3 per the National Pediatric Readiness Project starting this this year.

2018 Challenges and Goals

The goals of the Delaware EMSC program are to ensure continuous improvement of the state EMS System by integrating EMSC priorities into all aspects of that system. The program's goals include providing appropriate training of pre-hospital and hospital staffs, ensuring ED's and ambulances have essential pediatric equipment, and monitoring the timely and safe transport and transfer of pediatric patients within the Pediatric System. It is vital to maintain a system that is prepared to provide optimal care for pediatric patients statewide. Through continued partnership and coalition-building, the Delaware EMSC Program will achieve and sustain its goal of assuring optimal emergency care for all children in the state.

We will also continue to implement the following metrics per the National Pediatric Readiness Project:

EMSC 01: Submission of NEMESIS Compliant Version 3.x Data

EMSC 02: Pediatric Emergency Care Coordinator (PECC)

EMSC 03: Use of Pediatric-Specific Equipment

Summary

Delaware EMSC has had successes to be proud of in 2016. Although EMSC has made great progress over the years, much remains to be done to ensure children consistently receive optimal emergency care. Through its programs and projects, the EMSC program will continue to aid in reducing death and disability of children in Delaware.



First State/First Shock CPR and AED Program



The establishment of the First State/First Shock Program was envisioned by William Stevenson to reduce mortality and morbidity from sudden death cardiac arrest. That vision continues today and the First State/First Shock Program continues to provide Semi-Automatic External Defibrillators (SAED) to the public and public safety agencies. Funding and support is provided by the Health Fund Advisory Committee.

The availability of Public Access SAED's in locations of high potential for sudden cardiac arrest continues to be the focus of the First State/First Shock Program. The most significant relationship to the AED program is that the improvements in CPR will only yield positive results when coupled with early defibrillation. The primary goal of the First State/First Shock program is to provide quick response and treatment of cardiac arrest victims. Quick response and treatment has been proven to increase survivability of victims of out-of-hospital cardiac arrest. Increasing the availability of Semi-Automatic External Defibrillators by the strategic placement of these devices provides for enhanced accessibility by the general public.

The Delaware Office of Emergency Medical Services (OEMS) is charged with "Coordinating a statewide effort to promote and implement widespread use of semi-automatic external defibrillators and cardio-pulmonary resuscitation...." (*DelCode Title 1, Chap. 97*)

Since the beginning of the First State/First Shock program in 1999 the program has been committed to the following goals:

- Insuring First Responders and police vehicles are Semi-Automatic External Defibrillators (SAED) equipped, the first responder response capability has been identified as the primary goal nationally. Biphasic and pediatric capability have become the national standard.
- Decreasing death and disability in Delaware by decreasing time to defibrillation and CPR in cardiac arrest patients, the use of hands only CPR to the public and high performance CPR to the trained first responder are the focus of the future of CPR
- Promoting heart health and early detection of the signs and symptoms of heart attack
- Increasing public accessibility to throughout the state with the continuing efforts to make SAED's available through the First State/First Shock Program
- Increasing the number of Delawareans trained in Cardio-Pulmonary Resuscitation and SAED use through coordinated training efforts at all levels from churches, schools, first responders and state agency participation.
- The new Delaware Emergency Medical Reporting System (DEMRS) will provide better event tracking and patient outcome to guide future efforts

2017 Accomplishments: Continuing the First State/First Shock Program in light of severe reductions in funding due to the national recession. OEMS continues to work with program partners to insure that issued SAED's are functional and to assist with expiring equipment replacement coordination.

In calendar year 2017, the Office of Emergency Medical Services was able to distribute 72 SAED units. 10 of the units were issued to police, fire, and rescue agencies. 62 of the units were distributed to agencies requesting SAED's that qualified for the Public Access Defibrillation program. The Office of Emergency Medical Services has been able to place over 3372 units in service for public access and police, fire and rescue agencies since 1999.

In 2017, AEDs were applied with a shock delivered to 89 patients in New Castle County, 2 patients in Kent County, and 45 patients in Sussex County. 136 AEDs total were applied, with a shock delivered throughout the state.

2018 Challenges: Funding for the First State/First Shock program has been significantly reduced from \$200,000 in FY 2011 to \$59,900 in FY 2017. This results in limited SAED placement opportunities and eliminates the replacement of aging SAED units. As with any publicly funded program its existence is at the mercy of state funding priorities. The access to Public SAED's in locations of high potential sudden cardiac arrest coupled with fast and efficient CPR have been shown to improve survival of these sudden cardiac arrest patients.

The demand for the replacement of aging SAED's is a rapidly increasing and an ongoing challenge. The elimination of one of the current models in service will have a huge impact in the next several budget cycles. There are nearly 1500 LP-500s that were distributed by the First State First Shock program and are no longer be supported by the manufacturer, Physio-Control.

Prior to the placement of SAEDs the prognosis for cardiac arrest victims was poor with an estimated 1% to 5% with return of spontaneous circulation. For victims of cardiac arrest the return to spontaneous circulation rate in Delaware is 50%. Delaware has made tremendous strides in strengthening the early defibrillation link in the Chain of Survival. The First State/First Shock program administered by OEMS is certain that by continuing to place SAEDs for general public access and with first responders and continue to provide CPR/AED training, we will continue to see an increase in the cardiac arrest survival rate in the State of Delaware. The replacement of aging and soon to be obsolete SAEDs will have to become a major initiative to continue these improvements.

	Number of Cardiac Arrests	Patients Pronounced Dead by Paramedics	Patients Transported to Hospital	Patients that experienced a return of circulation
2004	780	170	610	158(26%)
2005	752	185	585	170 (29%)
2006	756	166	590	190 (32%)
2007	756	151	605	215 (36%)
2008	745	117	628	222 (35%)
2009	773	119	654	261 (40%)
2010	850	131	717	252 (35%)
2011	893	136	756	273 (36%)
2012	882	173	709	253(36%)
2013	978	185	793	317 (40%)
2014	1019	287	732	324 (44%)
2015	1060	301	759	390 (51%)
2016	1125	374	751	374 (50%)
2017	1217	400	817	444(54%)

EMS System Resources

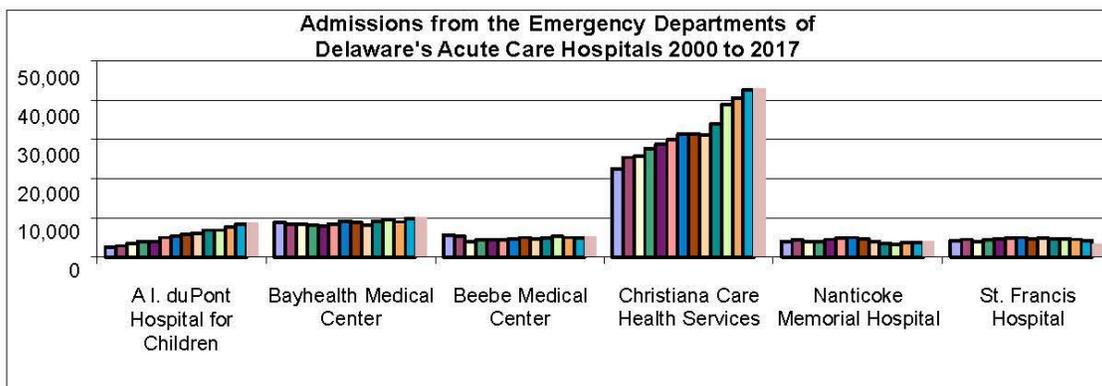
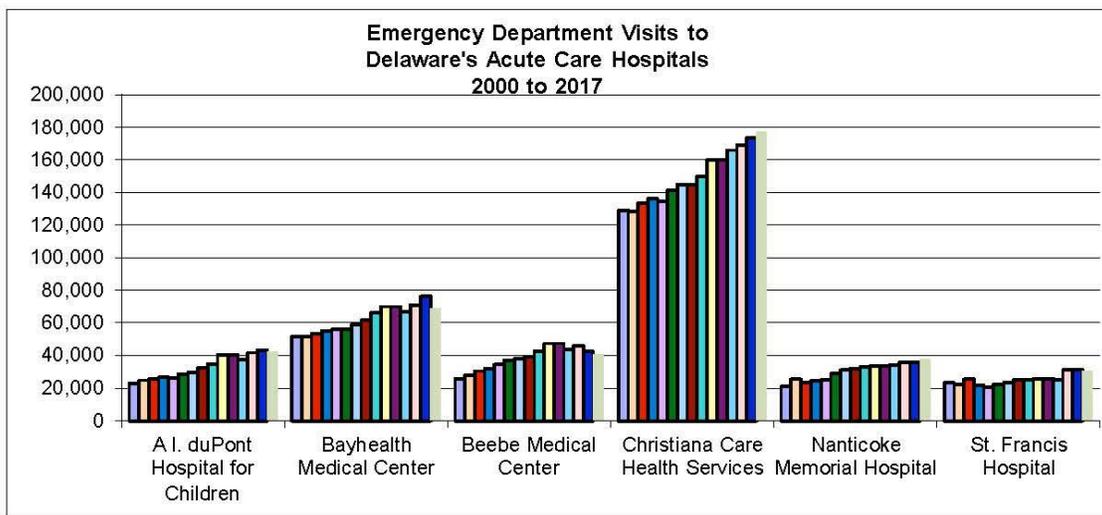
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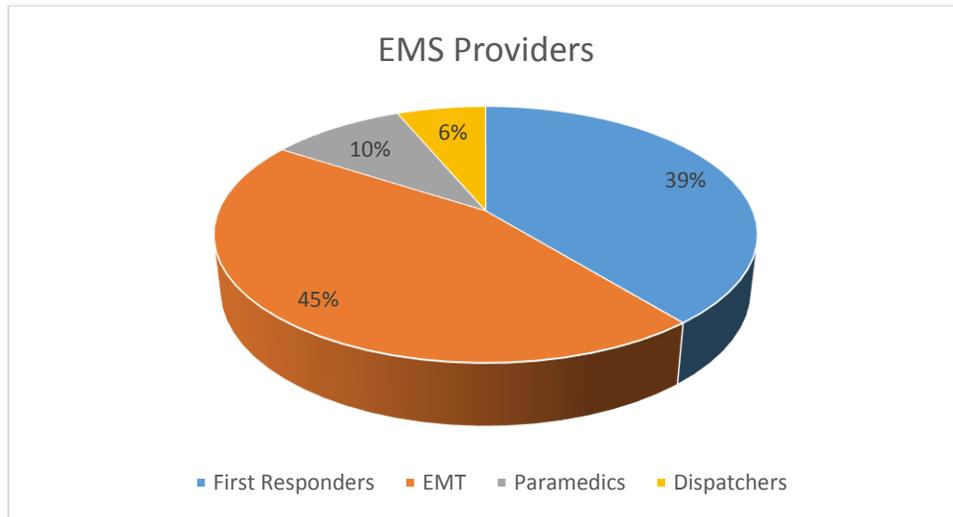
Emergency Department and Hospital Diversion Data

As submitted by Yasmine Chinoy

Information provided by the Delaware Healthcare Association indicates there were 421,676 visits to the Delaware acute care hospital emergency departments in 2017. This is an increase of 147,145 (53.60 %) hospital emergency department visits statewide from the same period in 2000. In addition, there were 82,113 patient admissions from the emergency department for 2017, an increase of 34,101 (71%) from the same period in 2000.



Human Resources and Workforce Development



Above is a graph that shows the percentage of prehospital providers. These are the individuals that are responsible for “taking the calls”. In addition to the prehospital providers, Medical Control Physicians are an integral part of the system. The medical control physicians give “on-line” medical direction to the providers and are the receiving physicians within the emergency rooms of the state.

Work continued in 2017 on recruitment and retention of EMS providers. There is a national shortage of EMS providers. Although Delaware is also affected by a shortage of EMS providers, the agencies across the state have worked hard to improve recruitment and retention, compensation, work conditions, training and diversity. The demand for EMS services is also expected to increase as the state’s population ages. The Delaware Population Consortium projects that from 2010 and 2040, Delaware’s population will increase 18.7%. Sussex County is expected to see the largest percent increase in population by 30%. Kent County's population is projected to reach 204,465 by 2040, an increase of 26%. New Castle County is expected to grow by 12.6% over the same period, adding 67,634 to reach a 2040 population of 606,477.

While the aging population is increasing, the volunteer population is beginning to decrease. Information from the National Registry of Emergency Medical Technicians shows that the majority of EMS responders nationwide are between the ages of 20-45. Many people within this age range are finding it more difficult to volunteer their time with the increases in dual income and single parent families, and the fact that many people are working longer hours.

Education and Training

Delaware recognizes three levels of Emergency Medical Services training. They are First Responder, Emergency Medical Technician, and Paramedic. Registration through the National Registry of Emergency Medical Technicians (NREMT) is offered for each of these levels.

To comply with the EMS Agenda for the Future, A Systems Approach and depending on the level of certification, the designation has changed over the last five years. The National Registry of Emergency Medical Technicians, The Delaware Office of Emergency Medical Services and The Delaware State Fire School continue their commitment to implementing the EMS Agenda of the Future. Outlined below are the processes EMS providers must follow with the dates which they must have completed the transition.

Transition from First Responder to Emergency Medical Responder

Personnel certified at the First Responder level are regulated by the Delaware State Fire Prevention Commission. The Delaware State Fire Prevention Commission does not require NREMT certification at this level, however it is highly encouraged. The lead agency for First Responder education is the Delaware State Fire School. All NREMT First Responders and state certified First Responders have completed the transition to the new designation of National Registry Emergency Medical Responder (NREMR).

Transition from EMT-Basic to EMT

Personnel certified at the Emergency Medical Technician level are regulated by the Delaware State Fire Prevention Commission. NREMT certification is required to obtain initial Delaware EMT-B certification and although NREMT certification is not currently required to maintain Delaware EMT certification, it is highly encouraged. The lead agency for Emergency Medical Technician education is the Delaware State Fire School. All NREMT – Basics and state certified EMT-Basics have completed the transition to the new designation of National Registry Emergency Medical Technician (NREMT).

Transition from NREMT-Paramedic to Nationally Registered Paramedic

Personnel certified at the Paramedic level are regulated by the Delaware Office of Emergency Medical Services. The lead agency for initial paramedic education is Delaware Technical and Community College, Terry Campus. National certification is required to obtain and maintain certification by the OEMS and licensure by the Delaware Board of Medical Licensure and Discipline. Each Advanced Life Support (ALS) agency is responsible for the continuing education and transition education of their paramedics with oversight from the OEMS. All Paramedics had until March 31, 2017 to complete the transition to the new designation of National Registry Paramedic (NRP).

National Continued Competency Program (NCCP)

The State Fire Prevention Commission adopted the National Registry of EMTs National Core Curriculum Program (NCCP) for EMTs and EMRs in the State of Delaware. This program changes requirements for recertification at both levels. This streamlines the recertification process into three categories consisting of National, Local and Individual. Delaware will transition to NCCP for all paramedic level providers for the 2019 recertification cycle.

Paramedic Education

Delaware Technical Community College offers paramedic education as part of a two-year Associate of Applied Sciences degree. The program is structured and staffed to produce graduates to help meet the paramedic staffing needs of the Delaware paramedic services and the State Police. The curriculum follows the National Paramedic EMS Education Standards and consists of approximately 2,000 hours of classroom, simulation lab, clinical and field internship experiences. Throughout the program, helping paramedic students develop sound decision making and leadership skills is emphasized. All of the program's full time faculty are experienced, Master's prepared paramedics. All of the adjunct faculty are practicing paramedics.

The Delaware Tech Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). The program has continuously maintained this accreditation since 1999 and is the only accredited paramedic program in Delaware.

2017 Accomplishments

During 2017, the program had thirty-one active students. Sixteen new students entered the program. Eight students graduated from the program and entered the workforce in all three counties in Delaware. The eight graduates took, and passed, their National Registry of EMT's Paramedic examination. This continues to maintain a one hundred percent exam pass rate by our graduates since our first class took the exam in 2000.

Also in 2017, the reaccreditation process of the paramedic program continued. A site visit team from the Committee on Accreditation of Education Programs for Emergency Medical Services Professions (CoAEMSP) visited the program in February. The site visit team was impressed by the quality of the program and of the support that it received from the Delaware EMS system. At the October meeting of the Commission on the Accreditation of Allied Health Education Programs (CAAHEP), CoAEMSP recommended the Delaware Tech Paramedic Program for reaccreditation.

2018 Challenges and Goals

Challenges:

The most significant challenge that the paramedic program faced in 2017 was the effect that the FY18 state budgetary funding reduction had on the program to continue to run two cohorts of paramedic students each year. The budgetary funding reduction resulted in a reduction of the program's instructional workforce, which led to the end of the practice of admitting two cohorts of paramedic students. The program was not able to admit a class that would have started in January 2018. The effect of this will be that the total number of paramedics who will be graduating from school and available to work will be reduced beginning in 2019.

Goals:

The paramedic program's primary mission continues to be producing skilled prehospital providers who will serve the citizens of the State of Delaware. The program's main goal in 2018 is to continue to produce competent entry-level paramedics who will meet the needs of the State EMS System. The program will admit a cohort of students in May 2018 who will graduate in August 2019.

EMS Preparedness

Delaware's Emergency Medical providers are well trained and very prepared to respond to almost any type of situation that presents itself. The arena of EMS Emergency Preparedness focuses on giving our responders additional information in order to be ready for special circumstances with unusual threats. Efforts to prepare include planning and training. The focus is an all-hazards approach, preparing our emergency services for situations involving areas including terrorism, acts of violence, or other natural and man-made disasters.

Stop the Bleed Campaign

Uncontrolled bleeding is a major cause of death in the trauma patient. In many of these cases, the outcome can be improved if simple steps are taken to staunch the bleeding promptly. The frequent occurrence of events such as mass shootings and bombings demonstrate the importance of bleeding control skills. In many cases, victims lie bleeding until scenes get under control and medical help arrives.

Citizens must be prepared to treat themselves, their families, and their co-workers. This is the premise of a national campaign called "Stop the Bleed". The program trains civilians in the techniques required to apply tourniquets and stop active bleeding.

The Office of Emergency Medical Services, EMS and Preparedness Section developed a training program consistent with the national Stop the Bleed campaign. Through the year, members of the office assisted with the training of hundreds of individuals. Part of this effort also included train-the-trainer programs for nurses and other health professionals to take the effort to a much broader audience.

Technical Assistance

Since 2007, the Office of Emergency Medical Services, working with the Office of Public Health Preparedness and the Delaware State Fire School has contracted a senior paramedic to provide EMS agencies with technical assistance on domestic preparedness issues. This position continues a number of projects to assess current preparedness efforts and plan for future preparedness initiatives.

The goal of OEMS domestic preparedness efforts is to increase the readiness of all Delaware responders to prepare for an all-risk response. This includes incidents of terrorism, hazardous materials releases, active threat situations, specialized and technical rescue, severe weather events, mass illness outbreaks and mass casualty situations. Efforts will be made to increase the interagency operability between EMS and other state response and preparedness agencies.

The potential for major events remains and so must our efforts to continually train to meet the needs of the responders in the state. Keeping an eye on situations throughout the world allow us to maintain a sense of vigilance. As we learn from the best practices of other emergency responders world-wide, we continue to look at our training, equipment, and medical protocols in Delaware. Our providers must always be prepared to make a safe response and deliver their high-quality out-of-hospital care in potentially hostile conditions.

EMS Interfacility Transport

Interfacility transport services are an important part of any well designed EMS system. The EMS system is often thought of as the 911 emergency response service, but the 911 emergency response service is just one part of the whole EMS transport system. The 911 transport system is not staffed to provide transport services for the non-emergent patients and remains available for emergencies as they arise. Interfacility transport services fill this important role allowing the 911 emergency response units to remain available for emergent request for service.

There are three types of ground Interfacility transport ambulances in Delaware:

- **Basic Life Support (BLS):**
 - Ambulances are staffed with Emergency Medical Technicians (EMTs). EMTs provide basic care and patient monitoring including oxygen therapy, bandaging and splinting, etc.
 - Interfacility transport EMTs have the same scope of practice as 911 EMTs and utilize the same statewide treatment protocols.
 - Delaware has 10 Basic Life Support Interfacility agencies with a total of 99 BLS Interfacility ambulances and 135 911 ambulances licensed and operating in Delaware:
 - Christiana Care
 - Delaware Park
 - East Coast Ambulance
 - GEM
 - Hart to Heart
 - LifeStar
 - Mid-Atlantic
 - Prime Care
 - St. Francis
 - Urgent

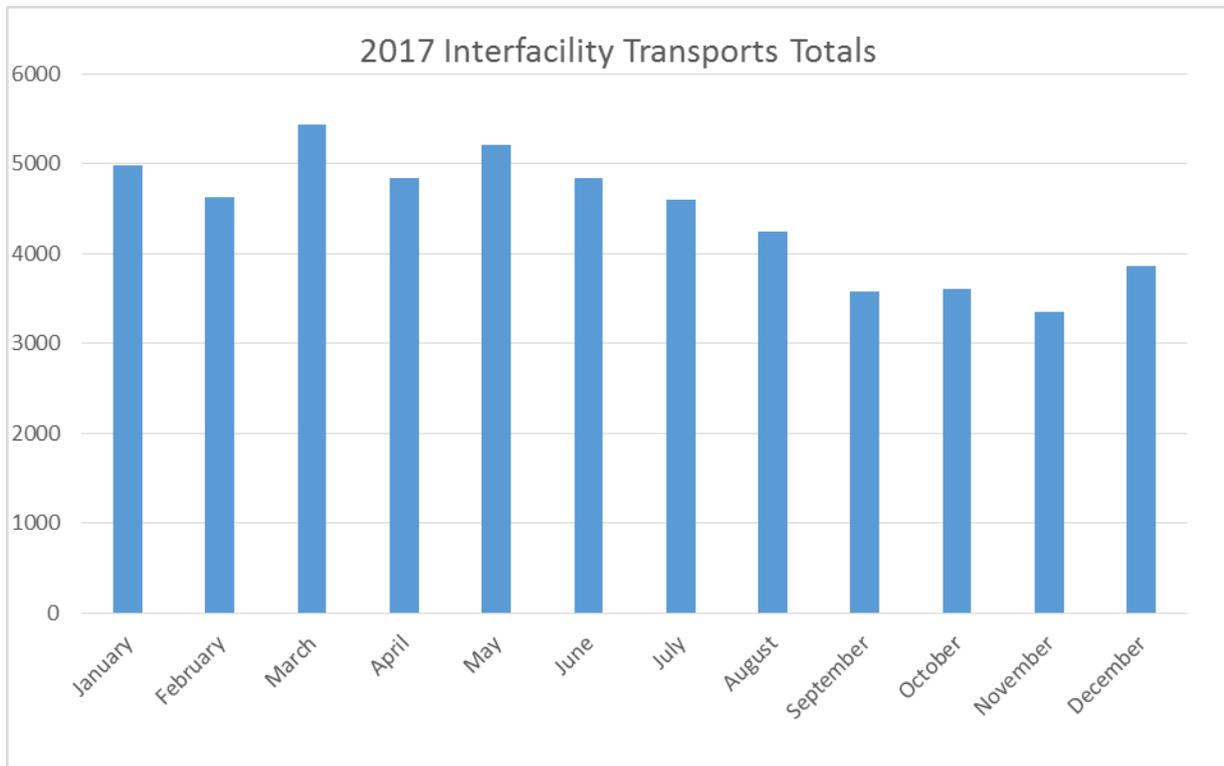
- **Advanced Life Support (ALS):**
 - Ambulances are staffed with at least one Paramedic and one EMT. Paramedics provide advanced life support care and monitoring including ACLS. The EMT provides support to the Paramedic.
 - Interfacility transport paramedics have the same scope of practice as 911 paramedics and utilize the same statewide treatment protocols.
 - Delaware has six paramedic Interfacility agencies licensed and operating in Delaware:
 - Christiana Care Lifenet
 - Hart to Heart
 - Life Star
 - Mid-Atlantic
 - St. Francis
 - GEM

- **Hospital Based Transport Team:**

- Ambulances are staffed with transport team personnel and at least one EMT from the transport service. The transport team personnel are staffed with specialty care personnel typically representing at least one Registered Nurse, one Respiratory Therapist, and may include a Physician.
- The transport team is able to perform procedures and assessments authorized by a prescribing practitioner and overseen by the medical facility. The EMT provides support to the transport team.
- Delaware has two hospital based transport teams:
 - Christiana Care Specialty Care Transport Unit
 - AI duPont Hospital for Children

Interfacility ambulance services can be used for the following types of Patients:

- Facilities requesting non-emergency patient transportation
- Skilled Nursing Facilities
- Physician Offices
- Clinics
- Acute Care Hospitals
- Home/Hospice Care Facilities
- Board and Care Facilities
- Urgent Care Centers
- Custodial Care Centers with a prescribing practitioner including jails, rehabilitation centers, etc.



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New Castle County

Advanced Life Support 69

Report submitted by Chief Lawrence Tan

Communication Center 90

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NEW CASTLE COUNTY EMERGENCY MEDICAL SERVICES
2017 ANNUAL REPORT



A NATIONALLY ACCREDITED EMERGENCY MEDICAL SERVICE





New Castle County Emergency Medical Services Division

OVERVIEW

Introduction

The mission of the New Castle County Emergency Medical Service, as an essential component of the New Castle County Government, is to provide efficient, compassionate, and high quality emergency medical care to the visitors and residents within New Castle County. Our delivery of paramedic service directly impacts the quality of life for all who reside, visit, and work in New Castle County.

The New Castle County Emergency Medical Service is a county municipal "third service" paramedic agency within the County Department of Public Safety. New Castle County EMS has the distinction of being the "First Paramedic Service in the First State" and remains the only EMS agency to be nationally accredited by the Commission on Accreditation of Ambulance Services (CAAS).

New Castle County EMS operates in a "tiered response" or advanced life support-intercept configuration, and responds with basic life support (BLS) ambulances from the volunteer fire service, career fire departments, private ambulance service providers, and specialized BLS providers, such as the University of Delaware Emergency Care Unit, a student operated ambulance.

In 2017, New Castle County EMS deployed nine (9) paramedic units during its high call volume period during the day and eight (8) paramedic units during non-peak operating hours at night. The EMS Division field supervision includes two (2) Paramedic Sergeants on a 24-hour basis. An EMS Lieutenant serves as the shift commander on a 24-hour basis. Both Paramedic Sergeants and the on duty EMS Lieutenant are equipped as advanced life support responders.

Our personnel strive to demonstrate their commitment to our motto "Excellence in Service" each and every day, because "Our Mission is Your Life."

Further information regarding the New Castle County Paramedics is available on our web site at: www.nccde.org/ems, or follow us on [Facebook](https://www.facebook.com/NCC.Paramedics) (@NCC.Paramedics).



A NATIONALLY ACCREDITED EMERGENCY MEDICAL SERVICE



ORGANIZATION

Emergency Medical Services Division

The Emergency Medical Services Division is a component of the New Castle County Department of Public Safety with the Chief of Emergency Medical Services reporting to the Director of Public Safety, who is appointed by the County Executive. The service is divided into two main components: the Operations Branch and the Administration/Special Operations Branch. Each branch is commanded by an Assistant Chief.

The Operations Branch is primarily responsible for the delivery of pre-hospital care, and consists of four shifts, or platoons, that provide 24-hour service on a rotating shift schedule. A fifth shift, more commonly referred to as the "Power Shift" provides additional advanced life support capability during peak call volume periods.

The Administration/Special Operations Branch is primarily responsible for the support services component of the agency, including Recruitment and Applicant Processing, Quality Improvement and Training/Continuing Education, Fiscal Management and Procurement.

New Castle County Emergency Medical Services



Assistant Chief Mark R. Loggmann
Administration/Special Operations Branch



Chief Lawrence E. Tan
Commanding Officer
Emergency Medical Services Division



Assistant Chief Mark P. Allston
Operations Branch



Captain Dawn E. Gulezian
Quality Improvement



Lt. Michael A. McColey
Recruitment, Applicant Processing, Field Training



S/Lt. Joseph J. Dudley
Support Services



Sgt. David B. Aber
Training/Continuing Education



S/Lt. Louis J. Rombach
Platoon I



Lt. Michael R. Nichols
Platoon II



Lt. Kelli A. Zullo
Platoon III



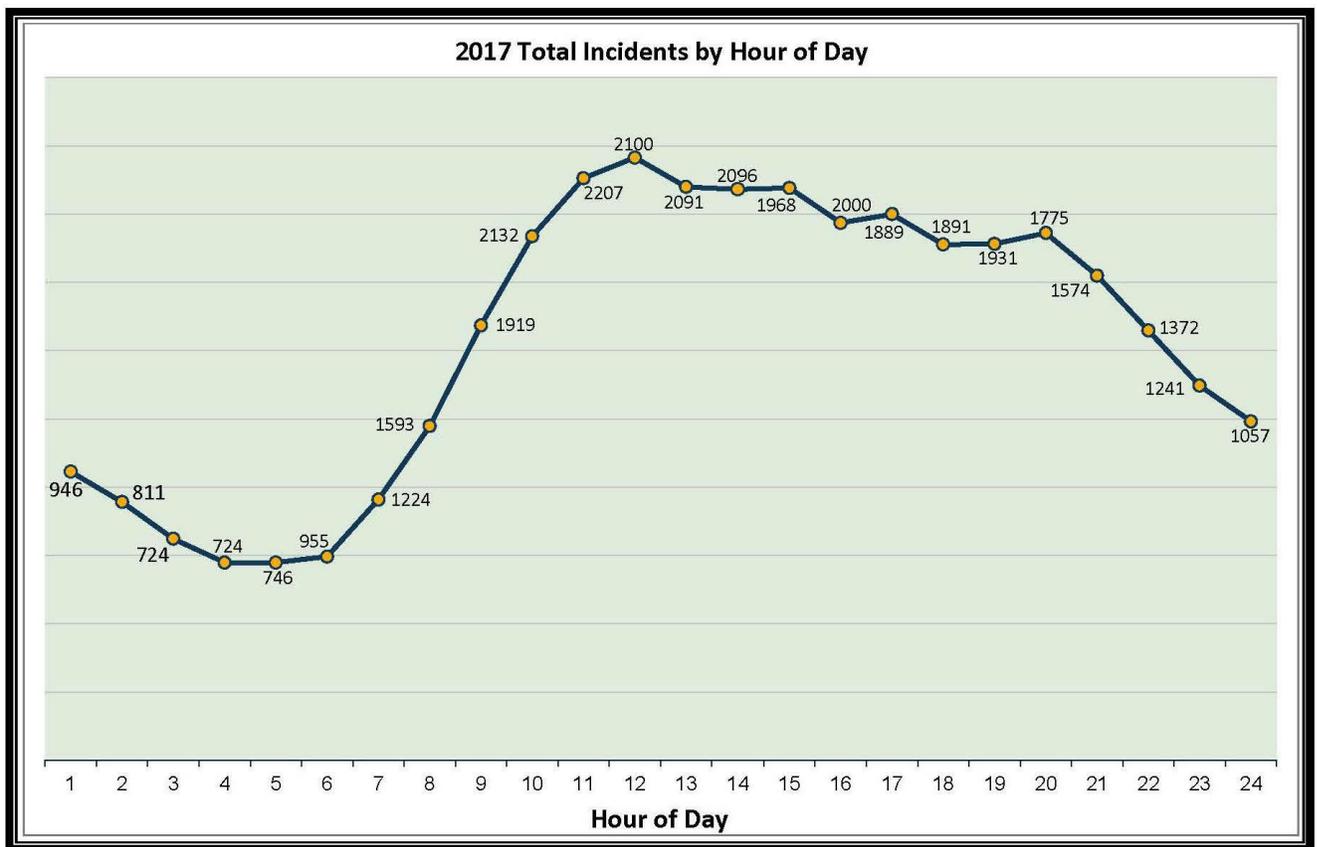
Lt. Christopher A. Johnson
Platoon IV

OPERATIONS

Paramedic Service Operational Demand

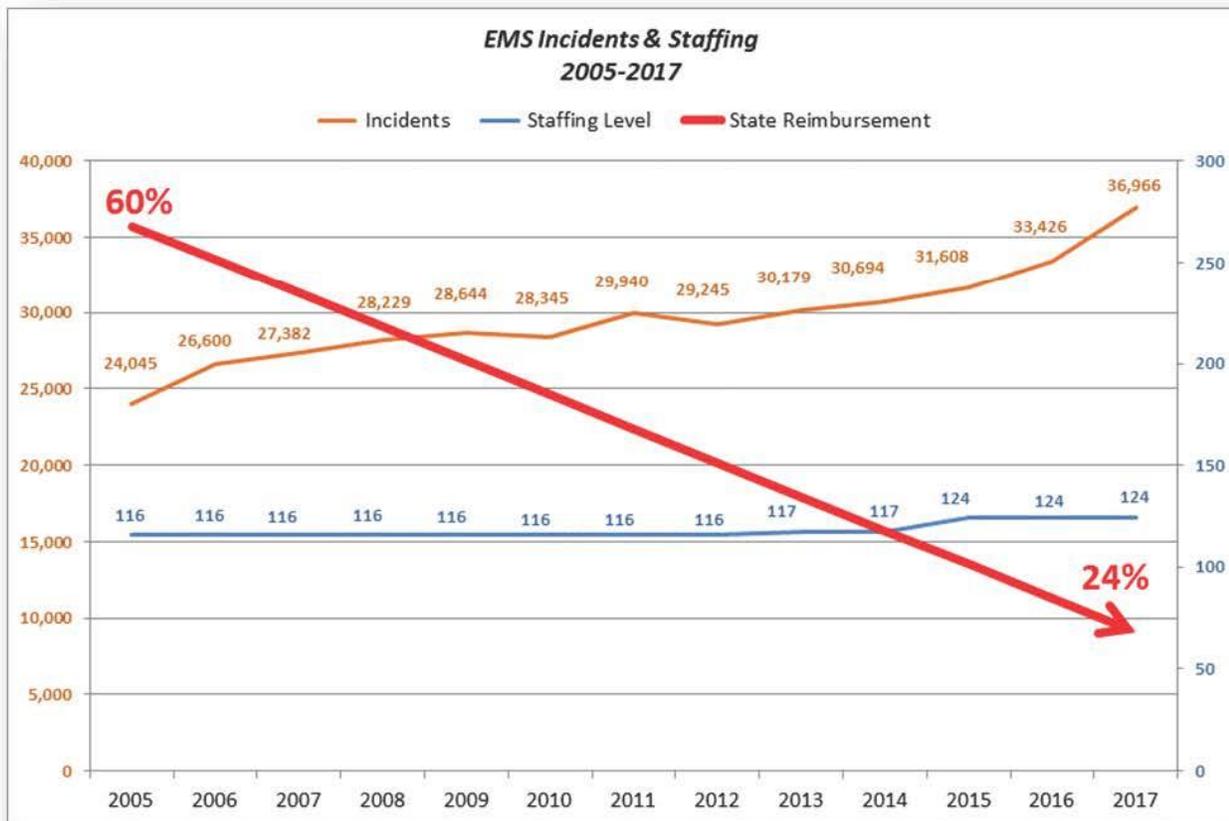
New Castle County EMS has a clearly defined call volume pattern that begins to increase at approximately 0600 hours each day, reaches a peak at approximately 1100 hours, then steadily declines until after midnight. Utilization of “power shift” units, such as Medic 9, provides an opportunity to increase paramedic staffing during high call volume times each day. Additional paramedic units have been placed in service for special circumstances, including inclement weather conditions and other events that could potentially impact paramedic service delivery in New Castle County.

In 2017, the EMS Division deployed eight (8) paramedic units and two Paramedic Sergeants on a 24-hour basis, seven days a week. A ninth paramedic unit is added during peak call volume periods on a “power shift” configuration (0700-1900 hours) seven days a week. Additional paramedic units continue to be deployed as certified staff becomes available.



This chart illustrates the New Castle County paramedic call volume during calendar year 2017 by hour of day. The use of “power shift” paramedic units allows the EMS Division to apply resources during higher call volume periods. The “power shift” consists of 12-hour rotations from 0700 to 1900 hours.

Source: New Castle County Computer Aided Dispatch (CAD) System



New Castle County EMS continues to see an increase in demand for paramedic-level service in New Castle County. The aging of the population and opioid overdose epidemic are two factors that are contributing to the annual rise in paramedic incidents. An 8.68% increase in paramedic call volume was noted from 2016 to 2017, at the same time that state reimbursement to the counties for delivery of paramedic services was reduced by another 6%. The 6% reduction in reimbursement represents a \$1M decrease in revenue to support paramedic service delivery in New Castle County. The ongoing reductions in state reimbursement undermine the shared responsibility between the state and counties for delivery of advanced life support paramedic services, as defined by the Statewide Paramedic Services Act of 1990.

The Emergency Communications Center will prioritize emergency medical incidents in accordance with a national set of call processing criteria. It is routine for the communications center to reassign paramedic units from a lower priority incident to a higher priority medical incident.

The New Castle County Paramedics responded to 36,966 incidents during calendar year 2017. Many of the incidents involved a response by more than one New Castle County paramedic unit due to multiple patients or complicated circumstances.

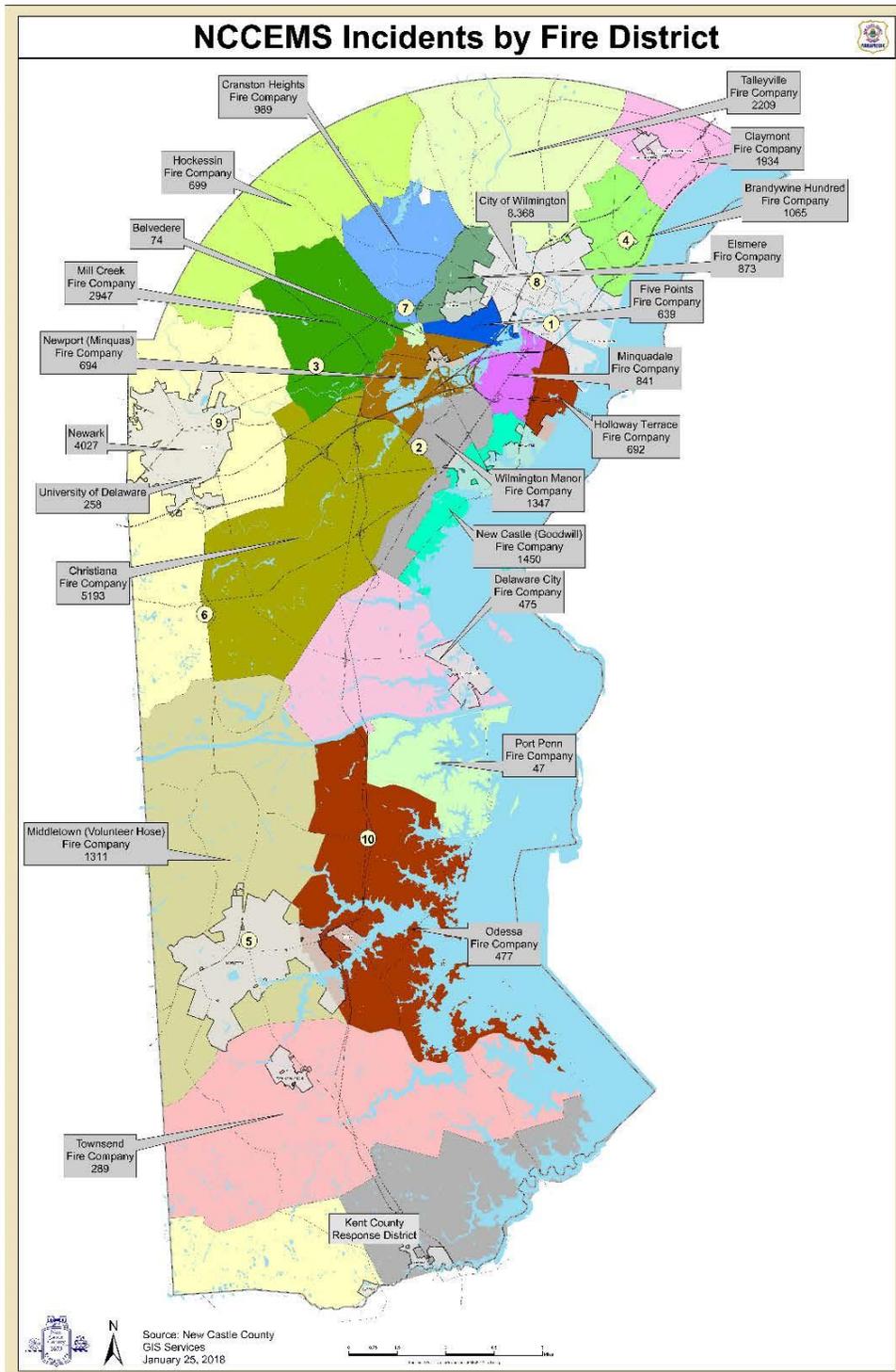
The opioid overdose epidemic is a driving force in the 8.68% increase in paramedic service activity over 2016. The New Castle County Paramedics have noted increases in both the number of patients receiving naloxone (Narcan), an antidote for opioid and narcotic overdoses, as well as the number of naloxone administrations when compared to the same period the previous year.



March 26, 2017: *New Castle County Paramedics routinely respond to “working” structure fires to provide medical support to firefighting operations. Here, a New Castle County Paramedic unit is on scene at a fire in the 400 block of North Market Street in Wilmington.*

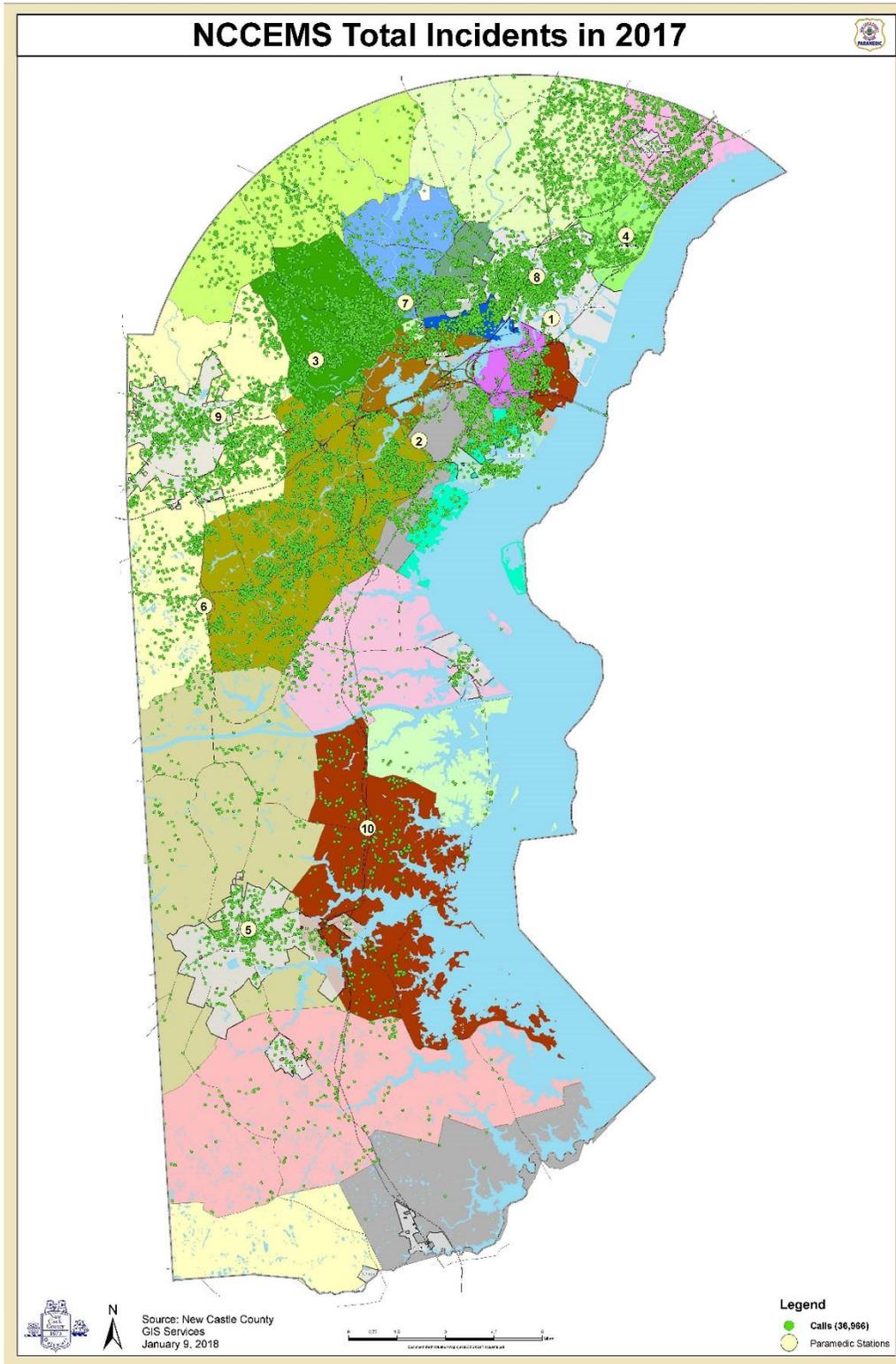


March 1, 2017: *The New Castle County Paramedics hosted the Fifth Annual New Castle County Sudden Cardiac Arrest Survivors’ Reunion at the Laird Performing Arts Center at the Tatnall School. The event recognized emergency medical services and advanced life support paramedics that contributed to the survival and successful hospital discharge of patients that experienced an out-of-hospital sudden cardiac arrest. In five years the event has issued 1,100 commendations to citizens and public safety personnel in recognition of their contributions toward the successful discharge in 148 sudden cardiac arrest cases. Even more remarkable is that the out-of-hospital survival rates for sudden cardiac arrest cases in New Castle County has improved every year. In this photo, the responders are seated behind the survivors that returned to the reunion to meet those who contributed to their “chain of survival.”*



This map illustrates the number of New Castle County Paramedic incidents that occurred in each fire company district during calendar year 2017. The New Castle County Paramedics work closely with the fire company and other basic life support ambulances on a daily basis. County paramedics augment the basic life support capabilities of the ambulances by providing out-of-hospital advanced life support care for patients requiring paramedic services.

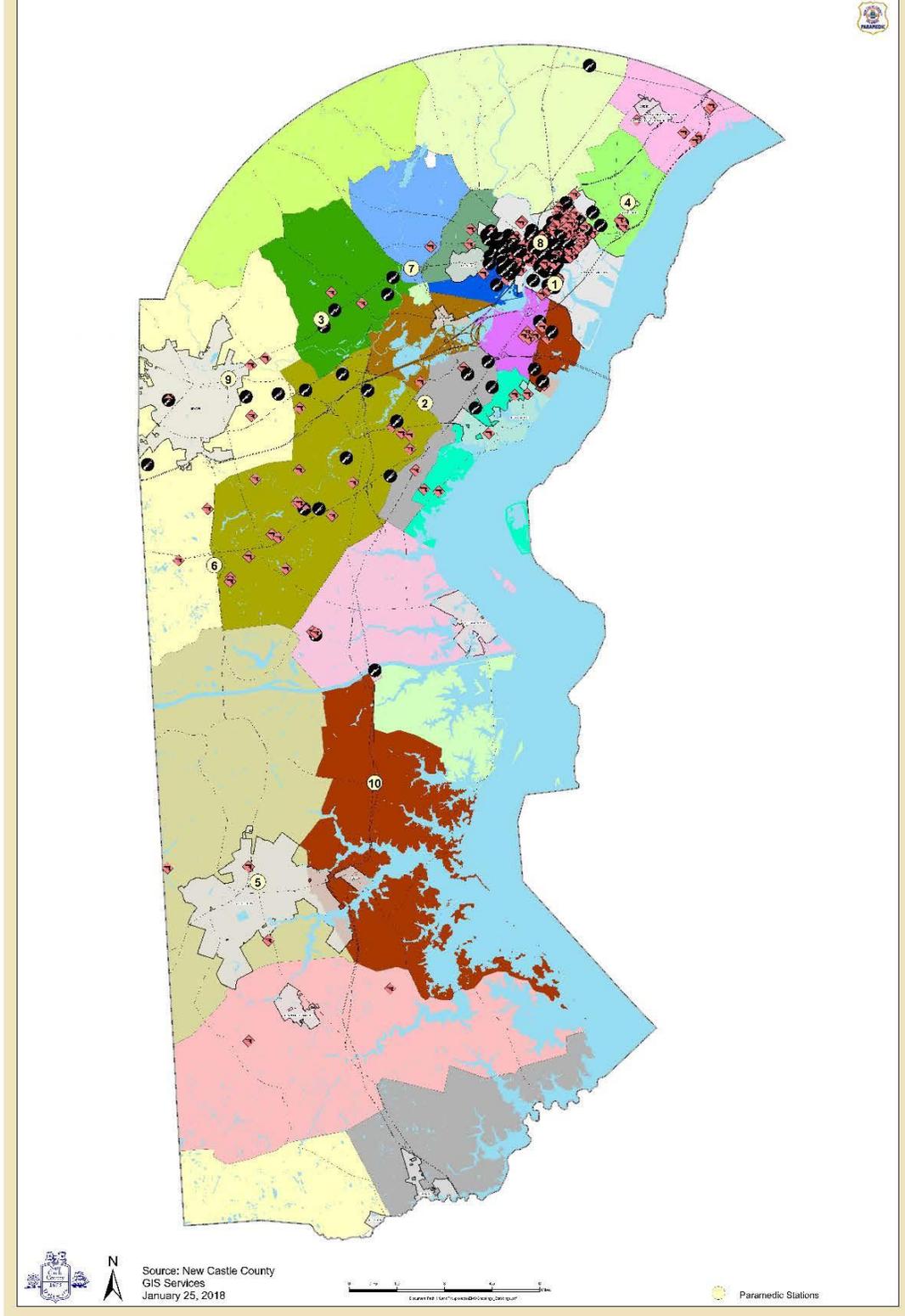
Source: New Castle County Computer Aided Dispatch (CAD) System & GIS Services



This map illustrates all of the New Castle County Paramedic incidents that occurred during calendar year 2017. Each point indicates an advanced life support incident for New Castle County EMS. The yellow circles depict the current location of New Castle County Paramedic stations or deployment points.

Source: New Castle County Computer Aided Dispatch (CAD) System & GIS Services

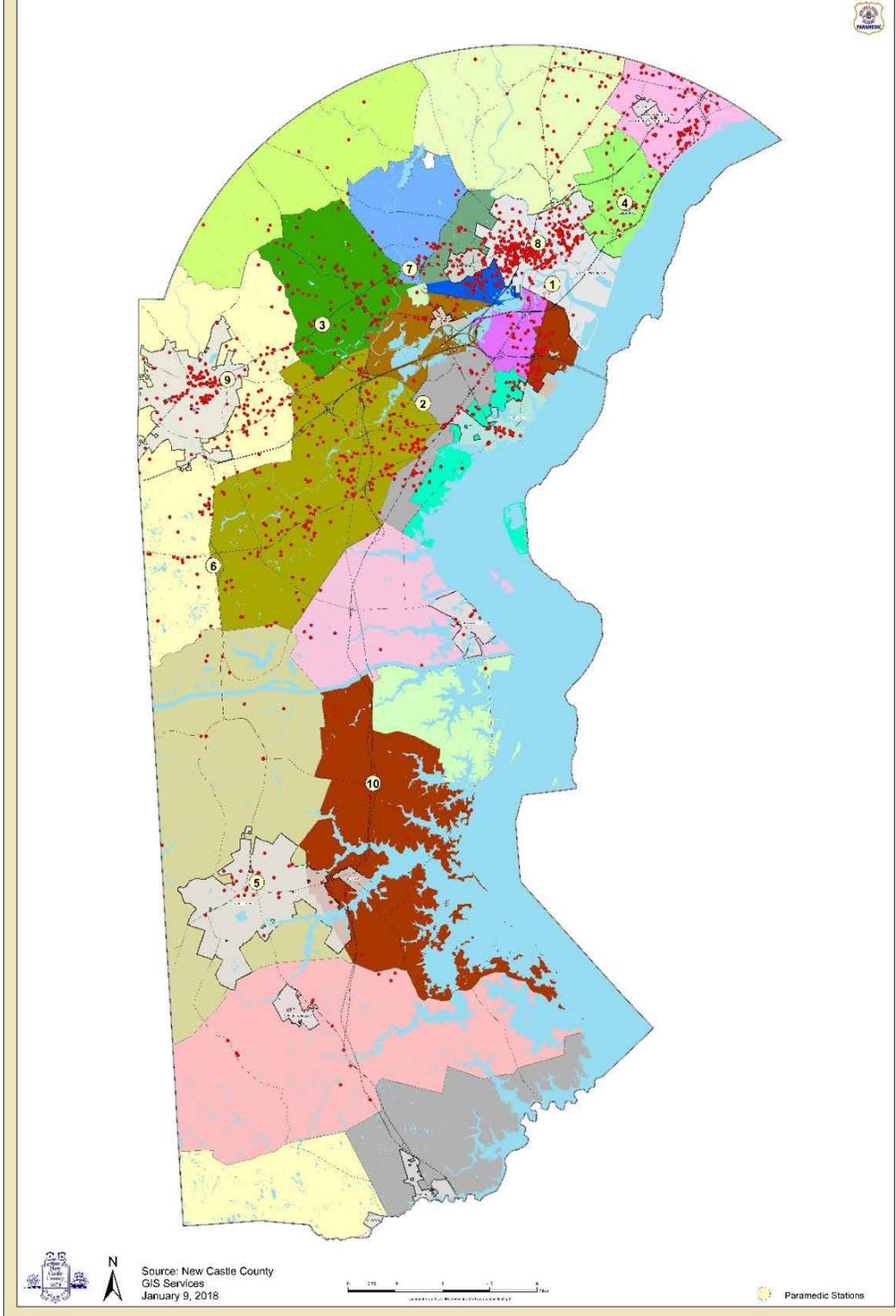
NCCEMS Responses to Shooting & Stabbing Incidents in 2017



This map illustrates New Castle County Paramedic responses to shootings and stabbings during calendar year 2017. The New Castle County Paramedics provide advanced life support services to both the incorporated municipalities and unincorporated areas of New Castle County.

Source: New Castle County Computer Aided Dispatch (CAD) System & GIS Services

NCCEMS Responses to Reported Overdose Incidents in 2017



This map illustrates responses by New Castle County Paramedics to incidents initially classified by the dispatch center as a possible overdose. In some cases, incidents may be classified as “unconscious person”, “altered mental status” or “ineffective breathing – possible cardiac or respiratory arrest” and are not shown on this map. However, it is clear that the overdose epidemic is prevalent throughout our community.



New Castle County Paramedics routinely work with the Delaware State Police Aviation Section for aeromedical transport of patients from emergency scenes. The Delaware State Police provide advanced life support air transport capability throughout Delaware. A New Castle County Paramedic will sometimes join the state police paramedic during transport of critically injured or ill patients.

New Castle County Paramedic Unit Activity

PARAMEDIC UNIT	2017
Medic 1 (Wilmington)	5,841
Medic 2 (New Castle)	5,874
Medic 3 (Newark)	4,668
Medic 4 (Brandywine 100)	4,553
Medic 5 (Middletown)	2,094
Medic 6 (Glasgow)	4,031
Medic 7 (Prices Corner)	5,074
Medic 8 (Wilmington)	5,927
Medic 9 (12 hour/day unit)	2,757
Medic 10 (Special Duty)	205
Medic 11 (Special Duty)	65
Medic 12 (Special Duty)	12
Medic 13 (Special Duty)	1
Medic 20 (Special Ops)	65
ALS Bike Team	2
MEDCOM	11
Single paramedic ALS responses	4,373
TOTAL RESPONSES	45,553



New Castle County EMS Supervisor and EMS Staff Activity

EMS SUPERVISOR/STAFF	2017
EMS HQ Staff (Chief & Asst Chiefs)	116
EMS Lieutenants	427
Paramedic Sergeants	4,038
TOTAL STAFF RESPONSES	4,581

Top 10 Reasons for Dispatch of a New Castle County Paramedic Unit during 2017

TYPE OF INCIDENT	2017
Breathing Problems	6,469
Interfacility Transport	4,276
Chest Pain	4,121
Syncope/Unconscious Person	2,713
Overdose	1,688
Seizure	1,481
Stroke	1,162
Diabetic Problems	1,021
Motor Vehicle Collision	982
Subject Fallen	955



February 21, 2017: New Castle County Paramedics provide advanced life support services to the unincorporated areas and incorporated municipalities of the county. Here, a paramedic field supervisor vehicle is at the scene of a shooting in the 2200 block of North Market Street with the Wilmington Police Department and a St. Francis Hospital ambulance.

ADMINISTRATIVE ACTIVITY

Public Education/Injury Prevention Programs

New Castle County EMS continued to provide a number of public education activities to support its delivery of emergency medical care. Public education is a secondary function within the EMS Division, and is not supported by a full time assignment. A robust public education program can support the delivery and performance of an EMS system by improving the speed of public access and prompting appropriate bystander response before EMS arrives on scene. New Castle County has documented that bystander CPR performed during cases of sudden cardiac arrest is at a rate below the national average of reporting jurisdictions. In New Castle County, the initiation of bystander CPR before EMS arrives gives the patient a 3 times greater chance of survival.

Public Education Activities

CPR/AED Classes	17 courses conducted with certification of over 297 persons
CPR Healthcare Provider	61 courses conducted with certification of over 657 persons
Hands Only CPR Displays	5 events with over 340 participants
CPR/AED Awareness	2 events with 27 participants
First Aid Classes	8 courses conducted with certification of 78 persons
Vial of Life Program	Continued collaboration with Christiana Care Emergency Departments and Visiting Nurse Association, and volunteer fire service to facilitate ongoing distribution of Vial of Life kits.
EMS Division Displays	Staffed 6 paramedic service displays or presentations with 3 EMS Division Honor Guard details and 3 NCC Pipes and Drums events. Delivered 22 recruitment presentations to potential EMS applicants. The ALS Bike Team participated in medical support coverage of 1 event.
EMS Continuing Education	New Castle County Paramedics provided 2 continuing education presentations to 31 basic life support personnel in addition to delivery of the second Delaware Resuscitation Academy. One paramedic participated in a Spanish Survival for Law Enforcement program with 60 participants.
EMS System Orientation	2 events with over 125 participants
Nasal Narcan Training	Provided 2 training programs for 120 first responder participants in nasal administration of Narcan, a narcotic and opiate antidote.
Youth Education	4 presentations to over 130 students regarding EMS careers and the role of paramedics in the emergency medical services system. New Castle County EMS also participated in 9 "Reality Tour" events sponsored by Attack Addiction. Maintained the ride-along and mentoring program for St. Georges Technical High School EMS students.



The New Castle County Paramedics continue to provide outreach activity to even the youngest citizens. Early exposure to paramedics may plant the seed for some to eventually consider a career in emergency medical services.

(Clockwise from left) During 2017, the New Castle County Paramedics provided an orientation to Hands Only CPR at the Alfred G. Waters School, maintained the ride-along and mentoring program with the St. Georges Technical High School EMS Program, participated in a New Castle County Department of Public Safety Open House Recruitment event, and provided a career presentation at the Redding Middle School Career Day.



ACCOMPLISHMENTS

NCCo EMS Hosts 2nd Delaware Resuscitation Academy



March 2017: New Castle County EMS hosted the second presentation of the Delaware Resuscitation Academy at the Embassy Suites in Newark. The Delaware Resuscitation Academy focuses on the science behind the management of sudden cardiac arrest cases, and the techniques that have been proven to improve survival rates. This year was the first time administrative and educational staff from the hospital emergency departments were invited to participate in the academy. The inclusion of hospital receiving staff will facilitate a smooth transition of care of the patient.



NCC*EMS Participates in Rendering Honors to Corrections Officer



February 11, 2017: The New Castle County Paramedics participated in a joint honor guard from the New Castle County Department of Public Safety in rendering honors to Delaware Department of Correction Lieutenant Steven Floyd.

NCC*EMS Staff Graduate from Leadership Development Program



Paramedic Sergeant Abigail Haas, Paramedic Sergeant Peter Small and Paramedic Sergeant Beth Bratton-Heck successfully completed the Command and Leadership Academy hosted by the New Jersey Association of Chiefs of Police. The 14-week leadership program was developed with the West Point Military Academy. Paramedic Sergeant Beth Bratton-Heck was recognized with the Chief Wilde award for academic excellence in the New Castle County cohort. New Castle County EMS has made a continued commitment toward leadership development within the paramedic service.

NCC*EMS Lieutenant Receives Stephanie Callaway Memorial Award



New Castle County EMS Lieutenant Michael Nichols received the Stephanie Callaway Memorial Excellence in Paramedicine Award from the Delaware State EMS Association at their annual banquet in Dover. The award is named for a Sussex County EMS paramedic that died in the line of duty. Lt. Nichols was joined by his family in receiving the statewide award.

Department of Public Safety Awards Ceremonies



March 30, 2017: The New Castle County Department of Public Safety hosted an awards ceremony to recognize exemplary performance by all components of the department.

The Emergency Medical Services Division recognized the following paramedics with official commendations:

*Assistant Chief Mark P. Allston
Assistant Chief Mark R. Logemann
Lt. Michael R. Nichols
Lt. Kelli A. Zullo
P/Sgt. Abigail E. Haas
P/Sgt. Isaac J. Hankins
P/Sgt. Peter T. Small
S/Cpl. William J. O'Leary
S/Cpl. Christopher W. Reed
S/Cpl. Robert A. Taylor
Cpl. Stacey T. LeCompte
Cpl. David J. McKinney
Cpl. Thomas J. Murphy, Jr.
Cpl. Daniel J. Panaro
Cpl. Allen C. Short
Cpl. Ashley D. Steil
Cpl. Brianna C. Sullivan
Cpl. Katherine A. Watts
Paramedic I/C Brian C. Bradford
Paramedic I/C Jessica A. Duncan
Paramedic I/C Matthew H. Heiger
Paramedic I/C Laura E. Hill
Paramedic I/C Leah Hojnicky
Paramedic I/C Scott B. Kier
Paramedic I/C Yvonne T. Russell
Paramedic I/C Michael C. Schusteritsch
Paramedic I/C Scott E. Sizer
Paramedic I/C Jack W. Warrick
Paramedic Jessica M. Gurgick
Paramedic Matthew J. L. Patterson
Paramedic Mark A. Plumley
Paramedic Richard H. Ross
Paramedic MaryKate E. Selner
Kenneth R. Phibbs, Operations Support Specialist*

In Memoriam



The New Castle County Paramedics offer their deepest sympathy to the Delaware State Police on the tragic loss of Corporal Stephen J. Ballard. We stand together with our public safety colleagues in recognizing his ultimate sacrifice while in service to the citizens of Delaware.

“Never Forgotten”





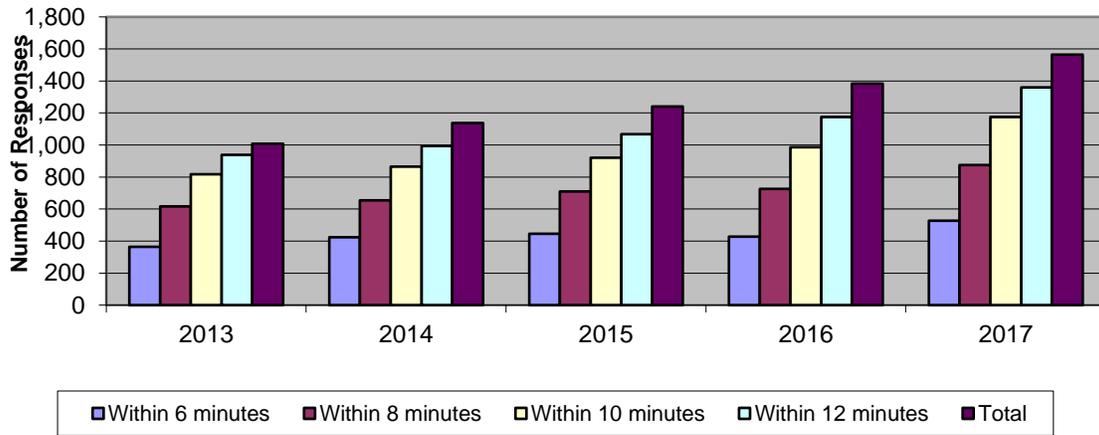
Our Mission is Your Life



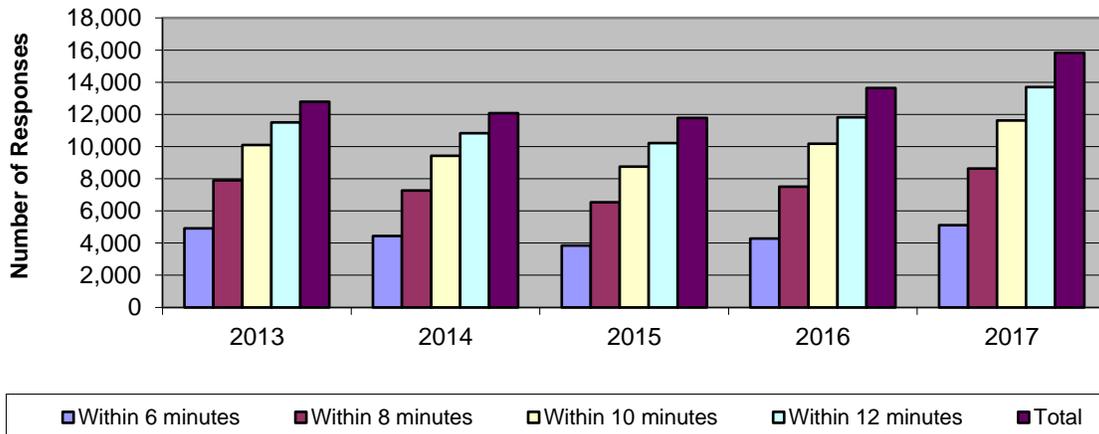
@NCC.Paramedics

NEW CASTLE COUNTY
EMERGENCY MEDICAL SERVICES
3601 NORTH DUPONT HIGHWAY
NEW CASTLE, DELAWARE 19720

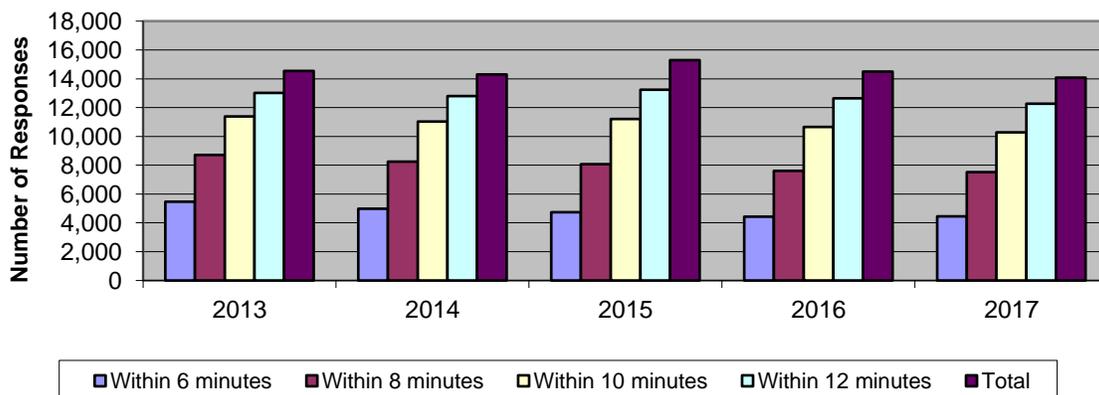
Echo Level Response, NCC EMS

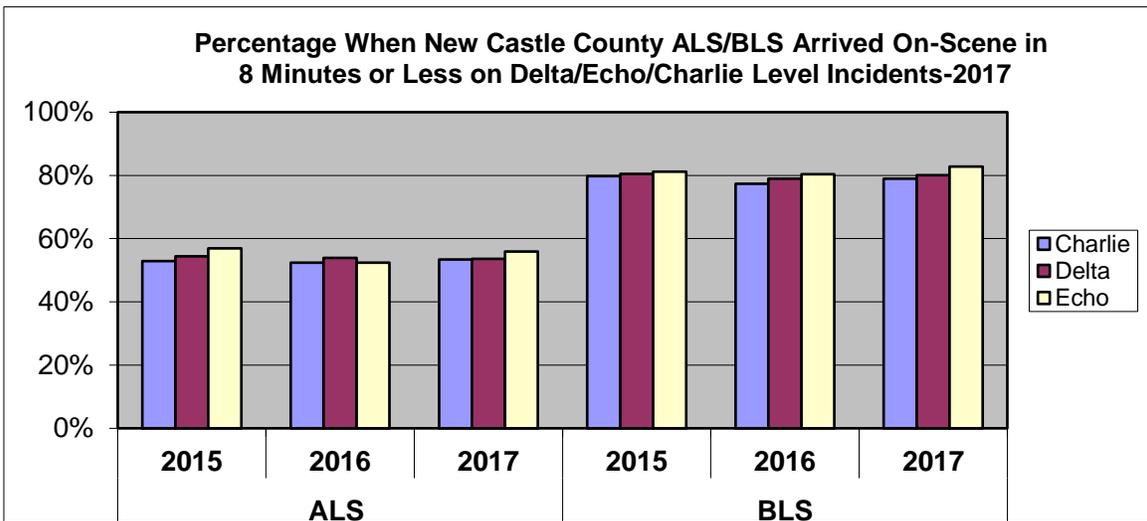
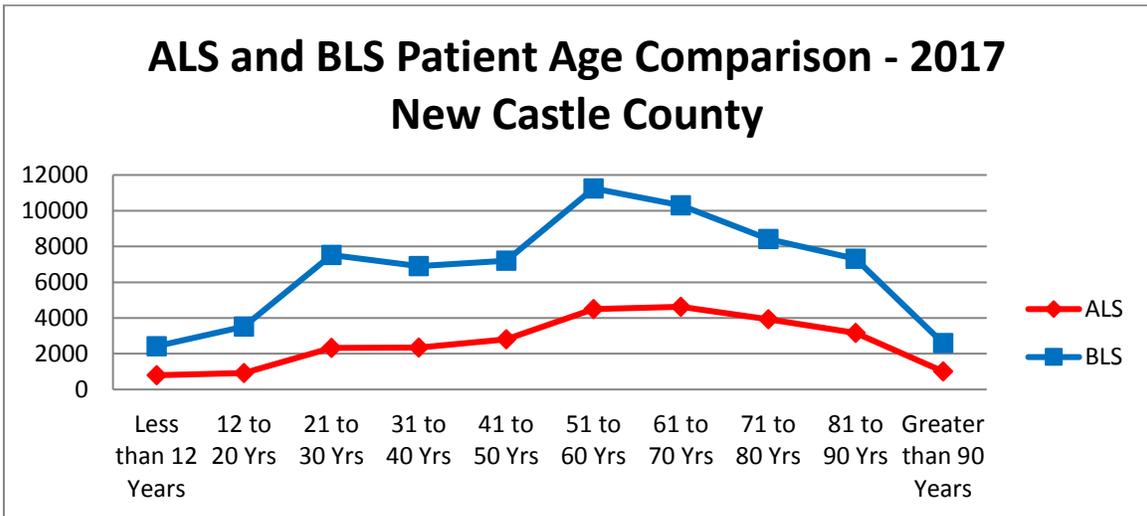
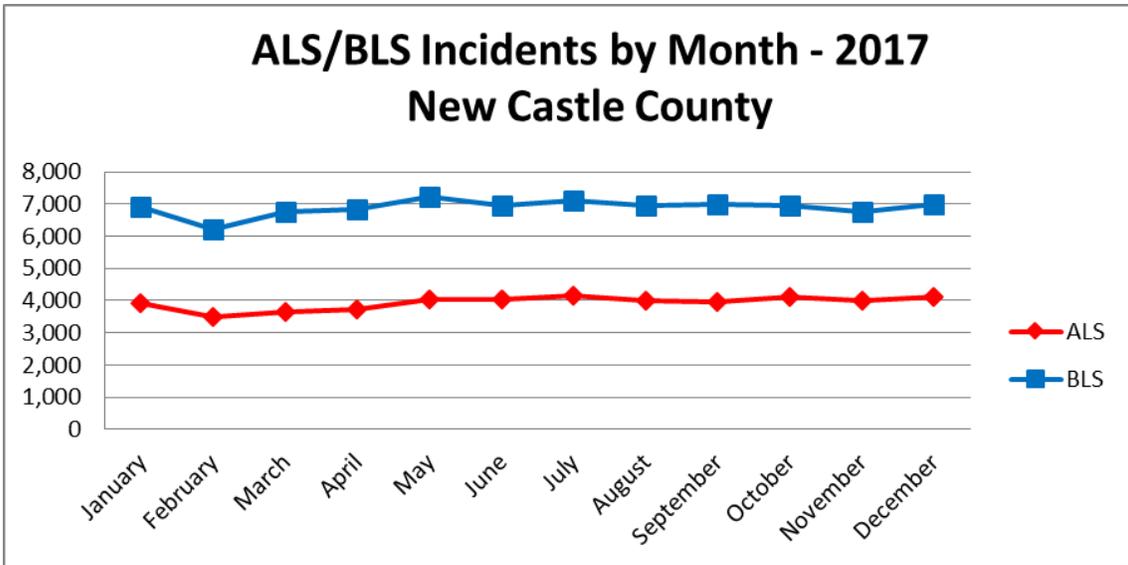


Delta Level Response, NCC EMS



Charlie Level Response, NCC EMS





Communication Center
New Castle County
Submitted by Chief Jeffrey P. Miller



The New Castle County 9-1-1 Emergency Center receives 9-1-1 calls through a variety of phone exchanges and numerous cell towers throughout New Castle County. The total number of 9-1-1 calls processed in year 2017 was 374,003. Another 101,648 non-emergency calls were also processed by our Public Safety Operators. The Center dispatched or processed a total of 146,327 fire/medical incidents and 285,971 police incidents in year 2017. New Castle County Emergency Communication Center handled over 43.7% of the 854,280 total 9-1-1 calls in the State of Delaware for 2017.

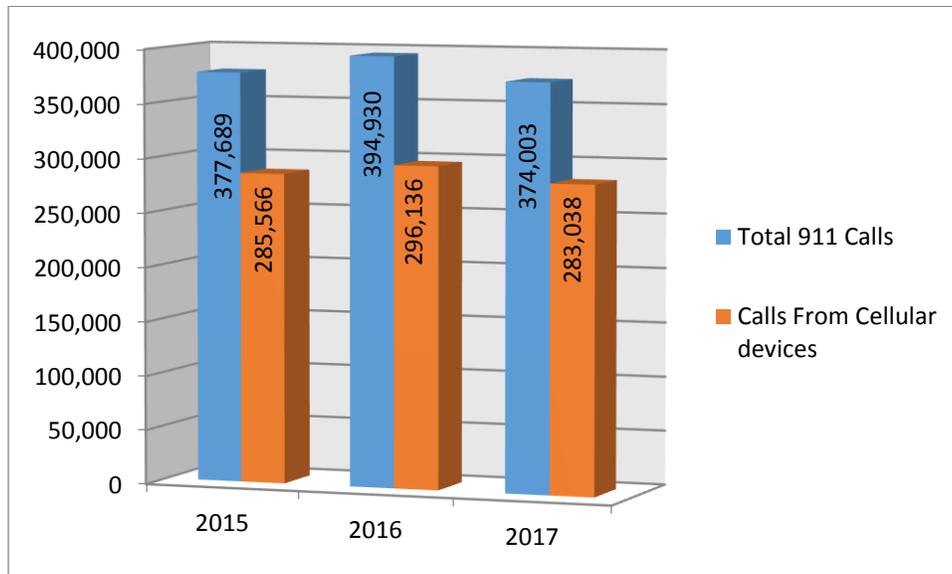
The New Castle County Emergency Communications Center is a 24-hour operation that operates 365 days a year. We provide Fire/EMS Communications to the City of Wilmington, twenty-one New Castle County Volunteer Fire Companies, six fire brigades, and the New Castle County Paramedics. Additionally, we provide Police Communications service to seven police agencies within New Castle County. The Center is staffed by twenty-six full and part-time Public Safety Operators, twenty-five Police Communications personnel, twenty-three Delaware State Police Communications personnel, twenty-five full-time Fire/Medical Communications personnel, and an administrative staff of seven personnel.

Emergency Medical and Fire Dispatch

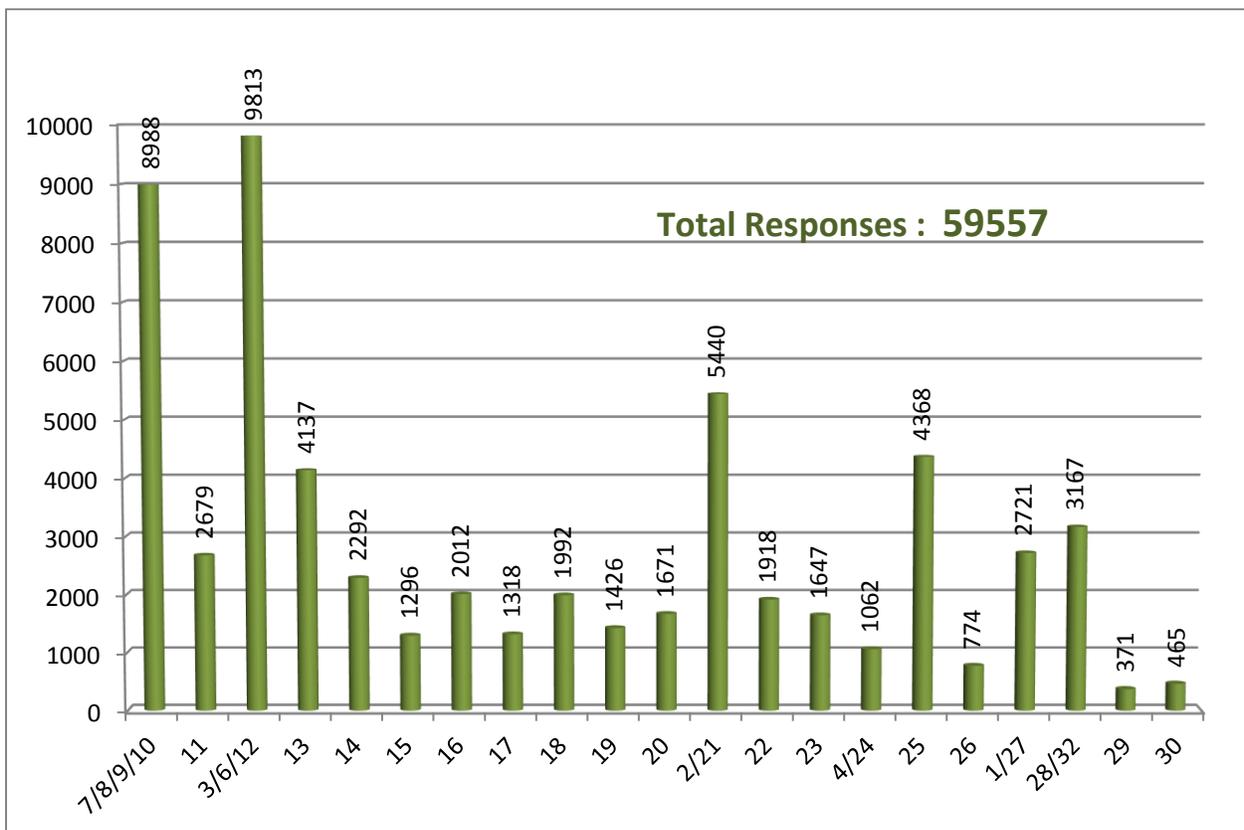


The New Castle County Emergency Communications Division utilizes a national protocol system to triage incoming emergency calls to determine the appropriate level of service. Each of our 911 professionals are trained to provide pre-arrival instructions in CPR, child birth, persons choking, persons trapped in a house/building fire, persons in a car sinking in water and persons involved in hostage situations along with others.

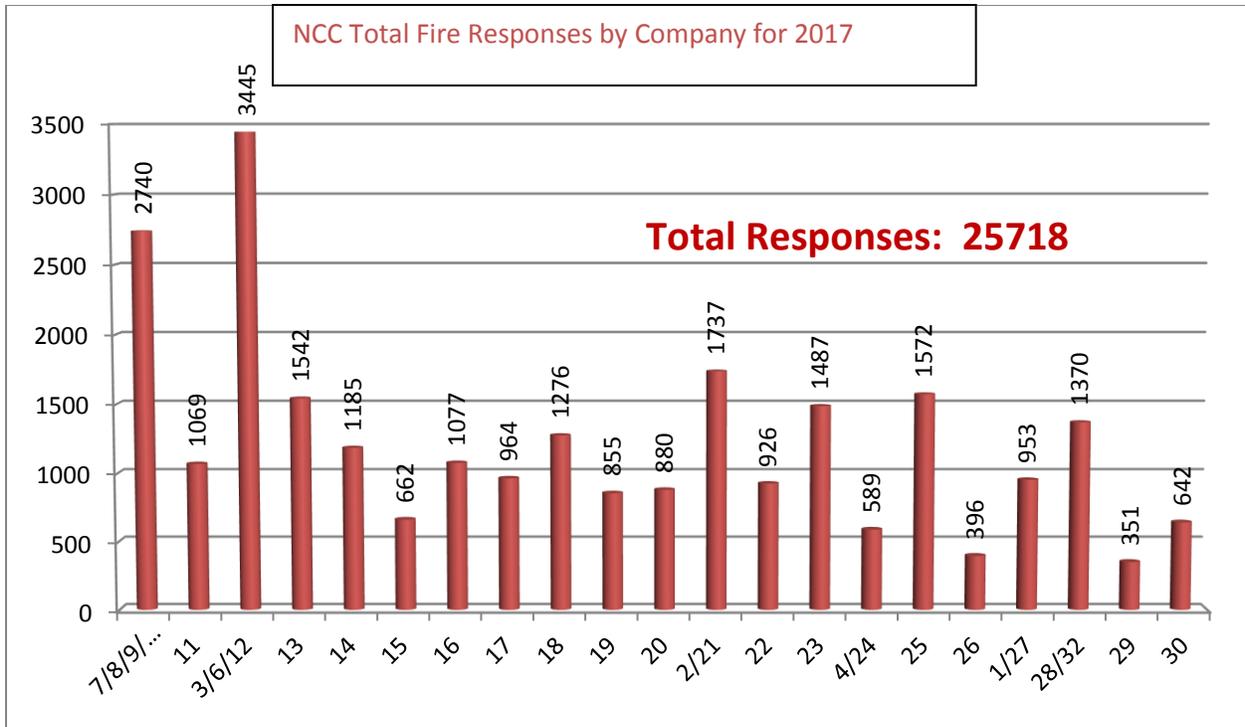
Each of our 911 professionals participates in numerous hours of continuing education opportunities in an effort to remain proficient in each protocol (fire, police, and medical) and to maintain their certifications in each protocol.



*This information provided by West.



*This information provided by Tyler/New World Systems



*This information provided by Tyler/New World Systems

Mobile Communications Unit

In 2017 we had our mobile communications van completely upgraded with the newest technology. We continue to maintain this vehicle in a state of readiness which allows us to deploy this unit at a moment's notice to assist with all major incidents.



2017 Year in Review

2017 proved to be a busy year for New Castle County. The Fire & Medical section handled communications for approximately 103 working fires along with 20 plus special operations and significant rescue callouts.

On January 6th, 2017 we received a call for a tractor trailer fire on I-495 at Edgemoor Road. Fire department personnel arrived with the trailer fully involved. The interstate was closed for several hours during the cleanup efforts.

On February 18th, 2017 we received a call for several people sick inside a building. Fire department and EMS personnel found high levels of CO. Three patients transported with non-life threatening injuries.

On May 6th, 2017 we received several calls for a crane truck overturned. Fire department personnel arrived to find one subject trapped. 1 person extricated and transported to Christiana Hospital with non-life threatening injuries.

On May 7th, 2017 we received a call for a pedestrian struck where the suspect vehicle had fled the scene. Fire department and EMS personnel arrived to find one victim as a trauma code. The victim was transported to Christiana Hospital where he was pronounced.

On May 19th, 2017 we received a call for a serious MVC. Fire department and EMS personnel arrived to find one victim DOA, 2 trauma codes and 4 patients with minor injuries.

On May 25th, 2017 we received several calls of a helicopter crash landing. Fire department and EMS personnel arrived to find the helicopter fully involved. Pilot was the only occupant and was confirmed DOA at the scene.

On June 7th, 2017 we received several calls related to a fire under at the Delaware Memorial Bridge. Fire department personnel arrived on scene and discover welding contractors has ignited a rubber block on fire. The west bound span of the bridge remained closed during the safety inspection.

On June 24th, 2017 we received several calls reporting a tornado sighting. Several locations along the Route 9 corridor showed signs of structural damage. No reported injuries.

On July 1st, 2017 we received a call of subject who had jumped off a waterfall and was injured in the water. Fire department and EMS personnel arrived to find the subject injured and about 100 yards away from emergency personnel. Trooper 4 responded and assisted with hoisting subject to emergency personnel were he was later transported to Christiana Hospital with non-life threatening injuries.

On July 9th, 2017 we received a call of a vehicle into the building of the Brandywine SPCA. Fire department and EMS personnel arrived to find the operator of the vehicle DOA at the scene. Several animals were displaced during this incident.

On July 19th, 2017 we received a call of a person who had fallen off of a ladder inside a water tower. Fire department and EMS personnel requested Trooper 4 who responded and hoisted the victim to the emergency responders.

On July 22nd, 2017 we received a call of a worker down with an unknown medical issue. Fire department and EMS personnel arrived to find a total of 3 patients with C.O. exposure. All three patients were transported to Christiana Hospital.

On August 9th, 2017 we received a call of heavy smoke in the building from a chemical lab. Fire department and EMS personnel arrived to confirm a fire in a room with hazardous materials. One subject transported to Christiana Hospital with non-life threatening injuries.

On August 17th, 2017 we received a call of a serious MVC involving a tractor trailer. Fire department and EMS personnel arrived to find a total of 7 patients. Four were transported to A.I. DuPont Children's Hospital and three were transported to Christiana Hospital.

On September 3rd, 2017 we received several calls reporting a serious MVC. Fire department and EMS personnel arrived and confirmed entrapment. The patient was later pronounced at Christiana Hospital.

On September 9th, 2017 we received several calls reporting a vehicle into the Christina River. Fire department and EMS personnel arrived and confirmed submerged vehicle with entrapment. One patient pronounced at the scene and one patient transported to Wilmington Hospital with non-life threatening injuries.

On September 23rd, 2017 we received a call reporting 20 employees exposed to Hydrogen Fluoride. Fire department and EMS personnel arrived and confirmed initial report. Eighteen employees were transported to Wilmington, St. Francis and Christiana Hospitals.

On September 26th, 2017 we received a call reporting a serious MVC involving a dump truck and a passenger car. Fire department and EMS personnel confirmed rollover with one patient confirmed DOA.

On October 10th, 2017 we received several calls of a fire in a trash compactor of the Delaware Solid Waste Authority. Fire department and EMS personnel arrived to confirm initial report. Two patients were transported to Wilmington Hospital with non-life threatening injuries.

On October 11th, 2017 we received several calls reporting an overturned 5800 gallon gasoline tanker truck with gas leaking from the trailer. Fire department and EMS personnel arrived and confirmed and initial report. Driver of tanker truck was transported to Christiana Hospital. Route 1 south bound remained closed during cleanup efforts.

On October 18th, 2017 we received a call of a serious MVC with ejection. Fire department and EMS personnel arrived and confirmed initial report. One subject pronounced DOA at the scene.

On November 19th, 2017 we received a call of a MVC with a vehicle into a building. Fire department and EMS personnel arrived and reported two adults and one child entrapped in the vehicle.

On December 4th, 2017 we received a call of a MVC with an overturned propane truck. Fire department personnel arrived and confirmed no propane leakage.

On December 22nd, 2017 we received a call of a MVC with a pedestrian struck. Fire department and EMS personnel arrived and confirmed DOA at the scene.

These events are just a small portion of our 2017 year in review. We continue to receive calls for every type of event. These events include but are not limited to highly technical rescue; such as high angle, confined space, water rescues, shootings and drug over doses and bomb threats.

Summary

The New Castle County Emergency Communications Division continues to lead the First State with implementing and embracing new technologies to improve our customer experience.

We continue to integrate with the communities we serve by providing educational sessions regarding the proper use of 9-1-1 as well as the importance of using Smart911, which can provide us with pertinent lifesaving information in the event of a true emergency. The employees of the New Castle County Emergency Communications Division continue to be involved in the workgroups we have available. This affords everyone the opportunity to have a better understanding and vested interest in this continuously changing environment. This year we held our 2nd Citizens Emergency Telecommunicator Training Academy to twenty (20) perspective Public Safety Operators. This program takes an integrated approach that features comprehensive content, multimedia presentations and hands-on training. These students dedicated three (3) Saturdays and two (2) Sundays of their own time to successfully complete this course, which in turn gives them a better understanding of the fundamental job responsibilities while also providing a certification in that career field.

As we fill vacancies in our Public Safety Operator section of the 911 Center due to promotions we continue to improve in our call answer times. In 2017 we answered our calls 87% of the time in less than ten seconds; moving us closer to our goal of all calls being answered ten (10) seconds or less 90% of the time. All of this would not be possible without the continued support of the administration of New Castle County.

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Kent County

Advanced Life Support 99
Report submitted by Chief Colin Faulkner

Communication Center 118

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Department of Public Safety

Chief Colin T. Faulkner
Director
Department of Public Safety &
Division of Emg. Mgt.

Dean R. Dobbert, MD, FACEP
Medical Director
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Cindy Grygo, Deputy
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Division of Emg. Med. Services

Kevin Sipple
Asst. Dir. of Public Safety
Division of Emg. Comm

KENT COUNTY DEPARTMENT OF PUBLIC SAFETY

The Kent County Department of Public Safety is directly responsible for the management of three Divisions which include the Division of Communications, Division of Emergency Medical Services and the Division of Emergency Management/Homeland Security/Terrorism Preparedness and Response. Additionally, our partnerships extend broadly into the emergency response community at all levels of government and private entities as well. This enables us to provide the high level of preparedness, response, and mitigation services our citizens and visitors have become accustomed to.

Our 911 Center is a state of the art operation with highly trained professionals managing a myriad of calls and processing these calls through national accreditation standards for emergency medical and fire dispatch. Our Division of Communications through the efforts of all staff proudly maintain their Emergency Medical and Emergency Fire Dispatch accreditation status. This is reflective of the dedication and continued professionalism over the years which will continue into the future. Additionally, our 911 Center is a joint center with the Delaware State Police and works in unison with the State of Delaware to maintain consistent interoperability capabilities and as such, improved services and rapid response to all. The combined center with the Delaware State Police facilitates all operations especially those with 'mixed' response of DSP and EMS/Fire responses as has been long established. We remain proud of this relationship and our enhanced level of serving our citizens and visitors. Next Generation 911 has arrived at our 911 Center after many years of hard work to facilitate the infrastructure both operationally and academically to manage calls via texting 911. Infrastructure will exist for managing photographs and videos. Streaming Video remains on the horizon for goals of our 911 Center and will greatly enhance communications by providing direct visuals from emergency scenes to our 911 Center and to Mobile Command. Our 911 Center participates in all drills conducted by our Department and drills from other supporting agencies which support our operational scheme along with Emergency Medical Services and our Division of Emergency Management. The combined benefits assure an infrastructure that is well tuned for reducing and preventing loss of property, improving morbidity and mortality statistics, and assuring that we are well prepared for any eventuality. Our 911 Center continues to maintain the highest quality operations maximizing on the best technology has to offer and the most capable of

communicators available. Our 911 Center is well poised for meeting the needs of our emergency responders and our public by continually incorporating emerging technology while providing the most capable personnel available. Our 911 Center remains the Crown Jewell of our County and in theory, they are the first to arrive at any emergency and the last to leave.

Our Division of Emergency Medical Services deploys paramedics from four different locations throughout our County and along with a Power Unit, provide coverage for all of our citizens and visitors in an expeditious manner. In addition to providing top level trauma and medical care to our citizens and visitors, we also support the special operations response teams including; SWAT, High Angle Confined Space Rescue, maritime response, and Hazardous Materials/Decontamination.

Our Department over the years is increasingly challenged with high density mass gatherings and has a team assembled along with support personnel from our neighboring county agencies that utilize field personnel, specialized 'gators' and 'bike' responders. These 'gators' and 'bikes' allow us to navigate through crowds while minimizing the danger which would be created by standard response vehicles. Kent County 911, EMS, and our Division of Emergency Management combine their efforts with venue sponsors to assure a high level of coordinated response consistent with national standards for the services we provide. It is our goal to maintain the current excellent preparedness levels we have reached and to continually assess each large scale event for our best pre-emptive response. We vigorously support current state efforts in conjunction with County agencies to provide response obligations and deployment profiles so that venue operators and emergency personnel can provide a safer environment with a template supporting a coordinated response. This is a modern concept and will only have beneficial consequences.

Our paramedics, as all paramedics in Delaware are on the front lines of combating increasing heroin and other drug related overdoses. We actively pursue and support all efforts to implement and assist in public relations, training efforts, data collection, etc., to provide part of the foundation along with other agencies for hopefully eliminating this deadly disease. Combined with the excellent efforts from law enforcement, public health, etc., we believe this is an attainable goal.

Our entire Public Safety Department has spent many years in maintaining the highest level of response capabilities as it relates to terrorism and weapons of mass destruction; an unfortunate post 9/11 reality. We have been fortunate in providing extensive training and equipment over the years through efforts of local, county and state government as well as via Homeland Security and Funding via Homeland Security. A collateral benefit of this reality is our current state of ready preparedness for the every increasing domestic terrorist and in particular, active shooters; who have been garnering attention all across our Country for the destruction of property and resultant injured and deaths among our citizens. This Department took an unprecedented step recently in rejecting an active shooter guideline which though well intentioned, has created safety concerns an operational fluidity challenges for our Public Safety Responders. This well reasoned and supported rejection does not impair or diminish our response capabilities but has resulted in a redesign of our MCI plan to insure inclusivity at all levels of responsibility to an

active scene while providing the best scenario for reduction of injury potential to our own staff and improving outcomes for victims.

In part and to support these efforts, the Kent County Levy Court has endorsed the creation of a training center at our Department of Public Safety's Emergency Services Facility to support TECC and TCCC tactical combat medical support programs, in addition to other programs which will be beneficial to first responders of all agencies.

Future challenges exist for our services including funding, (a major concern) growth, and in particular in our EMS Division and as it relates to obtaining qualified personnel. We continue to support the efforts of Delaware Technical and Community College in their efforts to provide us with a field of qualified paramedic candidates.

The Kent County Department of Public Safety continues to work with partner agencies both public and private concerns, as well as all levels of government. It is always our standard to insure we provide the highest level of service delivery while maintaining integration and interoperability capabilities in the most modern manner possible.

Kent County Department of Public Safety Emergency Medical Services Division

2017 marked the 26th year of Operations for Kent County Department of Public Safety, EMS division. Our coverage area is approximately 798 Square miles. We proudly serve the citizens and visitors to Kent County with units in Harrington, Frederica, Dover, and Smyrna.

Mission

Our mission is to be a leader in meeting the present and future health care needs of the citizens and visitors in the community through a network of high quality advanced life support services, education and prevention programs which share common goals and values.

Values

Service: We are committed to help the sick and injured by providing superior service to our patients and our community with skill, concern and compassion.

Quality: Because our patients are our primary concern, we will strive to achieve excellence in everything we do.

People: The men and women who are our paramedics, and those associated volunteers, physicians, nurses and students are the source of our strength. They will create our success and determine our reputation. We will treat all of them with respect, dignity and courtesy. We will endeavor to create an environment in which all of us can work and learn together.

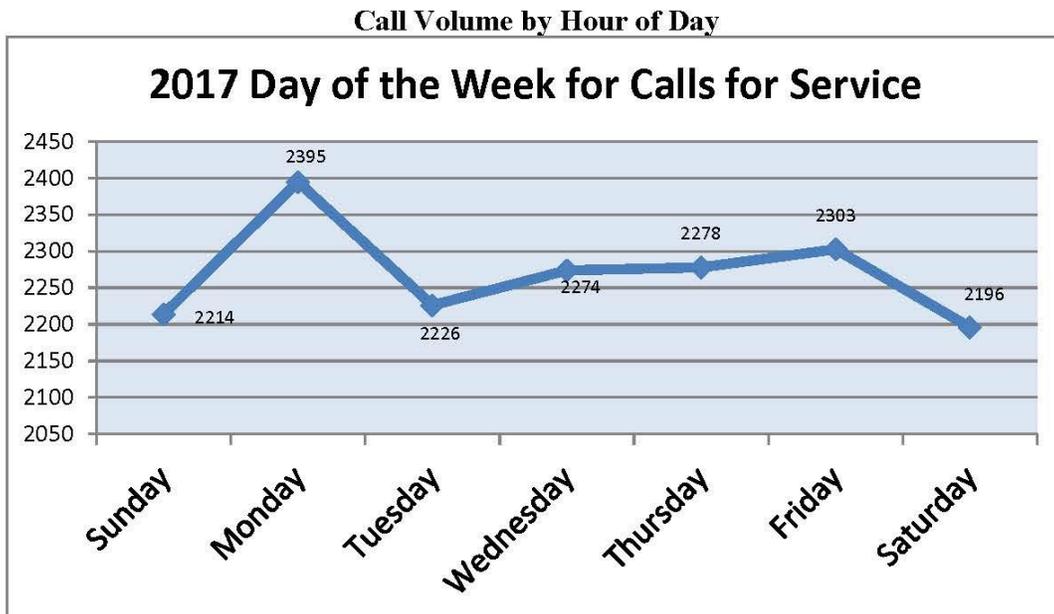
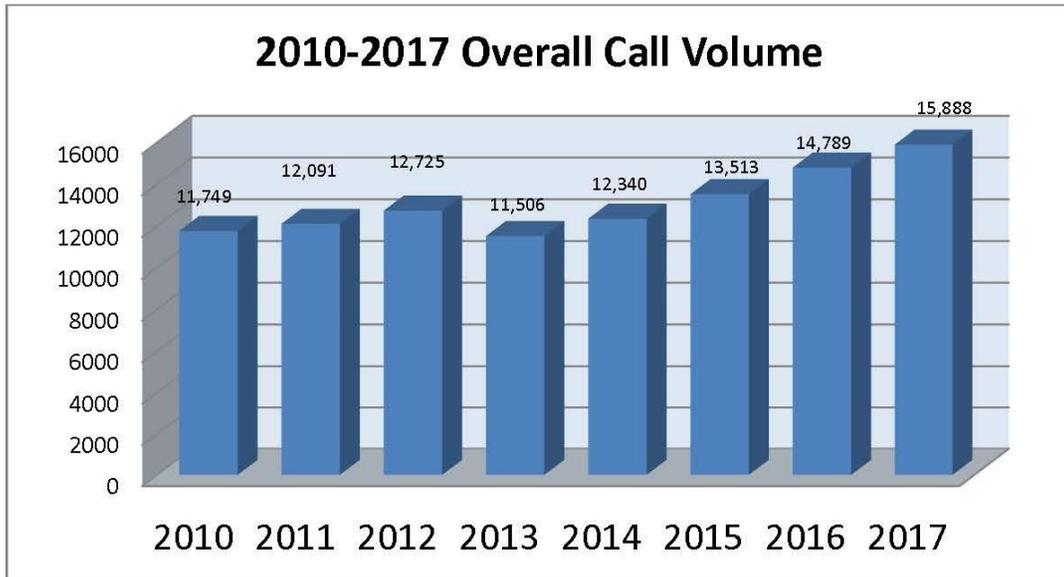
Stewardship: Fulfilling our mission requires that we use our resources wisely and with accountability to our publics.

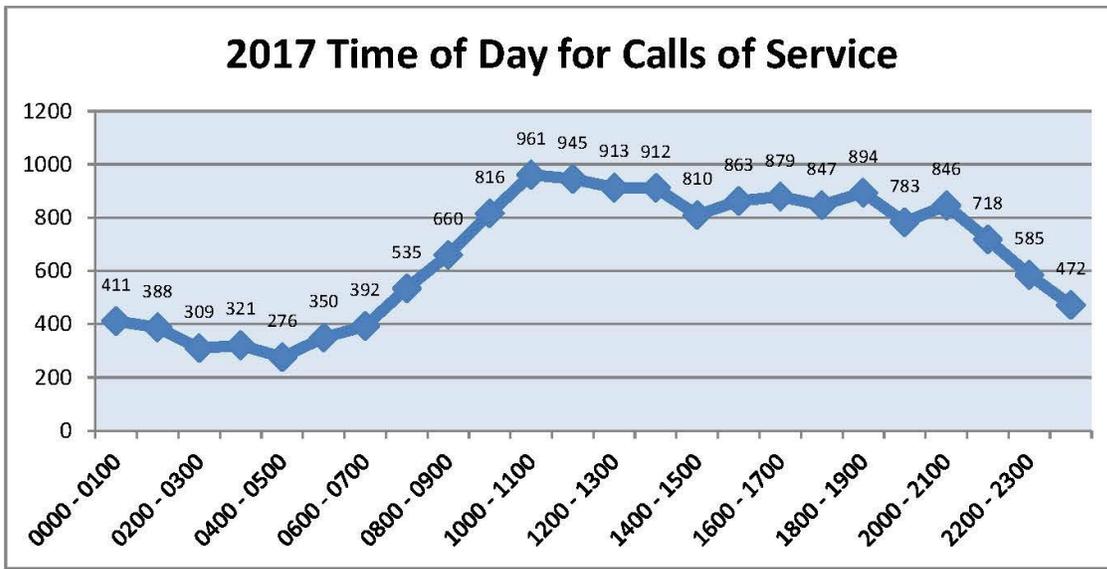
Integrity: We will be honest and fair in our relationships with those who are associated with us, and other health care workers as well.



Operational Overview

The EMS Division was the busiest it has ever been in 2017. In 2016 we had 14,789 dispatches, 2017, 15,888.





Special Operations



Special Operations encompasses the response categories of Mass Casualty Incident (MCI), Hazardous Materials Incidents (Hazmat), Technical Rescue Operations (confined space, high angle, trench, and collapse), Explosive Ordnance and Tactical EMS Support (EOD/SORT), Fire Ground Support (Rehab), All-Terrain Medical Response (Bikes & Medic-Gator), Maritime Operations, and Weapons of Mass destruction (WMD/CBRN) preparedness and response.

In keeping with the National trends, Special Operations activity within the Department continues to gain a more “global” or “all-hazards” capability in that equipment, materials, and personnel are utilized for multiple response strategies with key personnel with more highly focused training serving as response leaders.

This section of the report will update the current status of each of these response categories as a result of equipment procurement, training of personnel, and activity over the past year. Further, an outline of future needs and initiatives will be presented.

Mass Casualty Incident (MCI)

The Department MCI Plan identifies staged levels of response based upon assessed patient populations. The key operational point identified is early activation of the MCI response. The

plan allows for any component of the system to “make the call”, therefore, Department Dispatchers, Medics, Supervisors, or Administration can all initiate the MCI Response Plan. The MCI Response Plan has been presented to and endorsed by the Kent County Fire Chiefs with regard to the automatic response levels. The Kent County MCI Plan is consistent with other



County and State MCI Plans.

Equipment: Each Medic Unit carries Triage Kits and limited additional supplies to be used for patient care. The Supervisor’s unit (KM5) is equipped with an MCI Command Kit to facilitate orderly control of the medical branch of the incident. All units have updated contact lists for local and regional medical facilities. Critical data is kept both in hard copy and electronically in the unit MDT. The Special Operations trailer is equipped to support triage and treatment of up to 50 patients, has its own electrical power supply, and has additional components of the Treatment Area Command Kit, TVI Shelter with air heater unit, Chemical Personal Protection Kits (PPE), and Nerve Agent Antidotes Kits (NAAKs). TANGO-1 may be deployed for additional ALS resources and initial hazmat/radiological survey. The Decon Support trailer may also be deployed for

further sheltering and electrical supply. The Mobile Command Post may be deployed for extended operations.

Training: All Medics are trained in START Triage. Medics continue to train on the MCI Plan which gives Medics guidelines for determining the level of response necessary and emphasizes the need for the first-on-scene Medic crew to initiate the MCI response. “Trailer Day” drills continue in which all Medics are annually familiarized with the response support units and complete hands-on practical evolutions with the equipment. The EMS Division participated in the following exercises in 2017.

- Jan 25-26 DSU Disaster Preparedness Workshop
- Mar 15 WWTP Suspension Injury Training
- Mar 22 MPD Active Shooter at MMH
- Apr 7-8 Hazmat Workshop at DSFS
- May 18 Aircraft TTX
- Jun 10 Safe Summer Day
- Jun 21 Aircraft TTX AAR meeting
- Jun 27 DAFB TTX
- Jun 29 DPD Active Shooter at DHS
- Jul 22 Active shooter at DAFB
- Aug 25-27 DAFB Airshow

During training sessions Medics who are less experienced with MCI Command roles are tasked with accomplishing such an assignment. Supervisors are being included in functional and full-scale exercises in compliance with the NIMS.

Mass Gatherings

The Department prepares for several Mass Gathering activities each year. Notably, the NASCAR races at Dover Downs, the FireFly Music Festival, the Delaware State Fair, the Bike-to-the-Bay, and the Amish Country Bike Tour present the venues for the largest populations. There are occasionally other events (VIP appearances, DAFB Air Show, Chicken Festival, etc.) which also require Mass Gathering preparations. Response may be limited to assigning a Bike Team to the venue or expanded to establishing an entire communications center with dozens of support units on site.



The All-Terrain Medical Response remains equipped with one trailer now housing the Bikes and one Medic-Gator and two additional trailers which house a Medic-Gator each. All trailer units can be pre-deployed in support of larger events. These units include the Spec Ops, Decon Support, and a second MCI Support trailers along with the County Decon Units and TANGO-1. Additional ALS gear sets have been established to support each of these units. The Base Camp shelter can be deployed to serve as dedicated medical surge capacity. The Mobile Command Post is a self-contained communications center which can be deployed to any site as needed.

A number of Medics are trained to operate the Bikes and an increasing number trained to operate the Gators (the primary means of covering large venues). All Medics are introduced to towing a support trailer. The Gators, Primary and secondary MCI trailers were used to cover Spring and Fall NASCAR races, FireFly, Safe Summer Day, and the Governor's Fall Festival. The Spec Ops trailer was pre-deployed for the State Fair. The Base Camp shelter was deployed for both NASCAR events.

Activity: The Gators, Primary and secondary MCI trailers were used to cover Spring and Fall NASCAR races, FireFly, Safe Summer Day, and the Governor's Fall Festival. The Spec Ops trailer was pre-deployed for the State Fair. Much of this equipment was deployed in support of the upcoming Air Show.

Maritime Response

Kent County's primary response jurisdiction extends well into the Delaware Bay and includes a busy anchorage. Currently the Medics are taken to vessels via VFD Rescue Boats. Occasionally the Coast Guard assists with aviation support.

Equipment: There is no specialized equipment currently in service to support maritime response.

Training: The Little Creek FD has a Company specific training available to Medics.

Activity: There was one response by Medics with Little Creek to the Delaware Bay in 2017.

Hazardous Materials Response (Hazmat)

The Department's response continues to be one component of a multi-agency response plan. Supported primarily and in depth by the Little Creek VFD, the group response for hazmat incidents is currently initiated by a responding fire line officer. The mission of the Hazmat Group remains primarily the provision of decontamination services. Following a request by DNREC and the support from the Department Chief, an expansion of the mission has been to develop a limited number of personnel capable of assisting DNREC in entry operations as a medical component of the entry team.

Equipment: The State of Delaware Hazardous Materials Decontamination trailer, tow vehicle, and the Decon Support trailer remain housed at Little Creek VFD. TANGO-1 operates from KCDPS



Headquarters. Due to the adjusted operations in Sussex County, equipment in Kent has been reconfigured to allow a 3-tiered support response ranging from man-power assist to full team and equipment response.

Training: Regular training sessions are held on the third Tuesday night each month (with few exceptions). As new equipment arrives it is introduced through these regular training sessions. Currently there are six Medics trained to the Hazmat Technician level which qualifies them to assist the entry team.

Activity: Decon responses in 2017 included 12 deployments, mostly in support of DSP and DNREC involving “Meth-Labs”. The unit(s) participated in displays 2 times. The units were pre-deployed in support of the NASCAR races and FireFly (total of 12 full days).

Due to the continued and superlative support from the Little Creek VFD, there exists a lesser demand for Medics to operate the Decon Line. Therefore, Medics are focusing more towards the medical management of hazmat patients and the ToxMedic Protocols have been slightly expanded.

Technical Rescue

The Kent County Technical Rescue Team is spearheaded by the Cheswold FD with support from several Kent County FDs. Currently there are 5 Medics training with the team. Technical Rescue encompasses trench, collapse, confined space, high angle, and swift water rescue operations along with urban search & rescue (USAR). The primary response area is Kent County with assisting teams in New Castle and Sussex counties. The “Second Due” area for the Kent team extends to the Chesapeake Bay including Caroline, Talbot, and Queen Anne counties in Maryland (dual response with Anne Arundel).

Equipment:



The team equipment is based at Cheswold FD and is comprised of a custom heavy rescue unit with additional equipment contained in a support trailer. All rescue operations equipment is compatible with the other two county’s equipment. Each team member has a “go bag” with some personalized gear. Some specialized medical equipment has been placed in service. Hartly FD has placed in service a “Light & Air” unit which has been included with the initial response of the Team. This unit also tows the Support Trailer for the Team. TANGO-1 is attached to this team response. Additionally, equipment and supplies have acquired for the establishment of a mobile “Base Camp” to address the logistical needs of an extended operation.

Training: The majority of active team members are trained to the Technician level for Trench and Collapse rescue; all are Operations level for all disciplines. Several team members have completed large animal rescue training.

Activity: There were 5 responses. The Team presented a confined space rescue joint training with Chesapeake Utilities. The team participates in annual trench and collapse weekend exercises. Several in-house trainings were held.



EOD/SORT Response

Response: Medic Units are routinely dispatched to support EOD/SORT operations. Bomb Technicians are medically monitored before and after entry evolutions. Medics stand by in safe zones for certain law enforcement operations. Tactical Medics operate as integral members of a Tactical Team.

Equipment: Specialized equipment has been obtained for direct support of SWAT Medics. Tactical Body Armor, rescue litters, radio microphone equipment have been added to the inventory. Regular duty body armor and ballistic helmets are standard uniform for all medics.



Training: Five medics have completed Basic and Advanced Tactical EMS training and are embedded with the STAR Team in Smyrna the Dover PD team, and the Milford PD team. All current Kent County Paramedics received refresher briefings regarding EOD operations as part of the 2-year refresher cycle. Medics routinely receive refresher training regarding the assessment and treatment of blast and burn injuries. The Tactical Combat Casualty Care (TCCC) course was conducted with 9 Kent Medics completing the training.

SORT Activity and Summary for 2017

For year 2017, Kent County SWAT-Medics have logged close to 110 man hours supporting our three Law Enforcement agencies on active missions.

Operations for the team for 2017:

We have supported Smyrna Police STAR Team, Milford Police SOG Team, and Dover Police Sort Team on **25 missions**.

- 4 missions were in support of the Smyrna STAR Team only
- 1 mission was in support of the Milford SOG Team only
- 15 missions were in support of the Dover SORT Team only
- 1 mission was in support of a joint mission with Smyrna's and Dover's Teams
- 3 missions was in support of a joint mission with Milford's and Dover's Teams
- 1 mission was in support of DSP/DOC/FBI



We supported the teams noted above in:

- 14 Search Warrant executions
- 6 Arrest Warrant executions
- 4 Barricaded subjects
- 1 Hostage situation

Training for the team for 2017:

- Participated in 87 hours of training with the Smyrna STAR team
 - Participated in 80 hours of training with the Milford SOG team
 - Participated in 90 hours of training with the Dover SORT team
- In addition to this monthly training, we participated in an Active Shooter exercises separately with Dover Police SORT, Milford Police SOG, and DAFB.

One Final Note – Hours on active missions above does not include the 14 hour Hostage Situation at JTVCC on February 1, 2107. All four operators were present and supporting DSP, Dept of Corrections, and the FBI HRT.

In addition to this monthly training, SORT participated in an Active Shooter exercise with Dover Police SORT and Capital Police at the Governor’s Manor (Crisis Negotiation Team).



Fire Ground Support

Medics are routinely dispatched to multiple alarm working fires and many “occupied high density residential” locations. Many times this response is merely a stand-by; however it is not uncommon for the Medics to assist in rehab services or conduct medical assessment and monitoring of firefighters.



Equipment: Cyanokits are available to support the Smoke Inhalation Protocol for fire ground support operations. All of the support trailers have sheltering, heat, and lighting capability. The Special Operations unit “TANGO-1” is in-service and offers a “bridge” in support equipment between the Medic Unit and the support trailers. The Spec Ops trailer has additional IV supplies, cots, sheltering, and heating capability.

Training: Specific training to support the new protocol has been completed. Medics are capable of deploying shelters and other support equipment.

Activity: Call volume varies from year to year. Some Fire Departments have added Medics to the initial dispatch for known working building fires or for residential complexes. Weather continues to be a factor during the extremes of heat and cold.



All-Terrain Medical Response

2017 marked the return of the Bike medics to Dover International speedway for NASCAR racing coverage. The Specialized bikes and Medic-Gator are pre-deployed to many events each year. While the units are capable of emergency response, the application of these assets remains as support to in-progress incidents. The units are housed in the ATMR trailers which require transport to the scene.

Equipment: All response vehicles (Crown Victoria's excluded) are equipped to tow the

trailers. A solar battery charging system was installed for the Gator. The two additional Medic Gators and trailer are in service.

Training: The Bike Team continues as before with several Medics trained to ride the units. Gator training has been completed and all medics are familiar with Gator unit operation.

The Gators covered both the Spring and Fall NASCAR races, FireFly music festival and the Air Show at the Dover Air Force Base. The Gator was used at multiple events including Safe Summer Day, the Governor's Fall Festival, the Amish Country Bike Tour, the Peach festival and the Airshow at DAFB. A formal IPMBA course is scheduled for April 2018.



WMD / Terrorism Preparedness

Response: General ideology suggests that response units will most likely not know ahead of time that an incident is an act of terrorism or involves WMD. Therefore, all responders must be capable of adapting operational modalities in response to information as it is acquired. Specialized equipment will be utilized as the situation warrants.

Equipment: Personal "Escape Ensemble Kits" are available on each unit which include chemical protective suits and air purifying respirators. Ballistic helmets, goggles, and NIJ Level II body armor are now part of the standard uniform. Tox-Boxes are in-service which provide NAAKs (nerve agent antidote kits) for medics and patients and additional pharmaceuticals for those medics who can function under the ToxMedic Protocols. Four of the five support trailers in the department carry additional WMD response equipment and supplies. The First-On-Scene response guidelines include a "Bomb Response" checklist and related reference materials. Each Medic Unit is equipped with a radiological response kit and a GammaRAE detector for early warning of a radiological event. Carbon Monoxide detectors have been added to the Medic standard equipment. Two RAD 57 carboxyhemoglobin detectors have been put in service and have proven to be valuable tools in triage of multiple carbon monoxide exposure patients.

Training: "Trailer Days" are included in the annual con-ed schedule in which all Medics practice with the response support units and complete hands-on practical evolutions with the equipment. A hands-on training for radiological response has been added. AHLS courses are made available to all Medics as they are scheduled.

Activity: There was no identified activity in response to WMD / Terrorism. There were several CO responses in which the arrival of the Medics (and the CO detectors) was the first indication of potential poisoning. Due to concerns over Ebola and avian Flu all medics were trained with regard to PPE donning and doffing. Extensive refresher training continues.

Drill activity

Jan 25-26 DSU Disaster Preparedness Workshop

Mar 15 WWTP Suspension Injury Training- presenter

Mar 22 MPD Active Shooter at MMH

Apr 7-8 Hazmat Workshop at DSFS

May 18 Aircraft TTX Jun 10 Safe Summer Day

Jun 21 Aircraft TTX AAR meeting

Jun 27 DAFB TTX

Jun 29 DPD Active Shooter at DHS

Jul 22 Active shooter at DAFB

Aug 25-27 DAFB Airshow

Situational Assessment: Incidents involving some form of Special Operations response continue to occur at a manageable frequency; however response procedures have been modified to ensure the response of TANGO-1, thus relieving primary medic units from extended commitment to long operations. Several annual event venues present significant challenges to the department's operations. The department has continued response roles both locally and regionally. The possibility of a disaster, natural or man-made, is as present as ever.

Vulnerability: Training and exercise has increased awareness and response capability as compared to previous years, thus reducing the vulnerability of the individual responder. Geographically Kent County remains central to several major metropolitan areas of national significance. Complacency as a result of low utility presents the greatest controllable risk factor. A comprehensive Delaware / Kent County threat/vulnerability assessment is updated periodically through State initiatives.

Community Involvement

KCDPS Paramedics participated in a number of community events in 2017. We covered events including Firefly and NASCAR.

Taught 12 CPR classes training 83 people.

Did 8 Car seat checks at our NHTSA car seat check station.

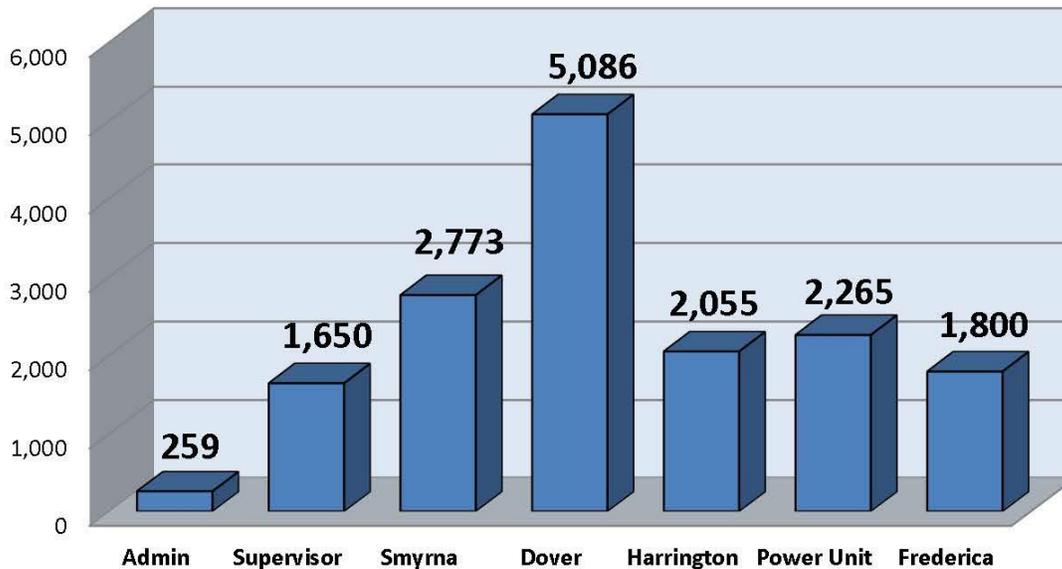
Conducted a Food drive for the Foodbank of Delaware and donated over a ton of food.



2017 Southeast Corridor unit (KM10)

On November 1st 2016 Kent County placed KM 10 in service 24/7 at Station 49. This unit has, thus far, been a great asset to the Southeastern corridor of Kent County. 2017, the first full year of service, saw this unit dispatched on 1800 runs.

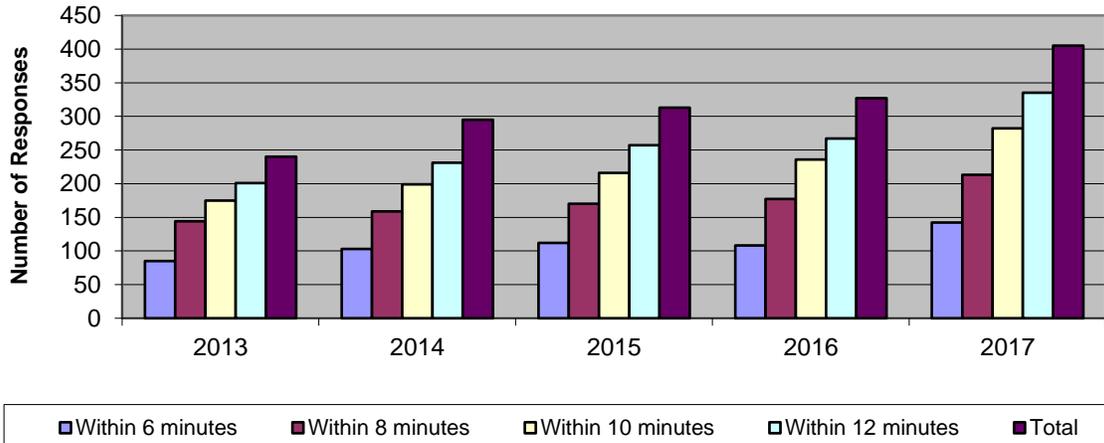
2017 Station Responses



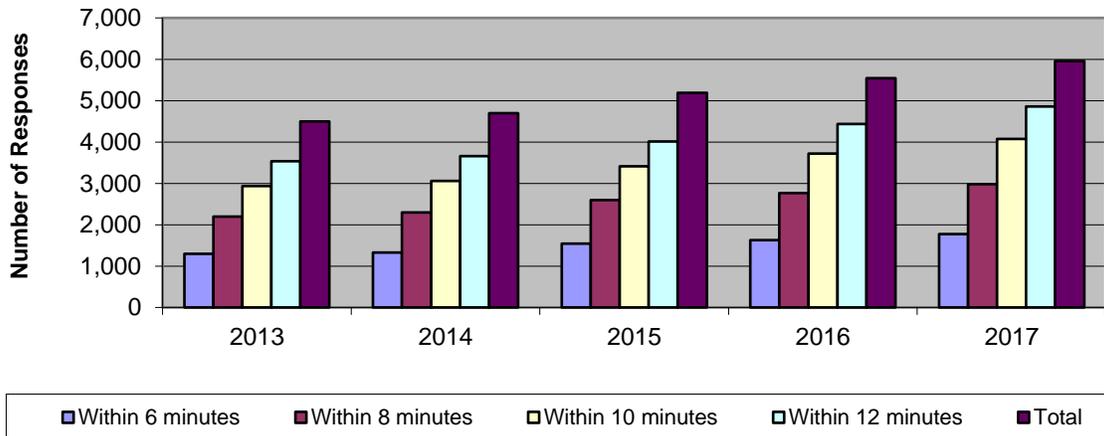
Accomplishments

- A Telematics solution installed in all primary response vehicles.
- BCON (Bleeding Control) taught to all County Employees.
- CRASE (Citizen Response to Active Shooter) - Taught to all County employees.
- Completion of Training Center Project and payment mechanism established.
- Ensured compliance to a number of Federal guidelines regarding equipment PM, and testing of both medical and non-medical equipment.
- Secured purchase and conversion of a new vehicle.
- Held a food drive and delivered 2213 lbs of food to the Food bank of Delaware.
- Successfully provided medical coverage to the Firefly music festival where we saw 2,599 patients in aid tents and were dispatched to 498 patient's onsite in 4 days.
- Retained our NHTSA fitting station standing and provided car seat checks to the public
- CPR classes for the public.
- Continued to provide high quality refresher and Con Ed to our Paramedics.
- Continued to respond to calls in every part of the County in 10 minutes or less, and keep chute times at two minutes or less.
- Achieved Silver plus recognition from the American Heart Association for 2017 in the Mission Lifeline EMS STEMI Quality Achievement Award.

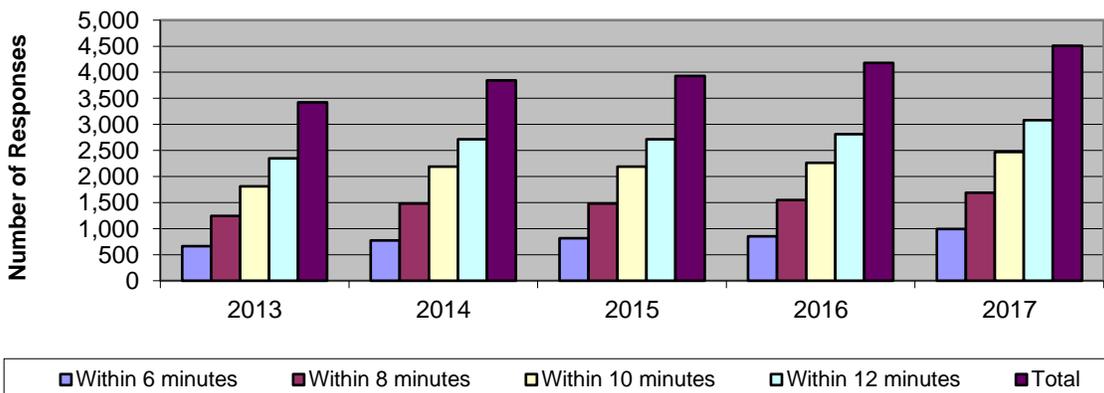
Echo Level Response, Kent County EMS



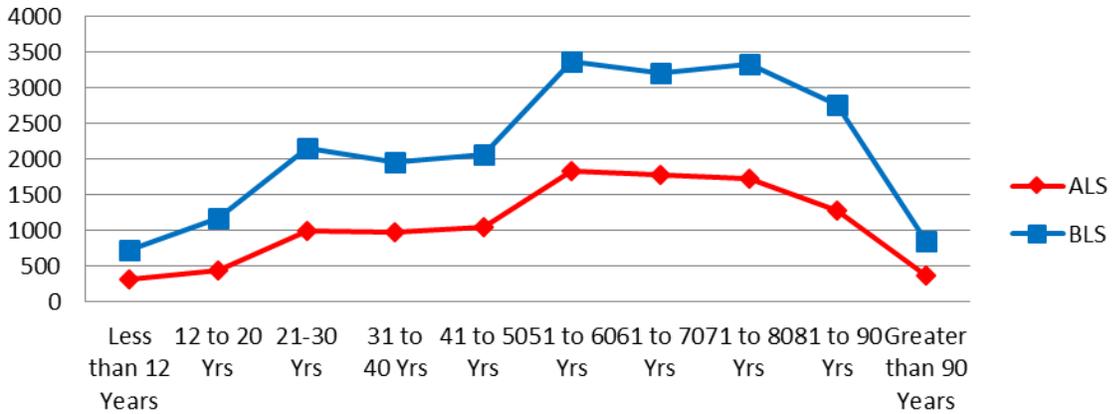
Delta Level Response, Kent County EMS



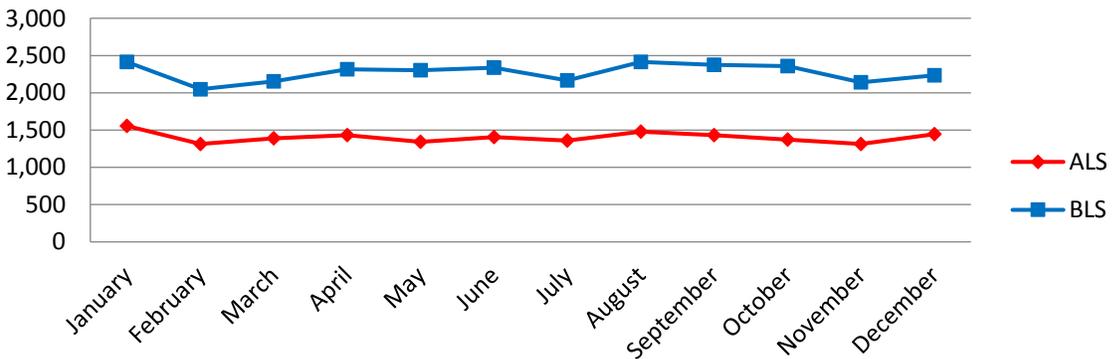
Charlie Level Response, Kent County EMS



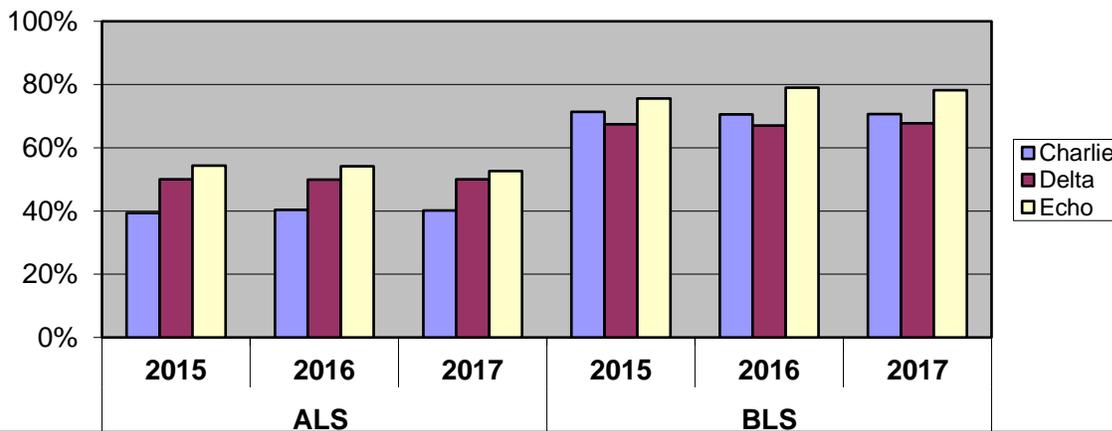
ALS and BLS Patient Age Comparison - 2017 Kent County



ALS/BLS Incidents by Month - 2017 Kent County



Percentage When Kent County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents-2017



Communication Center

Kent County

Submitted by Assistant Director Kevin Sipple



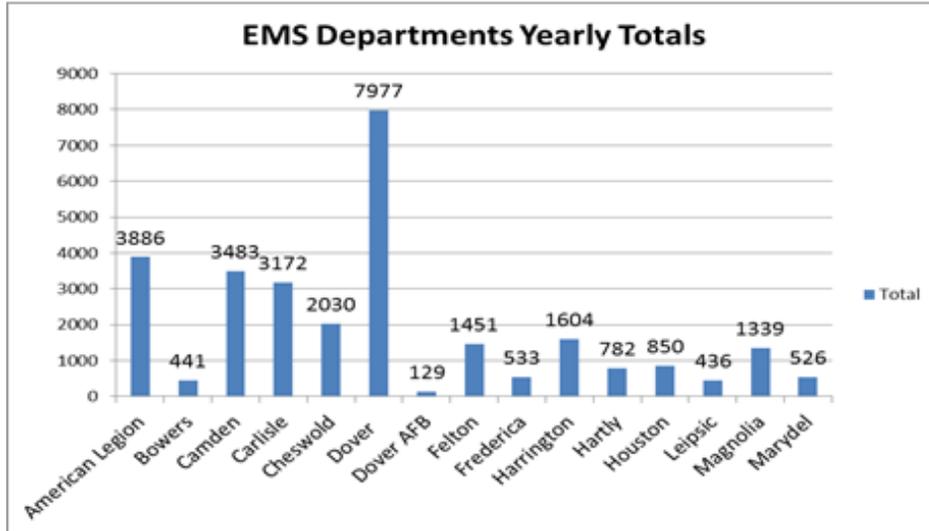
The Kent County Emergency Communications Center receives 911 calls through a variety of phone exchanges throughout Kent County, Northern Sussex County and Southern New Castle County. The total number of 911 calls processed in year 2017 was 87,921. Another 49,510 non-emergency calls were also processed by our dispatchers. The Center dispatched or processed 29,518 medical incidents, 6,344 fire incidents and 109,542 police incidents in year 2017.

Emergency Medical and Fire Dispatch

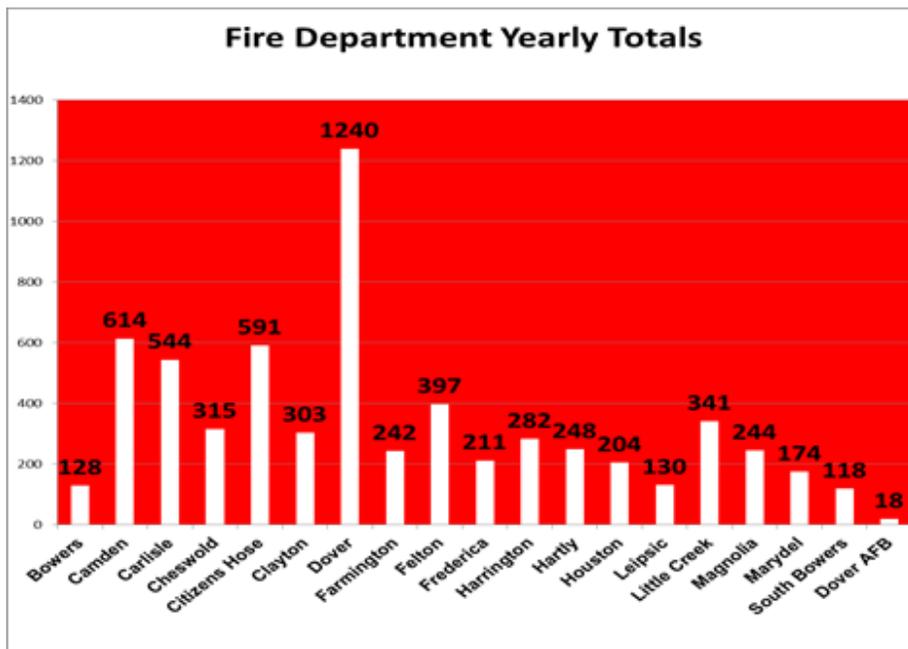


The Kent County Emergency Communications Center provides Fire/EMS Communications to eighteen Volunteer Fire Companies, two EMS Companies and the Kent County Paramedics. The Center is staffed with twenty-two Fire/EMS dispatchers and an Administrative staff of three personnel. The Delaware State Police Communications “KentCom” is also located in the Center with staffing of twenty-four Police dispatchers. All dispatchers are certified in the use of Emergency Medical/Fire Protocols and cross trained to assist with any activity in the Center.

The Kent County Emergency Communications Center was recognized as an Accredited Center of Excellence in Emergency Medical Dispatch by the International Academy of Emergency Dispatch in November 2000. We were the 49th agency in the world to become accredited in the use of Medical Protocols and have met the requirements ever since. We also utilize the International Academy of Emergency Fire Dispatch protocols and received accreditation status in November 2007. We were the 6th agency in the world to become accredited in the use of Fire Protocols and have met the requirements ever since.



This chart represents the total B.L.S. responses by Emergency Medical Services in 2017.



This chart represents the total fire related responses by Company in 2017.

Our agency, in a partnership with State 911 Board, continues to upgrade our Computer Aided Dispatch and Mobile Dispatch platform to a State-wide system providing interoperability across many of the Communications Centers in the State.



Smart911™

Kent County Levy Court continues to support Smart911. Smart911 is a free service that allows citizens to create a Safety Profile for their household that can include any information they may want 9-1-1 call takers and first responders to have in the event of an emergency, then if they need to dial 9-1-1 their Safety Profile will immediately display on the call taker's screen saving critical seconds

and even minutes in response to the emergency. Our division has provided many demonstrations and sign up events throughout the year promoting the use of the program.



Three of the biggest challenges Kent County Public Safety encounters three times a year is the NASCAR race, FireFly Musical event at the Dover International Speedway and the Delaware State Fair in Harrington, Delaware in July. The NASCAR/FireFly events bring over 130,000 people to our County mostly in the Dover area. Starting on Thursday of the event, Kent County provides trained dispatchers to answer and dispatch Fire/EMS calls to the emergency responders that are working. The Delaware State Fairgrounds encompass over 300 acres and features concerts, agricultural exhibits and other typical state fair demonstrations and events. During this 10-day event over 200,000 people visit the State Fair.

The Kent County Emergency Communications Division also maintains an Incident Communications Vehicle for on-scene command and control of emergency operations, thus



allowing the County Public Safety Answering Point (PSAP) to continue with normal dispatching functions. Maintained in a constant state of readiness at the Camden-Wyoming Fire Station, the Incident Command Vehicle may be utilized at Fire/EMS and police emergencies, civil disturbances, natural disasters and other scenes where emergency & tactical communications are needed. The Incident Command Vehicle is self-sufficient with its on-board generator, heater, air conditioner, computer aided dispatch system, high-band paging system, internet capabilities, cellular telephones, 800 MHz radio

communications, recording capabilities and a radio inter-operability system.

In 2017 the Incident Command vehicle was deployed to City of Dover, Smyrna, Harrington, Felton and Milford to support special events throughout the County, i.e., Amish Bike Tour, Dover AFB Air Show, Hostage situations and public safety awareness programs.

Sussex County

Advanced Life Support 123
Report submitted by Director Robert Stuart

Communication Centers 137

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SUSSEX COUNTY EMERGENCY MEDICAL SERVICES

CARING PEOPLE, QUALITY SERVICE



INTRODUCTION

2017-2018 Sussex County EMS Goals

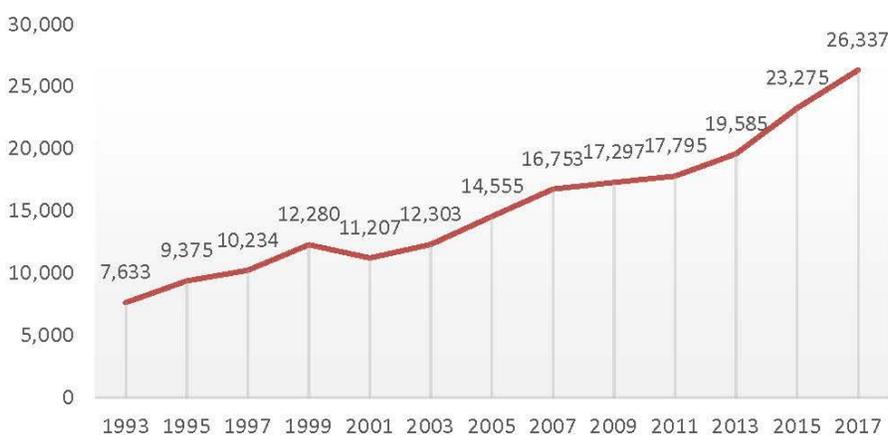
- Achieve measurable national recognition as a CAAS accredited EMS agency
- Enhance knowledge and skill-levels by increasing training for licensed paramedics.
- Improve overall employee experience through embracing technology and maintenance of open lines of communication while fostering a culture of teamwork.
- Continue to look for ways to improve the safety for our staff and customers.
- Improve response times and housing quality for our staff
- Explore and implement clinical care and customer service endeavors to live up to our motto “Caring People, Quality Service”.
- Initiate performance assessment tool for quality improvement through prehospital quality indicators

In 2017, Sussex County EMS (SCEMS) continued its tradition of excellence in pre-hospital care. We provide paramedic service to an area of nearly 1,000 square miles, including all of Sussex County and a portion of Kent County (primarily Milford), responding from eight stations utilizing specially designed ALS rapid response vehicles, each staffed by two paramedics, and one ALS First Responder unit during the peak call volume hours staffed with a single paramedic in Western Sussex County. These primary units are overseen by two District Supervisors. During the summer tourist season, an additional paramedic unit is placed into service to assist with the high volume of calls, particularly in the coastal areas where near 8 million visitors enjoy our beaches annually. Our paramedic staff is supported by administrative, clerical, technical support, and information systems personnel to ensure a constant state of readiness throughout the year. We work closely with fire department-based Basic Life Support (BLS) services, volunteer ambulance services, local hospitals, state and local police, and private aeromedical services, as well as taking part in the Delaware Statewide Paramedic Program.

“Caring People, Quality Service” is not only our slogan, but our commitment to the people of Delaware and to each of our patients.

2017 INCIDENTS

SCEMS Incident Unit Responses
1993 - 2017



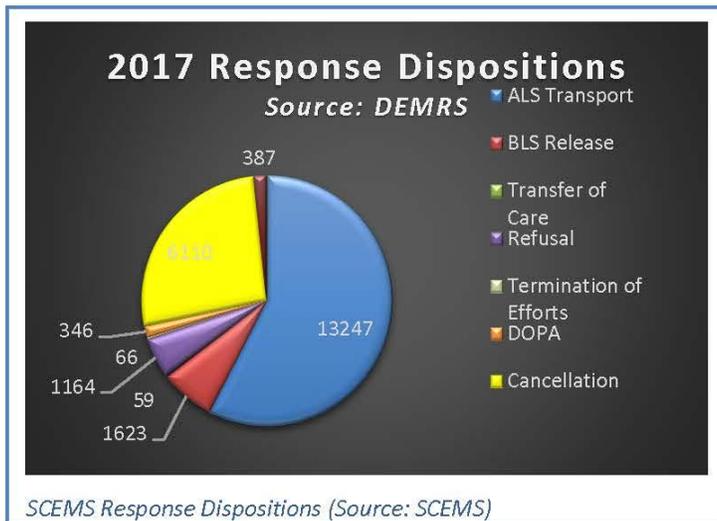
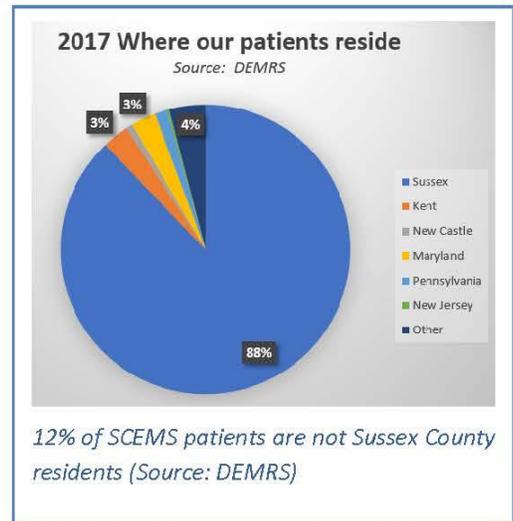
SCEMS consistently appreciates a 5-10% increase in incident responses a year (source: Sussex County CAD)

Call Volume: Sussex County EMS experienced a 7% increase in responses in 2017. Over the past ten years, SCEMS has experienced a 64% increase in the number of responses to calls for service. Our department has eight paramedic units staffed with two paramedics in service 24 hours a day strategically positioned throughout the county to minimize response time to calls for service. During the daytime hours of peak call volume a ALS First Response Unit, Medic 110, is placed in service with a single paramedic in Western Sussex County.

Due in large part to Sussex County's status as a summer vacation destination, SCEMS sees a substantial increase in call volume during the summer months, especially in the beach areas. SCEMS demographics show that 12% of our patients reside from outside Sussex County.

For many years, a single medic, Medic 109 an ALS First Responder Unit, has been deployed in Southeastern Sussex County during our summer weekends. The unit is staffed during peak hours from 0900 until 2100. Since 2016, Medic 109 is in service daily from Memorial Day through Labor Day. This unit's coverage has proved invaluable in district coverage and reducing response times in the beach/tourism areas of Sussex County.

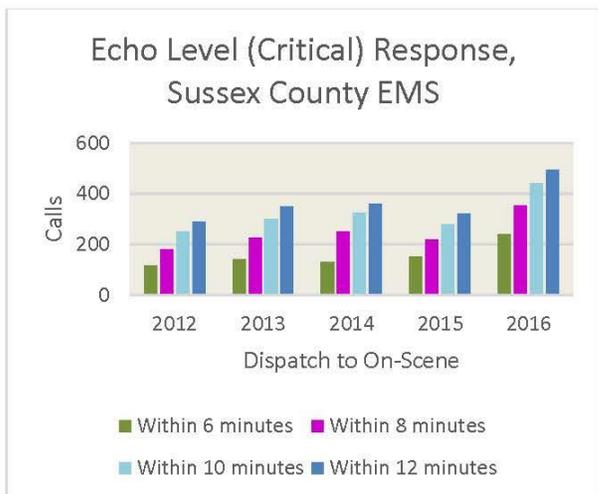
Sussex County EMS continues to work hard at achieving state-set response time goals. Our near 1,000 square mile response district



significantly impairs our ability to meet the determined response goals, however, as the below graphs demonstrates, we have shown significant improvement toward achievement in 2017. This is due to the addition of Medic 110 (single-medic power unit in Seaford) and the increased operational "splitting" of our dual paramedic units into single-paramedic units. A backup paramedic unit is always sent to meet the two-paramedic state mandate. To achieve this, we must maintain a dual fleet that is operationally ready at every station.

2017 Incident Responses		
EMS 100 (Eastern Supervisor)	974	13%
EMS 200 (Western Supervisor)	896	2%
EMS 20 (Shift Commander New 2017)	133	100%
Medic 101 (Lincoln)	2,468	14%
Medic 102 (Laurel)	2,450	5%
Medic 103 (Dagsboro)	3,044	13%
Medic 104 (Lewes)	3,678	4%
Medic 105 (Millville)	2,257	5%
Medic 106 (Long Neck)	2,923	8%
Medic 107 (Bridgeville)	2,919	2%
Medic 108 (Georgetown)	2,401	9%
Medic 109 (Summer "Power Unit")	354	-19%
Medic 110 (Seaford "Power Unit")	1,460	-1%
Special Operations	203	-3%
Other (Administration)	177	37%
Total	26,337	7%

Incident Responses by Unit (Source: Sussex County CAD)



PERSONNEL

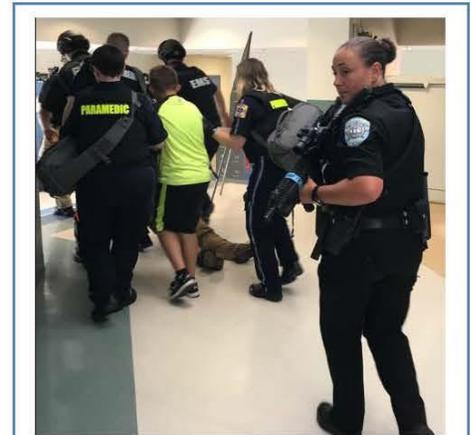
Staffing: Sussex County EMS entered 2017 with 9 vacant paramedic positions. During 2017, SCEMS had 11 employees separate from the department and hired 17 new paramedics. One of the separated employees was a retiree who attained 25 years or more of service. Six of the new hires were graduates from the Delaware Technical and Community College Paramedic Program, five were graduates from the University of Maryland Baltimore County EHS program. The remaining six employees were hired from other areas of the state or country.

SPECIAL OPERATIONS



Joint EMS and Law Enforcement Active Shooter training. (Source: SCEMS)

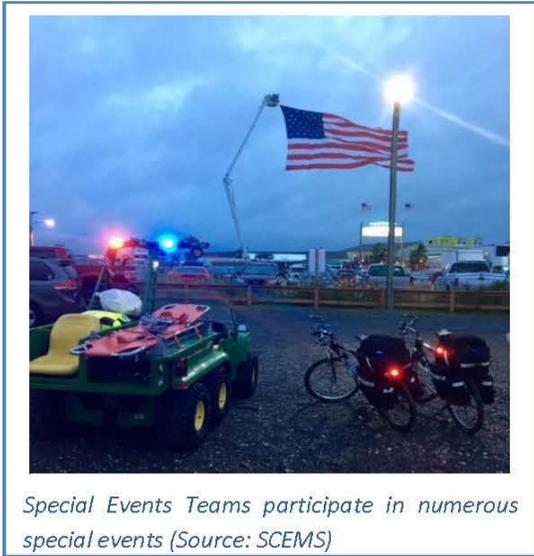
Active Assailant: SCEMS continues to train our staff for active assailant responses. SCEMS has embraced the Rescue Task Force Model of response. This model pairs trained paramedics and EMS providers with law enforcement who provide protection for EMS while they rapidly enter warm zones to stop as much bleeding as possible to as many patients as we can access. This life-saving response model was established after numerous “active shooter” after-action reports showed that many wounded who survived the initial trauma died waiting for police to fully clear the building and let EMS enter after too much time had passed causing the survivors to exsanguinate and die.



EMS extracts victims from simulated warm zones under the protection of law enforcement. (Source: SCEMS)

Through a collaborative effort with our public safety partners (fire/EMS, law enforcement), all SCEMS paramedics have participated in an awareness class and live training evolutions that included integrated response with law enforcement. SCEMS continues to monitor national and local threat levels and work in conjunction with our partners to establish Rescue Task Force teams (RTF) when warranted. SCEMS has placed additional “stop the bleeding” trauma kits on each unit to allow paramedics to treat multiple injured patients during these catastrophic events.

SCEMS Active Assailant Committee members attended the Advanced Law Enforcement Rapid Response Training (ALERRT) conference in Texas attending courses on current active shooter events that included a train-the-trainer course in Civilian Response to Active Shooter Events (CRASE). SCEMS CRASE instructors have initiated a training program to provide CRASE and Stop the Bleed training to all Sussex County Employees that has been well received. This program will be offered to the public in regional training opportunities in the coming year.



Special Events Teams participate in numerous special events (Source: SCEMS)

Special Events Coverage: SCEMS covers numerous large-scale events throughout the year. Events are covered by traditional staffing, bike medics, and/or Utility Task Vehicles (UTV's). SCEMS deployment and pre-planning of the events provides rapid response to on-site incidents. SCEMS medics are fully equipped anytime they deploy for special events.

EMS Bike Team: The SCEMS Bike Medic Team is a group of International Police Mountain Bike Association (IPMBA) trained and certified Paramedics providing first response paramedics to our special events. The Bike Medics are utilized in areas where regular paramedic unit response can be delayed due to traffic, physical access problems, or events that draw large crowds creating congestion. Its mission is to assist in providing paramedic coverage in and around the location of mass gathering events that

would normally exceed the needs of the on-duty paramedic unit in any one specific area. The Bike Medics conduct bi-annual training and staff multiple large-scale events that are not readily accessible by normal emergency response deployment models. Additionally, the team's accessibility to inflated event populations makes the Bike Team a valuable public education resource during special events.

In 2017, the SCEMS bike team staffed a total of 14 events providing rapid-response ALS coverage to hundreds of thousands of residents and visitors to Sussex County.

The Bike Medics responded to emergencies at the majority of the events they covered. The bike medics were typically the first ALS on scene, and often were the first EMS arriving responders of any level. The incident command for the Sea Witch Festival was quoted stating "**The bike medics are our best resource**" in regard to emergency response during the height of the over 100,000 attendee event.



Public interaction is key in SCEMS Bike Team events (Source: SCEMS)

Special Events	123
Bike Medic Events	14
Public Education Events	68
	205
Hands Only CPR events	37

Number of Special Events covered by both on-duty SCEMS units and Special Events Teams (Source: SCEMS)

Public Education and Prevention: The Public information, and education group prioritizes injury and illness prevention. While we as Sussex County Paramedics provide some of the best prehospital care available in this country, we understand that prevention is a large part of our future. For many years, Sussex County EMS has collaborated with Sussex Safe Kids to spread the message of safe living. Every summer we host Safe Kids day at Lowes in Lewes. In 2017, over 30 community groups came together to provide safe living education, and this year over 500 residents and visitors

of the county were in attendance. 2017 has been a watershed moment for our 10-minute CPR initiative which began in 2013. We are teaching CPR in three simple steps, to motivate citizens to initiate life saving measures without delay. In 2017, we taught over 5,400 people 10-minute CPR. This number is increasing each year, a trend we hope to see into the future. In 2017 Sussex County EMS partnered with Delaware Tech to provide a healthcare exploration summer camp for youth to learn about careers in healthcare. 9 Students attended our camp, where they learned CPR, anatomy and physiology, and about our EMS system, all of which culminated in active

participation in medical simulation scenarios in our training center.



SCEMS paramedics taught over 5,400 citizens hands-only CPR in 2017 (Source: SCEMS)

Infant Sudden Death Prevention: Sussex County Paramedics implemented the Direct On-Scene Education (DOSE) program in January of 2014 as a state initiative to combat infant sleep-related deaths (we are currently the only EMS agency in Delaware still participating in this program). The DOSE program analyzes the preventable causes associated with infant sleeping deaths and creates education targeting these causes. SCEMS Paramedics are first responders that are summoned to sleep-related cardiac arrests in infants, a cause that has been proven 100% preventable with proper education and care.

All SCEMS paramedics are educated with the information needed to prevent infant deaths. This information is dispersed and explained while on-scene at EMS calls where an infant(s) or a pregnant female is present. The informational packets are often distributed to family members of infants, pregnant mothers, and guardians of small children that are transported to the area hospitals. The DOSE packets outline healthy sleeping habits for newborns and infants, and connects families with available resources for cribs and prenatal health care. SCEMS also has immediate access to cribs, which are given to families of infants without a safe sleeping space. This ensures that no infant will be without a safe place to sleep once in contact with a Sussex County Paramedic. The mission of our DOSE program is prevention versus reaction. In 2017, Sussex County Paramedics delivered 29 DOSE packets to families in our county, a 45% increase from 2016. Since the inception of the DOSE program, four cribs have been given to families in need. The goal of the direct on-scene education program at SCEMS is to eliminate sleep-related deaths in our county's pediatric population.



SCEMS paramedics provide safe sleeping information to families of infants (Source: SCEMS)

Sudden Cardiac Arrest Survivor Recognition Event (Phoenix Club): Each year, Sussex County EMS in partnership with the Sussex County Volunteer Ambulance Association, hosts the Sussex County Phoenix Award Ceremony at one of the fire departments within the county. The purpose of the ceremony is to induct the survivors of cardiac arrest into the Sussex County Phoenix Club and provide an opportunity for the survivors to meet their responders as well as responders to see that their career makes a difference in the lives of our citizens and visitors of Sussex County. The Phoenix Club inductees are members of an exclusive group of people who have been given a “second chance at life” by surviving a cardiac arrest, similarly to the mythical bird phoenix – who is reborn out of its own ashes. The responders are the links in the “chain of survival” that includes Early Access to 911, Early CPR, Early Defibrillation, and Early Advanced Care.



Survivors reunited with their rescuers. (Source: SCEMS)

In 2017, Sussex County EMS honored 17 cardiac arrest survivors with 6 survivors attending with more than 150 people in attendance, including 125 responders and emergency operations specialists, who helped saved those lives in 2017.

National EMS Memorial Bike Ride: Every year in May, for the past 15 years, The National EMS Memorial

Bike Ride starts its nearly 500-mile bicycle ride from Boston, MA and concludes in the Washington D.C. metropolitan area. After losing our own Paramedic Stephanie Callaway in 2008, Sussex County has been proud to send EMT's, Nurses and Paramedics from the area to participate in this memorable bike ride in 2009 and every year since. Averaging 60-90 miles a day, cyclists ride to honor, remember and bring awareness to the public of the inherent dangers that EMS providers face every day.



National EMS Memorial Bike Riders with SCEMS support vehicles (Source: SCEMS)

In 2017, Sussex County sent six of its own to participate in the ride that started in Boston, MA. The ride took

them through places like Hartford, CT, Poughkeepsie, NY, Pocono Mountains of PA, rode alongside the Susquehanna River, stopped in Frederick, MD and concluded in Arlington, VA where the conclusion of the bike ride kicked off the National EMS Memorial Service Weekend of Honor.

Patient and Provider Safety Initiatives: Sussex County EMS has implemented several initiatives that has the safety of both employee and patients as a SCEMS priority. SCEMS has a long-standing Safety Committee which is a peer run committee charged with prevention, mitigation and investigation of any safety issue, both during EMS operations and everyday tasks. Safety areas of concern are vehicle operations, situational awareness on potentially violent scenes and clinical care/operations.

Sussex County EMS has completed the first phase of implementing DriveCam® by Lytx. An inward and outward facing camera with GPS positioning and gyroscopic technology is placed in our vehicles. Driving behavior “triggers” activate the camera and the accompanying data is uploaded to Lytx. Lytx safety experts examine uploaded trigger data, then assess, rate and forward to SCEMS managers to coach and improve driving behaviors. In time, risky driving habits will decline and ultimately reduce injury and damage due to vehicle operations.



All SCEMS personnel are fit tested annually for respiratory protection. (Source: SCEMS)

The “high risk” areas of heightened situational awareness, violence toward EMS staff, injury prevention and reduced risk to patients clinically and operationally are addressed by several different programs that the Safety Committee has spearheaded. All SCEMS paramedics complete certification in the full-day NAEMT Safety Class and a SCEMS specific safety class.

The Safety Committee is updating our respiratory protection plan to one that is OSHA compliant. This plan includes fit testing for N95 respirators. The Safety Committee has also worked to have ice cleats issued to all employees while working in snow and icy conditions to reduce the chances of slips, trips, and falls after a review of our injuries demonstrated a pattern of increased preventable injuries during winter months.

SCEMS tracks all incidents and “near incidents” that others can learn from in a ‘Near Miss Database’. Our Safety Committee reviews all entries for trends and engineers strategies, policy, equipment and/or training to prevent the near miss or actual incident from reoccurring, thus creating a safer environment for our staff and patients.

Hazardous Materials Team (HazMat): The Sussex County HazMat Team is part of the department’s Special Operations Division. This specialized group of paramedics is responsible for maintaining competency and preparedness for response to hazardous materials incidents within Sussex County and neighboring jurisdictions. The team consists of twenty-two field paramedics and various supporting administrative personnel. Each member has received training to the HazMat technician level and receives training in multi-casualty incidents, toxicology, and decontamination.

In 2017, the SCEMS HazMat team conducted in-house training exercises five times throughout the year to ensure preparedness. The team also attended the Delaware State Fire School HazMat Conference, and some members completed the IC-HOT course through the Center for Domestic Preparedness. The team also attended a multi-state training hosted by the Delaware National Guard Civil Support Team (CST) at Cape Henlopen State Park in Lewes, DE. The HazMat team also provided education to area Fire Department and BLS providers regarding their operations. The HazMat team responded to several incidents during the year. This included assisting Kent County at the prison riot at the James T Vaughn Correctional Facility in Smyrna Delaware. Another response was an explosion at a chicken processing plant in Selbyville, DE. This resulted in the life-threatening injury of an employee of the plant, and the need to decontaminate several other plant employees. The team also assisted in decontamination of a meth lab in a residence. Our team is well-trained and stands ready to respond to high-risk hazardous materials incidents in our community.



SCEMS HazMat Team training (Source: SCEMS)

EDUCATION AND QUALITY MANAGEMENT

Quality Improvement and Clinical Benchmarking: SCEMS has long used data to make our clinical and operational decisions. We have begun formalizing our data into a clinical benchmarking program which consists of identifying an area we want to examine to see if we meet or exceed national benchmarks, creating a system improvement plan, education and then re-evaluating our benchmarks to see if we hit established targets. These could be areas such as airway management, cardiac arrest, heart attack care or any other clinical care that we provide. The statewide upgrade to ImageTrend Elite has proven to be a powerful tool for chart review, quality improvement and data collection and utilization.

Continuing Education: SCEMS continues our tradition of providing high-quality continuing education for our staff. We have maintained our format of combined classroom education and scenario-based simulation team learning at our continuing education sessions. This approach to learning has been embraced by our staff and sets the standard for simulation based learning. In 2017, staff paramedics attended eight full-day sessions to meet the requirements

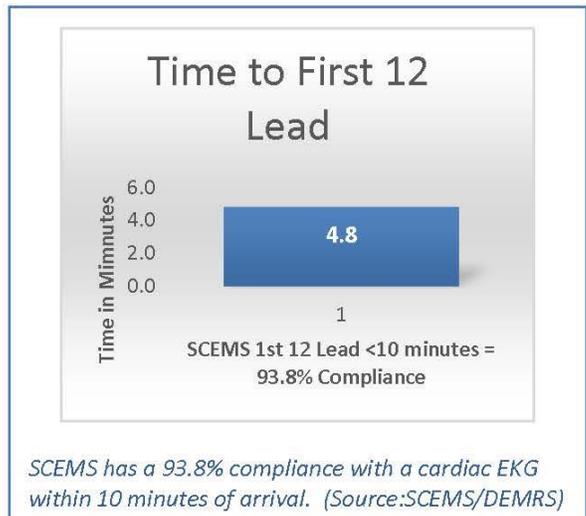


SCEMS paramedics train with team based scenarios (Source: SCEMS)

of their certifications with the Board of Medical License and Discipline as well as the National Registry of Emergency Medical Technicians. In addition, SCEMS has reached out to assist with the training needs of the county's fire community by hosting a Prehospital Trauma Life Support class for volunteer and career Basic Life Support providers throughout our county and state. The class was well received, with plans to hold additional training in 2018.

Daily Training: In addition to these classroom sessions, paramedics complete required training via the department's Learning Management System. This internet-based learning platform hosted by Cornerstone OnDemand allows for the deployment and tracking of in-house, as well as distance learning content. Teams of three field paramedics create online training using Articulate Storyline. This information is sent to SCEMS paramedics for "small-dose" learning. The Daily Training Group deploys a new training to the department every two weeks to further assist the staff with meeting its educational needs. Future for the group include creating online training that can be used as a prerequisite or post requisite to continuing education sessions to maximize efficiency and instructor resources.

AirTraq Video Laryngoscopy: SCEMS was an early adopter two years ago of the AirTraq video laryngoscope to assist with the placement of endotracheal breathing tubes in patients with insufficient or absent breathing. We since partnered with the manufacturer and helped them develop the next generation of the AirTraq a390. We are pleased that the company took into consideration all our suggestions and we were the first in the



SCEMS was the first in the country to utilize the newest video intubation technology (Source: SCEMS)

United States to receive the upgraded devices that included near every recommendation SCEMS made. Not only is video laryngoscopy replacing traditional methods for placement of the breathing tubes, the ability to capture and upload the actual video of the airway management technique has been a game changer for our airway program. Prior to this technology, we could never know “why” a paramedic missed an intubation attempt. Now we have clear video evidence and can assist paramedics with their techniques and look for system trends that we can correct. We have already created two training sessions based solely from the video recordings from these devices. We consider the video data as important to airway management as CodeStat is to our cardiac arrest outcome improvement program.



SCEMS paramedics train with team based scenarios
(Source: SCEMS)

Simulation Program: In 2017, SCEMS completely reorganized the Simulation Committee, and began implementing a plan to hold high fidelity simulation sessions on a bi-weekly basis throughout the year. With the current plan, all staff paramedics will attend simulation sessions annually. We utilize a Field Training Officer for each event to provide expert feedback to each member in the session. This debrief comes in the form of conversation as well as utilization of our video Replay system that allows members to view their own performance and critique each other. During each session, members of the simulation team also observe and document key performance indicators. The department’s Quality and Standards team utilizes the data from these sessions to guide the direction and content of future education and training programs. With the newly

organized committee in place and operating, we look forward to the training that will be conducted and guided because of these sessions over the next year.

AWARDS

Mission LifeLine: Sussex County EMS was proud to receive the 2017 Silver Plus Mission LifeLine award from the American Heart Association. SCEMS joined 350 other EMS agencies from around the country (1% of EMS agencies have this award) recognized for excellence in cardiac care. SCEMS not only met, but far surpassed the benchmark of 75% compliance in every category, some as high as a 98.5% compliance rate. What we find special about this award is that SCEMS administration did not tell the field medics that we were applying for this award or the benchmarks they would be held to. This was a natural look at the quality of our paramedics and once again it proved that our paramedics are some of the best in the country.



AHA Mission LifeLine national award (Source: AHA)

LOGISTICS AND CAPITAL IMPROVEMENT

Logistics: SCEMS has a 5-person Logistics Division that oversees and coordinates station, equipment, vehicle purchase, maintenance and uniforms. In 2017, they processed 2,860 requests for service and repairs through our electronic support request/reporting system. We continue to use Operative IQ as an electronic platform for field paramedics for daily accountability to inventory their equipment and to place station supply requests. In addition, our Logistics Division purchased, processed and distributed 29,213 consumable requests for paramedic equipment soft goods in 2017.

Response Vehicle Purchases: SCEMS placed in service four new response and one administrator vehicles. These vehicles are designed by a field-paramedic led truck committee. Our fleet drove 538,799 miles in 2017.

800 MHz Radio Replacement Phase-In: We completed this project prior to the radio's end-of-life date established by Motorola. This is important as Maryland has changed to a 700 MHz system that will only interface with the new radio model during mutual aid responses.

Paramedic Station EMS 100/Medic104: During 2017,



SCEMS response vehicle (Source: SCEMS)



Medic 104/Eastern District Supervisor Station located in Rehoboth Beach/Lewes area (Source: SCEMS)

Sussex County completed a new 5,000 square foot station for our units in the Lewes-Rehoboth area, Medic 104 and EMS 100. This station received recognition with a national station design award.

Special Operations Facility: SCEMS is working with County Engineering to construct a new Special Operations facility in Georgetown. This facility will be part of a combined services building including EMS, county fleet maintenance and the county radio repair shop. Completion is expected during 2018.

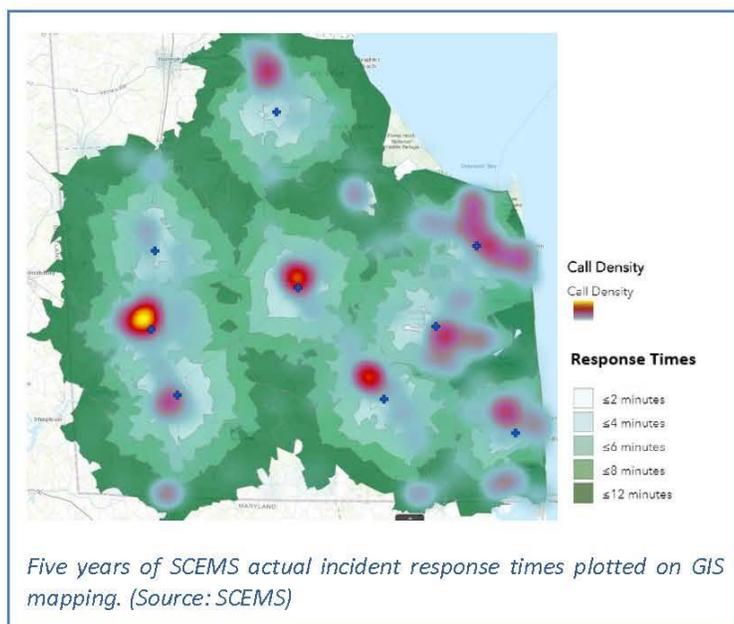
CHALLENGES

Funding: As with the other county ALS agencies, SCEMS has been impacted by the near \$900,000 cut to our state reimbursement in FY2018. Over the last ten years, SCEMS call volume has increased 64%, yet in the same time period the state funding for this mandated program has decreased by 26% and is capped at two years prior expenditures, which effectively stifles any growth. What once started at 60% funded by the state is now reduced to an effective number of 22.5% when the two years in arrears is accounted for. Sussex County Government has graciously agreed to cover the funding gap yet again this year with the following cuts to our service:

- We were not able to staff 24/7 the state and county approved Medic 110 in Seaford. This unit remains daytime only to compensate for the cuts.

- We changed our Shift Commander position from mandatorily filled to unfilled if the Shift Commander is sick or on vacation.
- At the county’s encouragement, SCEMS was moving forward with land acquisition and station construction for a West Side EMS complex and re-alignment of staffing on the West side of our county. This project would reduce our response times and time to treatment for all West-side stations. This project was placed on hold due to the budget cuts.
- At the county’s encouragement, SCEMS was moving forward with land acquisition and station construction of a new Station 103. The current location is in the middle of a warehouse complex and valuable minutes are lost navigating the complex. This project was placed on hold due to the budget cuts.

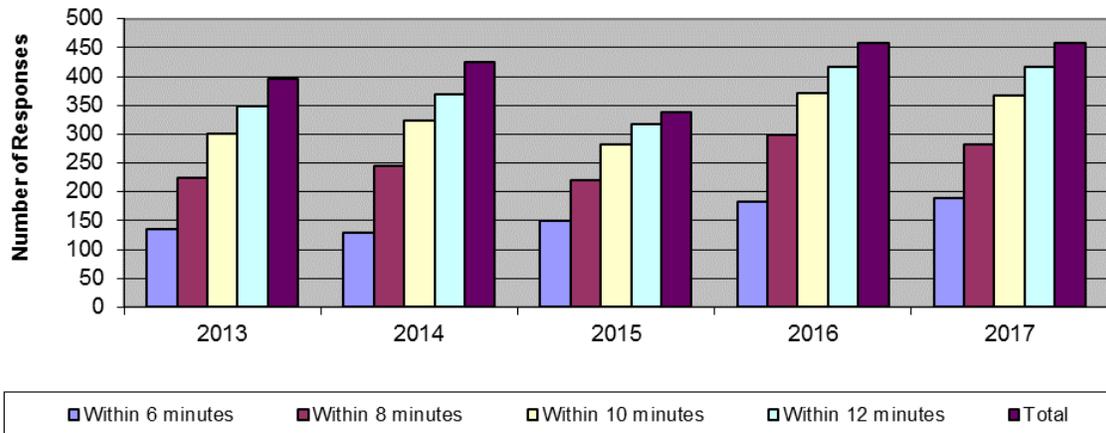
SCEMS wants to impress on the readers of the DEMSOC report that continued budget cuts could have significant impact on our operations. In addition, continued budget cuts will impact our “value-added” benefit highlighted in this report that we provide our citizens beyond only responding to 911 calls. At the request of our County Administrator, SCEMS ran a mock cut of \$900,000 to our FY18 budget. The result was that if SCEMS cut all “not immediately needed for response to calls only” line items to include but not limited to disbanding our special events team, hazmat team, all committees and workgroups, we would still require 5.6 paramedics to be laid off. This is something SCEMS does not want to do as these cuts would dramatically impact morale, quality and competency, and our attrition would increase dramatically as SCEMS would no longer be a safe and special place to work. We would become like many other EMS services around the country, just running 911 calls in a bare-bones fashion. To ensure the future success of our National Award-winning program, and to continue the high-quality care to our patients, we implore the legislature to restore the budget cuts to a minimum of the previous 30% level, if not restoration to an earlier level. SCEMS recommends a dedicated funding stream for EMS so we are not continuously in risk of state budget cuts every July 1st affecting the quality of our services.



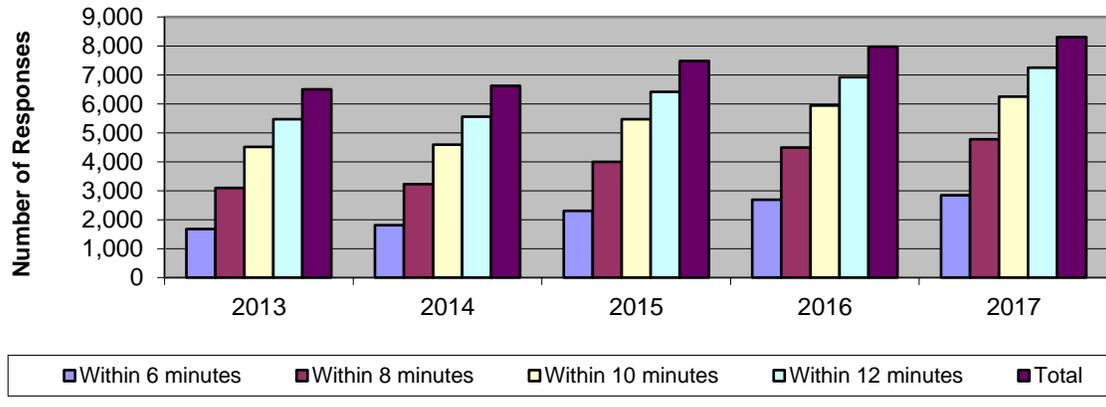
Geography: SCEMS greatest response-time challenge is our 1,196 square miles, of which 936 square miles is land and 260 square miles is water. A significant portion of our eastern side of the county’s North-South travel is blocked by the Indian River and Rehoboth Bay bodies of water. This impedes back-up medic units to assist in this region. As the majority of Sussex County is rural, our paramedic units are concentrated in higher-population towns and communities, which allows us to get to the most patients in the quickest manner. We do not have as timely a response to our rural areas where call-volume is low. As the cost of an additional paramedic unit is cost-prohibitive, and in low-call volume areas would cause knowledge and skill degradation for the paramedic, we have instead concentrated on a “dual fleet” at each station. This, combined with a culture of

“splitting” or dividing into single paramedics to better cover areas, has helped us keep a timely response of at least one paramedic to a scene until the backup paramedic can arrive. As our population continues to grow, and our forecasts show it will, we will soon be forced to look at additional paramedic units to address some of our rapidly growing areas. The Milton area is one such area as there is no close paramedic unit and their population has been growing. Sussex County EMS stands ready to meet current and future mobile healthcare needs for the citizens and visitors to our county.

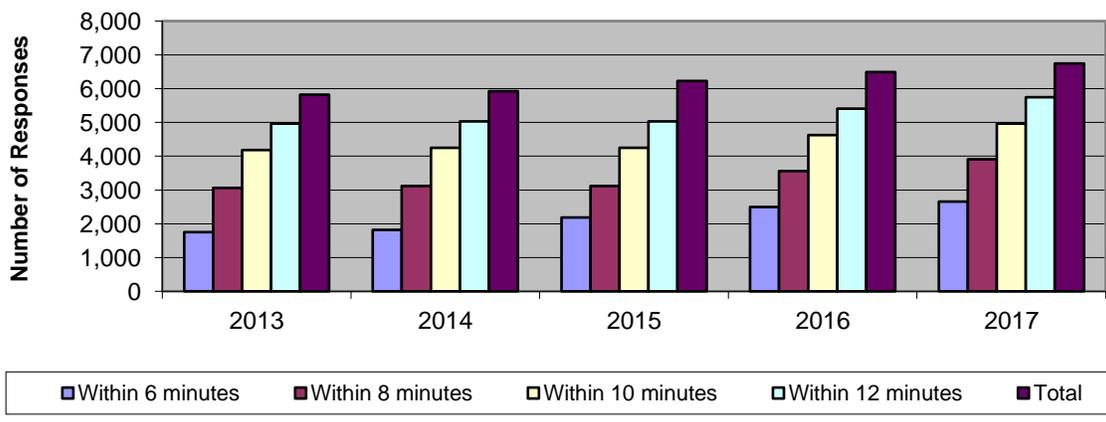
Echo Level Response, Sussex County EMS



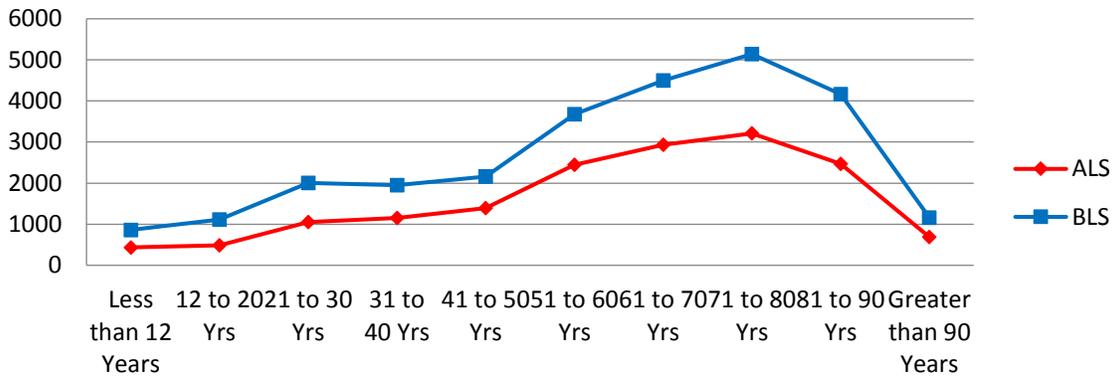
Delta Level Response, Sussex County EMS



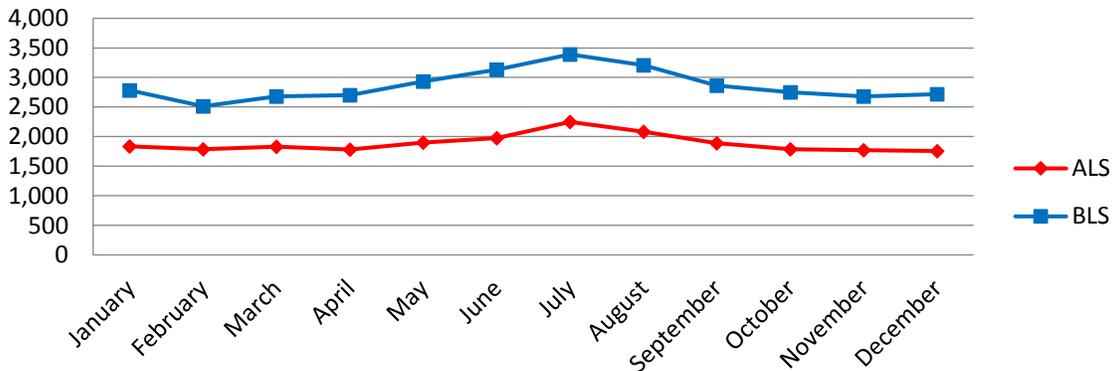
Charlie Level Response, Sussex County EMS



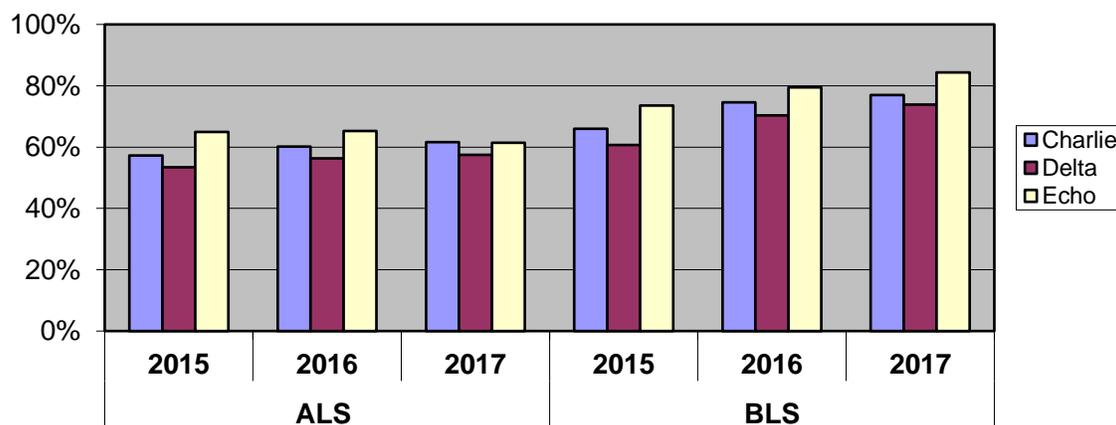
ALS and BLS Patient Age Comparison - 2017 Sussex County



ALS/BLS Incidents by Month - 2017 Sussex County



Percentage When Sussex County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents-2017



SUSSEX COUNTY EMERGENCY COMMUNICATION CENTER

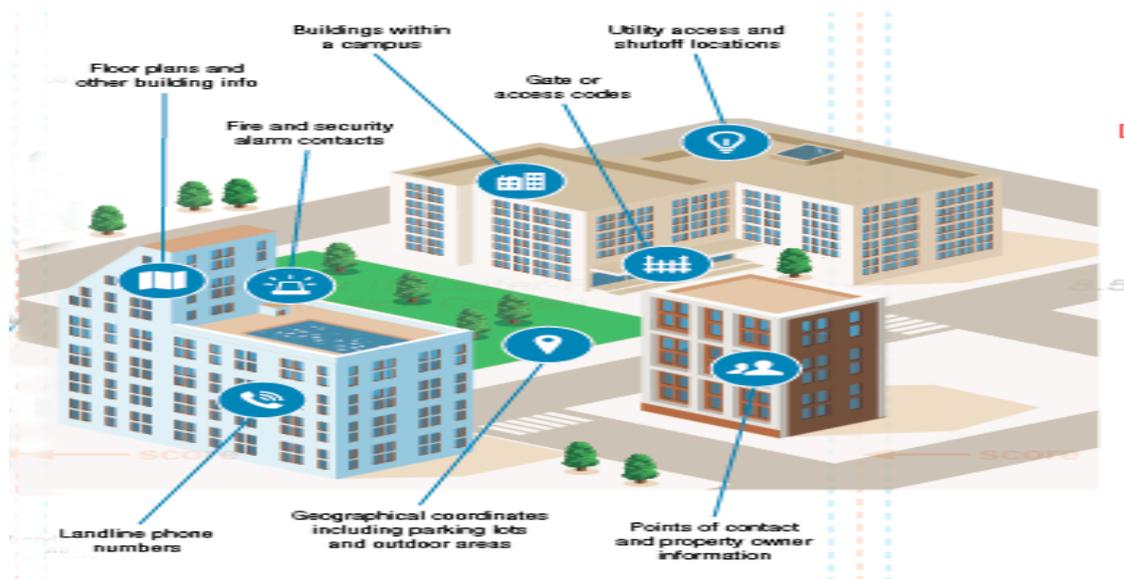


The Sussex County Emergency Operations Center / Fire and Ambulance Callboard employs 22 full time and 3 part time Fire / EMS Dispatchers, 1 Quality Assurance Supervisor, and 1 Assistant Chief Dispatcher along with administrative and technical staff.

Smart 911: The program was upgraded and launched the Smart 911 Facility which creates a detailed building and campus information connecting instantly with 9-1-1 calls. It speeds response and increases safety for everyone.

Since the upgrade, Director Thomas reached out to seven school districts to update them on the Smart 911 and Pulse Point programs. The Indian River School District has worked with Director Thomas and the district has gotten 10,000 flyers that were distributed within the school district.

Mr. Thomas and staff do numerous speaking engagements and set up at community events to promote the SMART 911 and Pulse Point programs.



Pulse Point: The Sussex County Emergency Operations Center launched Pulse Point. Sudden Cardiac Arrest is one of the leading causes of preventable deaths. The Pulse Point app alerts bystanders who can help victims before emergency units can arrive. As of January 2018 there were 4008 Pulse Point followers of Sussex County PulsePoint.

EVERYDAY HEROES NEEDED

GET THE APP. SAVE A LIFE.
Sudden Cardiac Arrest (SCA) is one of the leading causes of preventable deaths. The PulsePoint app alerts bystanders—like you—who can help victims before professional help can arrive.

PulsePoint alerts you to nearby people in need.
For every minute that passes before help arrives, **SCA survival odds decrease by 7%–10%.**

PulsePoint is like AMBER Alert for Sudden Cardiac Arrest victims.

1. SCA victim in need
2. 911 operator sends PulsePoint alert
3. Signal received by nearby PulsePoint users
4. Users rush to help victim before professional help arrives

GET MORE INFORMATION.
Scanning this QR code will get you started.

GET TRAINED:
For more information visit: www.sussexcountye.gov

BROUGHT TO YOU BY:

LIVES NEED SAVING EVERY DAY
SCA kills almost **1,000** PEOPLE PER DAY IN THE U.S.

Nearly **60%** of SCA victims **DON'T GET CPR** until professional help arrives.

13M Americans are **CPR TRAINED AND CERTIFIED ANNUALLY.**

The U.S. survival rate for SCA is **11%** **BUT YOU CAN HELP IMPROVE IT!**

SCA data source: American Heart Association, "About Cardiovascular Rehabilitation (CPR)" (2002)

HOW TO HELP
Call **911**
STAYIN' ALIVE. STAYIN' ALIVE.

Push hard and fast on the center of the chest to the beat of "Stayin' Alive"—100 times per minute.
Early CPR and rapid defibrillation before an emergency team arrives can boost survival by 50%.

@1000LivesAday—real-time app activations
@PulsePoint—general news and updates

PulsePoint

Helping Our Neighbor: Sussex County Emergency Operations Center provided accommodations for the Rehoboth Beach Police Department Communications Division while they were constructing a new facility.

Computer Aided Dispatch System: The current system is an updated version of CAD which enhances functionality for dispatcher performance.

EMS & Fire Mobile Project: The Center continues to support the Sussex County EMS and the Fire Service with Mobile Data Terminals. The Mobile mapping was upgraded to support ESRI.

Beta Test Site: Sussex County Emergency Operations Center / Fire and Ambulance Call Board remains a Beta Test Site for the International Academies of Emergency Dispatch. The site tests protocol changes and updates along with the testing for new protocols.

New Accreditation- Sussex County Emergency Operations Center was recognized in 2017 as a Center of Excellence in Emergency Fire Dispatch.

Re-accreditation: The Center is currently undergoing Medical re-accreditation. We continue to work towards meeting and exceeding the standards set by the International Academy of Emergency Medical Dispatch.

Regional Training Facility: The Sussex County Emergency operations Center continues to maintain our status as a regional training facility for the International Academy of Emergency Dispatch, offering the Emergency Tele-Communicator Course (ETC), Emergency Medical Dispatch (EMD), and other training for the entire region.

Continuing Education: Sussex continues to provide a variety of continuing education classes to assist the dispatchers with their jobs. The courses are taught by our staff as well as various agency representatives, physicians, medics, and others that interact with our agency. To assist the dispatchers with continuing education and pertinent information, the County Implemented a Countywide Learning and Performance Center. Management, Middle Management and Supervisory personnel have either completed or are currently enrolled in the County's Professional Leadership Development Course.

911 Day – This year the Center had over 1,000 students visit during the annual 911 Day.



The event was moved from May to October so that we did not interfere with the state testing held at the schools during that time. While many are in various areas outside for demonstrations, groups are also in the building attending a presentation and taking tours of the facility.

Agencies from all areas of Emergency Response came to assist with the event.

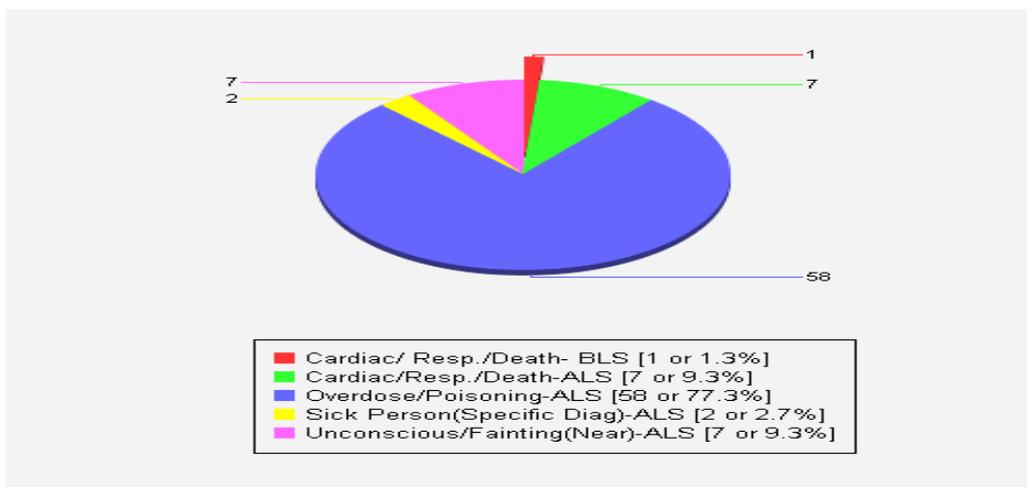
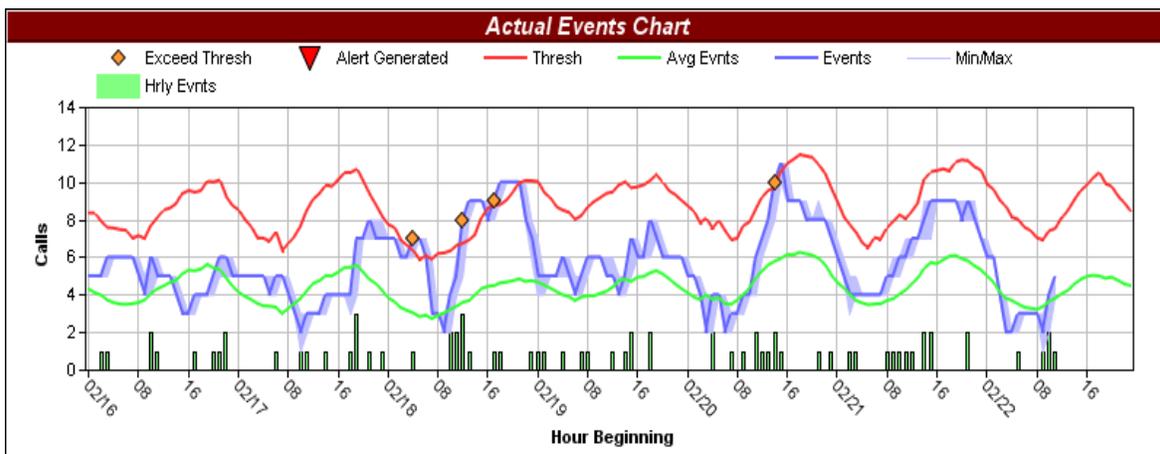


Diversion Reports: The Center compiles a diversion report for the three (3) hospitals in Sussex County as well as the two (2) hospitals in Maryland that border Sussex County. These reports are

provided to the County and State Medical Directors quarterly and to the Office of EMS for the DEMSOC report.

Statewide Committees: The Director and Staff of the Center actively participate in many statewide committees. These committees range from PSAP Managers, Emergency Management Meetings, FEMA, DEMA, Trauma System, Trauma/Burn Surge Project, Stroke Committee, Aero Medical / State EMD, SIEC,

First Watch: With this program, we have been able to expand its bio-surveillance to include tracking overdoses and specifically heroin. Recently we added settings to note the use of NARCAN.



The system also allows us to track patients presenting with flu-like symptoms. Medical Direction is notified when calls exceed a set threshold.

Mobile Command Post:

Mobile Command Unit

- Used during weather related incidents
- Utilized as a back-up 9-1-1 service to citizens
- Provides Continuity of Operation to critical County functions
- Utilized by the fire service during large incidents such as forest fires, mass causality incidents, and hazardous materials spills
- Utilized during large events such as Apple-Scrapple Festival, July 4th Fireworks, Punkin Chunkin, and Return Day



Current Mobile Command Unit is 15 years old with outdated technology



Mobile Command Unit

- The purchase is being made through a state contract vendor.
- Government Support Services, Office of Management and Budget has entered into a cooperative agreement Houston-Galveston Area Council of Governments (HGACBUY)
- Frontline is the vendor awarded in the HGACBUY agreement.



Frontline Communications Mobile Command Unit



Mobile Command Unit

Mobile Command Unit	Equipment	Total Cost
\$1,389,600	\$250,600	\$1,640,200

	DEMA/FEMA Funding	Sussex County Funding	Total Funding
FY2013 leftover EMPG	\$51,000	\$51,000	\$102,000
FY2014 EMPG	\$321,900	\$321,900	\$643,800
FY2015 EMPG	\$321,900	\$321,900	\$643,800
FY2014 Homeland Security	\$175,600		\$175,600
FY2015 Homeland Security	\$75,000		\$75,000
Total	\$945,400	\$694,800	\$1,640,200



Sussex County has taken possession of its new mobile command post. It is state-of-the-art both vehicle and technology capabilities.



Along with emergency responses, the mobile command unit will be deployed to towns throughout the county to support special events, marathons, triathlons, polar bear plunge, cycling events, and public safety awareness programs.

Building Updates: A video wall was added to the Emergency Operations Center increasing the visual capability of the dispatchers. The system allows for downlinks from the Delaware State Police Aviation units as well as it increases the Centers capability by having 32 input portals. This wall assists us with a much greater situational awareness.

The County IT department has been working to improve the Center's wireless capability which allows not only the staff but assisting agencies greater ease of access when working at the Center.

The technical staff and dispatchers have been gearing up for the Statewide Text to 9-1-1 implementation.

Aviation Video Down Link: Sussex County has worked closely with the Delaware State Police Aviation and Sussex County's IT department to establish a better connection and picture quality into the 911 center to be displayed for the dispatchers to have both visual and real-time access to scene conditions. They will be able to see conditions, safety issues, access points, etc. (the below

image shows hot spots of a large marsh fire in Rehoboth that helped forestry strategically place fire breaks).

This real-time video will now be displayed on the video wall in the Center.



Current Project: The Sussex County Emergency Operations Center is working with the Delaware Department of Agriculture. They will assess the capability and readiness in the event of Avian Influenza incident that would require an emergency response.

Rehoboth Beach Communication Center

Submitted by Tammy D. Ketterman

The Rehoboth Beach 9-1-1 Communications Center receives 9-1-1 calls through phone exchanges and cell towers in the Rehoboth area. The total number of 9-1-1 calls processed in year 2017 was 6,881. Another 34,664 non-emergency call were also processed by our Telecommunicators. The Center dispatched and/or processed a total of 3,427 EMS Incidents, 645 Fire Incidents, 3,722 Police Incidents, and 3,114 traffic stops in year 2017.

The Rehoboth Beach 9-1-1 Communications Center was recognized as an Accredited Center of Excellence in Emergency Medical Dispatch by the National Academy of Emergency Medical Dispatch on April 1, 2003 as the 79th agency in the world accredited; and then, re-accredited in August 2016 through 2019. Re-accreditation is August 2019. In 2017 the Center's overall EMD compliance rate was 99.53%.

The Rehoboth Beach 9-1-1 Communications Center operates 24-hours a day on a year-round basis. We provide Police Communications to the City of Rehoboth Beach and Fire/EMS Communications to the territory of the Rehoboth Beach Volunteer Fire Company. The Center is staffed by eight full-time Emergency Telecommunicators, four Part-time Telecommunicators and one Communications Supervisor. The Center falls under the overall direction of the Rehoboth Beach Police Chief.

The Rehoboth Beach 9-1-1 Communications Center operated within the Sussex County EOC until December 11, 2017 in which time a move was made back to the Rehoboth Beach Police Station. The Center utilizes West Intrado 9-1-1 Phone System, for administrative calls, VOIP Ring Central phone system, Motorola Centracom Elite Radio System, Verint and Exacom Recording System and Tyler/New World AEGIS CAD System to process calls for service.

Major projects for 2017 focused on revision of the City and Center's Emergency Operations Plans, working with the 9-1-1 Administration on upgrades to our CAD System, the upgrades to the 9-1-1 system. We continued to focus on training in 2017, we sent a Dispatcher to New Orleans, LA for National Academy of Emergency Dispatch Conference and San Antonio, TX for the Tyler/New World Conference. We will continue to focus on the above for the year 2018.

Picture submitted by Rehoboth Beach 9-1-1 Center



Seaford Police and E-911 Communication Center

Submitted by Anita Bell

The Seaford 911 Center received approximately 39,000 emergency and non-emergency calls through various administration and 911 lines and is part of a state wide network of 9 PSAP's all working in conjunction with the goal of providing the very best service to our citizens and guests in our community. During 2016 the center dispatched or processed a total of 743 fire, 3415 ambulance incidents and 14,483 police incidents. Seaford had a total of 100 scratched calls with a scratch rate of 2.9%.

In 2017, we continued through multiple upgrades with Intrado phone system. Seaford was the first to install the Verint recording system, which will go live in 2018. Dispatch is training on TEXT 2-911 to prepare for go live on March 1, 2018. We have also done multiple upgrades with Tyler (New World) CAD Enterprise. Seaford submitted their EMD re-accreditation in November 2017 and was notified on January 19, 2018 that Seaford is re-accredited.

Our future challenges and goals are to go live throughout the state with TEXT 2- 911 on March 1, 2018. We will continue to upgrade the New World CAD.net to further enhance the safety and response to the residents and the employees of the State of Delaware.

Seaford 911 Center operates 24 hours a day, 7 days a week providing Police, Fire, and EMS communications to the City of Seaford Police Department and Seaford Volunteer Fire Department and Seaford EMS, along with handling police administrative calls and after hour calls for City Hall. The Communications center is staffed with 8 full-time dispatchers, 2 part-time dispatcher and 1 Administrator/EMD-Q. The Seaford 9-1-1 Center operates within the Seaford Police Department and has 4 dispatch consoles, 1 of which is a fold down station for the SUSCOM and EOC.

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Aviation

Delaware Air Medical Services 149

Delaware State Police 151

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Delaware Air Medical Services

Introduction

Delaware's Division of Public Health first promulgated regulations for Air Medical Ambulance Services in 1993. The purpose of these regulations is to provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware. It is the further intent of these regulations to ensure that patients are served quickly and safely with a high standard of care. Subsequent revisions in 2001 and 2002 described the air medical service application and state certification process and resulted in the emergence of a well-developed system of air medical transportation in the state.

Currently, air medical services may apply for any of three levels of State of Delaware interfacility transport certification and/or prehospital certification:

LIMITED STATE CERTIFICATION: Approval granted following satisfactory completion of the air medical program certification process to an air medical service wishing to provide one-way transport to or from Delaware only.

FULL STATE CERTIFICATION: Approval granted following satisfactory completion of the application process to an air medical service wishing to provide point to point transport service within the state of Delaware, in addition to one way transport to or from Delaware.

911 CERTIFICATION: Approval granted following satisfactory completion of the application process to an air medical service wishing to act as a supplemental resource to the Delaware State Police in carrying out prehospital scene missions in Delaware. These services may also apply for full certification to provide point to point transport service within the state of Delaware and one way transport to or from Delaware.

The initial certification period is three years, with recertification required every three years subsequently.

Scene response – The **Delaware State Police (DSP) Aviation Section** has responsibility for primary scene response throughout Delaware and is certified for full and limited interfacility transport as a secondary mission when needed. Additionally, there is one private air medical service that is state-certified to be dispatched by the Emergency Operations Centers when DSP is not available to respond to a scene or when more than one aircraft is needed.

Interfacility transfer – State-certified private air medical services are utilized as the primary transport services for patients who need to be transferred to a higher or more specialized level of care, either within Delaware or within the region, such as to an out-of-state burn center.

There are five private air medical services with *full state certification* to perform point-to-point interfacility transports within Delaware as well as transports out of or into the state, and another three services with *limited state certification* to perform flights bringing patients either into or out of Delaware only. In addition, both Maryland and New Jersey State Police Aviation Sections are available to our state through *Mutual Aid agreements*.

2017 Accomplishments

Delaware's air medical system has evolved from one part-time service (1985-2001) to the current full complement of nine air medical services providing 24/7 emergency transportation for patients in need of specialty medical care after becoming injured or ill, either initially from the scene, or following assessment at a medical facility.

2018 Challenges

The Trauma System Quality Committee continues to work on data analyses to determine optimal distribution of patients throughout the Trauma System. This includes methods of identifying the most seriously injured patients, with utilization of air medical transport to move them directly to the Level 1 Trauma Centers from the scene, while triaging less seriously injured patients to the Community Level 3 Trauma Centers. The goal is to match the needs of each patient with the resources of Delaware's trauma facilities and move the patient to that facility as quickly as possible. **Trauma is a time-sensitive disease.**

Other resources being utilized include data analyses by professional researchers, national guidelines and documents, and participation on the Air Medical Committee of the National Association of EMS Officials.

Adequacy of air medical transport resources to provide timely interfacility transfers is another challenge in 2018, as the number of patients being transferred increases. This issue ties into the scene triage issue, as well as appropriate utilization of the two new Level 3 Trauma Centers in New Castle County.

Safety issues are a continuing priority of the air medical service providers and of the Office of EMS. All certified air medical services provide updated safety equipment and safety program and procedures information as part of their recertification process. Provision of regular helicopter safety in services by air medical program staff for both scene providers and hospital staff is encouraged.

Summary

The scene and interfacility air medical transport services provided for the most seriously injured patients are an integral part of the Delaware Trauma System. Priorities continue to be safety, efficient and appropriate utilization, and '*Getting the right patient to the right facility in the right amount of time*'.

Delaware State Police Aviation Section



MISSION STATEMENT

To Enhance the Quality of life for all Delaware citizens and visitors by providing, professional, competent and compassionate law enforcement services.

CORE VALUES

Honor, Integrity, Courage, Loyalty, Attitude, Discipline, and Service



INTRODUCTION

The Delaware State Police Aviation Section is a progressive section that is rich in tradition. The Aviation Section provides effective support services to law enforcement, emergency medical services, and search & rescue communities. The Aviation Section consists of thirty-two pilots and medics providing 24 hour coverage from two locations. As a progressive Section, members incorporate new technologies, add new equipment, and undertake new missions all while maintaining 24 hours coverage for the entire State of Delaware.

2017 ACCOMPLISHMENTS

The 2017 calendar year was marked by change in the paramedic leadership within the Delaware State Police Aviation Section. In July 2017, Sgt. Paul Shavack retired from the Delaware State Police. We are grateful for the service and leadership that Sgt. Shavack provided. Sgt. Jason Baxley was promoted to the State Police Aviation Paramedic Commander and is assisted by Cpl/3 Matthew Pragg. Together, they are responsible for the entire medical component of our operation.

Trooper Medic Cpl/3 Jennifer Potocki earned the 2017 Mid-Atlantic Association of Women in Law Enforcement (MAAWLE) award for Leadership. MAAWLE has a proud tradition of recognizing the achievements and sacrifices of women in Law Enforcement throughout the Mid-Atlantic region. The MAAWLE Leadership Award is given to the Law Enforcement professional with at least ten (10) years of experience, who has distinguished herself through integrity, ethical standards, initiative, problem solving, communication, planning and organizing, and administration.

In 2017, the Aviation Section had an extremely busy year with its diverse and ever growing mission profiles:

Law Enforcement Profile

The Aviation Section supports State, Federal, and Local law enforcement by providing aerial assistance in several areas:

- Aerial Law Enforcement Support
- Tactical Medic Support
- Homeland Security Operations
- VIP Transport and Security
- Marijuana Eradication
- Aerial Photo Evidence

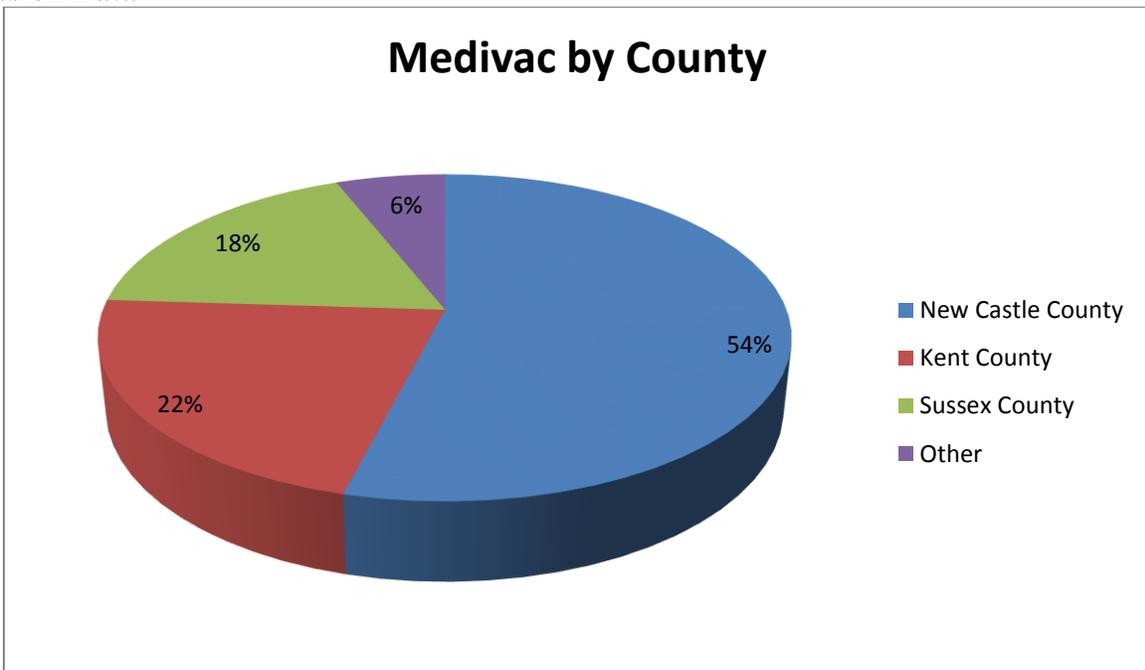
In 2017, the Aviation Section conducted 475 Criminal Searches resulting in 141 apprehensions and 71 Pursuits resulting in 49 apprehensions. This works out to approximately 1.3 Criminal Searches a day that result in a 30% apprehension rate and approximately 1 Pursuit every 5 days that result in a 69% apprehension rate.

Helicopter Emergency Medical Services

The Aviation Section provides air medical transport and advanced life support backup for ground transports of the seriously injured and/or ill persons. In 2017, the Aviation Section had 1,484 requests for medivac services.



Mission Data

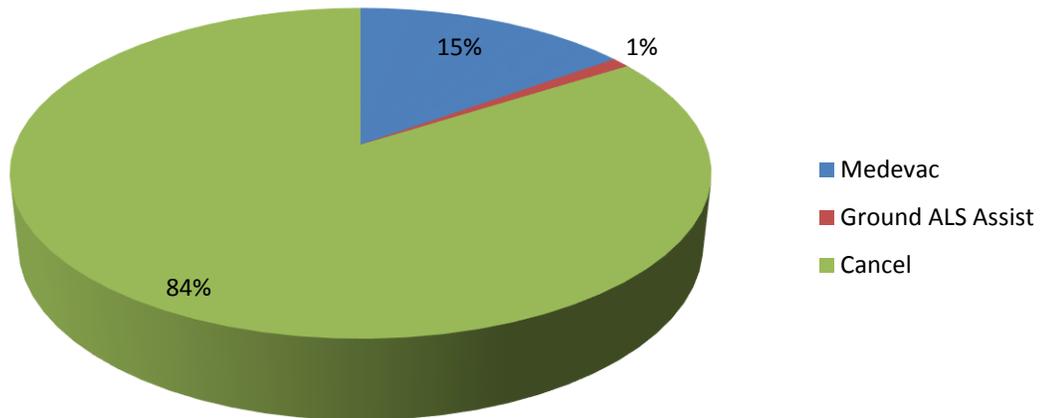




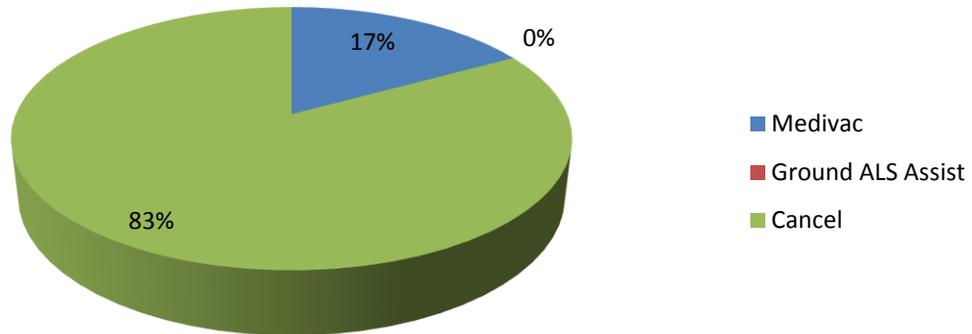
RANDOLPH 2016



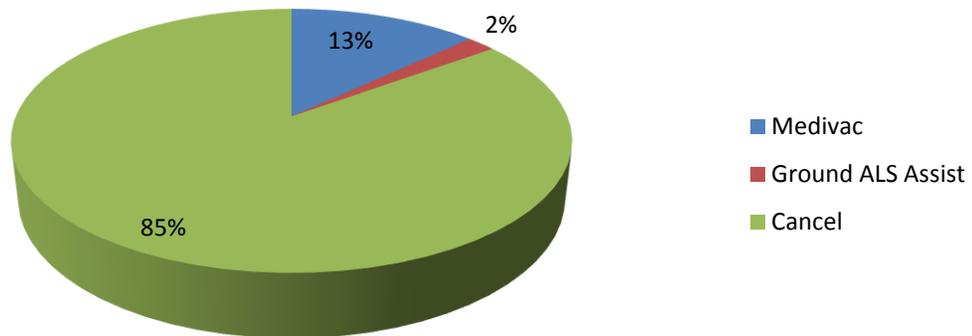
New Castle County Total Calls for Service



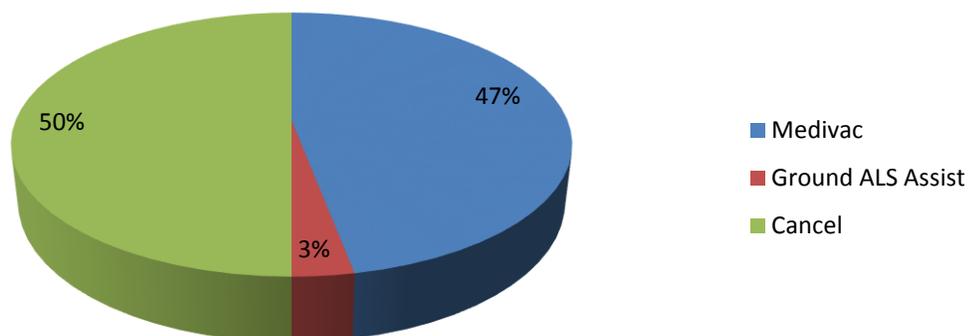
Kent County Total Calls for Service



Sussex County Total Calls for Service

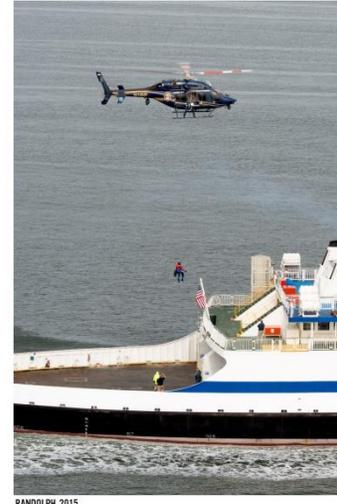


Outside DE Total Calls for Service



Fire and Search & Rescue Profile

The Aviation Section supports the Department of Natural Resources and Environmental Control, Delaware Fire Service, Dewey Beach Life Guards, and the United States Coast Guard by providing aerial support, rapid insertion, and hoist evacuation capability for the entire State of Delaware, its coast lines, its many waterways, and its diverse landscape.



In 2017, the Aviation Section conducted 134 Search and Rescue Missions resulting in 100 missions where the person, vessel, and/or aircraft were located. Two missions called for hoist evacuation due to remote or limited access to the victims.

Special Operations Profile

The Trooper Medics from the Aviation Section support a wide variety of Special Units and Special Operations:

- Tactical Medic Support
 - Delaware State Police SORT
 - Wilmington Police Department SWAT
 - Delaware State Police EOD
 - Wilmington Police Department EOD
 - Delaware State Police TCU
 - Delaware State Police SCUBA
 - Delaware Air Rescue Team

- Medical Stand-by Support
 - Special Events
 - NASCAR
 - Firefly
 - Applicant Testing
 - Delaware State Police
 - Department of Corrections
 - Academy Training

- Weeks 1 & 2
- Boxing
- Taser
- Pepper Spray
- Medical Instruction
 - CPR/AED Instruction
 - Advance Cardiac Life Support Instruction
 - Pediatric Advanced Life Support Instruction
 - Paramedic Continuing Education
 - Law Enforcement Medical Responder Instruction
 - Narcan Administration Instruction

In 2017 the Aviation Section conducted 135 Tactical Medic responses, provided 76 Medical Stand-bys, and taught over 800 hours of Medical Instruction.

Administrative Medical Oversight

In addition to supervising day-to-day operations the Paramedic Commander and Deputy Commander are responsible for overseeing the training, maintenance, deployment, and reporting for AED use, Narcan administration, and investigating potential infectious disease exposures for the entire Delaware State Police.



Currently there are 177 Boxes (or 354 Doses) of Narcan deployed in the field. Starting in April of 2017, when the program was launched, Narcan was administered in the field 28 times that year. This works out to approximately 3 administrations by a Trooper a month.



Currently there are 400 AEDs deployed in the field. In 2017, an AED was used 37 times. This works out to approximately 3 AED utilizations by a Trooper a month.

In 2017, five potential infectious disease exposures were investigated. All five investigations were classified as non-significant exposures requiring no prophylactic care or additional follow-up.

2017 Challenges

Staffing has historically been a challenge for the Aviation Section. It takes approximately 2-2.5 years from start to finish putting a Trooper Medic into service. It is a huge commitment both personally and professionally for the Trooper and by the Division. This forces the Aviation Section to try to forecast staffing needs 2-3 years out.

In 2017, Sgt. Shavack retired from the Division creating a vacancy within the Aviation Section. This loss of personnel was unexpected and did not allow enough time to recruit, interview, and select a candidate in time to start the Delaware Technical Community College Paramedic Training program in 2018. This will require individuals to cover administrative responsibilities while at the same time covering crew shifts until a replacement can be found.

There is one Trooper Medic who will reach mandatory retirement within the next 2.5 years, which will create another vacancy within the section.

Paramedic training has also historically been a challenge for the Aviation Section. The Aviation Section provides 24 hour coverage for an area that is 1,982 square miles. This is accomplished from two locations 70 miles apart. The Trooper Medics that are assigned to the Aviation Section typically live close to the hangar where they are assigned. Wherever the training is located, at least half the Troopers Medics will have to travel a great distance to attend.

Changes in the perception of fatigue in First Responders have recently sparked a cultural change within the Delaware State Police in areas such as fatigue management, staffing, and resource allocation. The Aviation Section initially was unaffected by this change. However, in 2017 fatigue

management restrictions were placed on the Aviation Section and the 24-hour shift the Section uses has come under review.

Over the past nine years there has been a steady decline in direct scene-to-hospital transports across the entire State of Delaware. In 2017, the Aviation Section was canceled from instate medivac missions 84% of the time. During that same year out-of-state medivac missions were only cancelled 50% of the time.

2018 Goals

The goal for 2018 is to have two Troopers selected and ready to start the DTCC Paramedic Training program in 2019.

The goal for 2018 is to increase training and proficiency by incorporating training with all three ALS agencies, riding with ground ALS agencies, and attending nationally recognized Paramedic Conferences.

The goal for 2018 is to explore training and scheduling options to ensure the safest working environment.

The goal for 2018 is to work with members of DEMSOC, the Trauma System Committee, and the Dispatched Centers to reduce our medivac mission cancelation rate to 50% or less.

SUMMARY

The Delaware State Police Aviation Section is dedicated to ensuring that we provide superior service to those that we serve by honoring the Division's Core Values of Honor, Integrity, Courage, Loyalty, Attitude, Discipline, and Service. The Aviation Section will also continue to analyze equipment, staffing, and scheduling options to safely provide the most effective and efficient aeromedical, Law enforcement, search and rescue, and Homeland Security operations to the residents and visitors of Delaware.

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Prevention

Safe Kids 163

Injury Prevention Coalition 164

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Led by Delaware's Division of Public Health, Office of Emergency Medical Services, Safe Kids Delaware is a member of Safe Kids Worldwide, the nation's primary organization dedicated solely to prevention of unintentional childhood injuries. Safe Kids Delaware was established in 1992 to educate the public on a variety of child injury prevention topics. By partnering with numerous community, civic, and state organizations, Safe Kids Delaware provides educational programs to further their goal of reducing the number of childhood injuries in our state. Through three county chapters, Safe Kids Delaware participated in **220 events reaching a total of over 40,000 people in 2017**. These events covered many safety areas including Fire Prevention, Car Seat Safety, Water Safety, Poison Prevention, Bicycle Safety, Pedestrian Safety, Teen Driving Safety, Fall Prevention, Halloween Safety, Bus Safety, ATV Safety, Concussion Awareness, and Gun Safety. In June the **Safe Kids Health and Safety Conference** will be held in Dover.

“If a disease were killing our children at the rate unintentional injuries are, the public would be outraged and demand that this killer be stopped.”

*Former U.S. Surgeon General,
C Everett Koop*

Unintentional injuries are a leading cause of death and hospitalization for children. But there is good news in Delaware! According to the Delaware Trauma System Registry, injury hospitalizations among Delaware's children under age 15 **decreased 15 percent between 2012 and 2016!** This is wonderful progress but there is more to be done. There were still 485 Delaware children injured seriously enough to require hospitalization in 2016. The leading causes of injury hospitalizations in this age group are falls and highway incidents. Violent injuries such as those involving firearms lead to longer hospital stays, and motor vehicle crashes are responsible for a higher number of severe injuries. It will take everyone's efforts to reduce these numbers further and keep our children safe. **Safe Kids Delaware is always grateful for new volunteers. The contact address to volunteer is SafeKids@state.de.us .**

Delaware Coalition for Injury Prevention

Introduction

Injury prevention focuses on public education and increasing public awareness of prevention strategies. This is the role of the injury prevention component of the Delaware Trauma System. The goal of the Trauma System is to decrease death and disability from injury. In 2016, **145 persons died instantly** at injury scenes in Delaware. No amount of Trauma System resources, specialists, organization, or planning could have saved these lives. The solution to effectively decreasing this kind of injury death lies in prevention of the injury entirely, or in decreasing its intensity through safety measures such as wearing seatbelts or decreasing speed. Teaching people to make safer choices and to use safer habits can be a key to decreasing the number of these scene deaths. Injury prevention addresses the public education needs that can save lives, as well as decrease the number of injured overall. In response to Delaware Title 16, Chapter 97's public information, prevention, and education mandate, the Office of EMS staffs the *Delaware Coalition for Injury Prevention* and the *Safe Kids Delaware* program.

Violence and injuries can affect everyone regardless of age, race, or economic status. Despite the fact that many injuries and acts of violence are preventable, each day people are injured in our state. Many of those who survive do so with lifelong disabilities. Injuries have physical, emotional, and financial components that impact the lives of individuals, their families, and society. Throughout the lifespan and wherever they live, Americans are at risk for disability or death due to injury. No age or location is "safe" when it comes to injury and violence. But injuries have associated risk factors which can be predicted and modified. Therefore, injuries must not be viewed as random accidents, but as **preventable occurrences in need of organized efforts to save lives**. Development of these prevention efforts is the goal of Delaware's Coalition for Injury Prevention.

2017 ACCOMPLISHMENTS

The Delaware Coalition for Injury Prevention began meeting in 2004. Approximately 40 agencies from all areas of the state are current members. The Coalition is continuing to work to fulfill its mission of protecting Delawareans from injury through public education. This program is committed to supporting statewide injury prevention efforts through growth and development of partnerships, provision of training and technical advice, encouragement of interventions at multiple levels, and analysis of data to support planning and evaluation of interventions.

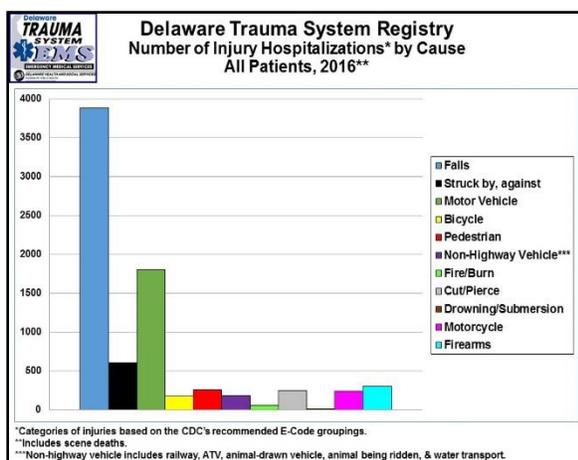
The Coalition's goal is that through their efforts, its vision of safe communities in Delaware will be realized, as measured by fewer injuries, fewer risk-taking behaviors, safer environments, and reduced incidence of injury-related disabilities. Through effective surveillance, partnerships, interventions, training, and evaluation, the Coalition's goal is to teach Delawareans that injuries are preventable so they will choose to reduce their injury-related risks.

In 2017 the Coalition continued developing a safety station educational activity for elementary age children in partnership with Safe Kids Delaware's New Castle County Committee. The program involves various topics taught by safety experts in a hands-on activity format. It is being replicated so as to be available in all three counties for use at activities such as schools and summer camps.

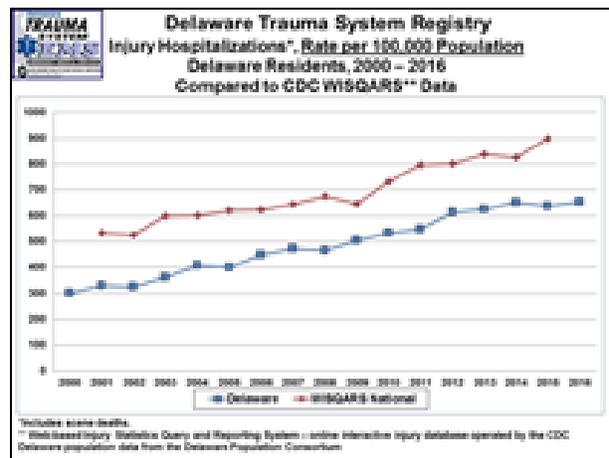
Topics include pedestrian, fire, and water safety, how to call 911, seatbelt use, and safety around dogs.

2018 CHALLENGES

The first challenge for injury prevention efforts is to be successful in getting the message to the public in such a way that messages are heeded and injuries and injury-related deaths decrease. In order to accomplish this, support and adequate funding are needed. Injury prevention is low in the political hierarchy and there is little monetary support available, which remains a problem for the Coalition. Nevertheless, the Coalition will continue to utilize prehospital and Delaware Trauma System Registry data to identify demographic and geographic populations most in need of injury prevention education. Graph 1 illustrates the types of injuries that led to hospitalizations in Delaware in 2016. Falls caused over half of the injuries leading to hospitalization, and motor vehicle incidents were the second leading cause of injury hospitalizations in 2016. Graph 2 illustrates that while injury hospitalization population-based rates in Delaware have stayed below the national rate provided by the Centers for Disease Control and Prevention (CDC), they have increased significantly in the last 16 years. Numbers of both violent injuries and pedestrian injuries are high in Delaware, with the city of Wilmington ranked third among 450 cities of similar size in number of violent injuries. With this in mind, in 2018 the Coalition will hold a strategic planning session to plan multifaceted methods of working to decrease injuries in our state.



Graph 1: Number of Injury Hospitalizations by Cause in 2016.



Graph 2: Injury Hospitalization Rates per 100,000 for Delaware Residents Compared to National Rates from 2000-2016

Summary

Injury prevention is vital work. In their May 2016 review of Delaware's EMS System, the National Highway Traffic Safety Administration recommended support for the Office of EMS Injury Prevention program through the addition of a fulltime Injury Prevention Coordinator and an Injury Epidemiologist to lead the effective use of injury data to plan and evaluate prevention initiatives. Should there be a successful Trauma System funding initiative in the future, funds to support and enhance injury prevention will be included in the request. Meanwhile, dedicated injury prevention leaders statewide continue to support this program and work toward its vision of a safe, injury-free Delaware.

Thank You

The Delaware Emergency Medical Services Oversight Council (DEMSOC) would like to express a sincere thank you to all the agencies that submitted reports for this year's DEMSOC report.

Office of EMS, Office of Preparedness, Department of Safety and Homeland Security, SFPC, DSFS, DVFA, State Fire Marshal's Office, Delaware Technical and Community College, New Castle County EMS, Kent County EMS, Sussex County EMS, Delaware State Police, Delaware Healthcare Association, Emergency Medical Services for Children, Safe Kids Delaware, Delaware Coalition for Injury Prevention, DE Trauma Committee, DE Stroke Committee, NCC Dispatch, KC Dispatch, SC Dispatch, Rehoboth Dispatch, Seaford Dispatch.