

DEMSOC

2018

Delaware Emergency Medical Services Oversight Council



19th Annual Report

The Honorable John Carney, Governor





DELAWARE EMERGENCY MEDICAL SERVICES OVERSIGHT COUNCIL



April 15, 2019

To the Citizens of Delaware:

On behalf of Governor John Carney, and my colleagues on the Delaware Emergency Medical Services Oversight Council (DEMSOC), I am pleased to present the 2018 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's mission is to focus 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, agencies and groups that represent hospitals, and private citizens knowledgeable in the delivery of EMS care.

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 this past 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. This past year we have continued our 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 2018 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 18 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:

- 1,335 Certified First Responders
- 1,462 EMT-Basics
- 325 Paramedics
- 186 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, five 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.

- 144 BLS ambulances providing 911 services
- 108 BLS ambulances providing non-emergency services
- 23 Full Time & 3 Part Time ALS units providing 911 services
- 7 ALS Supervisor units
- 4 Air Medical helicopters providing 911 services
- 5 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 2018, the EMS system in Delaware responded to the following incidents: (information based on EMS patient care reports)

- 239,627 Statewide Total Run Reports
- 141,667 Non-trauma incidents
- 149,891 Basic Life Support Incidents
- 32,658 Trauma Incidents
- 89,736 Paramedic Incidents
- 9,318 Pediatric Incidents (0-17yrs)
- 3,527 ALS Cardiovascular Incidents
- 239 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. The Secretary of The Department of Safety and Homeland Security, also serving on the council is the Secretary of Delaware Health and Social Services. DEMSOC 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, Kate Groner, Dana Bowerson, Member-at-large/Kent: vacant, Member-at-large/New Castle: 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)



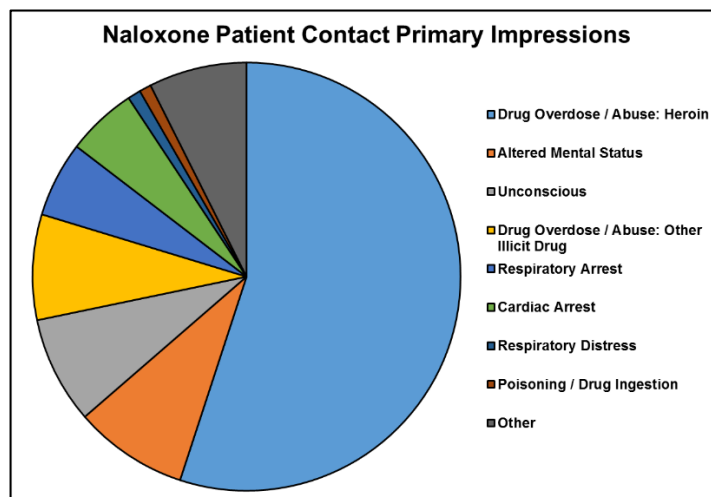
The mission of the Office of Emergency Medical Services is to assure a comprehensive, effective, and efficient statewide emergency medical care delivery system in order to reduce morbidity and mortality rates for the citizens of Delaware. The OEMS ensures the quality of emergency care services, including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

Highlights for 2018

Naloxone program for BLS agencies

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 nearly 3,500 doses of naloxone administered by EMS providers in 2018. This number has increased over 28% from 2017, when EMS administered just over 2,700 doses.

Overdose/Naloxone patients may present with “other” problems as reported by family members and bystanders. The following chart shows the most common primary impressions documented by providers in EMS patient care reports for patients administered naloxone.



Delaware Drug Monitoring Initiative (DMI) Report

The DMI report is a collaborative effort between the Delaware Information and Analysis Center (DIAC), Division of Forensic Sciences (DFS), Emergency Medical Services and Preparedness Section (EMSPS) and Division of Substance Abuse and Mental Health. The purpose of the report is to share consistent, actionable information to address issues related to the drug epidemic affecting Delaware. The data is designed to aid agencies across the state to identify the needs of those affected by or at risk for addiction within the state.

The DIAC contributes statewide law enforcement data for drug incidents with the purpose of analysis of the threat of legal and illegal drugs. DFS contributes aggregate data associated with fatal overdoses. EMS contributes aggregate data in regards to suspected non-fatal overdose incidents and DSAMH contributes aggregate data with regards to those individuals who have entered treatment.

The mission is “To address the addiction epidemic in Delaware by establishing a sustainable infrastructure to coordinate interdisciplinary data collection, sharing and analysis in real-time within the state and region to target strategies and accelerate action”.

Overdose System of Care

The Overdose System of Care is focused on reducing overdose deaths as well as the negative impacts of substance use disorder (SUD) by connecting people with treatment, providing support for those affected by SUD, and implementing prevention strategies. The Overdose System of Care has been modeled similarly to the other systems of care in Delaware so that there is continuum of care for the patient once they are identified, while in the treatment process and successfully returned to the community. Delaware has structured the Overdose System of Care like other public health disasters, using the four phases of emergency management: Preparedness, Mitigation, Response and Recovery. Utilizing an emergency management structure for the Overdose System of Care ensures a coordinated statewide response that will better meet the overall objectives of decreasing overdose deaths, decreasing overdose incidents, engaging SUD individuals with effective treatment opportunities, ensuring equitable and accessible care and ensuring adequate statewide resources are available to meet the needs of our citizens suffering from SUD.

Stroke System of Care

The Stroke System of Care Committee, formed in November 2016, continues to meet on a quarterly basis and has filled all of its legislated membership seats. 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. The public education subcommittee is a new committee focusing on educating the public on stroke prevention and available resources.

Stop the Bleed

The Office of Emergency Medical Services is continuing with the Stop the Bleed Program, a national campaign through the Department of Safety & Homeland Security. The Tourniquet “Leg” Trainer is in high demand by all disciplines. OEMS staff have instructed staff at several public schools, DEMA (Delaware Emergency Management Agency) and Department of Corrections on Stop the Bleed. Several school nurses have borrowed the leg to train staff, students, HOSA (Health Occupations Students of America) members and PTO (Parent Teacher Organization) members. Hospitals have borrowed the leg to train medical staff and office staff. DMRC (Delaware Medical

Reserve Corp) have been trained and continue to train different groups in the community (Girl Scouts, Safety Officers). To date, the Stop the Bleed program has trained a total of 4,803 people; 2,342 adults and 2,461 under the age of 18. The program began in fall of 2017 and has more than doubled its number of trained individuals.

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.

Emergency Medical Services and Preparedness Section staff and partners finalized the High Consequence Infectious Disease Surveillance and Response Plan and distributed to the Delaware Healthcare Preparedness Coalition (DHPC), Delaware Healthcare-Associated Infections Advisory Committee (HAIAC) and Association for Professionals in Infection Control and Epidemiology (APIC). The HCID Communication Flow Chart was distributed to any personnel responsible for screening patients within the hospital.

Each year the HPP Ebola Preparedness and Response Activities grant requires a no-notice drill. This year the drill consisted of a pediatric patient presenting at a hospital. 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, 2001 and 2013. 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. These regulations were first promulgated in 1993 and were revised in 2001 and 2002.

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 January 11, 2019, there were **417 Delaware residents** waiting for an organ transplant, with over 330 of those residents waiting for a kidney transplant. In the state of Delaware 432,903 people with a driver's license or state identification card (52% of all) have designated themselves as organ and tissue donors as of January 1, 2019. 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, 2020. For more information, or to register as an organ donor, visit www.donatelife-de.org

Office of Preparedness

The mission of the Office of Preparedness is to develop, implement and maintain a comprehensive program to prepare for, mitigate against, respond to, and recover from public health threats and emergencies. Multiple events, trainings, and exercises were held in 2018 including radiological, nursing, mass care, along with the annual Public Health Symposium. Additionally, a celebration was held for the five-year anniversary of the partnership with State and not for profit agencies working together forming the Persons with Access, Functional and Medical Needs Committee.

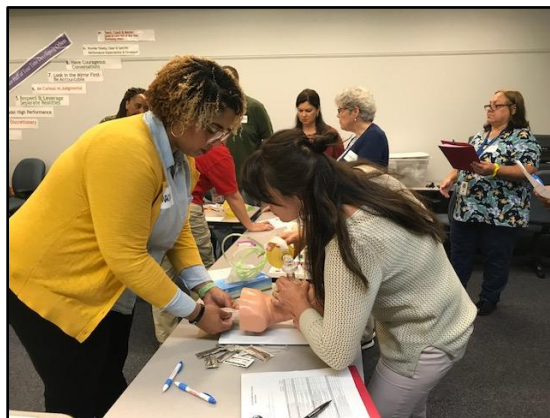
Delaware Emergency Management Agency (DEMA) Radiological Exercise

On March 27, staff from the Emergency Medical Services and Preparedness Section, Office of Preparedness participated in the DEMA Radiological Emergency Preparedness (REP) exercise. Preparedness staff filled positions within the Technical Assessment Center as well as within the Public Health and EMS emergency support function desks for the exercise. Evaluation cadre had positive observations with respect to effective and efficient communication and coordination between the Technical Assessment Center, Operation & Planning Leads, and the close cooperation with members of participating agencies.

In general, they observed a “competent, cohesive team” that worked effectively to check and double check information for accuracy, as well as generating appropriate protective action recommendations and the ability to implement the recommendations. They were also impressed with our ability to generate high quality maps and how valuable they were in providing a common operating picture.

Emergency Preparedness Nurse Training

The Emergency Medical Services and Preparedness Section, Office of Preparedness conducted training sessions on Emergency Preparedness for Nurses on May 14 and 15 at the Edgehill Training Center. Forty-four nurses attended the training on May 14, and 51 nurses attended the training on May 15. Another training on May 30 was attended by 52 nurses bringing the total to 147 for the year. Nurses invited to attend were from Delaware Medical Reserve Corps, Department of Health and Social Services, Division of Public Health. The training covered emergency preparedness protocols at emergency shelters within the mass care plan for State Health Operation Center (SHOC) activation. Nurses were also provided training in skill stations that include airway management, respiratory management, glucose management, and allergic reaction and overdose stations. The nurses were able to register and complete their final evaluation using the DE TRAIN learning management system to gain access to their CNE credentialed certificate.



Mass Care Full Scale Exercise

The Delaware Division of Public Health (DPH), Emergency Medical Services and Preparedness Section, hosted a two-day full scale operations based exercise Tuesday and Wednesday June 19 and 20. The venue was located at the Sussex Central High School, 26026 Patriots Way, Georgetown, DE. Day one consisted of a site survey and preparation from noon until 4:30 p.m. Day 2 began early at 7:30 a.m. for exercise staff, with the exercise beginning at 9:30 a.m., and concluding at 3:30 p.m. There were 226 participants over the two-day event.

The Full Scale Exercise (FSE) was one of several emergency planning events designed to test DPH responsibilities during mass care operations. This exercise focused on the mass care shelter components of a response.

DPH will incorporate lessons learned into existing plans to improve future responses. A critical but often overlooked area is training and exercise with agencies identified as having a responsibility in emergency plans. DPH will continue to partner with Federal, State, and local stakeholders to create a seamless response during future events.



Public Health Preparedness Symposium

The Emergency Medical Services and Preparedness Section (EMSPS) hosted the seventh annual Public Health Preparedness Symposium at the Delaware Technical Community College's Terry Campus in Dover. The event hosted 97 Federal, State, local, and non-governmental organizations stakeholders.



This year, the planning team focused on response to disaster, specifically power grid failure. Jerry Rhodes, Director of Crisis Response and Preparedness, Association of State and Territorial Health Officials, was the keynote speaker. Addressing the possibilities of power grid failure in Delaware, Chris Murtha, the Delaware Emergency Management Agency Deputy Director, in conjunction with Jim Smith, Senior Public Affairs Manager Delmarva Power and David Polaneczky, Region III Energy

Program Manager, Federal Emergency Management Agency offered their perspectives and safeguards against such events.

Additionally, there were three complementary breakout sessions supporting the main theme of the symposium. The first was an introduction to the Delaware National Guard Weapons of Mass Destruction Civil Support Team (WMD-CST). The second presentation introduced the Delaware Medical Reserve Corps, which included volunteer opportunities. The third presentation,

“Response to a Healthcare Facility Power Outage” offered lessons learned from several real life events affecting health care facilities.

Persons with Access, Functional and Medical Needs (PWAFFMN) Committee Meeting

The Delaware Department of Health and Social Services (DHSS), Division of Public Health (DPH) Emergency Medical Services and Preparedness Section (EMSPS), Office of Preparedness celebrated five years of partnerships with State and not for profit agencies working together to meet the needs of Delawareans with access and functional needs. Eleven agencies and twelve individuals received certificates of appreciation. The meeting included updates on pediatric preparedness efforts and the name change of the committee to the Delaware Access and Functional Needs (Delaware AFN) Committee.

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 \$11,238,514.00 for the period of December 24, 2014 until December 31, 2018. The funds are distributed on a bi-annual basis.

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

2018 Investigator II/Compliance Officer Statistics

Complaints Received.....	86
Investigations on Existing Cases....	12
Interviews.....	32
New Ambulances.....	11
Ambulance Inspections.....	239

Ambulance Inspection Deficiency Notices:

Critical.....	0
Cautionary.....	0
Watchful.....	1

2018 EMT Certification and Ambulance Licensing Statistics

Fire Company Audit Received.....	63
Fire Company Audit Extension Request.....	0
Fire Company Audit Extension Request Approved...	0
Fire Company Audit – Delinquent	0
Civil Penalty.....	\$400
EMT (Initial) Certification.....	142
EMT Recertification.....	763
EMT Reciprocity.....	46
EMT Background Checks.....	271
Ambulance Licensing/Renewals.....	63
Update Student Record.....	796

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.



Gaumard Hal® High Fidelity Manikin



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

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

2018 Accomplishments

Agency conducted EMS training in 2018:

Emergency Medical Technician – 9 classes – 235 students

Emergency Medical Technician Refresher – 23 classes – 378 students

Delaware Emergency Medical Technician Reciprocity – 6 classes – 85 Students

Emergency Medical Responder (EMR) – 9 classes – 113 students

Emergency Medical Responder Refresher – 21 classes – 178 students

Continuing Education Programs – 90 classes – 1,429 students

Conduct training for 1,554 EMTs in BLS Protocol Standing Orders

Conducted 353 American Heart Association Classes reaching 2,664 students

2019 Goals

To review, update, and develop DSFS EMS Programs.

Conduct training for the 1,568 Delaware EMTs and 1,280 EMRs.

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 employed 51 fulltime State employees and 1 casual/seasonal employee in 2018.

In 2019, the agency will move forward with our Mission statement to provide a fire safe environment for our citizens and visitors. Promoting smoke alarms and residential fire sprinklers are important. The State Fire Marshal was tasked by the General Assembly to implement a newly created law dealing with the mandatory installation of carbon monoxide detectors in certain types of residential occupancies.

Of the 11 fire fatalities in 2018, eight victims 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 have operating smoke alarms. Electric powered smoke alarms with battery backup interconnected throughout the home are the preferred fire protection configuration. Having a fire escape plan and carbon monoxide detector are also very important.

Deputy fire marshals investigated 51 incidents involving a nonfatal, fire related injury in 2018. Eighteen injuries were the result of smoke inhalation. Thirty injuries were burns. There were three other injuries that involved a laceration (2) and contusion (1).

In 2019, 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@delaware.gov

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

2018 Accomplishments

The EMS Medical Directors in conjunction with paramedic and BLS provider committees performed and extensive review, update and implementation the Statewide Treatment Protocols for Paramedics and BLS providers.

The new protocols bring new capabilities to Delaware's EMS system. Within the paramedic protocols, we are beginning to move away from prehospital opiates with the addition of ketamine within our pain management protocol. After many years of debate within the State Trauma System, we have added TXA to help manage prehospital hemorrhagic shock. As our cardiac arrest data is scrutinized, and through our collective clinical practice, we our finding that there are Delaware victims of cardiac arrest whose hearts seem "too good to die" but whom we cannot re-establish a living rhythm. In an effort to save additional lives, we have added a new step to our ventricular fibrillation protocol. Instead of pronouncing a patient dead when we reach the end of the standard American Heart Association recommendations.

As our EMS system has matured, our Basic Life Support providers have demonstrated abilities to perform procedures once only performed at the paramedic level. Through the new protocols BLS providers have the options to provide nausea medications, antihistamines and EpiPens for allergic reactions and nebulized breathing treatments. These new treatments along with the use of Continuous Positive Airway Pressure (CPAP) provide our communities with lifesaving capabilities faster.

Our EMS system participates in a number of health care systems of care such as the very successful Trauma System, the Pediatric System of Care, the Stroke System of Care, and now an Opiate System of Care. To support these systems of care that are designed to move right patient to the right place in the right time we frequently need to utilize interfacility transport agencies for ground and air transport. Unfortunately, we have become aware of deficiencies in our interfacility Critical Care Transport System. This is due to new medical knowledge, treatment modalities, an aging population and greater numbers of patients that require movement between health care facilities. To help move more patients safely with only modest additional training, the EMS medical directors in coordination with the Delaware Board of Medical License and Discipline have enacted additional protocols allowing paramedics within private interfacility transport companies an expanded set of protocols that are applicable to the interfacility transport role.

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

2019 Goals

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.

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 three years ago, our EMS providers are still 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 (MIH) - 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. The Delaware EMS medical director support the development of a pilot MIH program between Beeb Medical Center and Sussex County EMS. We are monitoring to determine if a new initiative by the CMS (ET3) may benefit our development of MIH programs in Delaware.

Interfacility Critical Care Transports: While we have added potential to our interfacility critical care transport system with new protocols, we continue to monitor and plan additional capabilities and protocols to improve interfacility transport care. We hope to further 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 across the country continue to deal with critical medication shortages, leaving providers to substitute less desirable medications for patient care. The EMS medical directors have included a number of these substitute medications in our pharmaceutical manual.

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 “Overdose System of Care.” An Overdose 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 Safety A Culture We Can Live With

One of the primary objectives of the Emergency Medical Services and Preparedness Section, Office of Emergency Medical Services (OEMS) is to provide training and resources necessary to insure the safety of EMS providers, both career and volunteer.

The National EMS Advisory Council for the National Highway Transportation and Safety Administration (NHTSA) made recommendations to create a strategy to build a culture of safety within EMS. In their report, they identify six core elements that help establish a safety culture.

The first element is creating a Just Culture in EMS. Traditionally, errors related to safety were looked at as punitive events. In many cases, punishment was geared toward the outcome. Just Culture hopes to change this by looking at the risks that led to the error. Instead of focusing on the outcome, it looks at the behavior. It encourages providers to report mistakes in order to prevent future occurrences. Accountability is shared between the provider and the system.

A system of coordinated support and resources is the second element. In Delaware, that system exists through the cooperation of the Delaware State Fire Commission and the state medical directors working through OEMS. These agencies provide both regulations and guidance to help providers manage risks before they occur.

Our state's data collection system addresses the third element - EMS safety data system. One primary example of how the data collection system aids in safety is through the tracking of potential provider exposures.

The fourth element identified is the importance of EMS education initiatives. Providers receive safety training both in their introductory education as well as in continuing education programs used to maintain certification. Safety is always kept as a key component in all educational sessions.

EMS safety standards, the fourth recommendation, is met through the inspection and licensing of state EMS vehicles. Through the inspection process, the state Fire Commission helps ensure that ambulances are kept in a condition to provide safe service to patients and providers.

The last element is requirements for reporting and investigation. Most agencies have internal mechanisms to report untoward events. Escalating issues can forward to the state Fire Commission or OEMS. The Center for Leadership, Innovation and Research in EMS has developed an on-line safety event notification tool called EVENT (EMS Voluntary Event Notification Tool). This allows the reporting and information sharing needed to keep responders informed as to safety risks encountered by their fellow providers throughout the country.

Our state is already addressing many of the National EMS Advisory Council's recommendations. We continue to monitor other pressing EMS safety issues such as provider fatigue and stress/suicide. As always, the ultimate goal is to ensure the physical and mental health conditions of our valuable EMS responder resources.

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EMS System Evaluation

EMS System Evaluation 33

EMS Patient Care Report 34

Clinical Performance 35

Response Time Performance 39

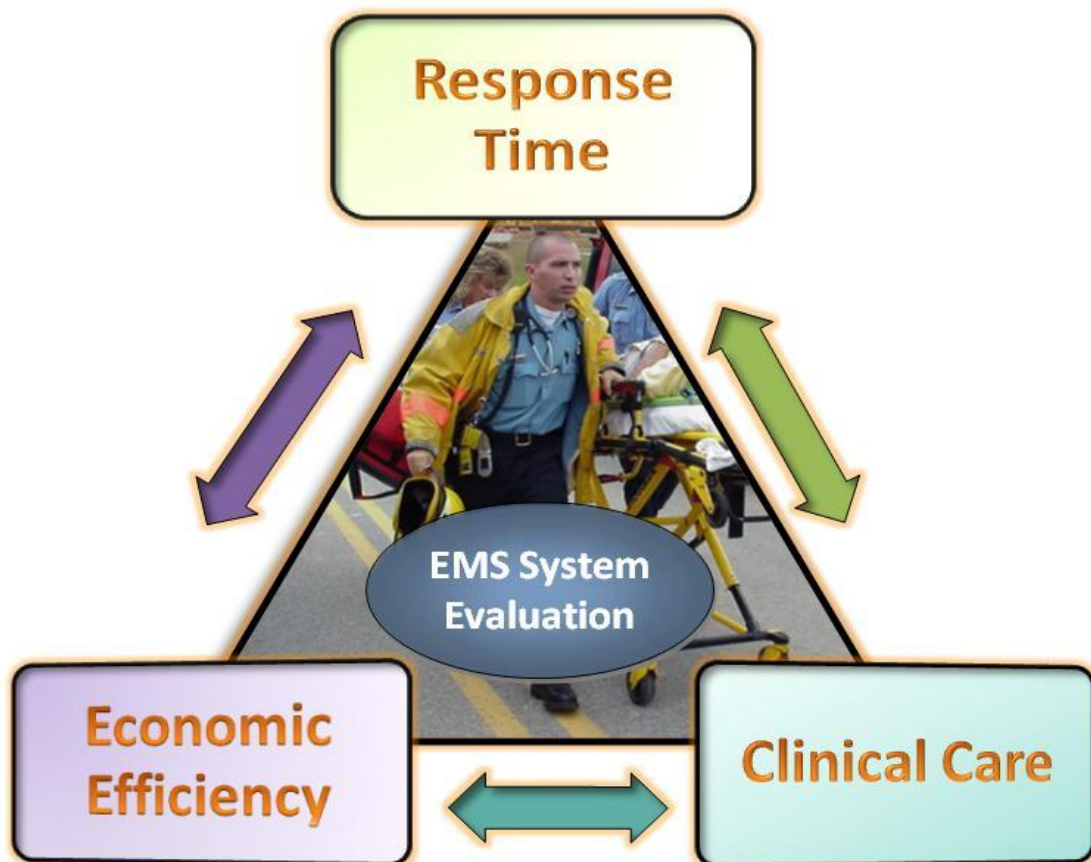
EMS System Cost 43

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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:

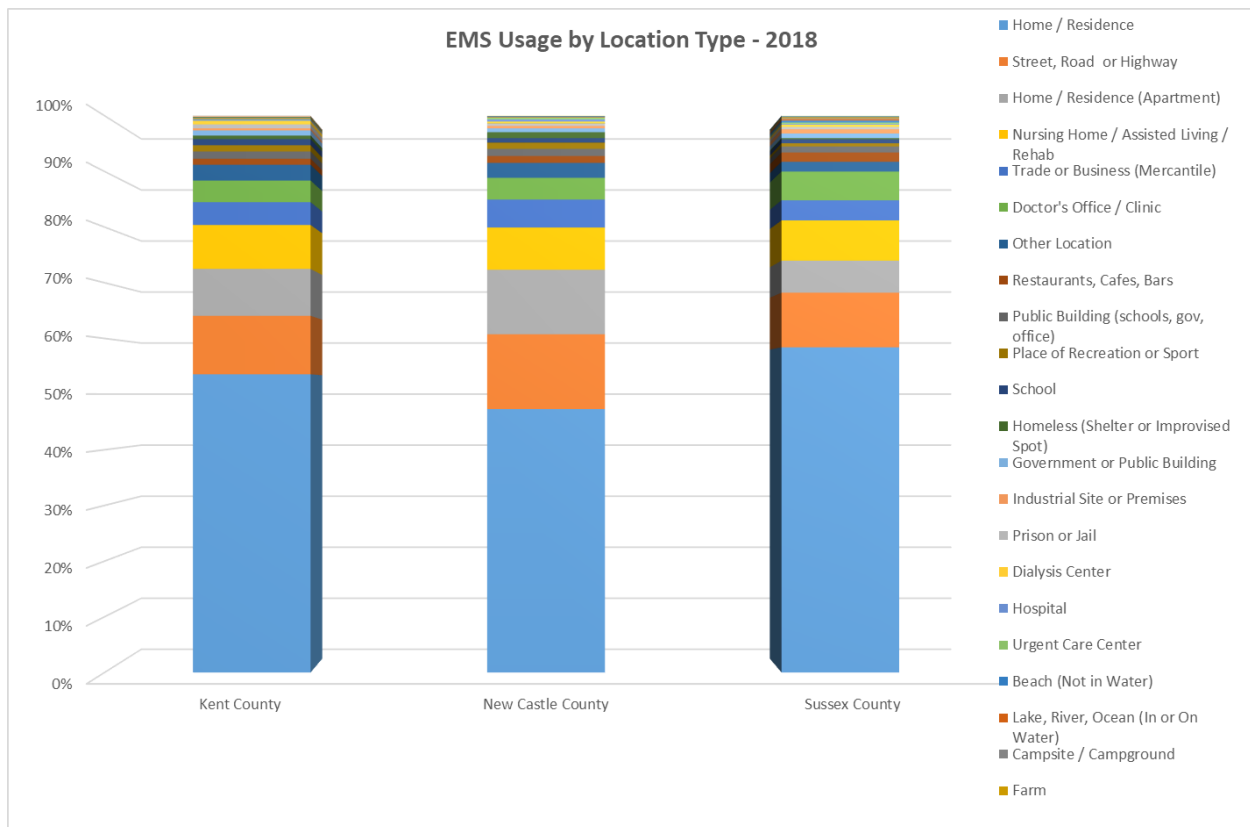
The Delaware Emergency Medical reporting System (DEMRS) transitioned to an updated operating system called Elite in January 2018. This upgrade to Elite made us NEMSIS 3.4 compliant and offers enhancements for the patient care providers while entering patient care reports.

Clinical Performance

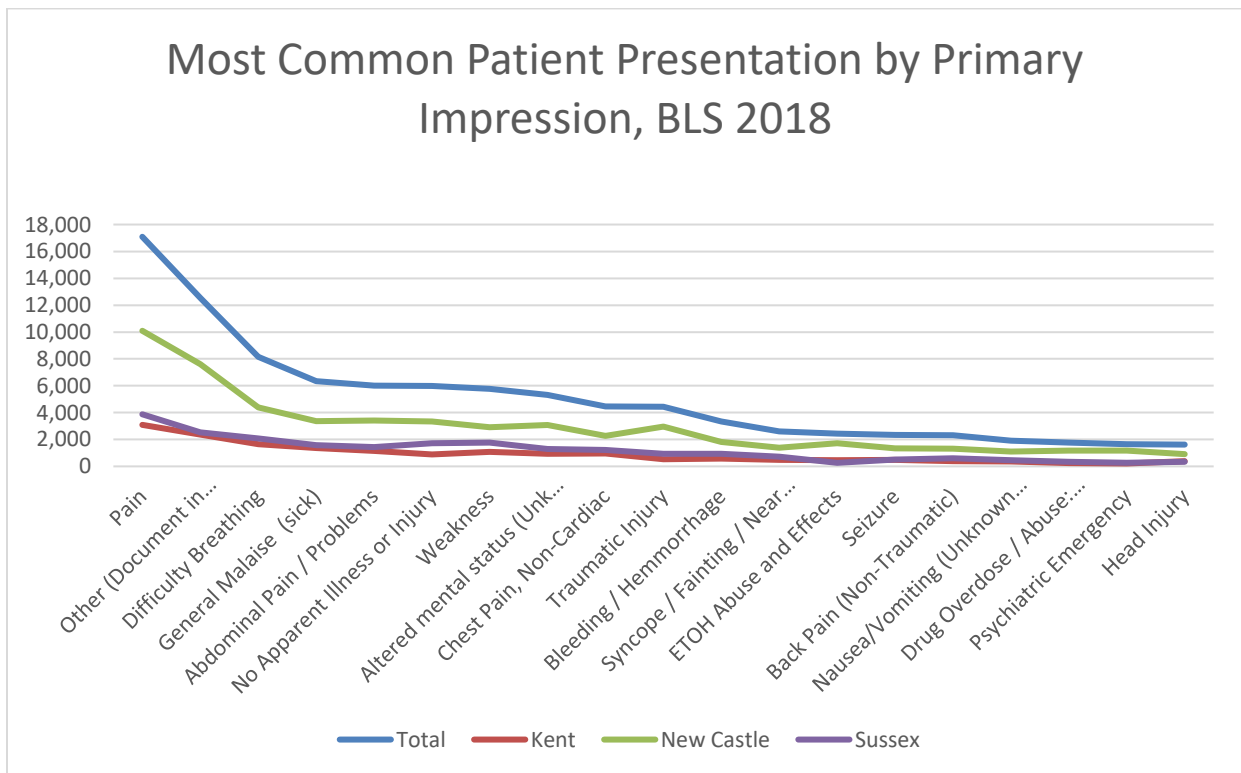
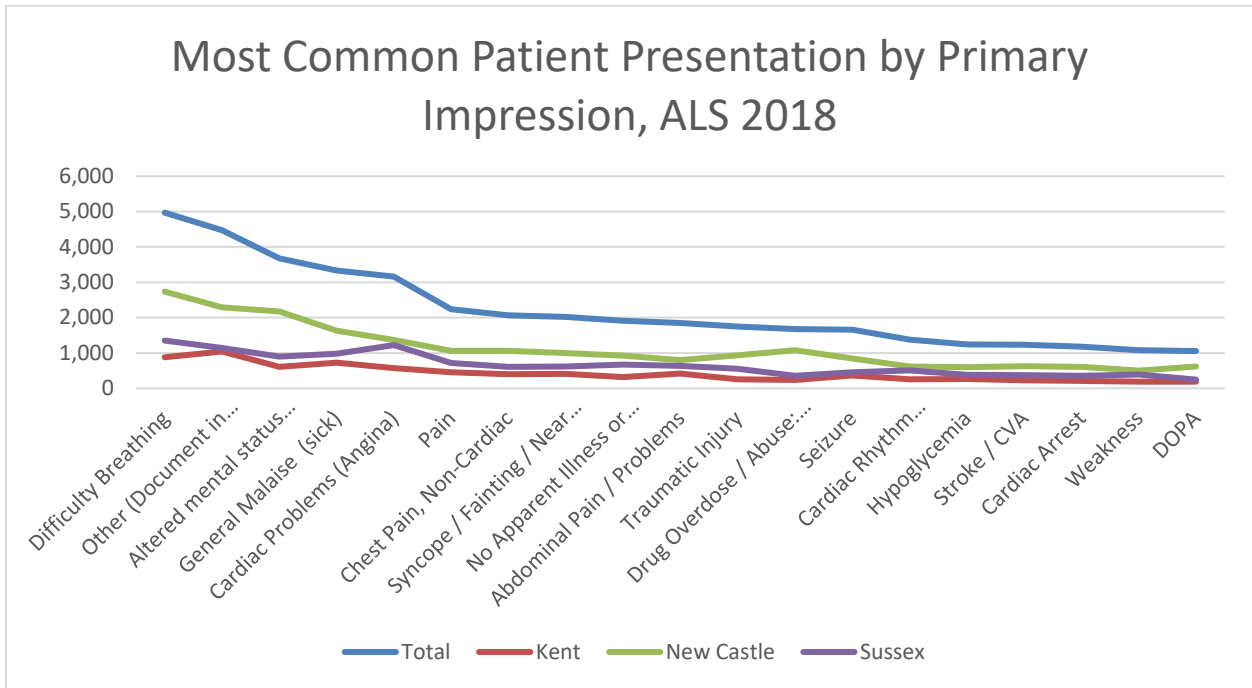
EMS systems were originally developed to reduce fatalities from traumatic injuries, especially from motor vehicle crashes. It was noticed during military conflicts that patients had better outcomes when injuries were quickly stabilized in the field and the patient was then transported to a care center. 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).

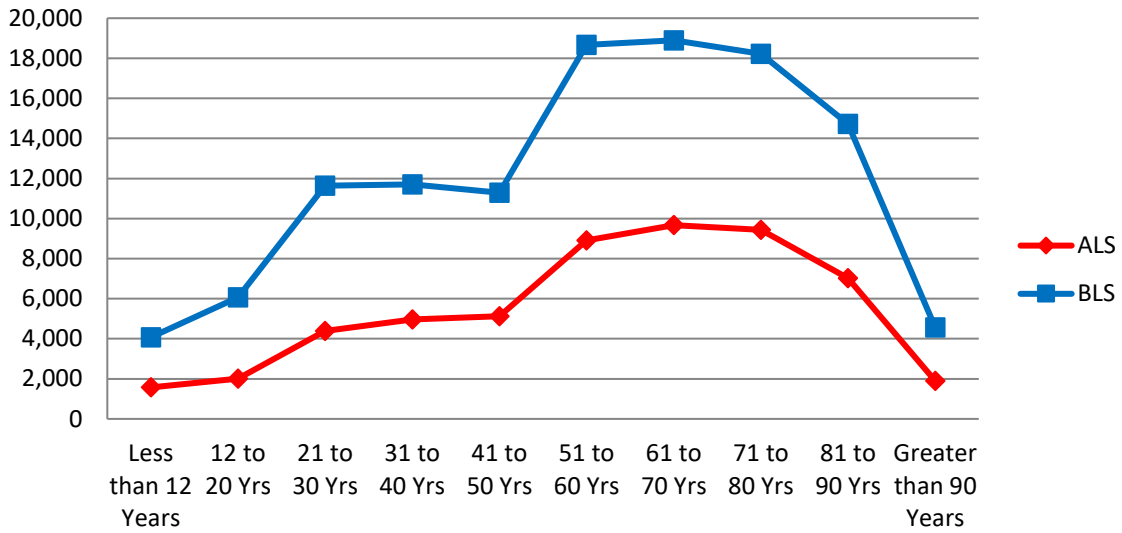
(All data used for this section and throughout the report were, unless noted otherwise, extrapolated from the Delaware Emergency Medical Reporting System (DEMRS). Please note for this report, Advanced Life Support (ALS) and BLS data are reported separately. While reading this report please do not combine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

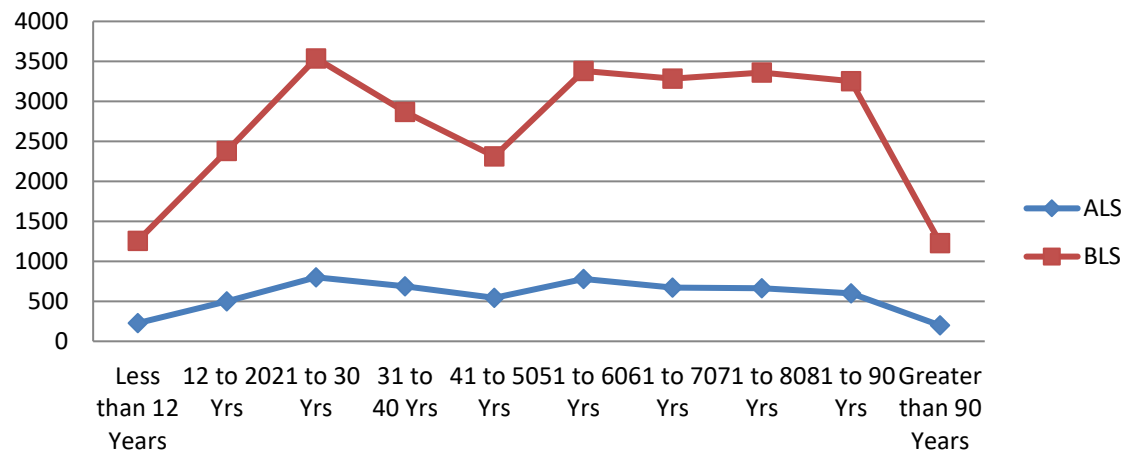


ALS and BLS Patient Age Comparison - 2018

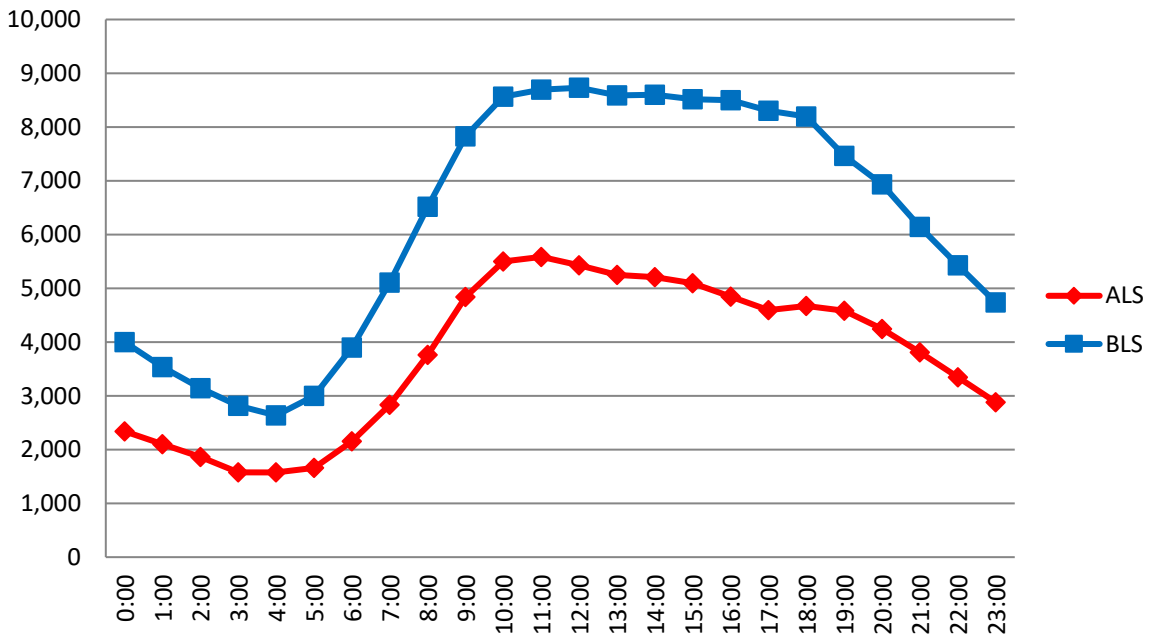


ALS and BLS Patient Age Comparison - 2018

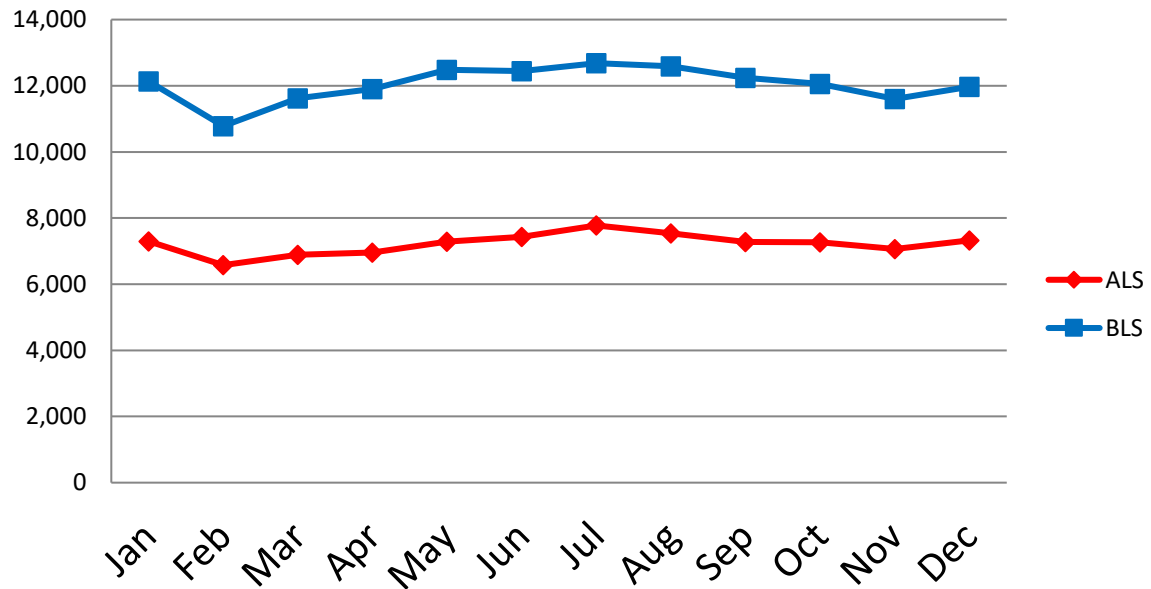
Possible Injury Patients



Time of Day When EMS Incidents Occur - 2018



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.

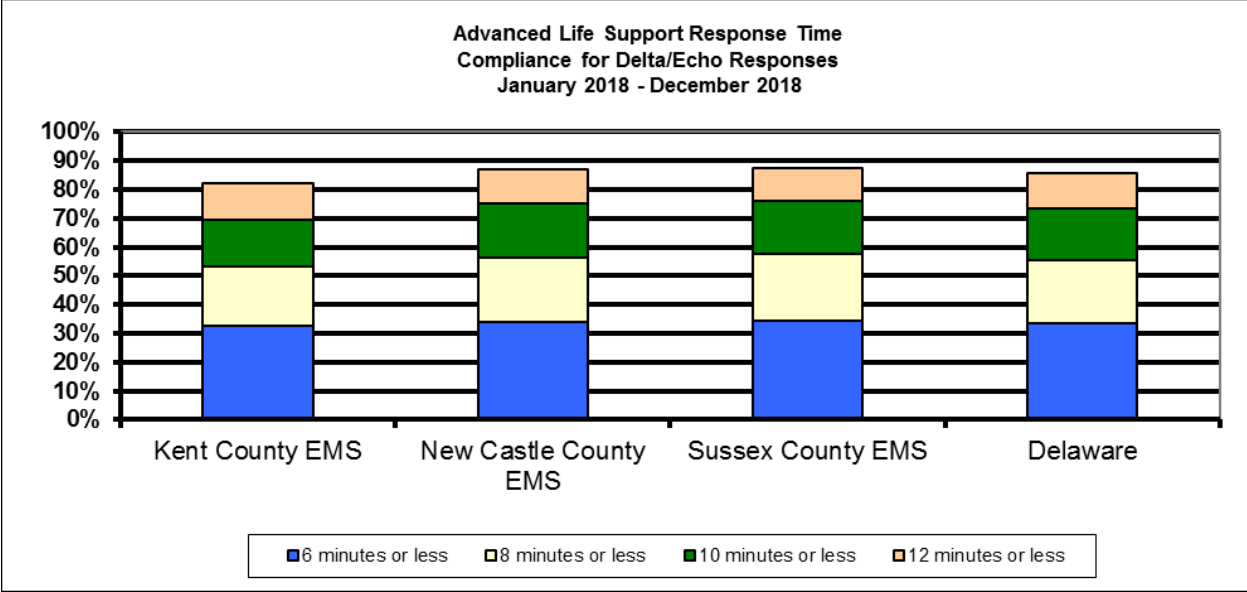
Bravo – Requires a BLS response. Example is with unknown patient status.

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

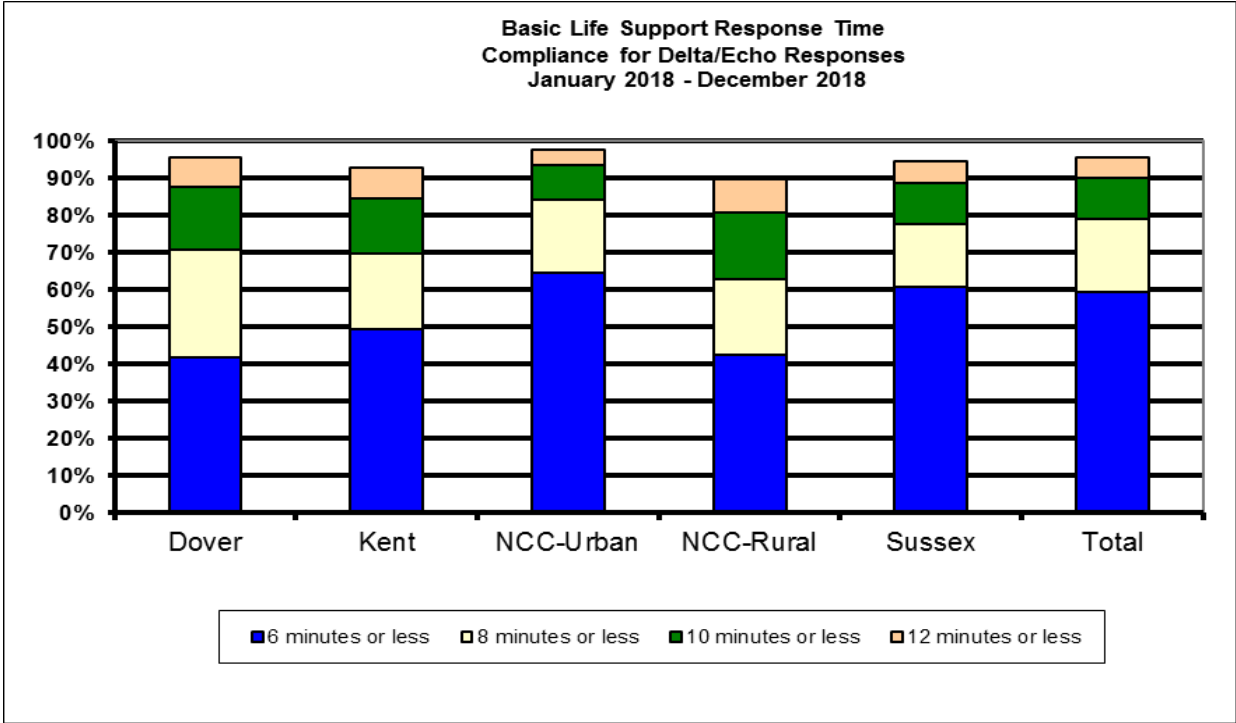
Delta – Requires ALS and BLS response. Example is an unconscious burn victim.

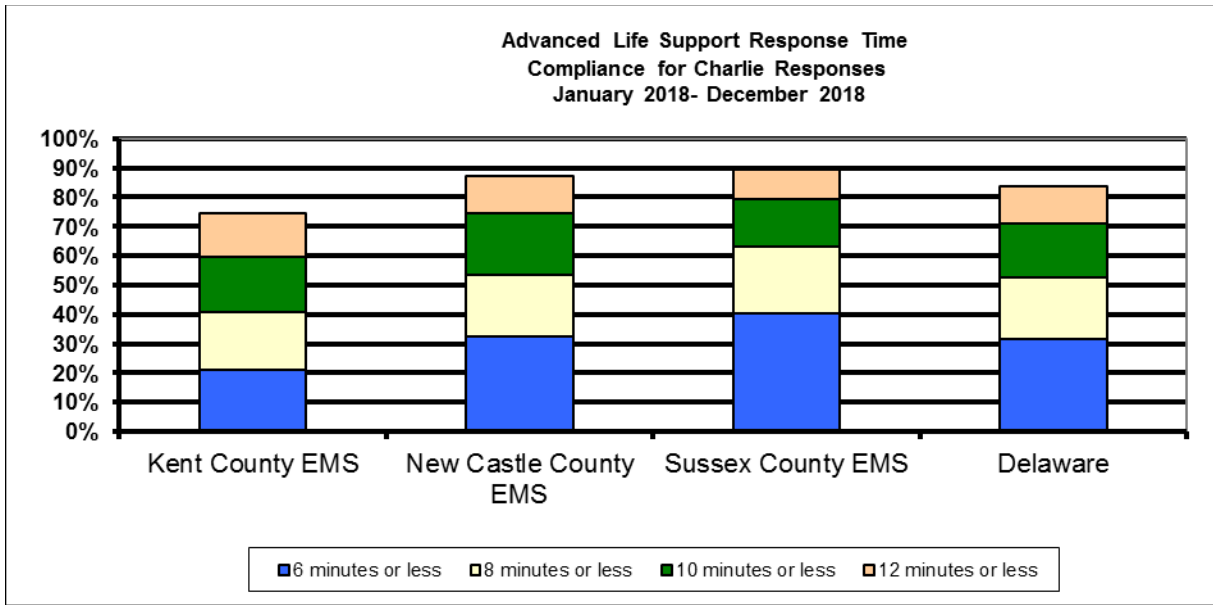
Echo – Response type not addressed in the legislated response time goals, but it requires a maximum response to include available first responders. Example would be a cardiac arrest.

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.

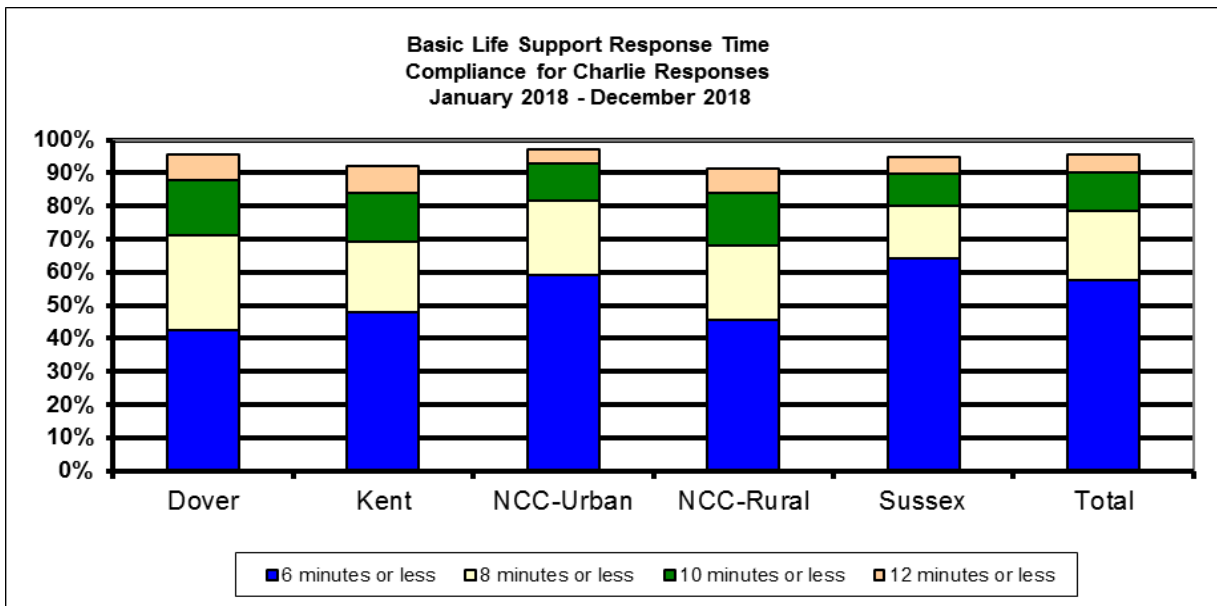


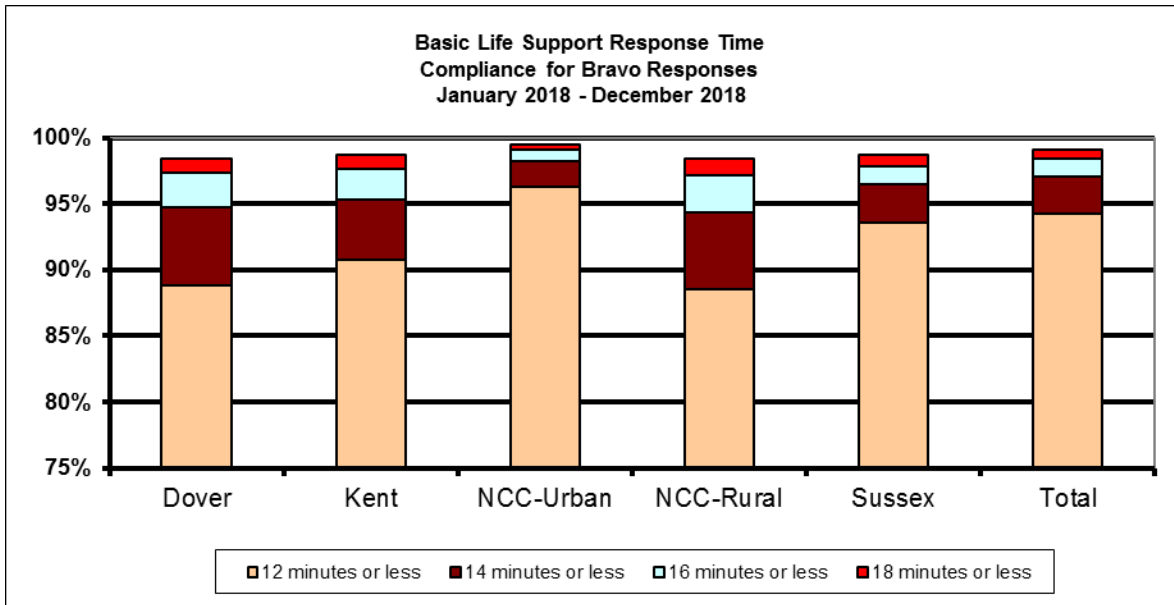
Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Delta calls on at least 90% of the time. BLS ambulance unit on scene within 10 minutes of the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



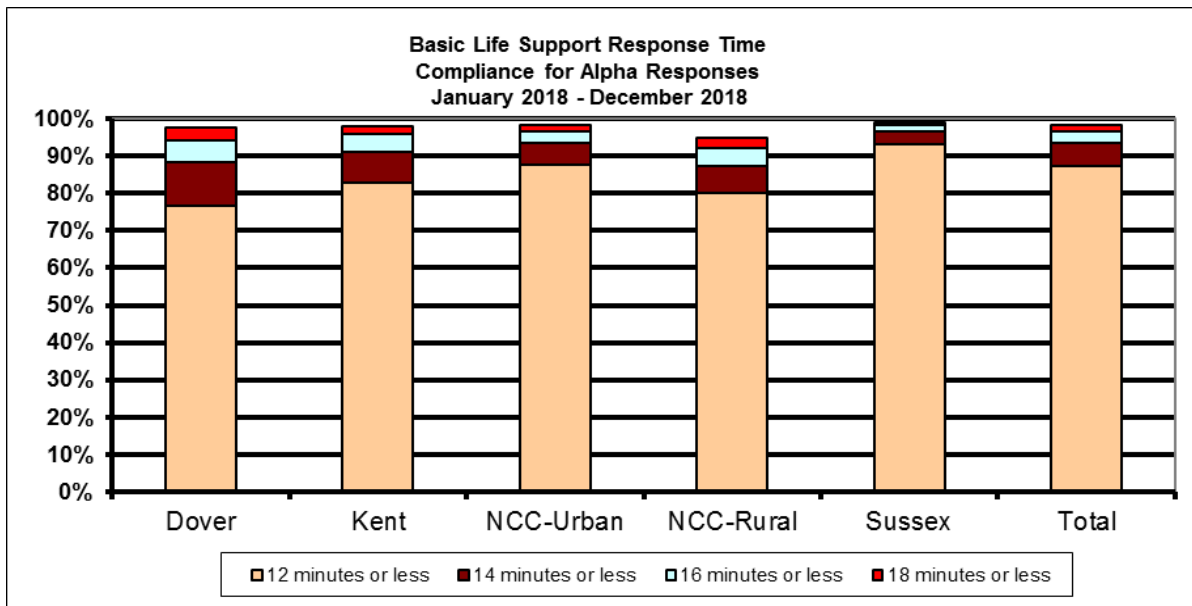


Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Charlie calls on at least 90% of the time. BLS ambulance unit on scene within 12 minutes of the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



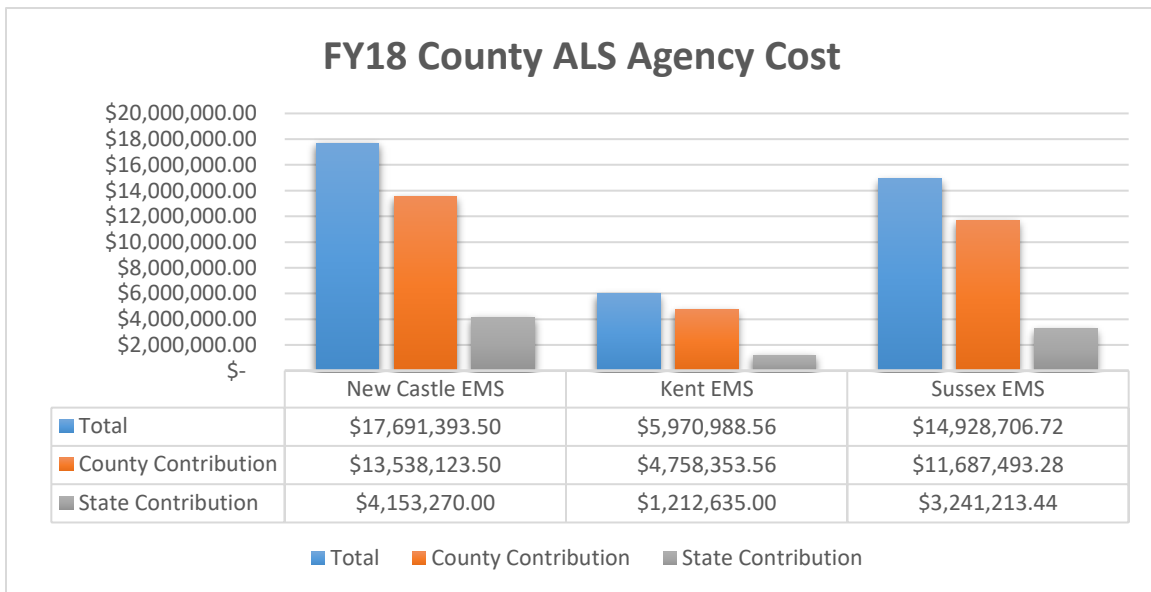


Goal: BLS ambulance unit on scene within 12 minutes of the receipt of Bravo calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



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 24 percent in Fiscal year 2018.



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 - 8PT	24H
Bridgeville Fire Co. 72	337-3000	4FT- 15PT	12H
Dagsboro Fire Co. 73	732-6151	5FT - 8PT	24/7
Delmar Fire Co.	846-2530	7FT - 8PT	24/7
Ellendale Fire Co. 75	422-7711	4FT - 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 - 0PT	12H
*Laurel Fire Dept. 81	875-3081	7FT - 10PT	24/7
Lewes Fire Dept. 82	645-6556	17FT - 20PT	24/72
Memorial Fire Co. 89	422-8888	2FT - 5PT	24/7
Mid Sussex Rescue Squad Inc.	945-2680	10FT - 25PT	
Millsboro Fire Co 83	934-8359	10FT - 17PT	24/72
Millville Vol Fire Company 84	539-7557	15FT - 23PT	24/72
Milton Fire Co. 85	684-8500	4FT - 7PT	24/7
Rehoboth Beach Vol. Fire Co. 86	227-8400	15FT - 13PT	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 - 2PT	
*based on 2017 report			

Kent County Paid Personnel by Agency

Agency Name	Phone number	Total Paid personnel	Shifts covered
Bowers Fire Co. 40	335-5966	1FT-21PT	12H
Camden-Wyoming Fire Co. 41	697-3201	12FT-19PT	24/7
*Carlisle Fire Co. 42	422-8001	2FT-19PT	24/7
Cheswold Fire Co. 43	736-1516	5FT- 9PT, 2 EMT	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, 16Drivers VOL	
*Magnolia Vol. Fire Dept. 55	335-3260	33PT	24/7
*Marydel Fire Co. 56	492-9917	VOL 7EMT, 6EMR	24/7
Smyrna American Legion 64	653-6465	11FT - 26PT	12H
*South Bowers Fire Co.	335-4666	60 VOL	
*based on 2017 report			

New Castle County Paid Personnel by Agency

<u>Agency Name</u>	<u>Phone number</u>	<u>Total Paid personnel</u>	<u>Shifts covered</u>
*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 - 4 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	8 FT - 8 PT	24/72
*Elsmere Fire Co. 16	999-0183	4 FT - 15 PT	24/7
Five Points Fire Co. 17	994-2245	2 FT - 36 PT	24/7
*Goodwill Fire Co.	328-2211	6 FT-10 PT	24/7
Hockessin Fire Co. 19	239-7159	12 FT - 16 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	2 FT 30 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- 25 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 Dept. 100	571-4410	172	24/72
*Wilmington Manor Fire Co.	328-3209	10 FT - 21 PT	24/7
*based on 2017 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:	\$2,985,400.00
Personnel:	\$2,405,500.00
Equipment:	\$152,400.00
Training:	\$10,500.00

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:	\$649,838.00
Personnel:	\$605,845.00
Equipment:	\$43,993.00
Training:	\$0.00

Rehoboth 911 Center:

Total Costs:	\$667,803.00
Personnel:	\$615,330.00
Operational:	\$41,391.00
Training:	\$11,082.00

Specialty Care

Trauma 49

Stroke 53

Emergency Medical Services for
Children 55

First State/First Shock 57

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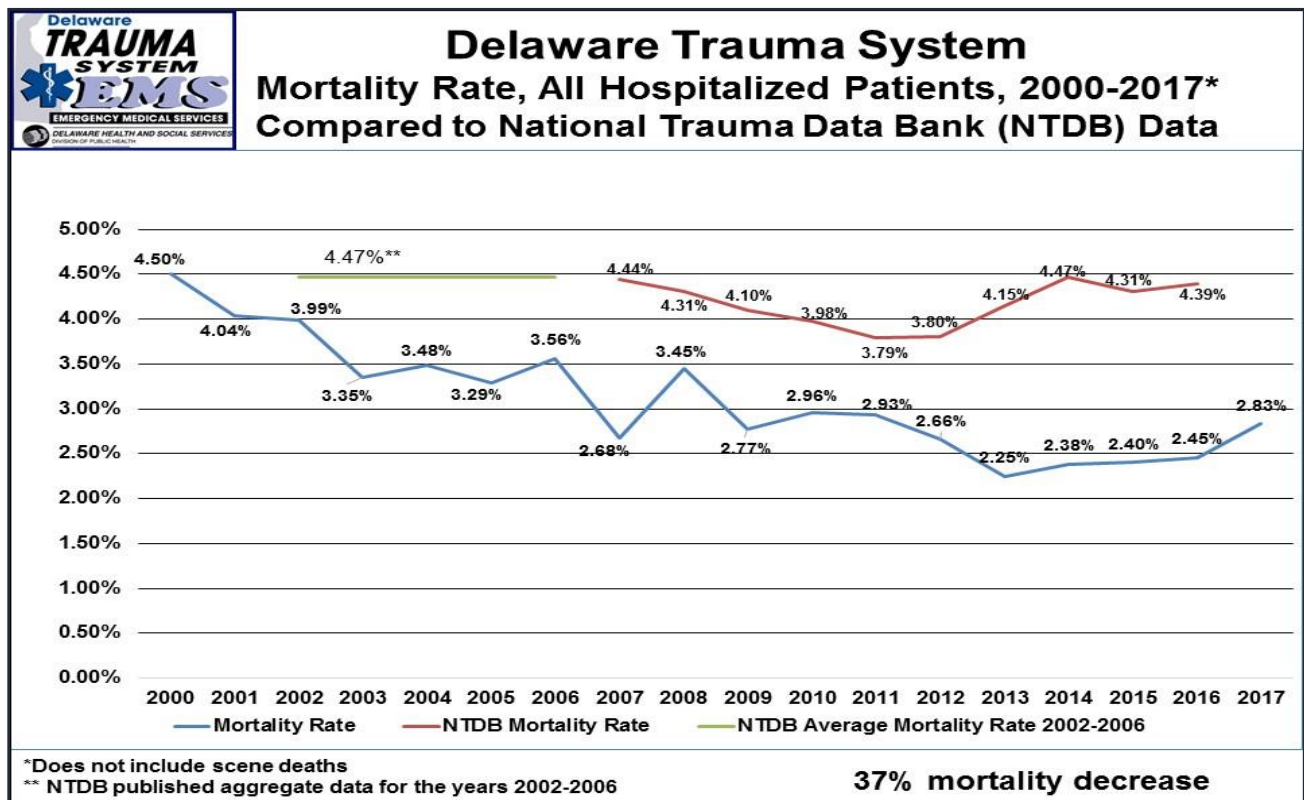
The Delaware Trauma System

Introduction – Trauma System Outcomes

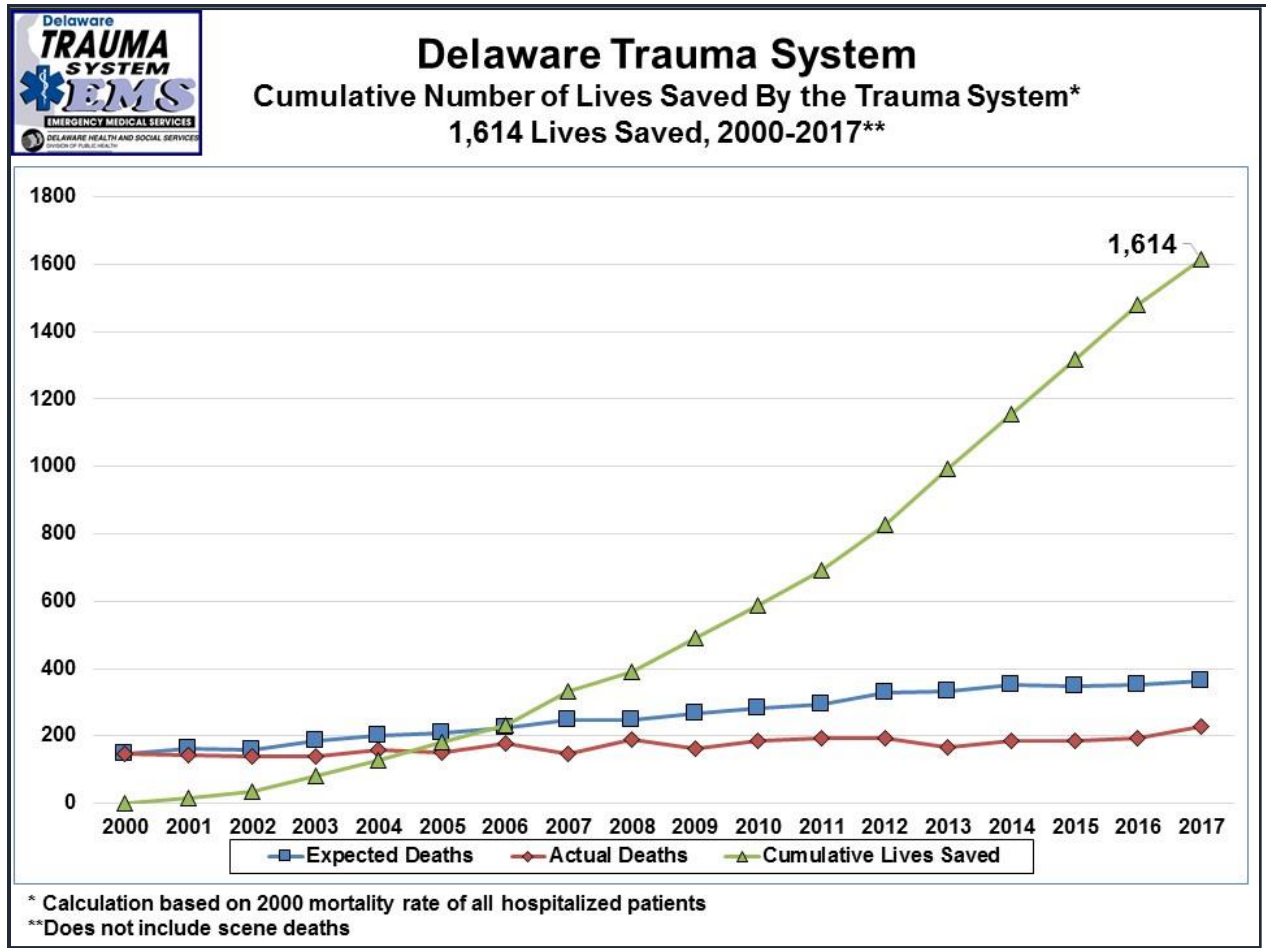
June 30, 2018 marked the **22nd anniversary** of the passage of legislation creating Delaware’s Statewide Trauma System. January 20, 2019 marked the 19th anniversary of the implementation of that statewide Trauma System. We are now able to look back and clearly see, through the data, what has been accomplished for the people of Delaware over those years. 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 **voluntarily** 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 **118,400** 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 37% 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 19 years ago.



This data translates into lives saved. The graph below shows that **1,614** 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 Hospital, Kent Campus; Bayhealth Hospital, Sussex Campus; Beebe Healthcare; Nanticoke Memorial Hospital; Saint Francis Healthcare; Wilmington Hospital, Christiana Care Health System; Peninsula Regional Medical Center (Salisbury Maryland) via reciprocity.*

2018 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. Three new systems of care, the Delaware Pediatric System, the Delaware Stroke System, and the Delaware Overdose System of Care, have been modeled after this successful initial system. The Trauma System is proud to have such strong support among its members that 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.

Trauma System leaders are involved in teaching Stop the Bleed in Delaware schools and held a demonstration of the lifesaving Stop the Bleed techniques at Legislative Hall on May 8, 2018. It is their goal to see Stop the Bleed kits with training in every school statewide.

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.”

2019 Challenges

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 future. The most vital responsibility of the System is keeping up with the increasing utilization, and to continue working, through injury prevention, to decrease injuries among Delawareans.

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. Delaware Trauma Centers are finding a source of some 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. An initial initiative to request funding support from the legislature to provide Stop the Bleed kits for every school in the state is being discussed.

Preparedness for disasters and terrorism is also a responsibility of the Trauma System. Working in conjunction with the Office of EMS Hospital Preparedness Program, Trauma System personnel

participated in June 2018 in a tabletop exercise and workshop to identify gaps in the current trauma disaster response system. Follow-up facilitated discussion meetings are being held in 2019 to work on two issues identified as primary – burn surge and interfacility transport.

Summary

The message for the legislature is that 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. In the short term, supporting the Trauma System’s Stop the Bleed kits for schools initiative will help to protect Delaware’s children should the unthinkable ever happen in our state. Delaware’s Statewide Trauma System continues to mature, with the same goal it has had since it was born...saving lives.

We say thank you to Trauma System leaders who have retired or moved on in their careers this year. All worked on development of the Trauma System for many years.



Dr. Glen Tinkoff, Christiana Hospital & Trauma System Medical Advisor



Linda Jones, Christiana Hospital



Bonny King (right) with her predecessor Yvonne O'Brien Nanticoke Memorial Hospital



Dr. James Marvel, Beebe Healthcare



Suzanne Raab-Long (left), Delaware Healthcare Association, with MarySue Jones



Delaware Stroke System of Care

Introduction

The Delaware Stroke System of Care was created through enabling legislation passed in June 2016 (Title 16 Chapter 97). The Stroke System of Care Committee began meeting in November 2016. In addition to this Committee, the Stroke System Data and Quality Subcommittee, Nominating Subcommittee, and Public Education Subcommittee are meeting to develop their assigned aspects of this System of Care.

The Delaware Vital Statistics Annual Report 2016 (page 164) lists Cerebrovascular Disease as the fifth leading cause of death overall in the state. While Delaware stroke-related mortality rates for both white and black races continued declining, the black population's stroke mortality rate of 51.6 deaths per 100,000 population remained approximately 35% higher than the white population rate of 33.6 deaths per 100,000 population (Delaware Vital Statistics Annual Report 2016 page 168). Addressing these disparate rates is part of the mission of the Delaware Stroke System of Care.

Delaware's population growth impacts the future needs for efficient and effective care of the stroke patient. The total Delaware population increased 21.3% 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.

Medical literature emphasizes that stroke is a **time-sensitive condition**. The time of 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). Continued development of an organized Stroke System of Care will enable effective management of increasing patient populations with improved patient outcomes.

2018 Accomplishments

Stroke System of Care Committee - The Stroke System of Care Committee continues to meet quarterly and has filled all of its legislated membership seats.

Stroke Center Certification – Delaware Stroke Center certification occurs through the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Site visits occur every two years, with review of the entire hospital system for stroke care, including policies and protocols, medical resources, performance improvement program with stroke registry, and professional and public education programs. Currently Delaware has one Comprehensive Stroke Center at

Christiana Hospital, and six Primary Stroke Centers at Bayhealth Hospital Kent Campus, Bayhealth Hospital Sussex Campus, Beebe Healthcare, Nanticoke Memorial Hospital, Saint Frances Healthcare, and Wilmington Hospital.

Stroke System of Care Data and Quality Subcommittee - The members of this subcommittee are actively collecting and organizing stroke data throughout the state to establish statewide coordination of care. This process of measuring components of current care and identifying opportunities for improvement will also assist in identifying existing disparities in Delaware's population related to stroke incidence, prevention, or outcome.

Stroke System of Care Public Education Subcommittee – This new subcommittee is focusing on education of the public on such topics as stroke prevention, identification of stroke symptoms, and the importance of calling 911 to ensure immediate medical care instead of driving to the hospital by private vehicle. The goals of this subcommittee also include assisting the public in preventing strokes through education on risk factors such as obesity, hypertension, diabetes, sedentary lifestyle, and smoking, and ways of managing them to improve health.

2019 Goals

- Development of a state Stroke System Registry to provide additional information on stroke incidence, management, and outcome and identify high-risk geographic and demographic segments of Delaware's population.
- Further development of a statewide quality program to identify opportunities for improvement and share best practices, and
- Refinement and expansion of a data-driven public education program.
- Formalization of the state stroke center designation process.

Summary

Delaware's Statewide Stroke System of Care will continue to work to provide an organized approach to stroke management throughout the continuum of care. The expectation is that the end result will be evolution of more efficient and more effective stroke care over time, demonstrated by positive change in such measures as mortality rate, incidence rate, and hospital length of stay. The citizens of Delaware will benefit from this initiative - a partnership of the members of the Delaware stroke care community, working together to provide the best care for 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.

2018 Accomplishments

In 2018, the State EMSC Advisory Committee and EMSC Program focused on the following Metrics:

EMSC 01 Performance Measure: Submission of NEMESIS Compliant Version 3.x data
Delaware is 100% compliant in meeting this metric as of January 2018.

EMSC 02 Performance Measure Pediatric Emergency Care Coordinator (PECC)
Currently Delaware has 12 Pediatric Care Coordinators in the state.

The Pediatric System's Pediatric Emergency Care Facility Recognition Program recertified all 8 hospitals (A.I. duPont, Christiana Care, Wilmington, Beebe, Nanticoke, Kent General, Milford, & St. Francis) for a 3-year certification. The EMSC Quarterly meeting successfully met each quarter and have added new metrics in the Quality meeting to improve pediatric service amongst their prospective facilities.

2019 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 2018. Although EMSC has made great progress over the years, there is always room for improvement 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. The Health Fund Advisory Committee provides Funding and support.

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

2018 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 2018, the Office of Emergency Medical Services was able to distribute 61 SAED units and were distributed to agencies requesting SAED's that qualified for the Public Access Defibrillation program. Currently the SAEDs we purchase for First Responding agencies are on back order and have been since May of 2018 The Office of Emergency Medical Services has been able to place over 3433 units in service for public access and police, fire and rescue agencies since 1999.

In 2018, AEDs were applied with a shock delivered to 69 patients in New Castle County, 18 patients in Kent County, and 21 patients in Sussex County. 108 AEDs total were applied with a shock delivered throughout the state.

2019 Challenges: Funding for the First State/First Shock program has been significantly reduced from \$200,000 in FY 2011 to \$59,900 in FY 2018. 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%)
2018	1219	397	822	312 (38%)

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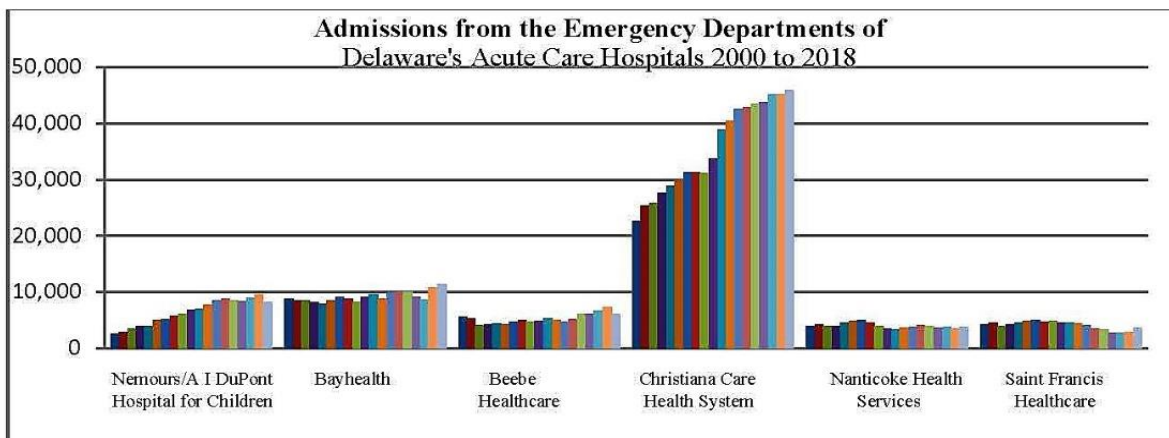
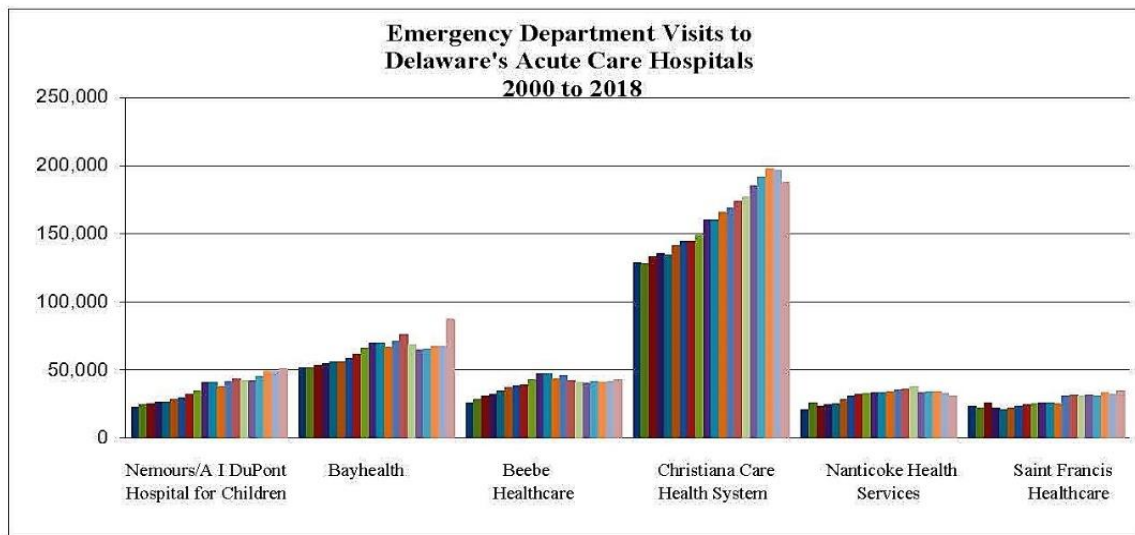
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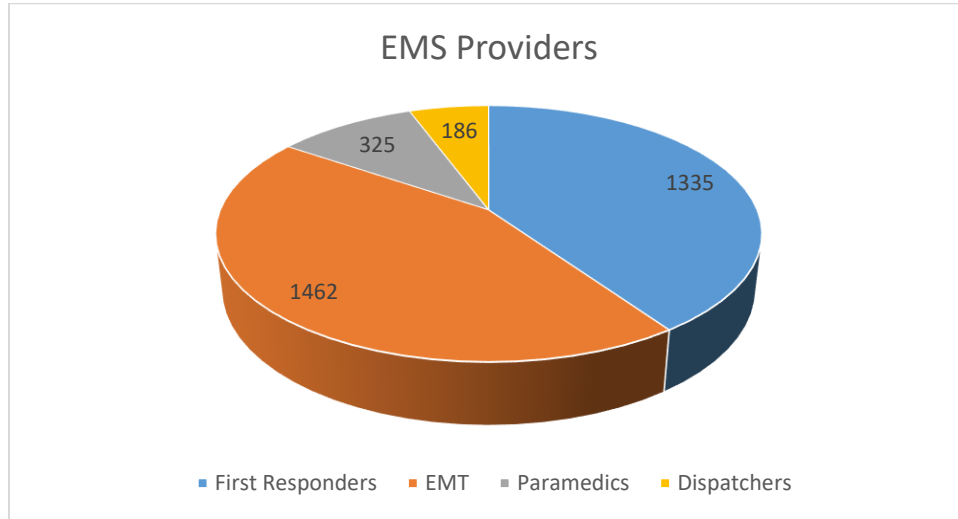
Emergency Department and Hospital Diversion Data

As submitted by Yasmine Chinoy

Information provided by the Delaware Healthcare Association indicates there were 434,075 visits to the Delaware acute care hospital emergency departments in 2018. This is an increase of 159,544 (58.12 %) hospital emergency department visits statewide from the same period in 2000. In addition, there were 79,252 patient admissions from the emergency department for 2018, an increase of 31,240 (65.07%) from the same period in 2000. Of note, this actually represents a decrease of 3.5% in admissions from our Delaware hospital emergency departments from 2017 to 2018 (82,113 vs 79,252).



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 2018 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 2050, 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 210,671 by 2050, an increase of 22%. New Castle County is expected to grow by approximately 11% over the same period, adding 66,520 to reach a 2050 population of 606,162.

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.

DEMSOC created a workforce diversity subcommittee in 2006 to address issues with the recruiting and retention of a more diverse EMS workforce. As part of this effort, the Office of Emergency Medical Services is working with technical high schools throughout the state to develop the EMS program to increase the availability of training and allow students to transition to the Delaware Tech program upon graduation.

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 few 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 have completed 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 Delaware 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. The development of sound decision-making and leadership skills is emphasized throughout the program. All of the program's full time faculty are experienced, Master's prepared paramedics or nurses. All adjunct faculty in the program 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.

2018 Accomplishments

In 2018, the program returned to the practice of admitting one cohort of students each year. During 2018, there were twenty-eight active students in the program. Twelve students entered the program and thirteen students graduated. 2018 was the final year that the program had two cohorts of students graduate.

Twelve graduates took the National Registry paramedic exam and all passed on their first attempt. The program has a one hundred percent exam pass rate since the program moved to the college in 1999. The pass rate for Delaware Tech graduates taking the exam for the first time is ninety-six percent. All twelve of the program's graduates entered Delaware's workforce: five in Sussex County, five in Kent County and two in New Castle County.

The reaccreditation process of the paramedic program by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) was completed in 2018. An award letter was received in January 2018 granting the Delaware Tech paramedic program "Continuing Accreditation" status. The next comprehensive evaluation of the program, including an on-site review, will occur no later than 2023.

2018 Challenges

The most significant challenge that the program faced in 2018 was being able to accommodate the number of students who want to become paramedics in a single cohort. Since the program had to reduce the number of cohorts from two to one due to a 2017 funding reduction, there were more prospective students than the program could accommodate and still meet the CAAHEP accreditation standards. CAAHEP accreditation standards do not permit a program to admit more students than the program's resources can accommodate in the classroom, lab, clinical rotations, or field internship. The purpose for this standard is to ensure that all students have the opportunity for a similar learning experience.

The greatest resource challenge for the paramedic program is associated with the field internship. There are twenty-three paramedic units in the state of Delaware: four in Kent County, ten in Sussex County and nine in New Castle County. Since 2014, Delaware Tech paramedic students

have been completing their field internship rotations only in Kent and Sussex Counties. The resources in New Castle County have been unavailable to Delaware Tech students. Based on the field sites available, the program has had to admit smaller cohorts of between eight and twelve students in order to comply with CAAHEP standards. Establishing out of state field internship sites for Delaware Tech students would present a different set of challenges. In order to send a paramedic student out of state, the accreditation standards require the program to get approval from the Office of EMS in that state to send students there, identify and contract with a physician, licensed in that state, who would accept responsibility for the paramedic students' clinical practice, and have a signed clinical affiliation agreement with a paramedic service. The paramedic program has not been able to identify an out of state site to send Delaware Tech students for their field internship.

2019 Goals

The primary mission of the Delaware Tech paramedic program is to produce competent entry-level paramedics who will meet the needs of the State EMS System and who will serve the citizens of the State of Delaware. The program will admit a cohort of students in May 2019 who will have an expected completion date of August 2020.

EMS Preparedness

Emergency medical providers must be prepared to respond to events of any type. The Emergency Medical Services and Preparedness Section (EMSPS), Office of Emergency Medical Services (OEMS), continues to work to give responders an advanced capability to respond to incidents of significant consequences. In addition to preparing our responders, the office has worked on a number of programs to better prepare the public to care for themselves in times of crisis. These skills are critical in a major event where responding resources could be delayed or limited in number. Efforts to prepare include planning, evaluating capabilities, and training. Preparedness efforts do not end with our first responder agencies. Partnership with other agencies, participation in exercises to evaluate capabilities, and education of the public are other top priorities.

Event Response

In 2018, EMSPS provided support during Winter Storm Grayson in January and Hurricane Florence in September. Staff participated in conference calls to support medical, shelter, and other operations.

Office staff also aided in the coordination of deployment of the CHEMPACK to two major, highly attended events in the state. The CHEMPACK provides front line medical resources for EMS responders treating victims exposed to nerve agents.

Point of Dispensing (PODs)

A Point of Distribution (POD) is a location citizens can go to in order to receive resources after a disaster. These resources can range from supplies such as medications to resources like mental health counselors. This year, EMSPS conducted three training events for partners from other healthcare agencies involved in providing this service. The office also participated in one event in which potassium iodide (KI) tablets were distributed to citizens residing near the Salem/Hope Creek Nuclear Generating Station. KI is a protective measure to prevent thyroid damage in case of an accidental radiation release.

Public Information

It is critical that citizens be prepared for disaster. In the beginning phases of a crisis, resources are often stretched thin. People cannot rely on outside help to get them through. EMSPS regularly participates in public information events to spread the word on how citizens can prepare themselves. Attendees are provided with informational pamphlets or other information to help them prepare emergency kits with supplies needed after a disaster. Many of these public information events target populations with special needs such as children, elderly, or individuals with functional disabilities.

Opioid Abuse

The media is full of reports on how tragically the opioid addiction epidemic is affecting the nation. Delaware is no exception. The opioid-reversal medication, naloxone, has been part of our state ALS and BLS protocols for a number of years. This year saw this medication becoming even more available to other individuals such as law enforcement officers or even family members who may encounter the overdose even before EMS arrives. OEMS provided resources to help supply law enforcement and BLS agencies with naloxone. The office also develops and delivers training

in naloxone administration. In addition to the response side, office staff are working with community leaders to address the needs of specific communities in an attempt to address this continuing crisis.

Training and Exercise

Keeping up on the most current information is critical to preparedness. Staff members continue to seek out educational opportunities to gain knowledge and then bring lessons learned back to share with other partners in the state. Over the past year, members have attended programs on the Strategic National Stockpile (SNS); Radiation Emergency Response; Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE); as well as professional conferences held by many preparedness organizations.

Exercises and drills are crucial to help us assess the level of preparedness and identify needs for resources and training. This year exercises involved infectious disease outbreaks, hurricane response, radiological releases, mass care situations, and other hazards.

EMSPS also continues to provide training for individuals interested in learning how to operate within the State Health Operations Center (SHOC).

Stop the Bleed Campaign

Uncontrolled bleeding is a major cause of death in the trauma patient. The frequent occurrence of events such as mass shootings emphasize the importance of bleeding control skills.

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.

The goal of domestic preparedness is to increase the readiness of all Delaware emergency responders and citizens to prepare for an all-risk response. Efforts made will increase the interagency operability between EMS and other state response and preparedness agencies. The potential for major events continues and so must our efforts to continually train to meet the needs of the responders in the state. 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 the important role of non-emergent patient transport allowing the 911 emergency response units to remain available for emergent request for service.

In 2018, the EMS Medical Directors in coordination with the Delaware Board of Medical Licensure and Discipline enacted an expanded set of protocols for paramedics within private interfacility agencies.

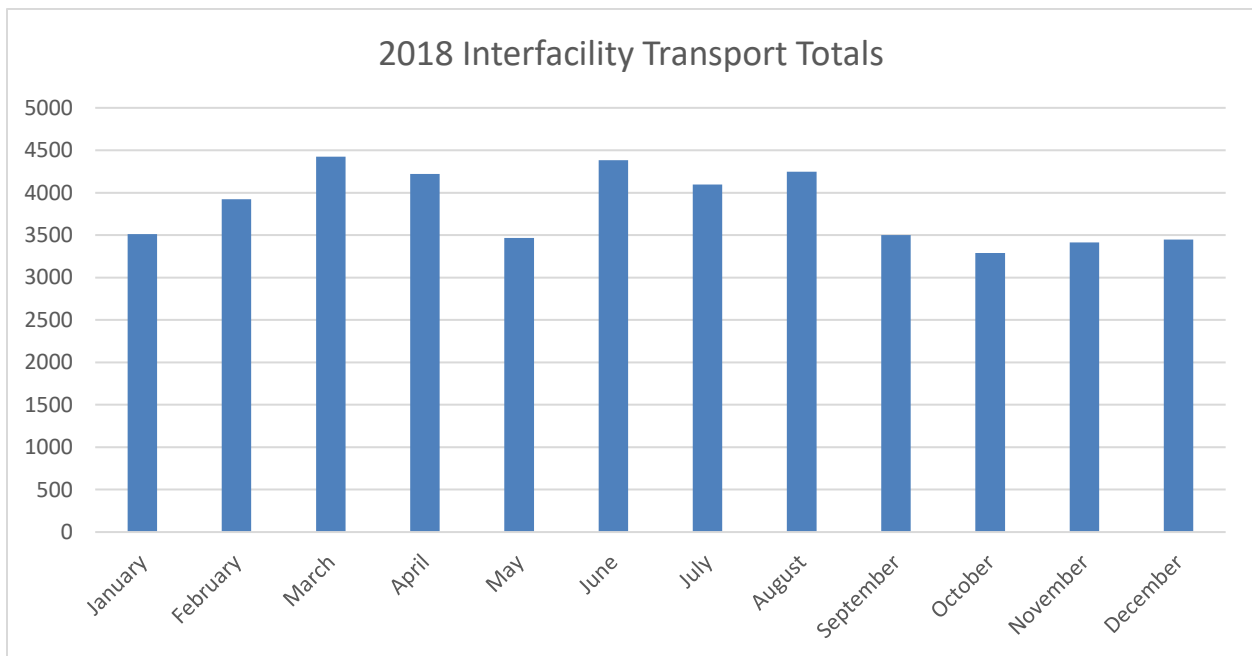
There are three types of ground Interfacility transport ambulances in Delaware:

- **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 108 BLS Interfacility ambulances and 144 911 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 five licensed paramedic Interfacility agencies:
 - Christiana Care Lifenet
 - Hart to Heart

- 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 73

Report submitted by Chief Lawrence Tan

Communication Center 97

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NEW CASTLE COUNTY EMERGENCY MEDICAL SERVICES 2018 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 2018, 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. A tenth paramedic unit operated in the southern New Castle County area on an overtime basis for 158 shifts, or 43% of the year. 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: ems.newcastlede.gov, or follow us on [Facebook](#) (@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



Chief Lawrence E. Tan
*Commanding Officer
Emergency Medical Services Division*



Assistant Chief Mark R. Logemann
Administration Special Operations Branch



Assistant Chief Mark P. Allston
Operations Branch



Captain Dawn E. Gulezian **Lt. Kelli A. Starr-Leach**
Quality Improvement *Quality Improvement
Commander, Power Shift*



Lt. Michael A. McColley
*Recruitment, Applicant
Processing, Field Training*



S/Lt. Joseph J. Dudley
Support Services



S/Sgt. David B. Aber
*Continuing
Education Training*



S/Lt. Louis J. Rombach
Platoon I



Lt. Michael R. Nichols
Platoon II



Lt. Donald L. Morris
Platoon III



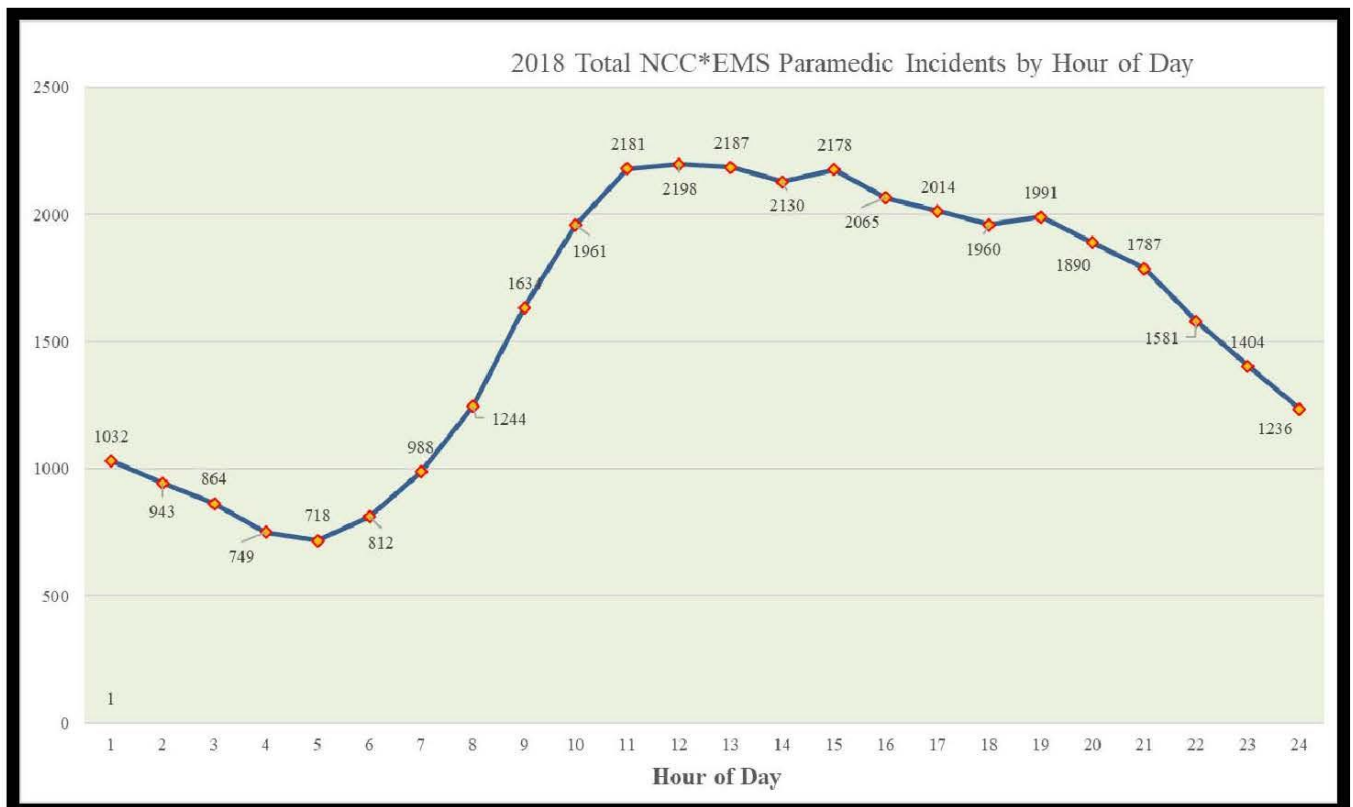
Lt. Christopher A. Johnson
Platoon IV

OPERATIONS

Paramedic Service Operational Demand

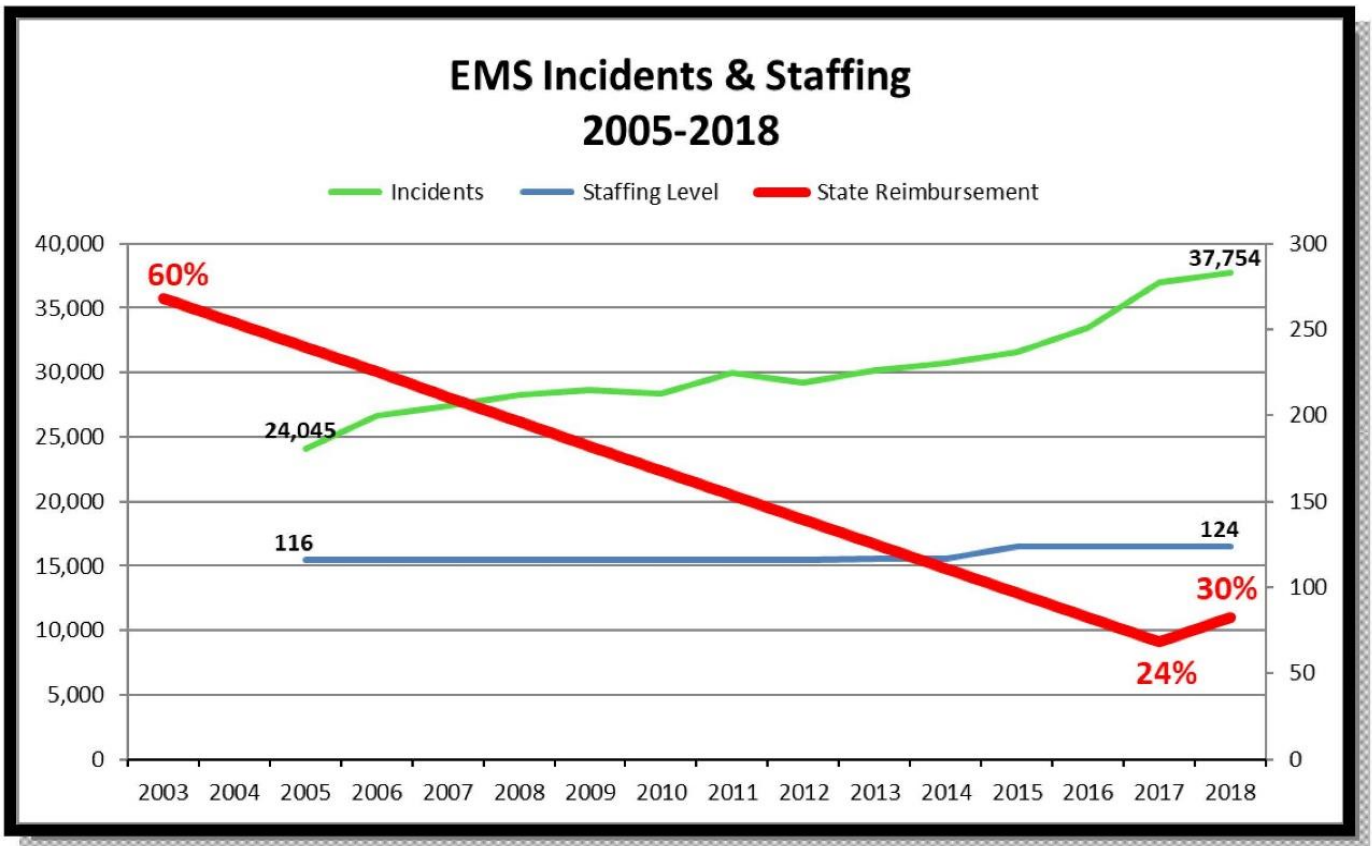
New Castle County EMS has a clearly defined call volume pattern that begins to increase at approximately 0600 hours each day, reaches a peak at approximately 1100 hours, then steadily declines until after midnight. Utilization of “power shift” units, such as Medic 9, provides an opportunity to increase 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 2018, 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. A tenth paramedic unit was deployed with overtime assignments in the southern New Castle County area for approximately 43% of the year.



This chart illustrates the New Castle County paramedic call volume during calendar year 2018 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 on a seven day a week basis.

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



New Castle County EMS continues to see an annual 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. From 2005 to 2018, calls for paramedic service in New Castle County increased by 57%. Yet, the last paramedic unit was added to the operation in January 2007.

The Delaware Statewide Paramedic Services Act of 1990 created the statewide paramedic service that included a 60% reimbursement to the counties for expenditures for delivery of paramedic services. Over the past 15 years, the reimbursement rate has been cut to as low as 24% in FY 2018. In addition, a “two-year lookback” was implemented for calculating the appropriation for state reimbursement of the counties in FY 2017, which further reduced the funding for county paramedics.

In FY 2019 the state General Assembly recognized the need for additional support for county paramedics and returned the reimbursement rate to 30%. The initial restoration along with a one-time Grant in Aid allocation enabled New Castle County to recruit for a new Paramedic Academy Class that will start in 2019. It is imperative that funding for the county paramedics, as components of the statewide paramedic system, be restored to permit expansion of the agencies to address the immediate need for additional advanced life support resources in the pre-hospital emergency medical services system.

The Emergency Communications Center prioritizes emergency medical incidents in accordance with a nationally standardized 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 37,754 incidents during calendar year 2018 with a paramedic unit arriving on scene 69% of the time in 8:59 or less, regardless of the incident priority. Many of the incidents involved a response by more than one New Castle County paramedic unit due to multiple patients or complicated circumstances.

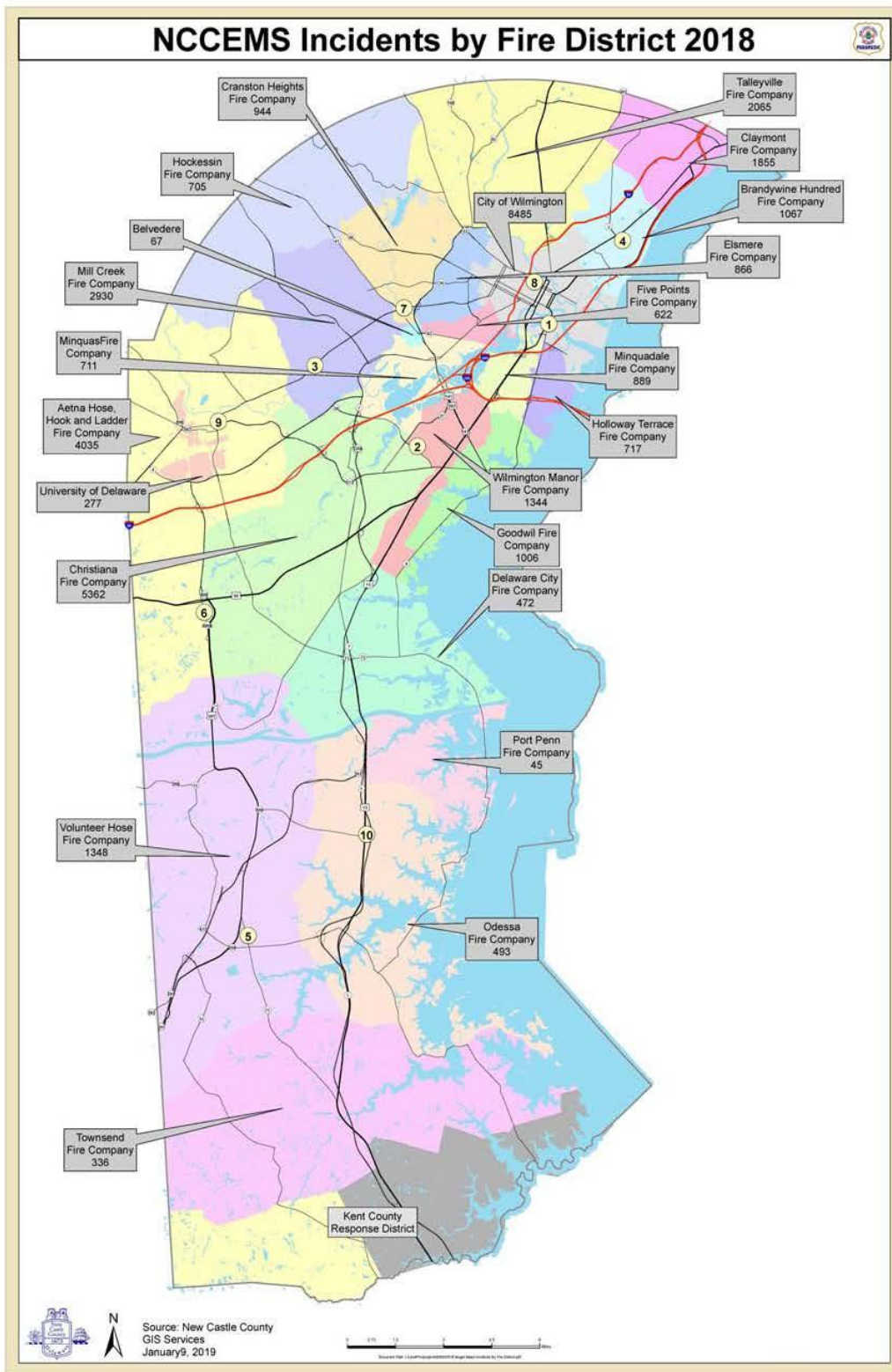
The opioid overdose epidemic is a driving force in the increase in paramedic service activity. According to the state Division of Forensic Sciences, there was an 18.6% increase in fatal overdoses statewide between the first quarter of 2017 and the first quarter of 2018. A majority (66%) of the overdose deaths in Delaware during the first quarter of 2018 occurred in New Castle County.



November 5, 2018: New Castle County Paramedics responded to provide medical support to a multi-alarm commercial structure fire at Willey Farms in Townsend. The initial report was received by the 9-1-1 center at 2:20 a.m. and was elevated to multiple alarms as firefighters arrived to find fire showing through the roof. New Castle County paramedics treated and transported two firefighters during the operations, one to Christiana Hospital, the other to the Middletown Emergency Department.

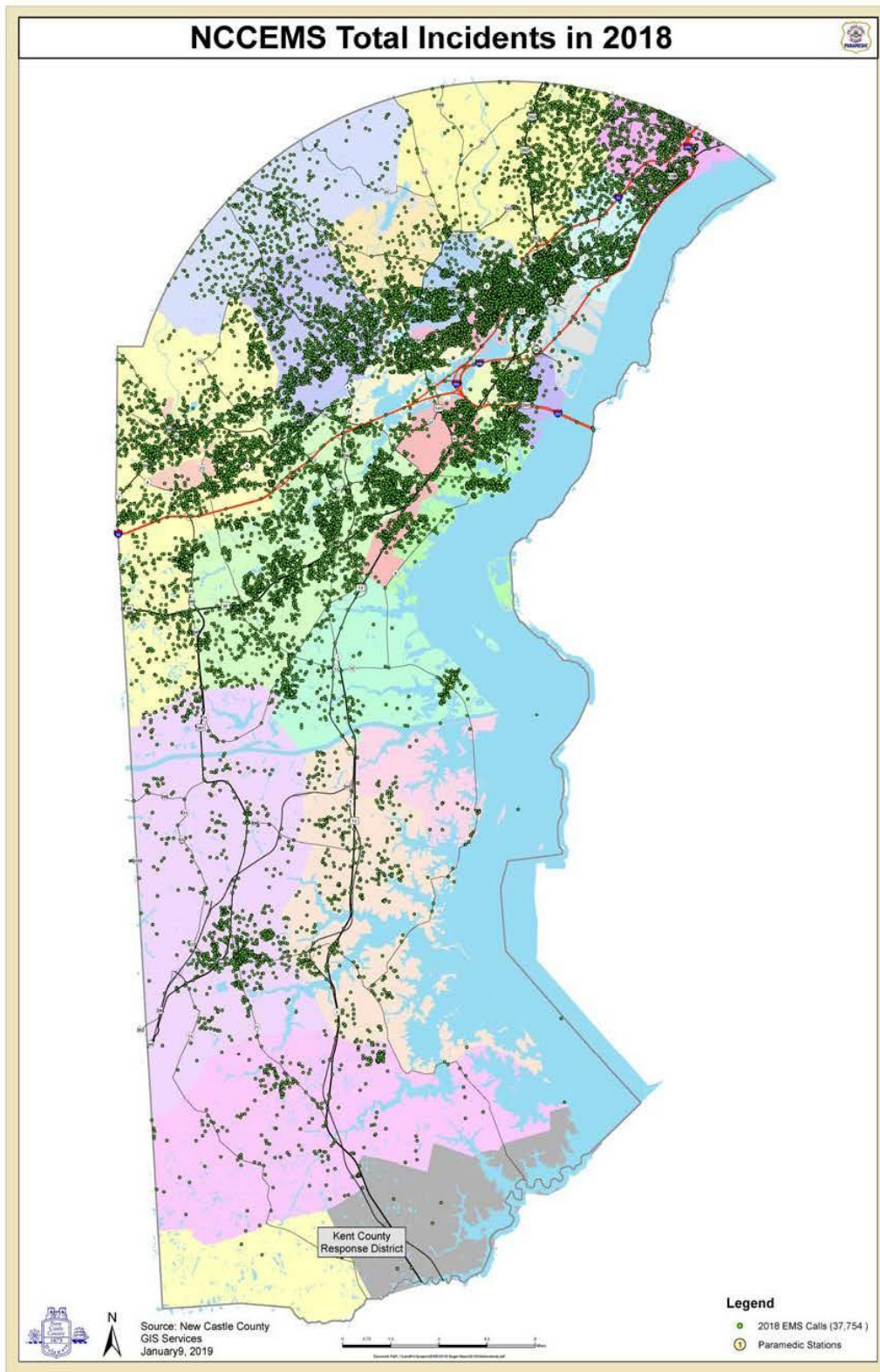


February 27, 2018: The New Castle County Paramedics hosted the Sixth Annual New Castle County Sudden Cardiac Arrest Survivor's Reunion at the Laird Performing Arts Center at the Tatnall School. The event recognized emergency medical services and advanced life support paramedics that contributed to the survival and successful hospital discharge of patients that experienced an out-of-hospital sudden cardiac arrest. The 2018 event highlighted 53 cases of out-of-hospital sudden cardiac arrest that resulted in the successful discharge of the patient from the hospital. New Castle County EMS recognized 34 civilians, 8 emergency communications personnel, 32 law enforcement officers from 5 different agencies, 220 fire service personnel from 17 different departments, 12 non-fire service basic life support EMS providers and 73 New Castle County Paramedics. Several of the survivors (front row) attended the reunion to meet those involved in their response.



This map illustrates the number of New Castle County Paramedic incidents that occurred in each fire company district during calendar year 2018. The New Castle County Paramedics work closely with fire service and other basic life support ambulances daily. 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.

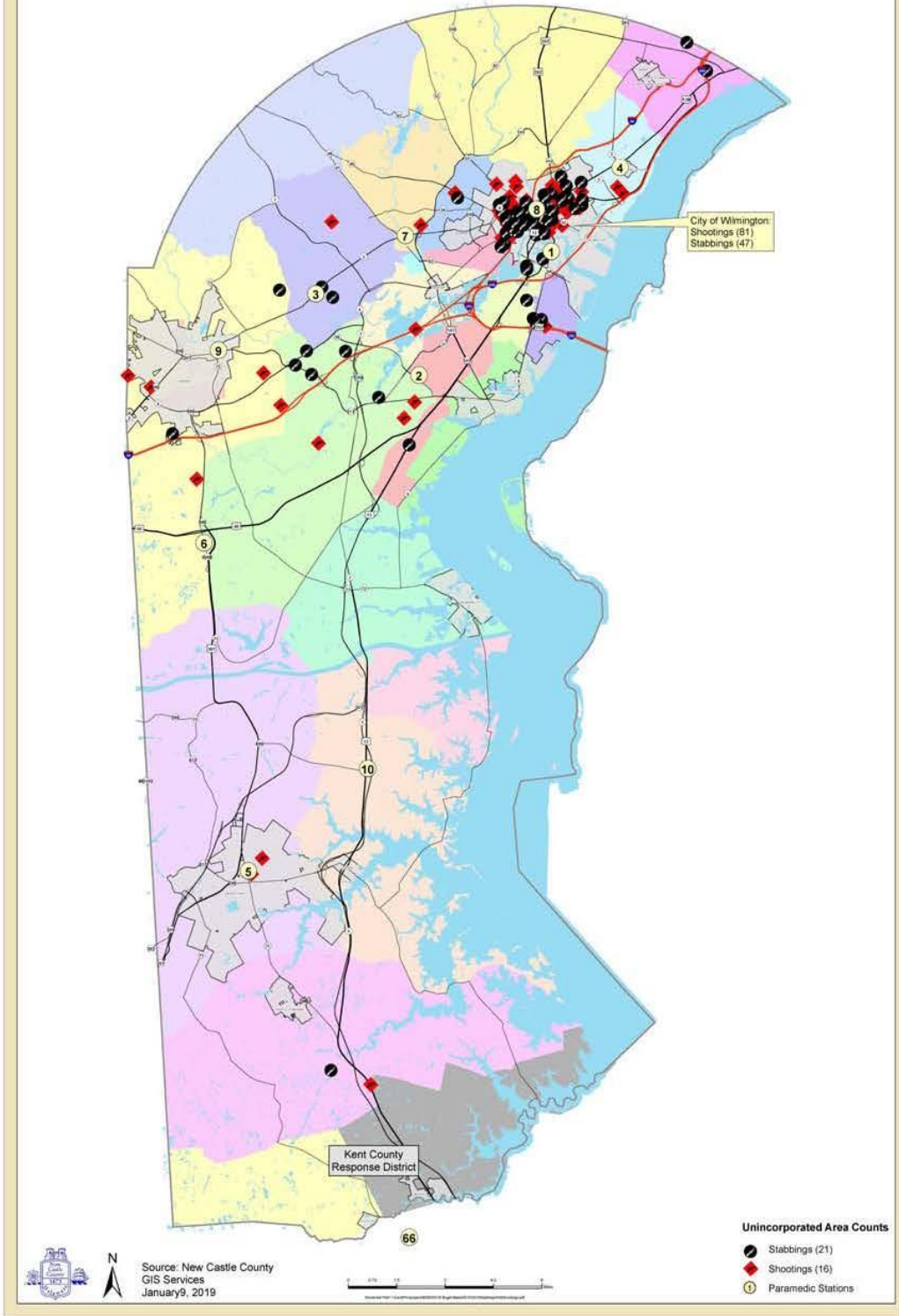
Source: New Castle County Computer Aided Dispatch (CAD) System & GIS Services



This map illustrates all the New Castle County Paramedic incidents that occurred during calendar year 2018. Each point indicates an advanced life support incident for New Castle County EMS.

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

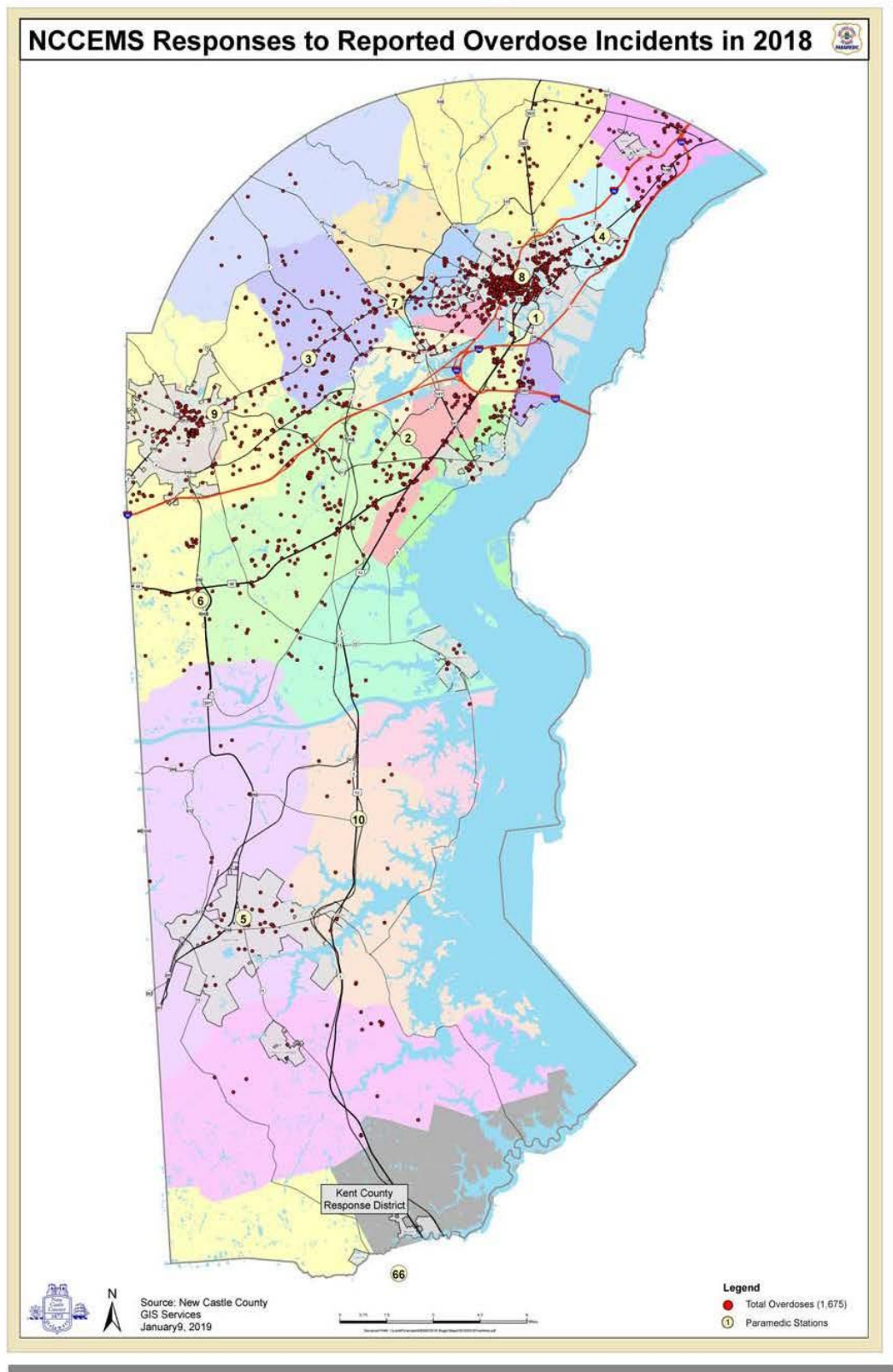
NCCEMS Responses to Shooting & Stabbing Incidents in 2018



This map illustrates New Castle County Paramedic responses to shootings and stabbings during calendar year 2018. 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 2018



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” or “ineffective breathing— possible cardiac or respiratory arrest” and are not shown on this map. However, the map illustrates the overdose epidemic is prevalent in all areas of our community.

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



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	2018
Medic 1 (<i>Wilmington</i>)	5,813
Medic 2 (<i>New Castle</i>)	5,679
Medic 3 (<i>Newark</i>)	4,595
Medic 4 (<i>Brandywine 100</i>)	4,484
Medic 5 (<i>Middletown</i>)	2,137
Medic 6 (<i>Glasgow</i>)	4,139
Medic 7 (<i>Prices Corner</i>)	5,214
Medic 8 (<i>Wilmington</i>)	6,143
Medic 9 (<i>12 hour/day unit</i>)	3,147
Medic 10 (<i>Part Time</i>)	396
Medic 11 (<i>Special Duty</i>)	65
Medic 12 (<i>Special Duty</i>)	6
Medic 13 (<i>Special Duty</i>)	0
Medic 20 (<i>Special Ops</i>)	83
ALS Bike Team	2
MEDCOM	15
Single paramedic ALS responses	4,777
TOTAL RESPONSES	46,695

New Castle County EMS Supervisor and EMS Staff Activity

EMS SUPERVISOR/STAFF	2018
EMS HQ Staff (Chief & Asst Chiefs)	141
EMS Lieutenants	619
Paramedic Sergeants	4,736
TOTAL STAFF RESPONSES	5,496



September 26, 2018: New Castle County Paramedics provide advanced life support services to the unincorporated areas and incorporated municipalities of the county. In this photo, New Castle County Paramedics establish an EMS staging area at the scene of a hazardous materials (HAZMAT) incident at the University of Delaware Drake Laboratory on Academy Street in Newark.

Top Reasons for Dispatch of a New Castle County Paramedic Unit in 2018

TYPE OF INCIDENT	2018
Breathing Problems	6,244
Interfacility Transport	4,488
Sick Person	4,357
Chest Pain	4,121
Syncope/Unconscious Person	2,835
Overdose	1,675
Seizure	1,465
Stroke	1,261
Motor Vehicle Collision	1,170
Falls	1,109
Cardiac/Respiratory Arrest/Death	943

ADMINISTRATIVE ACTIVITY

Public Education/Injury Prevention Programs

New Castle County EMS continued to provide a few 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 and providing information on how to *prevent* the need for an emergency medical response.

Public Education Activities

CPR/AED Classes	33 courses conducted with certification of over 362 persons <i>(Includes Heartsaver and Family & Friends Courses)</i>
CPR Healthcare Provider	38 courses conducted with certification of over 350 persons
Hands Only CPR Displays	2 events with over 50 participants
CPR/AED/Pulsepoint Awareness	3 events with 191 participants
First Aid Classes	9 courses conducted with certification of 85 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	Delivered 38 recruitment presentations to potential EMS applicants.
EMS Continuing Education	New Castle County Paramedics provided 3 continuing education presentations to basic life support personnel in addition to delivery of the third Delaware Resuscitation Academy.

- EMS System Orientation** 2 events with over 100 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** 1 presentations to over 16 students regarding EMS careers and the role of paramedics in the emergency medical services system. New Castle County EMS also participated in 10 "Reality Tour" events sponsored by Attack Addiction. Maintained the ride-along and mentoring program for St. Georges Technical High School EMS students.

**DO YOU HAVE WHAT IT TAKES TO BE A NEW CASTLE COUNTY
PARAMEDIC?**

APPLY TODAY!



Now accepting applications for enrollment in the next paramedic academy through October 8, 2018.
Call us at 302-395-8188, visit us on Facebook, or visit us at www.nccde.org/ems




The New Castle County Paramedics conducted extensive recruitment and outreach activities in preparation for the 3rd New Castle County Paramedic Academy Class.

Information sessions on the "Path to Excellence" provided an overview of a career as a paramedic, the academy training program, and the selection process for potential applicants. Information session participants could speak with paramedic academy graduates and complete the application for ride-along opportunities as a part of their career exploration. Over 600 applications were received for the paramedic academy class scheduled to start in 2019.

ACCOMPLISHMENTS

NCCo EMS Hosts 2nd Delaware Resuscitation Academy



October 23, 2018: New Castle County EMS hosted the third 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.



NCC* EMS Participates in AtTack Addiction “Reality Tour”



Paramedics from New Castle County EMS continue to participate in the AtTack Addiction “Reality Tour.” The Reality Tour is a drug awareness and prevention program developed to illustrate the life experiences encountered by a teen addicted to drugs and alcohol. The program is conducted by the advocacy group AtTack Addiction, through a partnership between law enforcement, fire service EMS personnel and the New Castle County Paramedics. The public safety personnel role play a response to an overdose emergency and demonstrate the medical care they would provide to an overdose victim. The “Reality Tour” is an example of a public education program targeting prevention of behavior and activity that results in the need for an emergency medical response. In 2018, the New Castle County Paramedics participated in 10 presentations of the “Reality Tour.”

NCC* EMS Renews National Accreditation



December 17, 2018: The Commission on Accreditation of Ambulance Services (CAAS) Panel of Commissioners considered the consolidated on-site report for New Castle County EMS at their December 2018 meeting. There were no deficiencies cited in the on-site report by the review team, resulting in the Panel’s decision to grant a full three-year accreditation to New Castle County EMS.

December 2019 will mark the 10-year anniversary of the initial accreditation of New Castle County EMS. CAAS accreditation verifies that the New Castle County Paramedics are compliant with over 100 standards deemed essential to a modern emergency medical service. There are an estimated 21,283 EMS agencies in the United States. New Castle County EMS remains one of approximately 180 CAAS accredited agencies, and the only CAAS-accredited EMS agency in Delaware.

NCC*EMS Staff Graduates from Leadership Development Program

Lieutenant Donald Lee Morris, Paramedic Sergeant Autumn Tuxward and S/Lieutenant Louis Rombach successfully completed the Command and Leadership Academy sponsored by the New Jersey Association of Chiefs of Police. Lieutenant Morris earned distinction as the honor graduate from the New Castle County cohort at the January 2018 graduation ceremony.



NCC*EMS Promotions in 2018



Paramedic Sergeant Donald Lee Morris (left) was promoted to the rank of Emergency Medical Services Lieutenant on July 19, 2018. Lieutenant Morris has been assigned to the Operations Branch as Commander, Platoon 3. Paramedic Senior Corporal Matthew Watson (right) was promoted to the rank of Paramedic Sergeant on October 29, 2018. Sergeant Watson has been assigned as a Field Supervisor on Platoon 1.

NCC*EMS Paramedics Invited to Inaugural Event



December 2, 2018: Paramedic Mark Plumley (L) and Paramedic S/Cpl. Matthew Mitchell (R) were guests of the Penna family at the 1st Annual Anthony Penna Awards Celebration for the Anthony Penna Charitable Fund. The Anthony Penna Charitable Fund was established to “inspire a lifelong passion for the performing arts by supporting students involved in their school’s band, choral, and theatre programs within our local community”. The event was hosted at the Queen in Wilmington and marked the first distribution of scholarships and grants to schools and students in the performing arts.

Paramedic Plumley and S/Cpl. Mitchell were involved in the September 29, 2017 response to a serious motor vehicle collision that ultimately resulted in the passing of Anthony Penna. However, the family wanted to recognize the paramedics for their role in resuscitating Anthony, which enabled additional patients to benefit from his organ and tissue donation and permitted the family to spend time with him before his passing. This was the first time the Penna family had met Paramedic Plumley and S/Cpl. Mitchell.

August 7, 2018: The New Castle County Paramedics participated in the “National Night Out.” Although the event is primarily a law enforcement initiative, the paramedics have been invited to participate with their colleagues in the New Castle County Division of Police. The National Night Out gives the Department of Public Safety an opportunity to interact with the public outside of an emergency response or complaint. It may even plant the seed for an individual to seek a career in public service.



Department of Public Safety Awards Ceremonies



May 8, 2018 & November 5, 2019: The New Castle County Department of Public Safety hosted two awards ceremonies to recognize exemplary performance by all components of the department.

The Emergency Medical Services Division recognized the following paramedics during 2018 with official commendations:

Assistant Chief Mark Logemann

Lt. Christopher Johnson

Sgt. Beth Bratton-Heck

Sgt. Abigail Haas

Sgt. Isaac Hankins

S/Sgt. Donald Kennard

Sgt. Richard Moerman, Jr.

Sgt. Peter Small

S/Cpl. Thomas Murphy

S/Cpl. Christopher Rainey

S/Cpl. Christopher Reed

S/Cpl. Robert Taylor

S/Cpl. Katherine Watts

Cpl. Dana Bowerson

Cpl. Laura DiRusso

Cpl. Stacey LeCompte

Cpl. Matthew Mitchell

Cpl. Michael Pietruczenia

Paramedic 1/C Brian Bradford

Paramedic 1/C Laura Hill

Paramedic 1/C Dawn Longfellow

Paramedic 1/C Richard Orkis, Jr.

Paramedic 1/C Scott Sizer

Paramedic 1/C Jack Warrick

Paramedic William Doan

Paramedic Jessica Gurgick

Paramedic Alexander Hawthorne

Paramedic Christine Huovinen

Paramedic Emily Mallon

Paramedic Brittney Paoli

Paramedic Matthew Patterson

Paramedic Sarah Pedrick

Paramedic Mark Plumley

Paramedic Daryl Rollins

Paramedic MaryKate Selner

Paramedic Travis Tome

Paramedic Timothy Wheeler



Hope Street DE First Responder's Day



October 13, 2018: Hope Street Delaware hosted their annual First Responder's Day event in Newport. Hope Street is a non-profit organization dedicated to facilitating addiction services and advocacy in Delaware. They have coordinated reunions between former patients in recovery and the EMS providers that have provided assistance during the person's struggle to recovery. Erin Goldner, President of Hope Street DE presented a 2018 Hope Award to Chief Tan during the event.

NCCo EMS Hosts Governor's Bill Signing



September 10, 2018: Governor Carney joined Lt. Governor Hall-Long, members of the Behavioral Health Consortium, first responders, and advocates to sign three bills into law aimed at fighting the addiction epidemic and saving lives in Delaware. All three bills, HS #1 for House Bill 440, Senate Bill 206 and Senate Bill 225, are first year priorities of the Behavioral Health Consortium's Three Year Action Plan. The legislation included a bill to create an Overdose System of Care in Delaware.

Paramedic Reunites with Patient He Delivered as Baby



June 19, 2018: Paramedic Senior Corporal Thomas Murphy, Jr. had the opportunity to reunite with Jessica Fogel and her mother after he assisted in her delivery at their home in 1996. This was the first time they had met since the response almost 22 years ago.



Our Mission is Your Life

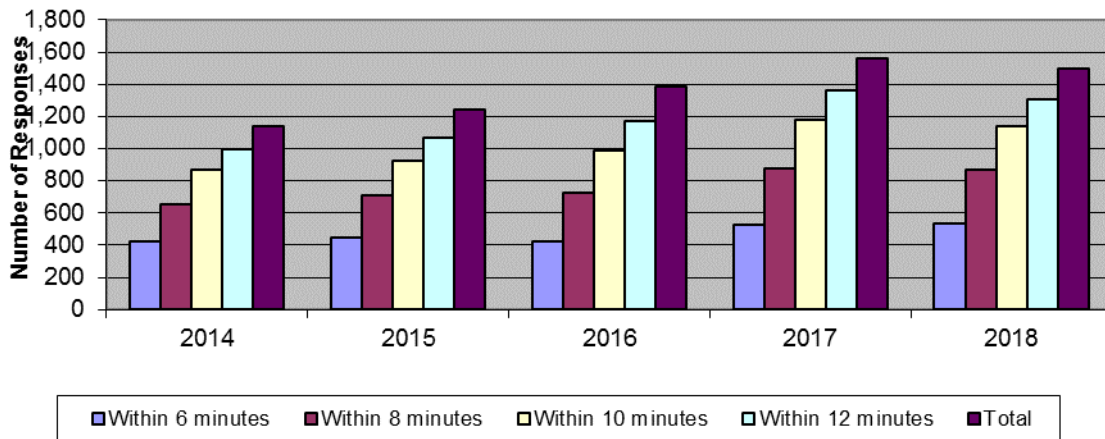


@NCC.PARAMEDICS

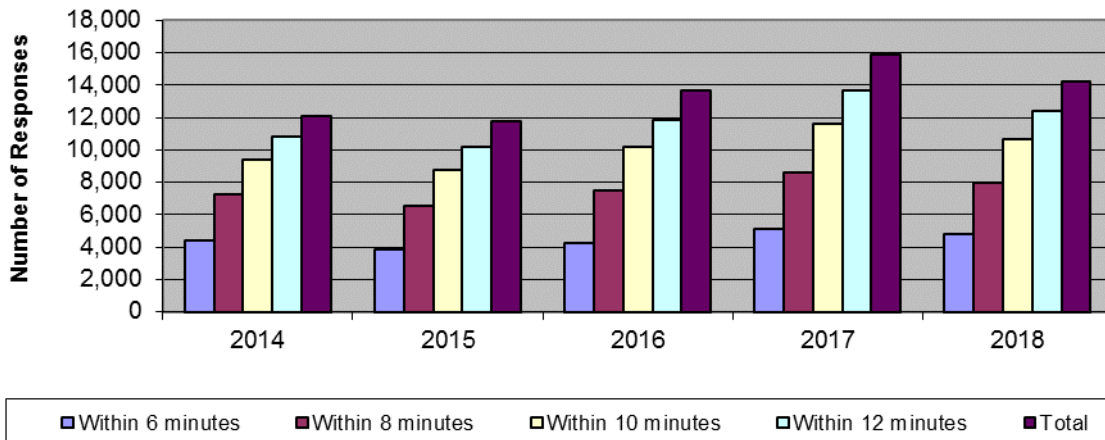
**NEW CASTLE COUNTY
EMERGENCY MEDICAL SERVICES DIVISION
DEPARTMENT OF PUBLIC SAFETY
3601 NORTH DUPONT HIGHWAY
NEW CASTLE, DELAWARE 19720-6315**

EMS.NEWCASTLEDE.GOV

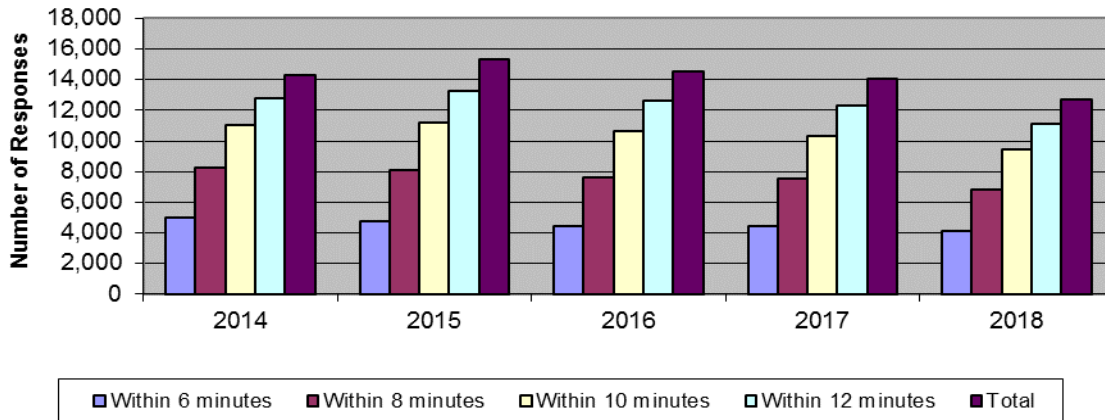
Echo Level Response, NCC EMS



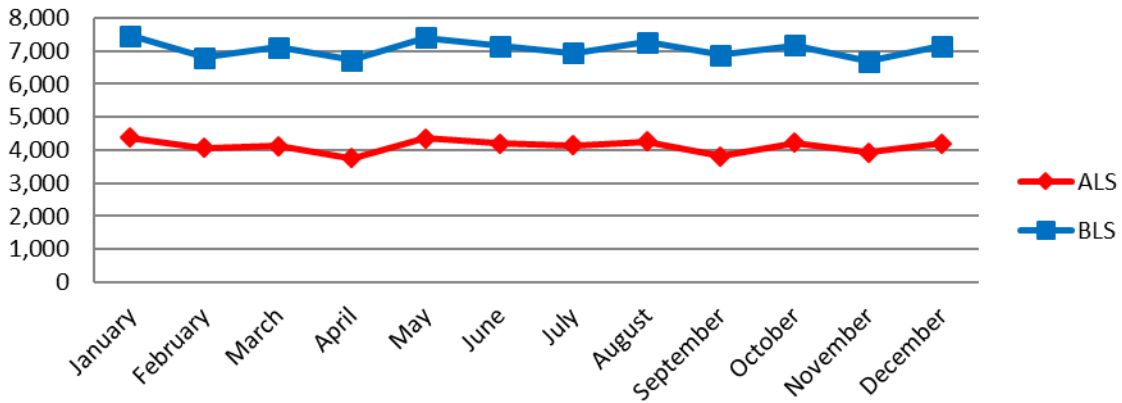
Delta Level Response, NCC EMS



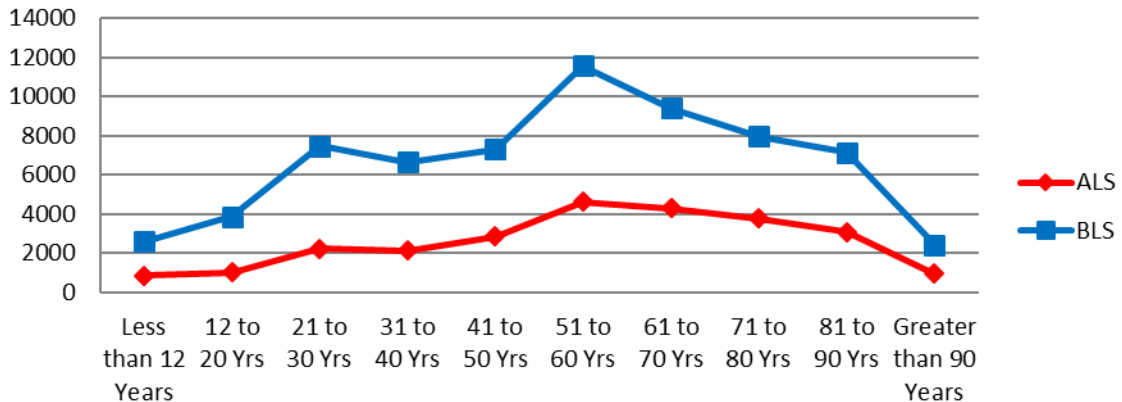
Charlie Level Response, NCC EMS



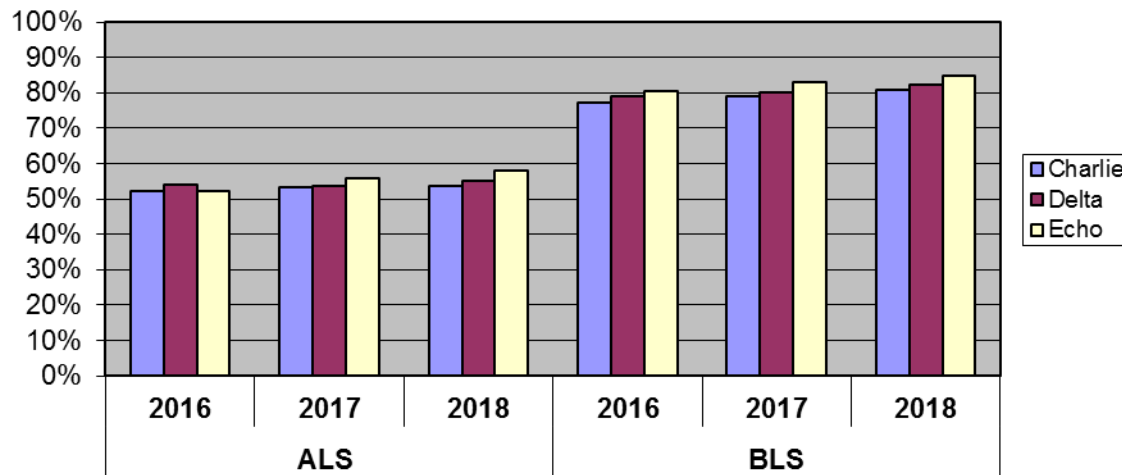
ALS/BLS Incidents by Month - 2018 New Castle County



ALS and BLS Patient Age Comparison - 2018 New Castle County



Percentage When New Castle County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents - 2018



Communication Center

New Castle County

Submitted by Chief Jeffrey P. Miller



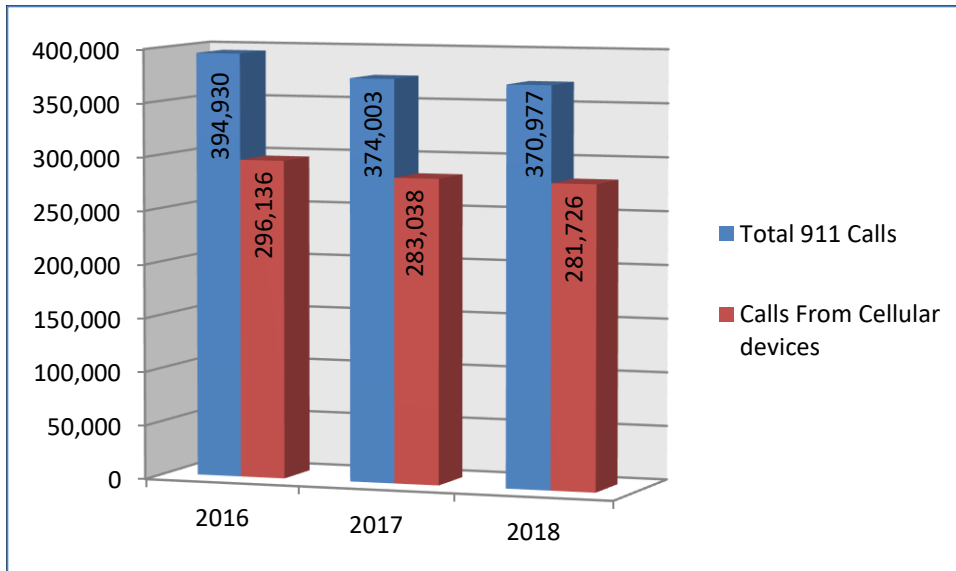
The New Castle County 9-1-1 Emergency Center receives 9-1-1 calls through a variety of phone exchanges and numerous cell towers throughout New Castle County. The total number of 9-1-1 calls processed in year 2018 was 370,977. Another 102,319 non-emergency calls were also processed by our Public Safety Operators. The Center dispatched or processed a total of 151,016 fire/medical incidents and 276,910 police incidents in year 2018. New Castle County Emergency Communication Center handled over 50.6% of the 732,797 total 9-1-1 calls in the State of Delaware for 2018.

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 thirty full and part-time Public Safety Operators, twenty-four Police Communications personnel, twenty-two Delaware State Police Communications personnel, twenty-four full-time Fire/Medical Communications personnel, and an administrative staff of seven personnel.

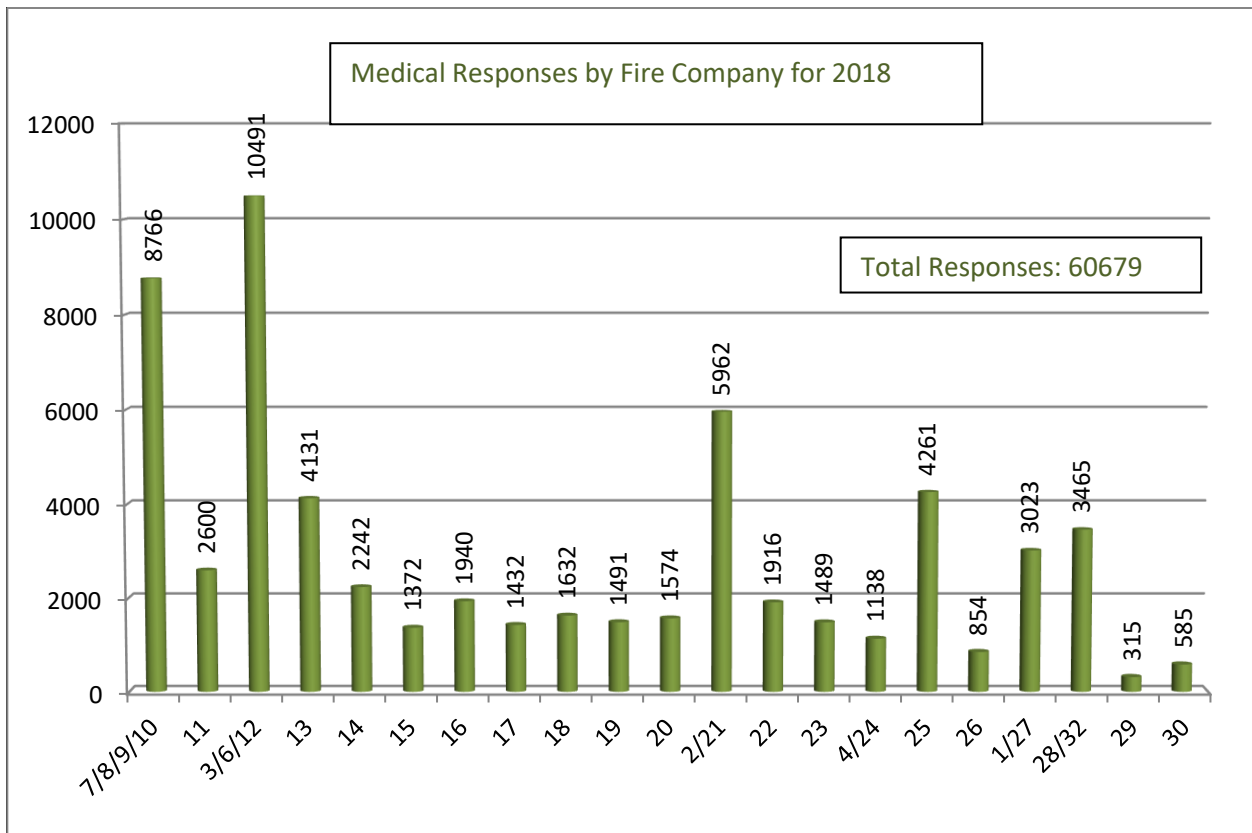
Emergency Medical and Fire Dispatch



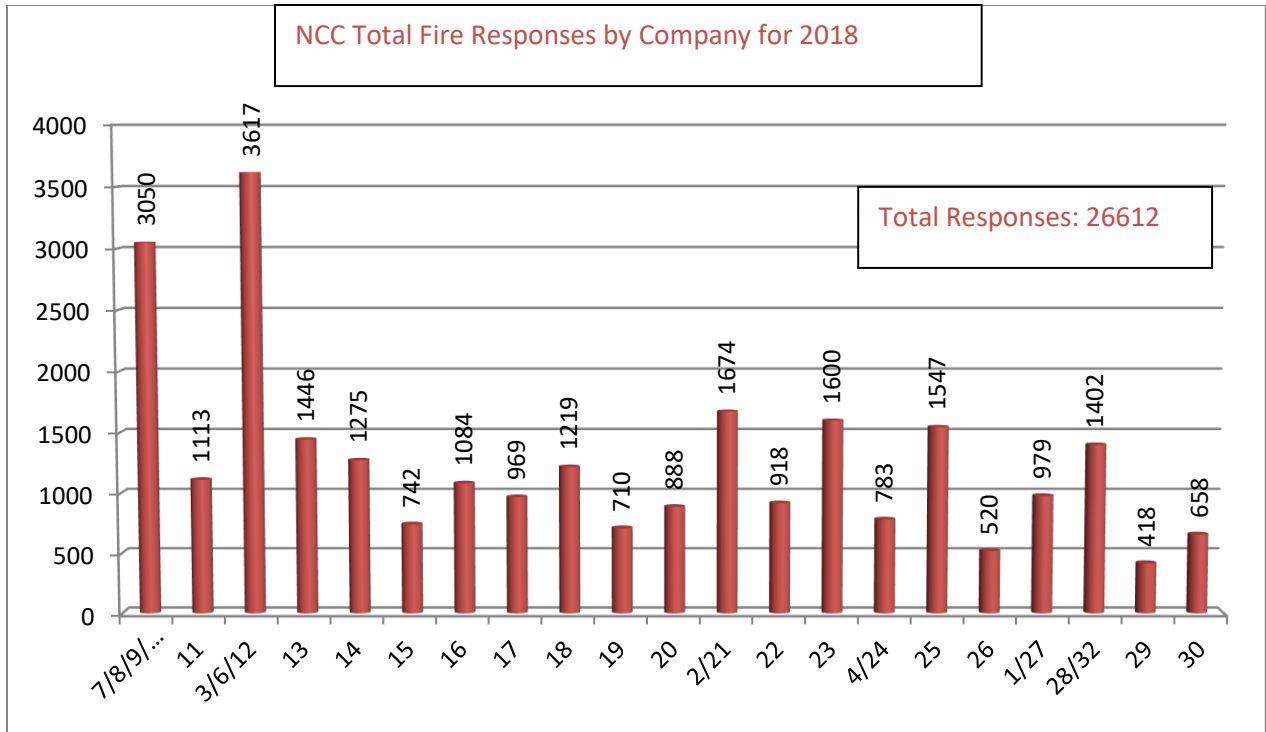
The New Castle County Emergency Communications Division continues to utilize the International Academies of Emergency Dispatch protocol system to triage incoming emergency calls to determine the appropriate level of service. All of our Emergency Communications Division employees are trained to provide pre-arrival instructions in CPR, childbirth, persons choking, persons trapped in a house/building fire, persons in a car sinking in water and persons involved in hostage situations along with other calls for service. Each of our 911 professionals participates in numerous hours of continuing education training to maintain their proficiency and certifications in each protocol.



*This information provided by West.



*This information provided by Tyler Technologies



***This information provided by Tyler Technologies**

Mobile Communications Unit

Our mobile communications van continues to be a vital link to our first responders. This vehicle has state of the art capabilities that allow us to completely remove the emergency at hand and allow the 911 Center to continue operating for other emergencies. This vehicle is automatically dispatched on two alarm fires or greater and is part of the response to crisis negotiations and bomb threats.



***This photo provided by NCC911.**

2018 Year in Review

2018 proved to be a busy year for New Castle County. The Fire & Medical section handled communications for approximately 107 working fires along with 18 plus special operations and significant rescue callouts.

On January 8, 2018, we received a call for a male subject and his dog stuck on ice in the river. Male subject was removed and transported to St. Francis Hospital. Canine was removed with the assistance of animal control.

On February 22, 2018, we received a call for a front-end loader that had driven off a pier into the Delaware River. One body was recovered and pronounced at the scene.

On March 9, 2018, we received a call for a serious MVC with a vehicle overturned and heavy entrapment. One patient pronounced at the scene and two trauma code patients were transported to Christiana Hospital.

On March 15, 2018, we received a call for two pedestrians struck by a bus. Adult female transported to Christiana Hospital as a trauma arrest; small child transported to AI DuPont Hospital as a trauma arrest.

On March 16, 2018, we received a call for a serious MVC with entrapment and several patients. Five patients total were transported by ALS/BLS to Christiana Hospital with non-life-threatening injuries.

On March 23, 2018, we received a call for an MVC vehicle versus tree with a subject trapped and unconscious in the vehicle. Subject was extricated and confirmed cardiac arrest. Subject was transported to Christiana Hospital.

On April 5, 2018, we received several calls for an MVC vehicle versus guardrail. Arriving units confirmed one patient confirmed trauma code and transported to Christiana Hospital.

On April 14, 2018, we received several calls for an MVC with entrapment. One subject transported to Christiana Hospital.

On April 16, 2018, we received a call for a sick person with smoke inhalation. Arriving units found 16 patients complaining of headache and nausea. All patients were exposed to the vapors of burnt hydraulic fluid and transported to surrounding hospitals with non-life-threatening injuries.

On April 21, 2018, we received a call of a vehicle sinking in a retention pond. Arriving units found one subject out of the vehicle and on land.

On May 1, 2018, we received a call of an MVC involving a tanker truck leaking liquid nitrogen gas. Arriving units found no compromise to the tanker and hazmat units were released. Three patients transported to Christiana Hospital.

On May 19, 2018, we received MVC with entrapment after several calls reporting a vehicle traveling south bound in the north bound lanes. Arriving units found three patients; two trauma codes and one trauma alert. All patients were transported to Christiana Hospital.

On May 30, 2018, we received a call of a serious MVC vehicle versus motorcycle. One subject pronounced at the scene.

On June 4, 2018, we received a call from a subject requesting assistance in getting out of a chemical tank. Arriving units found a male subject unconscious after extrication. Subject was transported to Christiana Hospital as a trauma alert.

On June 16, 2018, we received several calls reporting inside and outside gas odors in the northeast section of Claymont. Delaware County and all local refineries were contacted with no cause ever discovered.

On July 3, 2018, we received a call of a boat striking the wall at the C&D Canal. Arriving units found four patients all of which were transported to Christiana Hospital with non-life-threatening injuries.

On July 6, 2018, we received several calls of a serious MVC with a rollover. Arriving units found nine total patients. Five patients were pronounced at the scene; two patients transported by air and two patients transported by ground units. Route 1 northbound at Fieldsboro Road was closed for several hours.

On July 14, 2018, we received several calls reporting an MVC with a pedestrian struck. Arriving units found three patients. One patient was pronounced at the scene and two patients transported to Christiana Hospital.

On July 16, 2018, we received a call of a serious MVC vehicle versus tree. Arriving units found vehicle fully involved with subject trapped inside. One patient was pronounced at the scene.

On July 21, 2018, we received a call of a large fire at a junkyard. Arriving units found a total of 800 plus cars on fire. One firefighter transported to Christiana Hospital with non-life-threatening injuries.

On July 30, 2018, we received a call of a subject trapped under a vehicle he was working on. Arriving units extricated the subjs and transported him to the hospital as a trauma arrest.

On August 26, 2018, we received a call from boater who was cut by a propeller in the Delaware River. Subject was guided to the boat ramp in Delaware City by Trooper 4 and was transported to Christiana Hospital with stomach and leg injuries.

On September 18, 2018, we received a call for an injured kayaker in the Brandywine River. Arriving units removed the victim from the water and initiated CPR. Subject was transported to Wilmington Hospital.

On September 25, 2018, we received a call for three patients exposed to hydrochloric acid and nitric acid. All patients refused service.

On September 26, 2018, we received a call of a chemical explosion at a lab. Two patients were removed from the building, decontaminated and transported to Christiana Hospital.

On November 5, 2018, we received a call from a passerby reporting a fire at Willey Farms. Fire eventually reached six alarms before placing under control. Two firefighters were transported with non-life-threatening injuries.

On November 19, 2018, we received several calls of an MVC with a rollover. Arriving units found three patients. Two patients were pronounced at the scene and one patient was transported to Christiana Hospital.

On November 26, 2018, we received a call for a chemical leak of Ethylene Oxide at Croda, which was being controlled by a water flow system. Several roadways including the Delaware Memorial Bridge were closed during this incident. NCCOEM sent a reverse 911 to surrounding residents advising them to shelter in place.

On December 14, 2018, we received a call of an MVC vehicle versus a utility pole. Arriving units found two patients inside the vehicle. One patient was pronounced at the scene and one patient was transported to Christiana Hospital.

On December 14, 2018, we received a call of an MVC with a pedestrian struck. Arriving units discovered pedestrian to be trauma arrest and was transported to Christiana Hospital where he was later pronounced.

On December 30, 2018, we received a call of an MVC with entrapment. Arriving units found four subjects and confirmed entrapment. All four patients were transported to Christiana Hospital.

These events are just a small portion of our 2018 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 embrace new technologies to improve our overall customer experience.

We continue to integrate with the communities we serve through community service events with informational sessions about Smart911 and the proper use of 9-1-1. The employees of the New Castle County Emergency Communications Division continue to have a vested interest in our ever-changing environment by their involvement in our workgroups. This year we held our 3rd 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 2018, we answered our calls 89% 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. None of this would be possible without the continued support of the administration of New Castle County.

Kent County

Advanced Life Support 105
Report submitted by Chief Colin Faulkner

Communication Center 126

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Department of Public Safety

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Submitted by Chief Colin T. Faulkner

The Kent County Department of Public Safety is directly responsible for the management of three Divisions, which include the Division of Communications, the Division of Emergency Medical Services and the Division of Emergency Management, which includes Homeland Security/Terrorism Preparedness/Protective Options 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 to our citizens and visitors, which they 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 maintains their Emergency Medical and Emergency Fire Dispatch accreditation status. This current year welcomes the addition of police dispatch protocols via Priority Dispatch. This is reflective of the dedication and continued professionalism over the years and which will continue into the future by our dedicated staff. 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. All dispatchers from the State and County are cross-trained which provides enormous benefits for a busy 911 Center. The combined center with the Delaware State Police facilitates all operations especially those with a 'mixed' response of DSP and EMS/Fire deployment. We remain proud of this relationship and our enhanced level of service to our citizens and visitors. With the enhancements provided by the Next Generation 911 and future initiatives on the horizon, our Center remains well poised for the future. Texting 911, Pulse Point, Chief's Mobile and Downlinking, are but a few of the recent additions to our arsenal of capabilities. We maintain a state of the art Command Communications Vehicle that remains on point for deployment to MCI events and pre-deployments to mass gatherings of any nature. Our 911 Center participates in 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 very 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. The Kent County 911 Center remains the Crown Jewel of our County and cornerstone of all responses from beginning to end.

Our Division of Emergency Medical Services deploys paramedics throughout the entire County. 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.

The Department of Public Safety supports deployment to high-density mass gathering events and has a team assembled along with mutual aid support when required. This team utilizes specialized response 'gators', bikes, and caches of equipment to support these specialized operations. Kent County 911, Emergency Medical Services, 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 sustain and to continually assess each large-scale event for our best pre-emptive response. We vigorously support a coordinated response mutually with non-county public safety entities so that venue operators and emergency personnel can provide a safer environment with a strong template for coordinated response. This is a modern concept; a post 9/11 reality, that will only have beneficial consequences.

A few years ago, the Kent County Government responded to data that supported the creation of a single-medical response station located in the southwest corridor and housed at the Frederica Fire Company. The success of this newly formed enhancement has reduced morbidity and mortality and provided a level of response enabling quick response times and a redistricting that enhance our overall response capability throughout the County.

Once again, our County Government has responded to data and is now in the process of developing a sub-station to enhance responses to western Kent County yet remain close enough to our major population base (Dover), for quick responses in either direction. This too will allow for a redistricting that will again, improve response capabilities throughout all of Kent County.

This year will see the development and launching of a drone program for our Department that is quickly becoming a national standard for public safety agencies. Utilization of drones for mass gatherings, damage assessment, pre-planning, mapping, etc., make this an invaluable tool for first responders as well as planners alike. The Department's drone will be available for deployment to any requesting agency with an immediate response 24/7 by on duty staff.

The Department of Public Safety continues its support and presence on the front line of combating heroin and other drug related overdoses. We actively pursue and support 'balanced' 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 reducing the impact of 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 and will continue as such in maintaining the highest level of response capabilities as it relates to terrorism and weapons of mass destruction. We have been fortunate in providing extensive training and equipment over the years through efforts of local, county and state as well as via Homeland Security and funding conduits via Homeland Security. A collateral benefit of this reality is our current state of readiness and preparedness for the ever-increasing probability of domestic terrorism and in particular, active shooters. We have engaged our first responders in national courses of study and provide instructors for other public agencies upon request. Our Department is currently active in TECC (Tactical Emergency Casualty Care) and TCCC (Tactical Combat Casualty Care) as well as ALERRT (Advanced Law Enforcement Rapid Response Training). We have instructed our entire county workforce as well as others in the ALERRT's CRASE (Civilian Response to Active Shooter Events) program. It is increasingly obvious that these efforts are no longer for an 'if' event but regretfully, a 'when' event; regardless of where.

As a result of these efforts in combating domestic terrorism and the knowledge we have obtained, this Department has rejected an active shooter guideline created with state support and though well intentioned, has created safety concerns and operational fluidity challenges for our Public Safety Responders. As has been stated in this Executive Summary in the past, 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 shooter scene while providing the best scenario for reduction of injury potential to our own staff and improving outcomes for victims.

Future challenges exist for our services including funding (a major concern), growth, and in particular, for 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 goals to provide us with a field of qualified paramedic candidates.

The Kent County Department of Public Safety continues to work with partner agencies in 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.

"Serving Kent County with Pride"

Kent Count Department of Public Safety Emergency Medical Services Division

2018 marked the 27th 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 our 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.

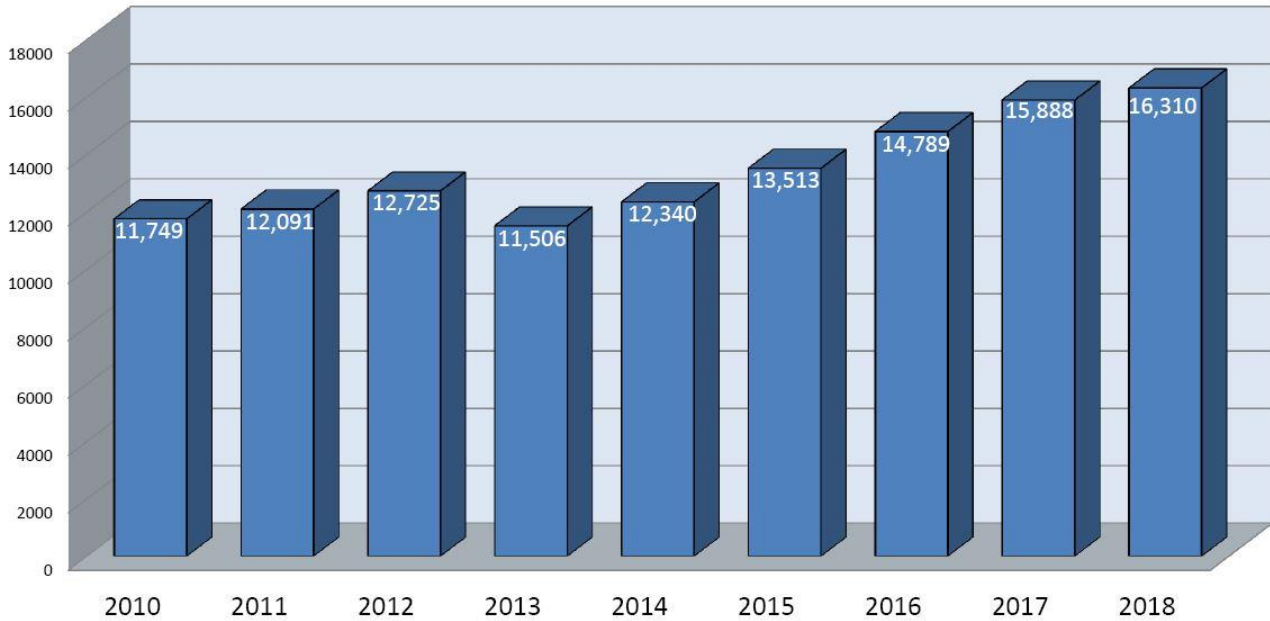
Integrity: We will be honest and fair in our relationships with those who are associated with us, and other health care workers as well.



Operational Overview

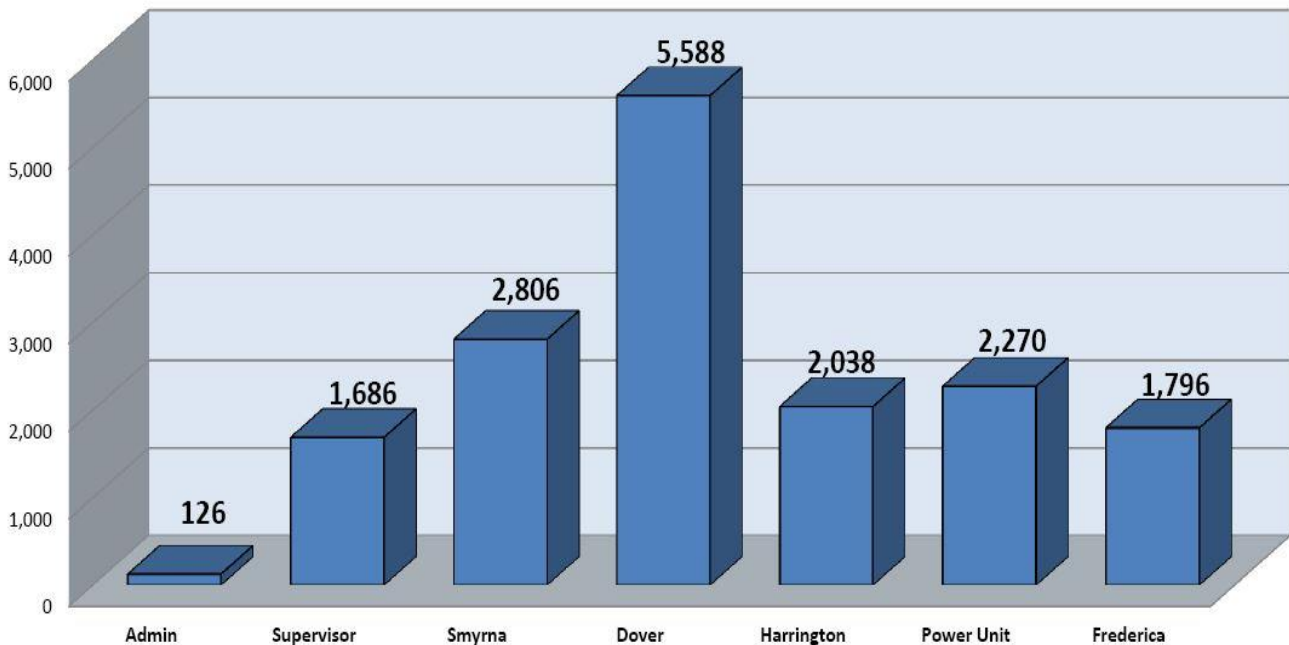
The EMS Division was the busiest it has ever been. In 2017 we had 15,888 dispatches, in 2018 we hit 16,310.

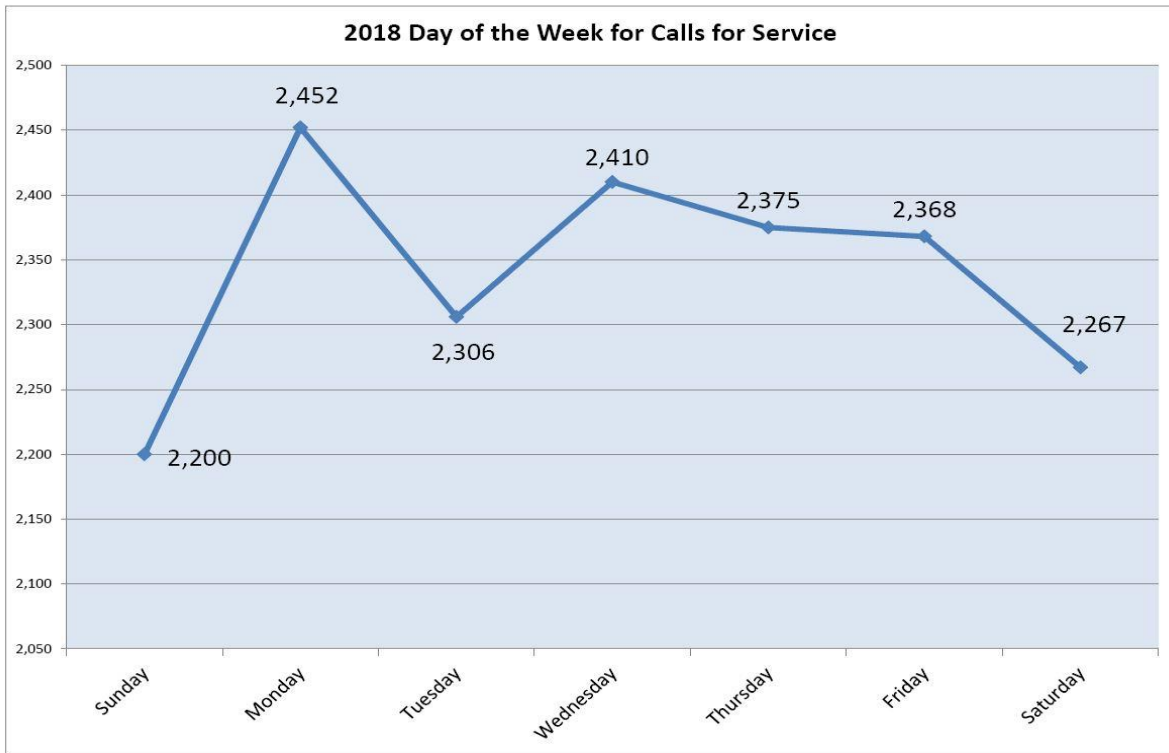
2010-2018 Overall Call Volume



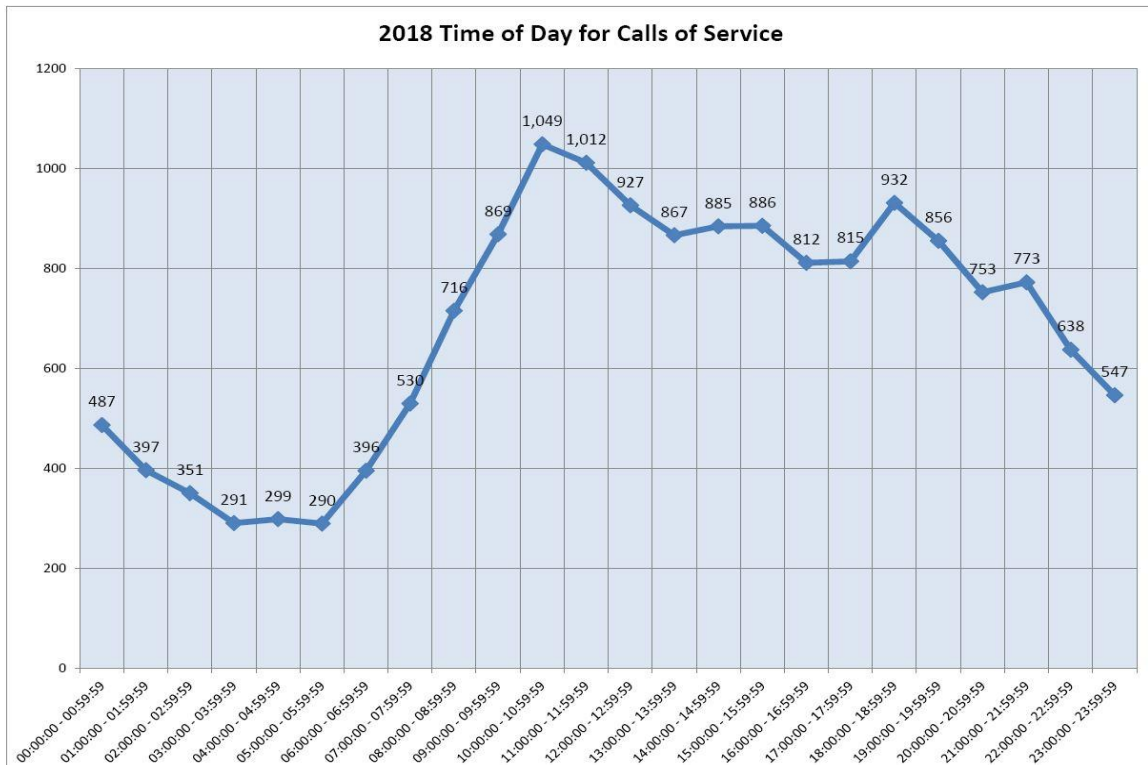
Dover continues to be this Counties busiest unit.

2018 Station Responses





Monday remains the busiest day in 2018.



Cardiac Arrests

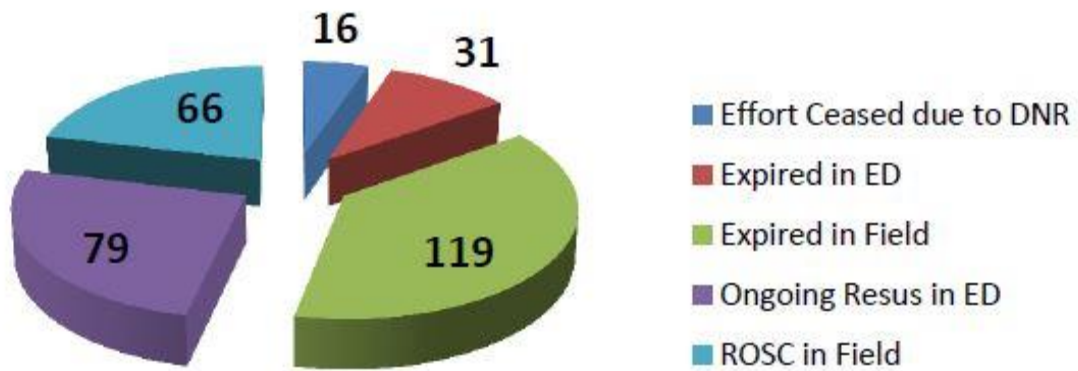
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Number of Arrest	27	27	31	25	22	20	28	24	31	26	25	25	311
ROSC documented	5	2	12	4	4	4	8	5	7	7	5	7	70
Percent of ROSC	18.52%	7.41%	38.71%	16.00%	18.18%	20.00%	28.57%	20.83%	22.58%	26.92%	20.00%	28.00%	22.51%

2018 marked the first full reporting in the CARES registry for Kent County. Return of spontaneous Circulation after CPR was 22.51% for Kent in 2018.

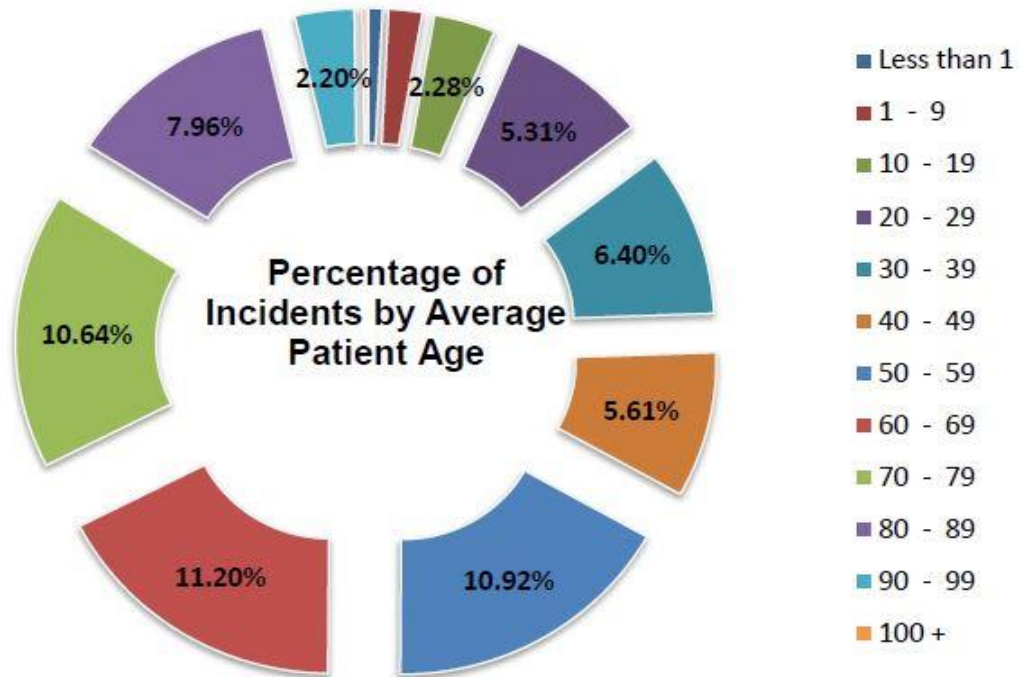
Kent County Levy Court Department of Public Safety - Division of Emergency Medical Services has achieved the 2018 Mission: Lifeline® EMS Gold Plus Level Recognition Award. The American Heart Association recognizes that Prehospital personnel are the first providers of care to patients suffering from a STEMI heart attack and are an integral part of the STEMI system of care impacting the overall care and outcome of the patient. This achievement illustrates a commitment to providing guidelines-based care while meeting high standards of performance.



Cardiac Arrest Outcomes



Percentage of Incidents by Average Patient Age



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, 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. We held a number of supplemental trainings for the medics on tourniquet use and “stop the bleed lits“ 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 2018.

March 24 High Angle Exercise
April 18 Dover Downs MCI TTX
May 11-12 Delaware Hazmat Workshop
May 18-20 Large Animal Rescue Training
June 9 Safe Summer Day
June 27 Trauma / Burn TTX
September 17 SCEMS Hazmat Exercise
September 22 Family Emergency Preparedness Day
October 13-14 USAR Training NCC
Oct 30 – Nov 4 ALERRT Conference
November 7 Food Drive
November 14 Public Health Symposium

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.

Needs and Initiatives:

1. Continued refresher training through Trailer Days and con-eds will maintain current training levels.

As EMS has seen several new hires these training sessions remain vital for MCI preparedness.

2. Further training needs to be accomplished such that all Medics are competent in establishing a Medical Sector at an MCI (Triage, Treatment, Transport).

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

3. Extended Operation and Re-call of personnel capability needs to be demonstrated through practical exercise.

Medics are notified through Chief Messaging for Call-back and OT notification.

4. A Patient Tracking System needs to be established.

KCDPS is interested in supporting OEMS efforts to establish such a system.

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 2018 included 16 deployments, mostly in support of DSP and DNREC involving “Meth-Labs” (7). 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 10 Medics training with the team. We have increased out medic participation from 5 to 10 medics. 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).

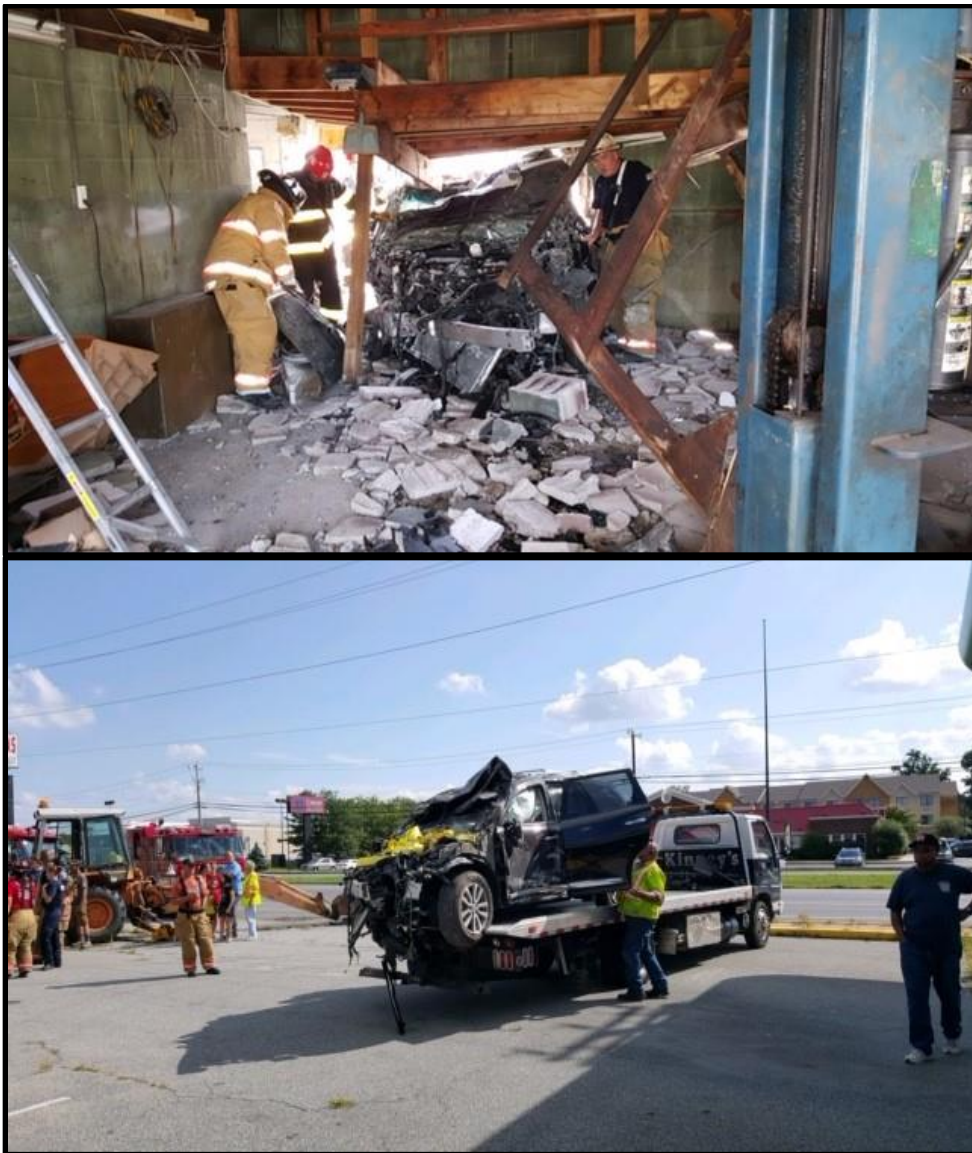
Equipment:



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 11 responses. 2 fire scene assists. 3 structural collapses, 1 vehicle into a building, 2 large animal rescues, and 3 high angle rescues. 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 2018

For year 2018, Kent County SWAT-Medics have logged 92.5 hours supporting multiple Law Enforcement agencies on active missions.

Operations for the team for 2018:

We have supported Smyrna Police STAR Team, Milford Police SOG Team, and Dover Police Sort Team on **19 missions**.

- 6 missions were in support of the Smyrna STAR Team only
- 1 mission was in support of the Milford SOG Team only
- 12 missions were in support of the Dover SORT Team only
- One mission was a joint Dover/DSP/ATF mission, and one was joint Dover/DSP.

We supported the teams noted above in

- 15 Search Warrant executions
- 1 Arrest Warrant executions
- 4 Barricaded subjects

Training for the team for 2018:

- Participated in 28.5 hours of training with the Smyrna STAR team
- Participated in 49 hours of training with the Milford SOG team
- Participated in 110 hours of training with the Dover SORT team



- In addition to this monthly training, we participated in an Active Shooter exercises separately with Bayhealth and Dover Police SORT, DSP EOD, and one at Delaware State University with Dover SORT and DSU Public Safety.

SWAT medics had one transport and one DOPA.



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. This continued in 2018. The Specialized bikes and Medic-Gator are predeployed 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 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. We had an onsite IPMBA course in 2018 and we were able to certify 6 team members. A second formal IPMBA course is scheduled for May 2019.



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

March 24 High Angle Exercise
April 18 Dover Downs MCI TTX
May 11-12 Delaware Hazmat Workshop
May 18-20 Large Animal Rescue Training
June 9 Safe Summer Day
June 27 Trauma / Burn TTX
September 17 SCEMS Hazmat Exercise
September 22 Family Emergency Preparedness Day
October 13-14 USAR Training NCC
Oct 30 – Nov 4 ALERRT Conference
November 7 Food Drive
November 14 Public Health Symposium

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 2018. We covered numerous events including Firefly and NASCAR.

Taught 12 CPR classes training a record 117 students.

Did 6 Car seat checks at our NHTSA car seat check station.

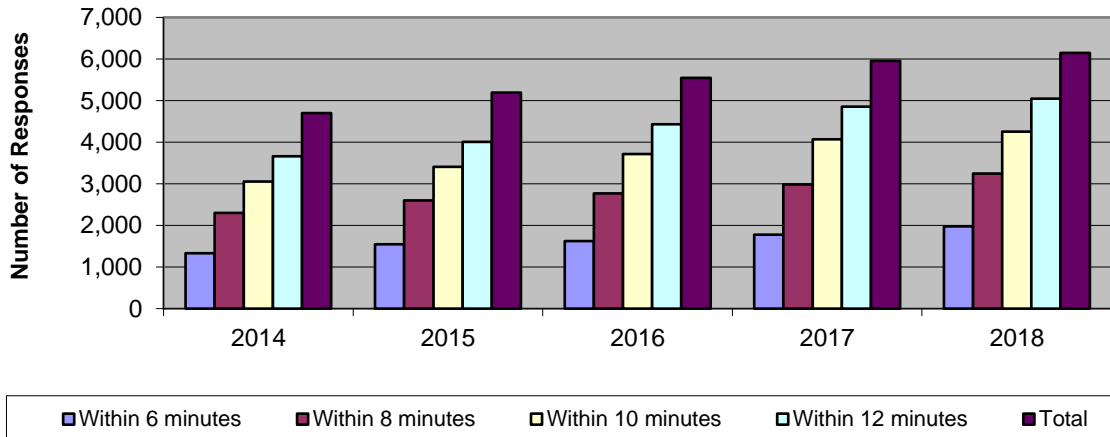
Conducted a Food drive for the Foodbank of Delaware and donated over a ton of food.



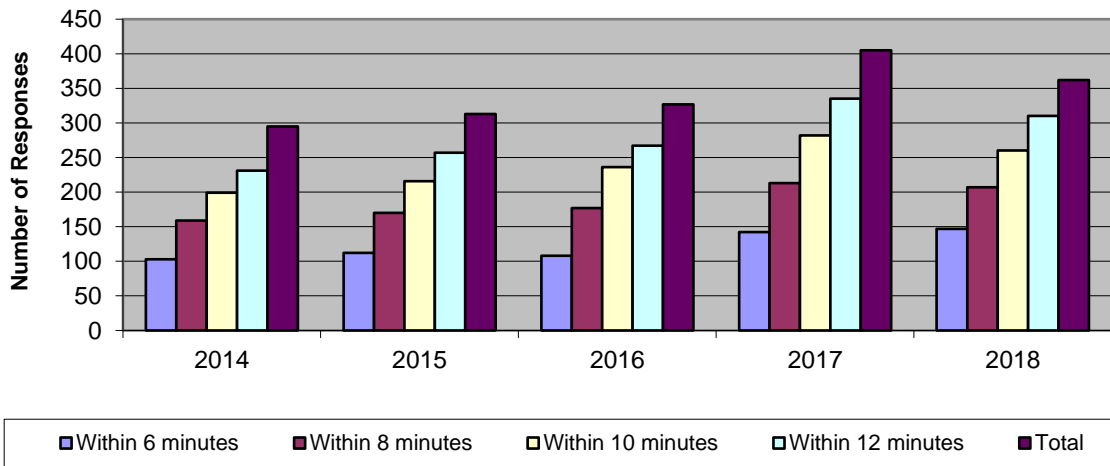
Accomplishments

- 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.
- Fully staffed with no openings
- Held a food drive and delivered 1953 lbs of food to the Food bank of Delaware.
- Successfully provided medical coverage to the Firefly music festival where we saw 3766 patients in aid tents and were dispatched to 553 patients 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 Gold recognition from the American Heart Association for 2018 in the Mission Lifeline EMS STEMI Quality Achievement Award.
- Secured property to house an additional Paramedic unit.

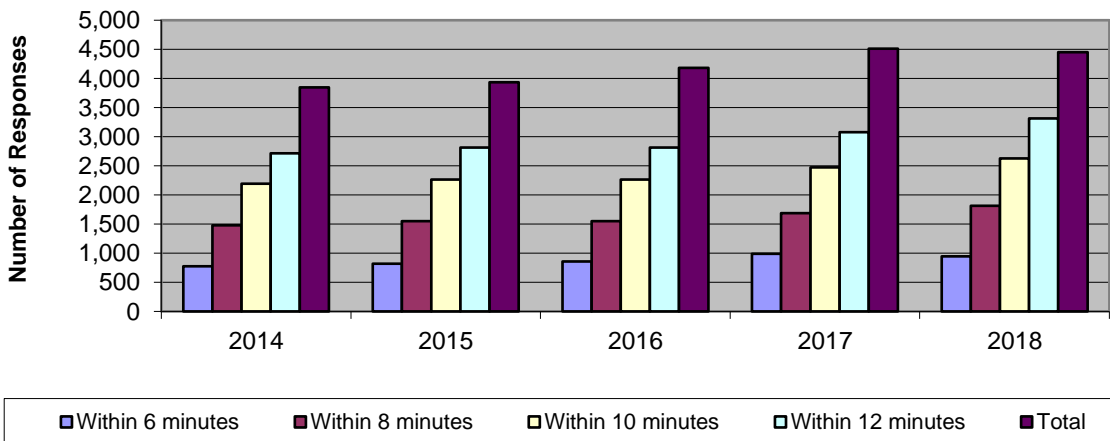
Delta Level Response, Kent County EMS



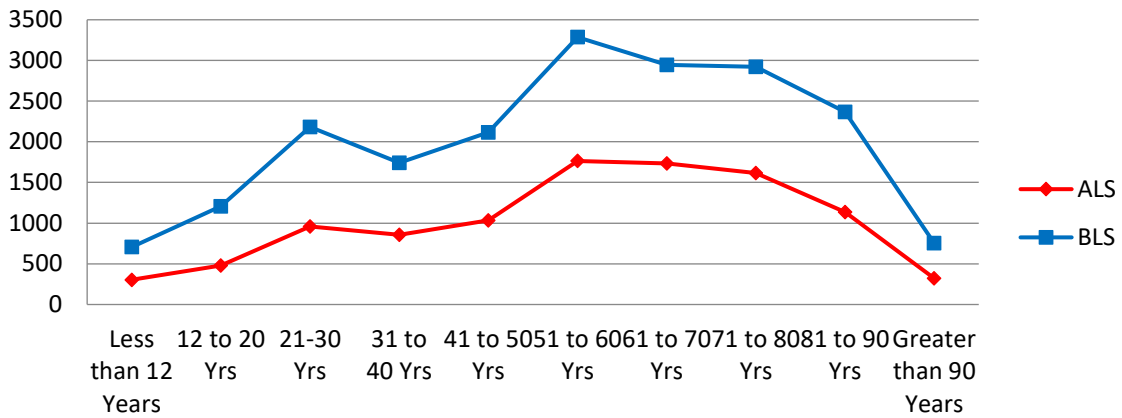
Echo Level Response, Kent County EMS



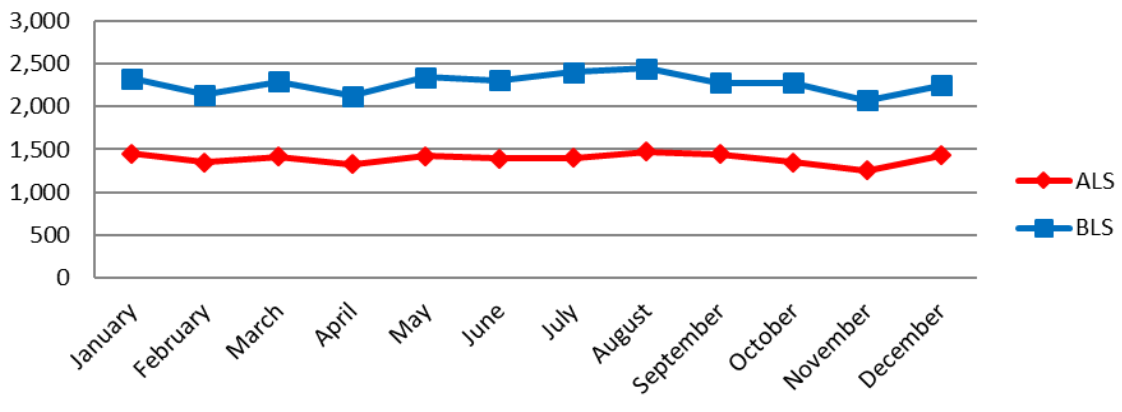
Charlie Level Response, Kent County EMS



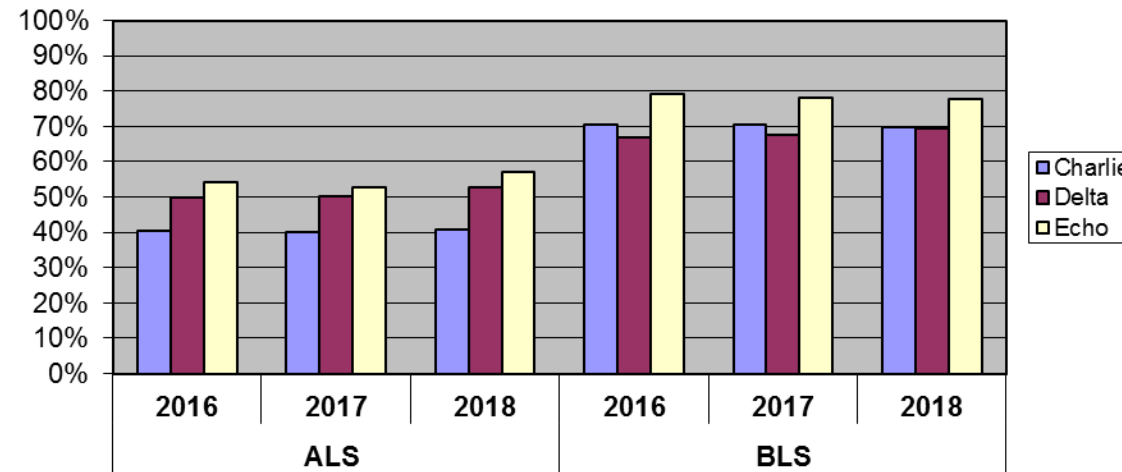
ALS and BLS Patient Age Comparison - 2018 Kent County



ALS/BLS Incidents by Month - 2018 Kent County



Percentage When Kent County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents - 2018



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 2018 was 90,982. Another 51,199 non-emergency calls were also processed by our dispatchers. The Center dispatched or processed 30,695 medical incidents, 6,724 fire incidents and 103,673 police incidents in year 2018.

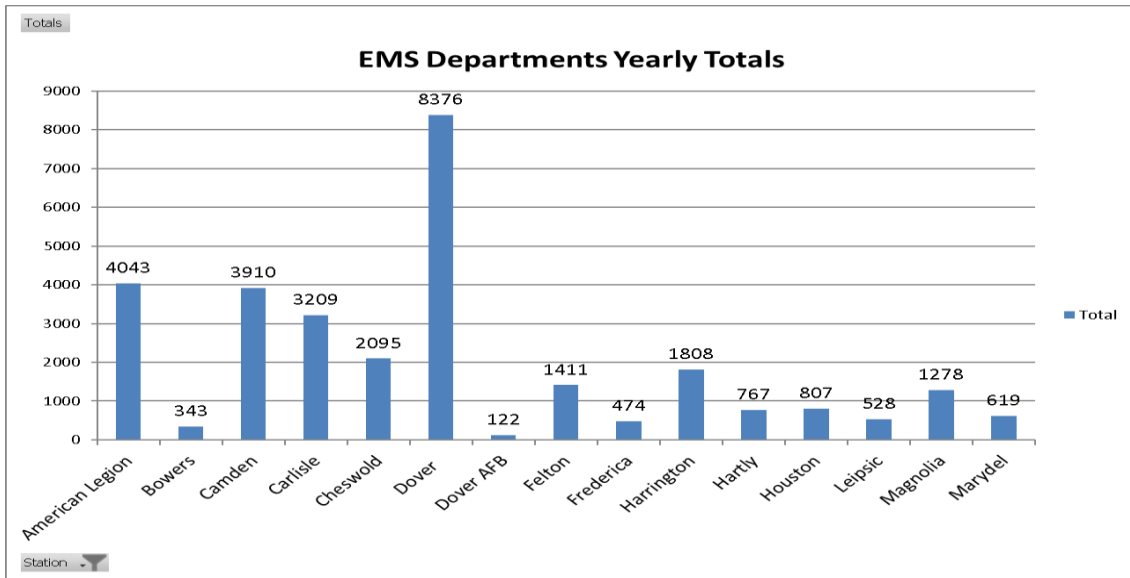
Emergency Medical and Fire Dispatch



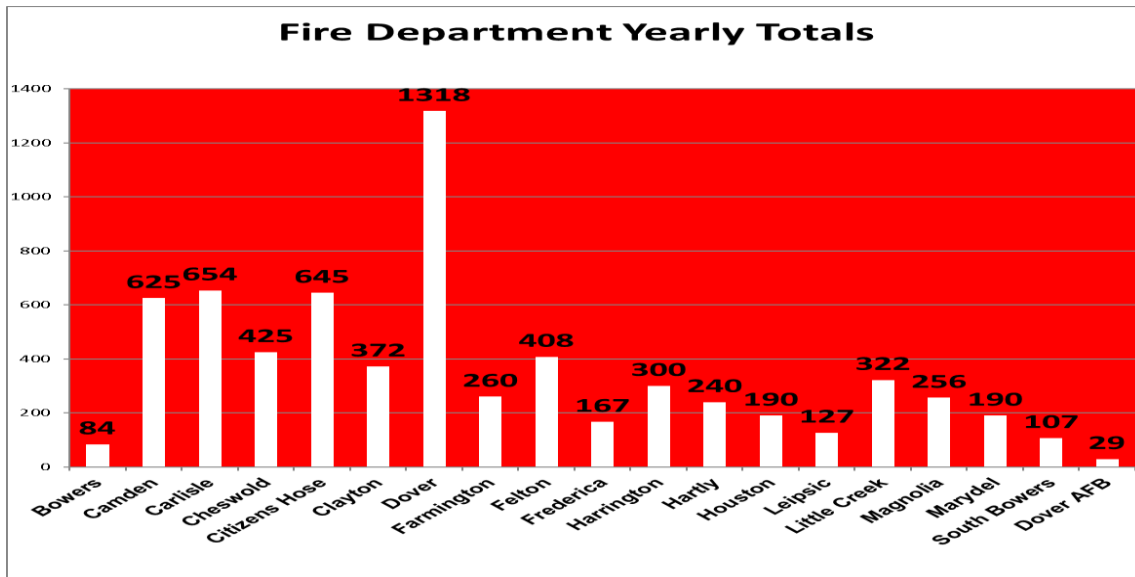
The Kent County Emergency Communications Center provides Fire/EMS Communications to eighteen Volunteer Fire Companies, two EMS Companies and the Kent County Paramedics. The Center is staffed with twenty-two Fire/EMS dispatchers and an Administrative staff of three personnel. The Delaware State Police 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. In the spring of 2019 all dispatchers will be trained and certified in the use of Police Protocols.

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 sixth 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 2018.



This chart represents the total fire related responses by Company in 2018.

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.



Kent County Levy Court implemented PulsePoint during the calendar year of 2018. PulsePoint is a smartphone application that runs in the background of a user's phone and notifies citizens with registered CPR certification of a possible CPR event nearby. The app only activates if the incident is happening in a public place, and does not activate for residential addresses. This is now a statewide program.



Three of the biggest challenges Kent County Public Safety encounters each year are 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.



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Sussex County

Advanced Life Support 133
Report submitted by Director Robert Stuart

Communication Centers 144

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2018 ANNUAL REPORT

SUSSEX COUNTY EMERGENCY MEDICAL SERVICES

"Caring People. Quality Service"



INTRODUCTION

2018-2019 Sussex County EMS Goals

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

In 2018, Sussex County Emergency Medical Services (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 vehicle is 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.

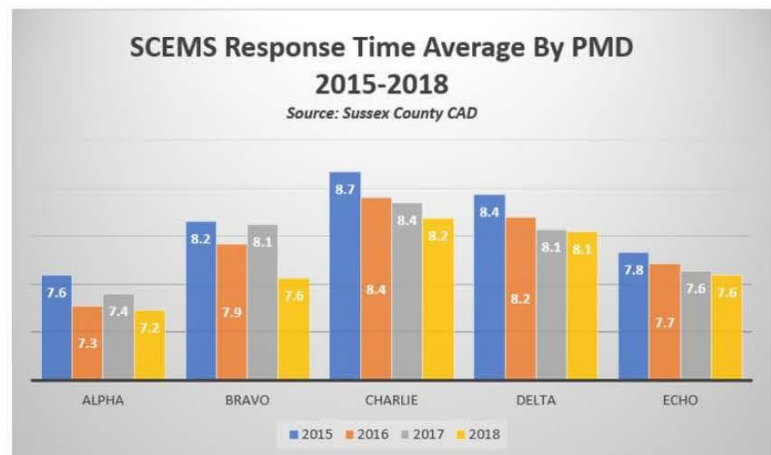
We work closely with fire department-based Basic Life Support (BLS) services, volunteer ambulance services, local hospitals, state and local police, and private aeromedical services, as well as taking part in the Delaware Statewide Paramedic Program.

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

2018 INCIDENTS

Call Volume: Sussex County EMS experienced a 2% increase in responses in 2018. Over the past ten years, SCEMS has experienced a 50% increase in the number of responses to calls for service. Our department has eight paramedic units staffed with two paramedics and one single paramedic ALS First Response unit in service 24 hours a day strategically positioned throughout the county to minimize response time to calls for service.

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



SCEMS Response Time Averages (source: SCEMS)

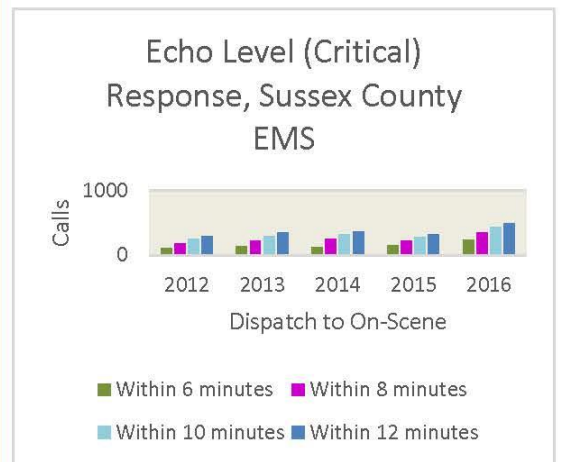
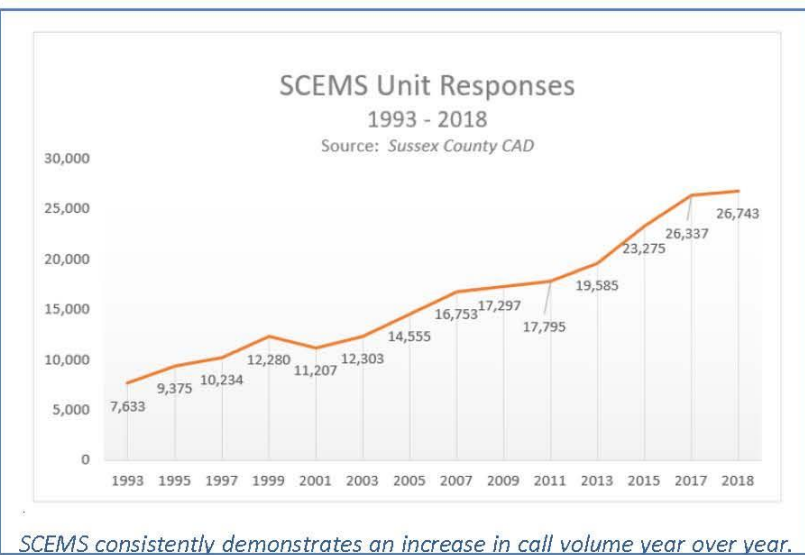
months, especially in the beach areas. SCEMS demographics show that 12% of our patients reside from outside Sussex County.

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 09 AM until 9 PM. 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 graph demonstrates, we have shown significant improvement toward achievement in the last four years. This is due to the increased proactive operational "splitting" of our dual paramedic units into single-paramedic units for area coverage. 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.

2018 Incident Responses		
Unit	2018 Volume	Change from 2017
EMS 100 (Eastern Supervisor)	960	-1%
EMS 200 (Western Supervisor)	1,019	12%
EMS 20 (Shift Commander)	184	28%
Medic 101 (Lincoln)	2,501	1%
Medic 102 (Laurel)	2,185	-12%
Medic 103 (Dagsboro)	3,016	-1%
Medic 104 (Lewes)	3,748	2%
Medic 105 (Millville)	2,432	7%
Medic 106 (Long Neck)	2,915	0%
Medic 107 (Bridgeville)	1,859	-57%
Medic 108 (Georgetown)	2,407	0%
Medic 109 (Summer "Power Unit")	487	27%
Medic 110 (Seaford)	2,676	45%
Special Operations	182	-12%
Other (Administration)	172	-3%
Total	26,743	2%

Incident Responses by Unit (Source: Sussex County CAD)



PERSONNEL

Staffing: Sussex County EMS entered 2018 with 4 vacant paramedic positions. During 2018, SCEMS had nine employees separate from the department and hired 11 new paramedics. Two of the separated employees were retirees who attained 25 years or more of service. Four of the new hires were graduates from the Delaware Technical and Community College Paramedic Program and the remaining seven employees were hired from other areas of the state or country.

OPERATIONS



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

Active Assailant: SCEMS continues to actively train and support plans in place addressing responses to Hostile MCI's (Active Shooter / Active Assailant) events. In 2018, the State of Delaware Active Shooter / Hostile MCI Best Practices Plan was adopted by representatives across multiple disciplines and jurisdictions

Special Events	75
Bike Medic Events	14
Public Education Events	60
149	
Hands Only CPR events	30

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

including SCEMS. Locally, the plan was adopted by the fire chiefs at a Sussex County Callboard Meeting and a Sussex County addendum was created addressing local needs. SCEMS personnel continue to train in the Rescue Task Force (RTF) Model with local fire, EMS, and law enforcement agencies. The RTF model allows fire / EMS entry into warm zones under the direction of law enforcement. All personnel have received awareness, operational and integration training. All personnel and response vehicles have assigned equipment allowing the rapid and safe formation of RTF's. SCEMS Active Assailant Committee members attended the Advanced Law Enforcement Rapid Response Training (ALERRT) conference in Texas. Remaining committee members attended the train-the trainer course in Civilian Response to Active Shooter Events (CRASE) and classes geared towards the Stop the Bleed campaign. SCEMS employees have participated in many local training events and have trained almost 1,000 residents in Stopping the Bleed.

Public Education and Prevention: The Public Information and Education (PIER) group focuses on our community injury and illness prevention and reduction. 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. Our current focus is on Cardiac Arrest Survival and Active Assailant / Stop the Bleed. In 2018, SCEMS taught Civilian Response to Active Shooter Events (CRASE) to 300 civilians and



SCEMS Healthcare Exploration Camp (source: SCEMS)

900 civilians were taught Stop the Bleed. CRASE and Stop the

Bleed will continue to be a focus of public education in 2019. 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 2018, 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. 2018 saw the continuance of 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 2018, we taught over 3,500 people 10-minute CPR. In 2018, Sussex County EMS partnered with Delaware Tech to provide a healthcare exploration summer camp for youth to learn about careers in healthcare. 16



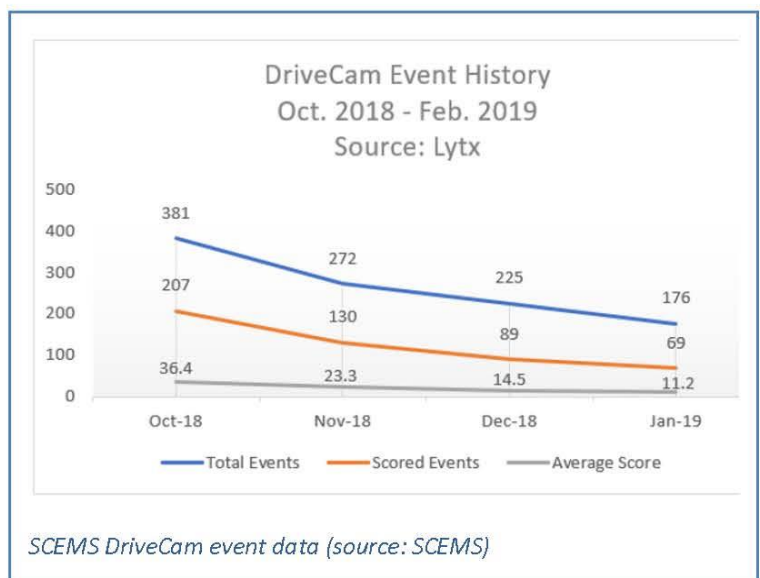
SCEMS paramedics taught over 3,000 citizens hands-only CPR in 2018 (source: SCEMS)

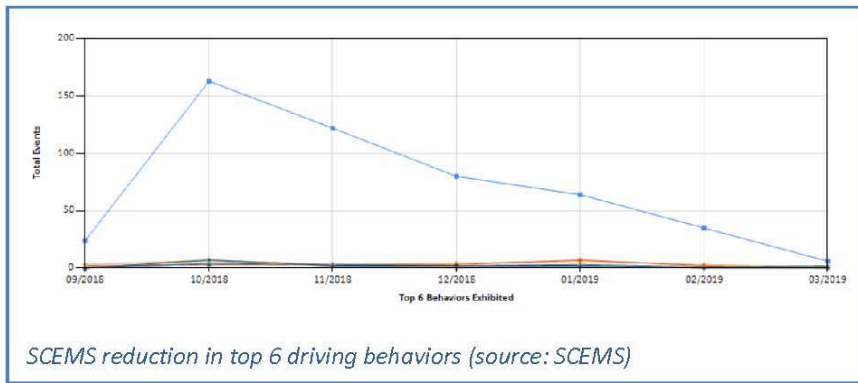
Students attended our camp where they learned CPR, anatomy and physiology, and about our EMS system, all of which culminated in active participation in medical simulation scenarios in our training center.

Naloxone and the Opioid Crisis: In 2018, Sussex County Paramedics entered into a MOU with the Office of EMS to provide Peace Officer Naloxone training. SCEMS continues to see a statistically significant increase in the numbers of overdoses and overdose deaths related to opioids. Our paramedic administration of Naloxone has decreased but the administration by Peace Officers, Basic Life Support and citizens has increased. SCEMS is represented at local community action groups and discussion panels regarding the opioid epidemic.

Provider Mental Health: The Critical Incident Stress Management (CISM) Team continues to provide an outstanding resource for not only Sussex County EMS, but other departments in the area as well. Our team works in conjunction with teams elsewhere in the state and region to provide resources, defusings, debriefings, and follow-up for first responders that may have experienced a stressful incident or those that may be suffering from cumulative stress. The CISM team has also provided resources to those in the general public that have been present during a potentially stressful event in which SCEMS responds. The CISM team works side-by-side with our Chaplain program. Our team members have furthered their education and training by attending a nationally renowned course sponsored by SCEMS titled “Suicide Prevention, Intervention, and Postvention”. This course is important as EMS providers have 10 times higher than national worker average to attempt suicide. In addition, team members have taken additional International Critical Incident Stress Foundation and state-sponsored trainings outside of working hours to improve the services they provide. For SCEMS, the CISM team surveyed the members of the department about mental health services they have received in the area. Nationwide, it is a struggle to find mental health services, let alone providers that are familiar with first responders and the situations we face. Using the results of the survey, the CISM team created a list of providers that have been vetted by our team as having experience with first responders. This list is to be available for department members at work, at home, or on the go. The resources we have in place, (formal defusings/debriefings, having a chaplain ride along, having a certain person as a partner following a stressful event, etc.,) are very helpful and can get someone through a tough time, but they are by no means all-inclusive. Our team members work with the other members of the department to determine what the individual paramedic needs and what is best for that paramedic’s given the situation. Through continuing education, departmental training, and working with other CISM teams, we continue to progress to provide the best services we can for SCEMS and the region.

DriveCam: On October 1, 2018, SCEMS purchased, installed and implemented the Lytx DriveCam® Fleet Management System system-side after implementation for administration and supervisory staff the prior year. This system uses G-force sensors and interior/exterior facing windshield cameras to document driving behaviors that can be coached to reduce our driving risks. This system will also capture audio and video during a vehicle crash. The system is installed on all vehicles in our fleet. Once an event is triggered, the data is uploaded to safety experts at Lytx for review, assessment and assignment of “points” based on the severity of behaviors they observe. Coachable behaviors are then sent to our SCEMS portal where the employee’s supervisor review with the driver the





footage and displayed driving behaviors. The ultimate goal is that the drivers learn from the coaching and our driving risk is reduced. Since system-wide implementation on Oct 1, 2018, we have demonstrated a 67% reduction in the number of scored events and a 69% reduction in the average score of our events. In our opinion, this risk reduction safety initiative has been a huge success. At the end of the day, our

people get to go home to their families.

EDUCATION AND QUALITY MANAGEMENT

Accreditation: SCEMS has continued its pursuit of CAAS accreditation. We have made substantial progress during 2018 and expect to submit our application for review by June 30, 2019 with a site visit to be scheduled in late 2019. This initiative has prompted SCEMS to do a complete policy review and close some gaps that were identified in our administrative policies and procedures.

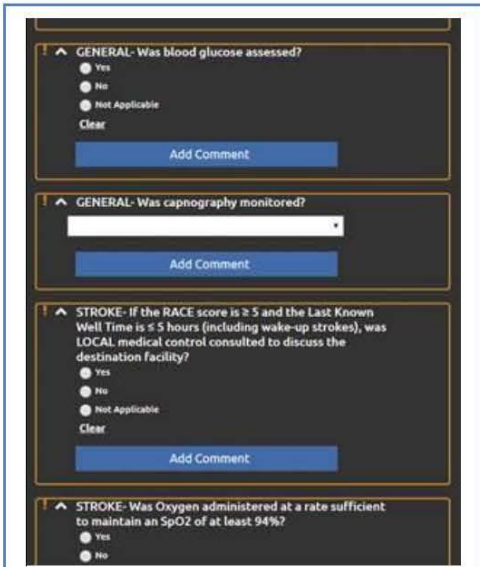
Handtevy® Pediatric System: One of SCEMS most important initiatives for our patients in 2018 was the implementation of the Handtevy Pediatric Emergency Standards system. Critical pediatrics are a paramedic’s

worst case-scenario. The stress of attempting resuscitation on a child combined with the weight-based math needed for medication administration can be overwhelming. National data shows that pediatric resuscitation rates are dismal. Recent studies have shown dramatic improvement in resuscitation rates when using the Handtevy® system. The Handtevy® system pre-loads Delaware protocol drug dosing, combined with the standard concentration of medication we carry, and calculates the medication math down to the volume of medication to be administered for each age group of pediatrics. In addition, it includes dosing for adult patients. Additionally, it recommends the proper size of equipment to be used to resuscitate each specific age. SCEMS sent two field paramedics to become Handtevy® Instructors and the system was implemented on December 1st. The classroom portion changed the culture from “scoop and run” with a minimum of treatments performed prior to arrival at the hospital to treat, stabilize and then transport. The system has been met with rave reviews by our providers and has been used on numerous pediatric and adult patients since implementation. The ease of use and confidence it gives the paramedics to treat the patients quickly, accurately and safely will make Handtevy® one of the most important initiatives in SCEMS history.

SCEMS Handtevy® portal.
(source: SCEMS)

Drug	Conc.	Vol.	Rt.
Fentanyl Pain	50 mcg/mL	0.2 mL	IV/IO IM/IN
Glucagon Hypoglycemia	1 mg/mL	0.5 mL	IM
Glucose (Oral)	15 g/tube	N/A	PO
Haloperidol (CMC) Haldol	5 mg/mL	0.2 mL	IV/IO IM
Ipratropium (CMC) Atrovent	0.5 mg/2.5mL	CMC	NEB
Ketamine IV Induction	50 mg/mL	0.2 mL	IV IO
Ketamine IV Induction	100 mg/mL	0.08 mL	IV IO

ImageTrend Elite CQI and Variance System: 2018 was a year of transition for the EMS reporting system utilized statewide. The Elite platform by ImageTrend® has added a new Continuous Quality Improvement (CQI) module to the Delaware Emergency Medical Reporting System (DEMRS) reporting system. This CQI module has allowed SCEMS to accomplish several important tasks. First and foremost, a robust peer review system has been built, and continues to be modified for optimal performance. This allows for patient complaint specific questions to help guide the peer review of the patient care report. The addition of these questions helps to eliminate some of the individual reviewer bias by providing questions specific to the nature of the call. Second, a patient follow-up loop has been created that allows for patient outcome information, such as a diagnosis and hospital outcome, to be shared back to the SCEMS paramedics that cared for the patient. Timely feedback allows for the paramedics to self-review and critique their care and decisions now knowing the course of hospital care and treatment. Finally, a variance system has been “created” to allow paramedics to self-report any deviations in care, mistakes, malfunctions in equipment, or any other information that seems relevant to note, but not to be contained within the patient care report itself. The variance system is a tool that has been lacking since the migration away from the EDIN reporting system. While this system is a work-in-progress, it is working and allows for trends to be tracked and corrected.



Sample of SCEMS CQI program. (source: SCEMS)

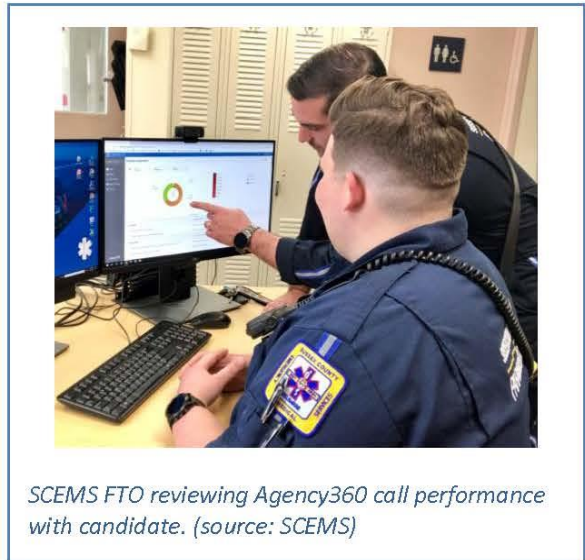
Continuing Education: SCEMS continues our tradition of providing high-quality continuing education for our staff. We have maintained our format of combined classroom education and scenario-based simulation team learning at our continuing education sessions. Although the majority of our continuing education is on clinical topics that refresh existing skills and knowledge and introduce new knowledge to our staff, we have seen a dramatic increase in the operational training we are providing to our staff. 2018 saw a focus on our staff’s mental health and psychological trauma awareness and mitigation techniques. We have introduced four iSimulate® systems into our education program. These systems transform medium-fidelity training manikins into higher fidelity creating a more immersive simulation to include cardiac rhythm, pulse oximetry and capnography, 12 lead ekg and more. The operator can change the patient’s vital signs and response to treatment or medications on the fly or let a programmed scenario unfold without operator adjustment. These systems will become the cornerstone of our afternoon small-team clinical scenarios at each month’s continuing education.



SCEMS implemented the iSimulate® simulation monitors (source: iSimulate®)

Field Training Program Improvement: Sussex County EMS and Delaware have one of the longest standing Field Training Officer (FTO) programs in the United States. Although minor to moderate adjustments have been made through the years, it was decided to give the program a major overhaul. The goal was to improve the overall effectiveness of the department’s onboarding, evaluation and training of new staff. Our on-boarding academy is now three weeks of intensive classroom and hands-on training, simulation and evaluation prior to entering the Field Training Evaluation Program. SCEMS determined that the best option was to blend our existing program with a national standard program called Field Training Evaluation Program (FTEP).

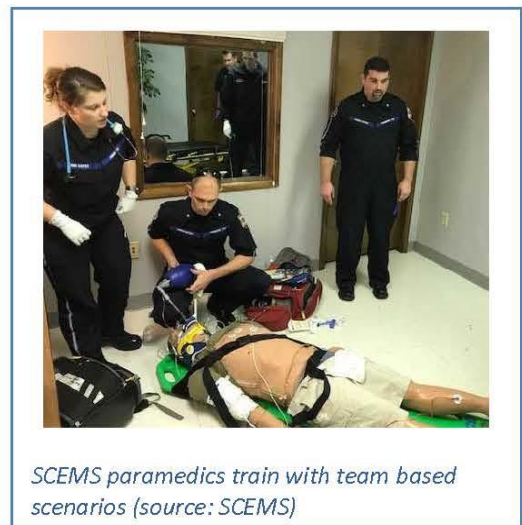
FTEP is a program overseen by the National EMS Management Association. It is a structured and closely supervised program provided to probationary paramedics to facilitate the application of skills and knowledge and observe actual performance in on-the-job situations, clinically and operationally. This program is designed to identify compliance and / or deficiencies in work performance, document procedures and provide a mechanism by which performance can be evaluated. This four (4) phase evaluation program instrumentally guides our new/entry-level paramedics through the Paramedic Academy (Phase 1), Paramedic Mentoring (Phase 2), Paramedic Evaluation Leadership (Phase 3), and Daily Observational Reports (Phase 4). On average, our new / entry-level paramedics complete their FTEP in 3-6 months depending on call volume.



SCEMS FTO reviewing Agency360 call performance with candidate. (source: SCEMS)

Additionally, SCEMS has invested in a program that offers complete transparency, consistency, as well as detailed cloud-based documentation of a paramedic candidate's performance. The Agency360 Software has been instrumental in providing clear guidelines and expectations to both the candidate and the field training officer about what is required throughout the FTEP process. Our Field Training Officers complete their assessment of the candidate's performance online which is then readily available for aggregate data on individual and system performance. This has improved our recordkeeping, consistency and timely feedback to the candidates. Agency360 has been extremely responsive to our needs and we have become a model-user of the program for EMS departments. Agency360 has updated its program and added features based on our recommendations and feedback.

Simulation Program: In 2018, SCEMS moved forward with holding high fidelity simulation sessions on a bi-weekly basis throughout the year. All staff paramedics now attend simulation sessions annually. We utilize a Simulation Technician and 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. We have purchased an "Apollo" Human Patient Simulator (HPS) to replace our aging Meti-Man HPS as well as upgrading the control systems and video capture systems. These life-like manikins breathe, create heartbeats and pulses, change pupil size and many other human functions. It will respond to medications and near every procedure we can perform as a paramedic can be performed on the manikin. Included in this initiative is training and education for all Simulation Team members on the use of this new equipment.

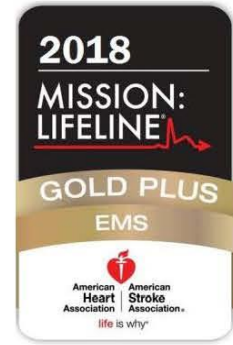


SCEMS paramedics train with team based scenarios (source: SCEMS)

AWARDS

Mission LifeLine: Sussex County EMS was proud to receive the 2018 GOLD PLUS Mission LifeLine award from the American Heart Association. SCEMS joined 164 other EMS agencies from around the country (only 0.5% 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. This is a 3rd party assessment of our cardiac and stroke care and once again it proved that our paramedics are some of the best in the country.

JEMS Games: Sussex County EMS was proud to receive a Gold Medal in the 2018 JEMS games held in Washington DC. We competed against 27 teams from departments around the United States.. The final scenario this year was a boating accident with multiple patients. This continues SCEMS's achievement of being the most decorated team in the United States, medaling in 7 of the last 14 years.



AHA Mission LifeLine national award (source: AHA)

LOGISTICS AND CAPITAL IMPROVEMENT

Logistics: SCEMS has a fiveperson Logistics Division that oversees and coordinates station, equipment, vehicle purchase, maintenance and uniforms. In 2018, they processed 3,025 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 31,219 requests for consumable paramedic equipment soft goods in 2018.

Response Vehicle Purchases: SCEMS placed in service four new response vehicles. These vehicles are designed by a field-paramedic led truck committee. Our fleet drove 524,770 miles in 2018.

Paramedic Station EMS 200/Medic110: During 2018, Sussex County received approval to begin construction of a new west-side facility to house the Seaford area paramedic unit, Medic 110, and the West District Supervisor, EMS 200, just north of Seaford. The land has been purchased and we are in the permitting phase with construction to begin soon.

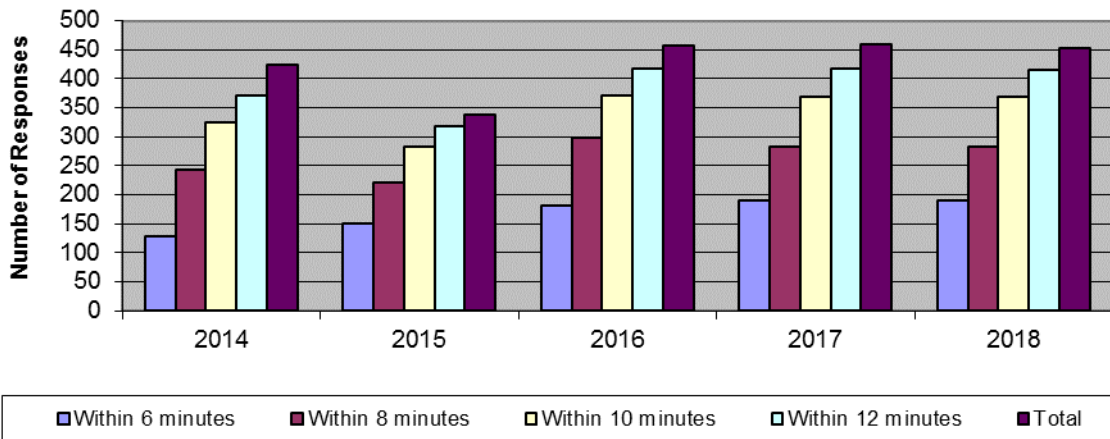
We anticipate completion of this facility in the spring of 2020.



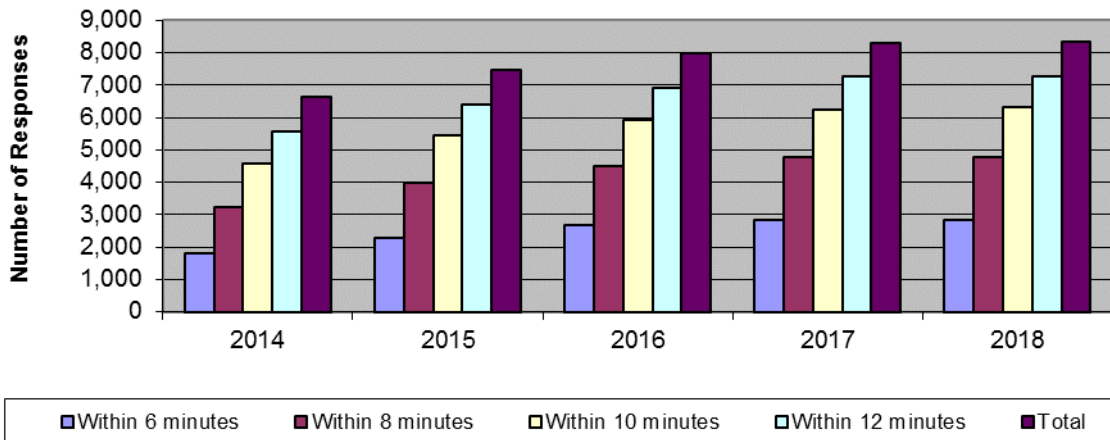
SCEMS response vehicle (source: SCEMS)

Special Operations Facility: SCEMS is working with County Engineering to construct a new Special Operations facility in Georgetown. This combined facility will house our mechanic and all our special operations equipment and trailers. This facility is near completion and move-in is expected by spring of 2019.

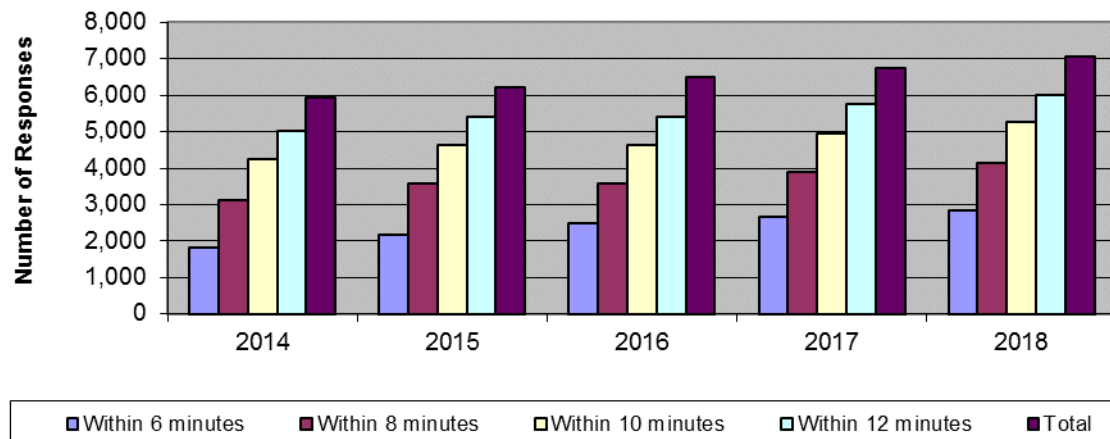
Echo Level Response, Sussex County EMS



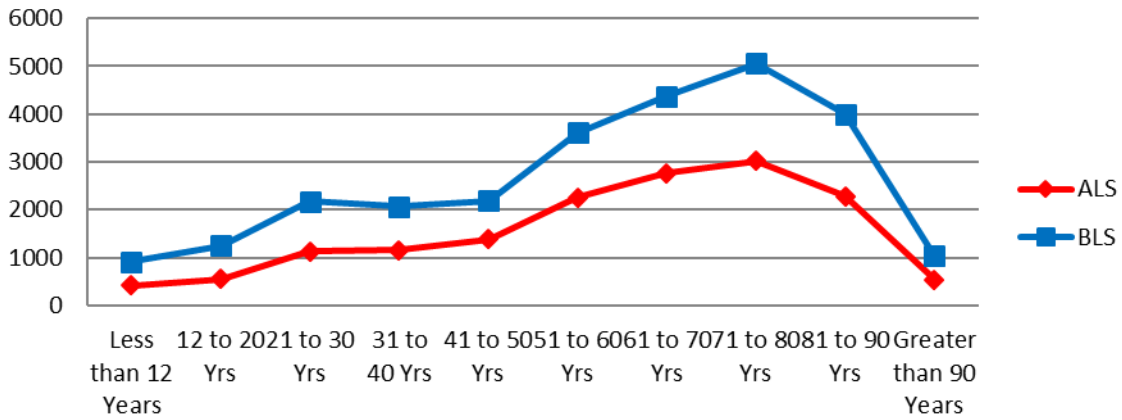
Delta Level Response, Sussex County EMS



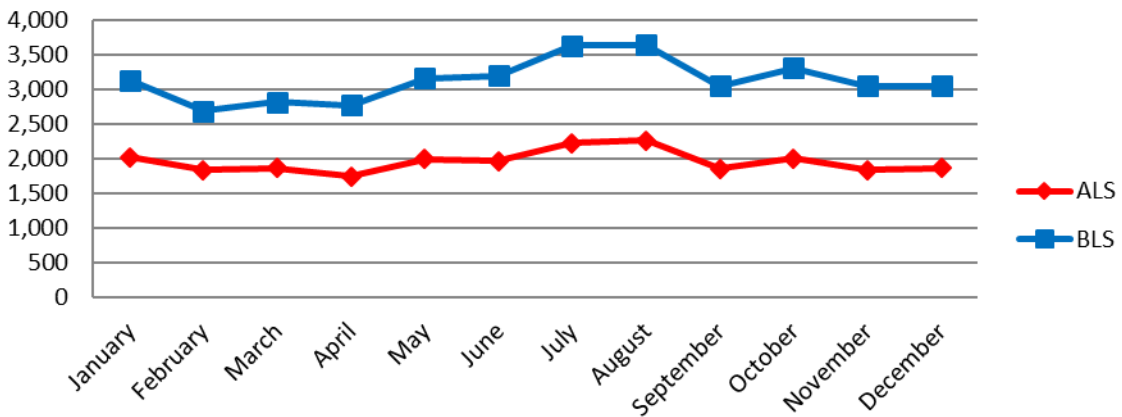
Charlie Level Response, Sussex County EMS



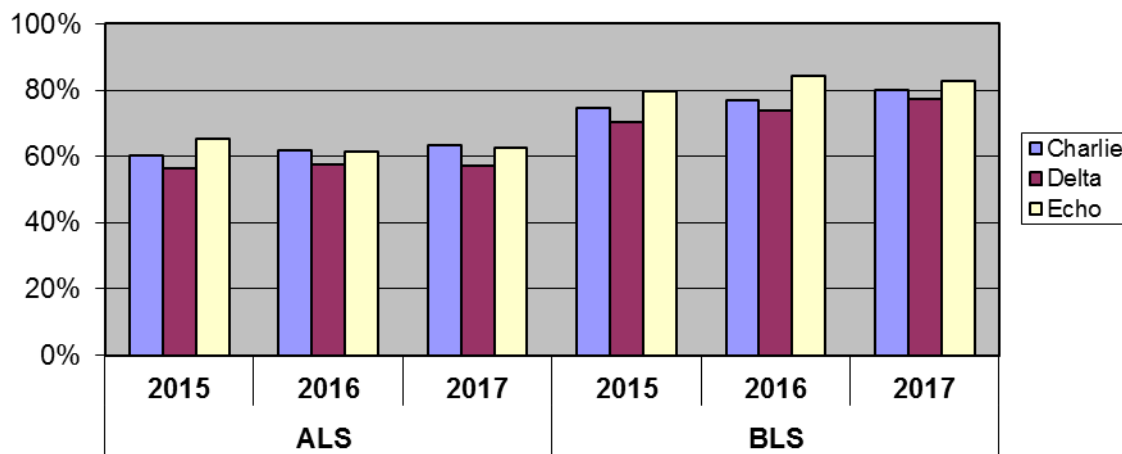
ALS and BLS Patient Age Comparison - 2018 Sussex County



ALS/BLS Incidents by Month - 2018 Sussex County



Percentage When Sussex County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents - 2018



Sussex County Emergency Communication Center



The Sussex County Emergency Operations Center / Fire and EMS Dispatch Center employs 24 full-time and 1 part-time Fire/EMS Dispatchers, 1 Operations Manager, 1 Quality Assurance Supervisor, and 1 Operations Support Officer along with the Director of the Department.

2018 Accomplishments:

Center 911 Computers: Since the beginning of 2019, we have updated software on the computers in the 911 Center that run our CAD. The Center has gone to wireless mouse and keyboards. This system now allows the dispatcher to have four monitors using only one keyboard and one mouse.

Smart 911: The program for Smart 911 panic buttons for schools was approved statewide. We continue to promote Smart 911 and Rave Facility, which creates a detailed building and campus information connecting instantly with 9-1-1 calls. It speeds response and increases safety for everyone.

Pulse Point: The Sussex County Emergency Operations Center continues to promote 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.

Computer Aided Dispatch System: On January 21, 2019, the CAD system was upgraded to the most current version. The CAD Mobile interface has experienced a significant upgrade with another in process. This more streamlined and responsive system has been a big hit with the users. Coming soon will be the mobile CAD interface integrated on cellphones of supervisory and administrative staff. The CAD system is now integrated with the leading technology of RapidSOS, which gives the dispatchers a more accurate location of cellular phone calls into the 911 center, this is better than the Phase II location given by the cellular providers or handsets. In November, we implemented Emergency Police Dispatching into the CAD system, which now allows the dispatchers to use a protocol that will allow all of them to ask the same questions as well as be a backup to the Delaware State Police Communication Specialists. We currently have location of AED's to be displayed to the dispatchers when taking 911 calls for cardiac events, this data is provided from the PulsePoint data that is collected. We are also expected to rollout the PulsePoint Verified Responder which would allow off-duty or nearby professionals to respond to private locations for cardiac events. We are currently working hand to hand with DELDOT to implement an advanced CAD-to-CAD interface that will give more functionality to unit statuses as well as unit locations. This will include multiple interface to other agencies i.e. DELDOT, Kent County 911 etc. We are in the process of having our maps redone to give the end users with MDT's a better-looking and workable map. This includes an upgrade to the MDT screens for the end users as well. We have placed in our budget (if approved) a solution to eliminate phone calls from alarm companies to be dispatched for fire or medical alarms. This solution will interface into our CAD system and will help speed up the time the alarm is set-off and the time first responders are dispatched. It will speed up the responder information when the alarm monitoring company gets the information.

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

Beta Test Site: Sussex County Emergency Operations Center / Fire and EMS Dispatch Center 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.

Re-accreditation: The Center was awarded our Medical re-accreditation in April. We continue to work towards meeting and exceeding the standards set by the International Academy of Emergency Medical Dispatch.

New Certifications: During September and October all the dispatchers were trained in Emergency Police Dispatch. This allows the Center to be a back up to the Delaware State Police dispatchers during extremely busy periods.

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 either have completed or are currently enrolled in the County’s Professional Leadership Development Course.

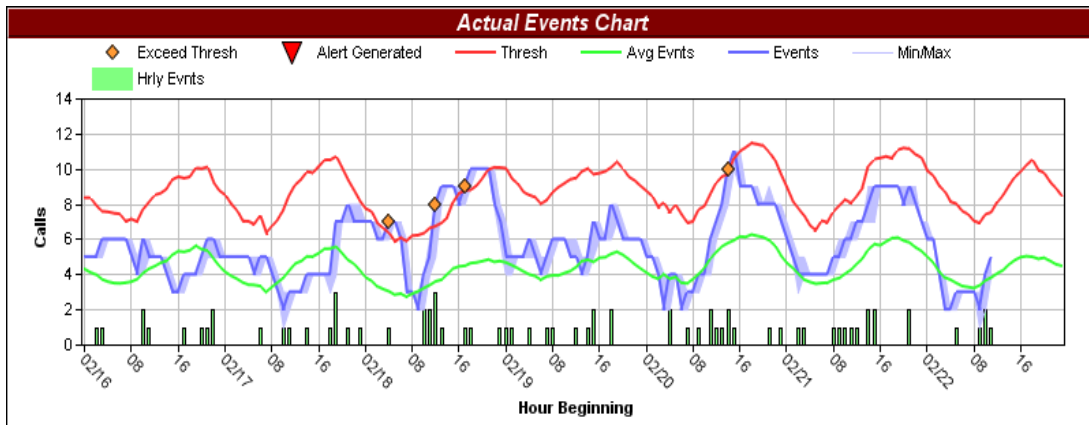
911 Day – This year the Center had over 1,600 students visit during our 19th Annual 911 Day. This was the largest attended 911 Day to date. Agencies from all areas of Emergency Response came to assist with the event.

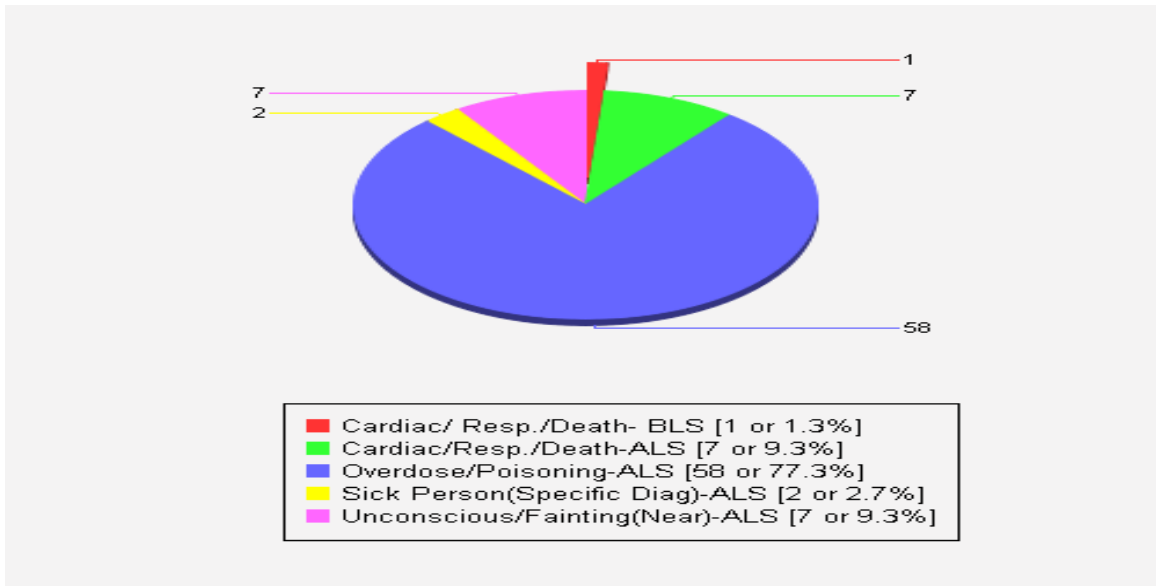


Diversion Reports: The Center compiles a diversion report for the three (3) hospitals in Sussex County as well as the two (2) hospitals in Maryland that border Sussex County. These reports are provided to the County and State Medical Directors quarterly and to the Office of EMS for the DEMSOC report.

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, SEIC, and other committees that involve both the 911 and Emergency Operations Center.

First Watch: With this program, we have been able to expand its bio-surveillance to include tracking overdoses and specifically heroin. Recently we provided the Office of EMS access to our alerts for overdose cases.





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 Unit: Sussex County continues to support all Public Safety agencies in Sussex County with the Mobile Command Unit (MCU), whether it be scheduled events or Incidents. The MCU can be found at many community events educating the public on 911 services.



In 2018, the MCU was utilized on 38 deployments, the most deployments to date. Some examples of deployments are training exercises (active shooter & firefighter mayday), 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 also 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 continues to work closely with the Delaware State Police Aviation Section to provide dispatch with real time access to scene conditions.

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

2018/19 Challenges: The Center faced a huge challenge with the sudden loss of two dispatchers.

2019 Goals:

Upgrade the Dispatch Consoles by replacing the CPU Cabinets and install matching consoles sections with work surfaces and CPU Holders underneath. This will open up the room and give more work surface on each side for the dispatchers and equipment.

Replacement of existing carpeting in dispatch center with antistatic carpeting, which controls static discharge. The main purpose of this type of flooring is to help reduce possible electrostatic discharge. This flooring option is especially important within electronics where static can cause interference or damage to equipment.

Rehoboth Beach Communication Center

Submitted by Tammy D. Ketterman

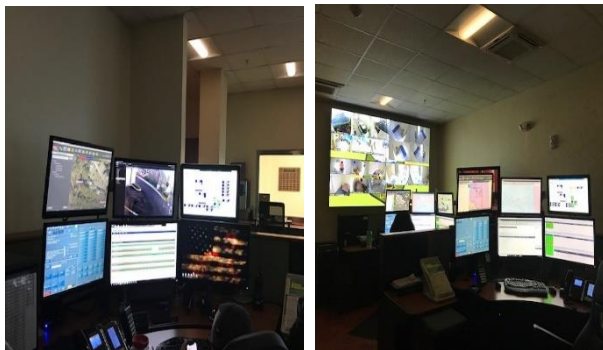
The Rehoboth Beach 9-1-1 Communications Center receives 9-1-1 calls through phone exchanges and cell towers in the Rehoboth area. The total number of 9-1-1 calls processed in year 2017 was 6,881. Another 34,664 non-emergency call were also processed by our Telecommunicators. The Center dispatched and/or processed a total of 3,427 EMS Incidents, 645 Fire Incidents, 3,722 Police Incidents, and 3,114 traffic stops in year 2018.

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 2018 the Center's overall EMD compliance rate was above the National Academy Requirements. The National Academy changed the compliance rate from percentages to High Compliance, Compliant, Low Compliance, Partial Compliance and Non-Compliant.

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 nine 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 2018 focused on Fire and Police National Academy Protocols, working with the 9-1-1 Administration on upgrades to our CAD System and upgrades to the 9-1-1 system. We continued to focus on training in 2018, we sent two Dispatcher's to Las Vegas, NV for the National Academy of Emergency Dispatch Conference. We will continue to focus on training and receiving Accreditation for Fire and Police Protocols for the year 2019.



*Picture submitted by Rehoboth Beach 9-1-1 Center
New Dispatch Center*



*Picture submitted by Rehoboth Beach 9-1-1 Center
2018 Dispatchers and Supervisor*

Seaford Police and E-911 Communication Center

Submitted by Anita Bell

Seaford E-911 Center, is an Enhanced 911 PSAP (Public Safety Answering Point) that operates 24 hours a day, 7 days a week providing Police, Fire, and EMS communications to the City of Seaford Police Department, Seaford Volunteer Fire Department and Seaford EMS. The Seaford E-911 center handles police administrative calls, after hour calls for City Hall, and walk-in complaints. The Communications center is staffed with eight (8) full-time 911 Dispatchers, two (2) part-time 911 Dispatchers and one (1) 911 Dispatch Administrator/EMD-Q. The Seaford 911 Center operates within the Seaford Police Department and has 4 dispatch consoles, 1 of which is a fold down station for State Police Dispatch (Suscom) and the Emergency Operations Center (EOC) in Georgetown.

2018 accomplishments: Seaford 911 installed the Verint recording system and went live with TEXT 2-911. All Seaford 911 Dispatchers became Emergency Police Dispatch Certified, two (2) became EPD-Q certified, through the National Academy of Emergency Dispatch effective November 1, 2019. Seaford 911 Center was recognized by the National Academy of Emergency Dispatch as an Accredited Center of Excellence in August 2003 as the 83rd agency in the world to be accredited. Seaford 911 Center is currently accredited until 2021.

Our future challenges and goals: Seaford 911 dispatchers are currently in the process of taking the EFD – Emergency Fire Dispatch certification class through National Academy of Emergency Dispatch, along with two (2) dispatchers, possibly three (3) becoming EFD-Q certified. We are anticipating to go live with new fire protocols in February/March 2019. We will continue to upgrade the New World CAD.net to further enhance the safety and response to the residents of the State of Delaware.

The Seaford 911 Center received approximately 40,000 emergency and non-emergency calls through various administrative 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 2018 the Center dispatched/processed a total of 810 fire incidents, 3547 ambulance incidents and 15,488 police incidents. Seaford EMS had a total of 111 scratched calls for the 2018 year with a scratch rate of 3%.



Photo submitted by Anita Bell

Aviation

Delaware Air Medical Services 153

Delaware State Police 155

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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 four 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*. Of the eight out-of-state services, three are based in Pennsylvania, three in Maryland, and two in New Jersey.

2018 Accomplishments

Delaware's air medical system has evolved from one part-time service (1985-2001) to the current full complement of ten 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.

Safety has continued to be a priority in all aspects of air medical transportation in our state. 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.

2019 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 2019, as the number of trauma patients as well as those 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. Trauma and burn surge preparedness are the focus of the Hospital Preparedness Program for 2018-2020, and the work being done in 2019 includes adequacy of interfacility transport resources under both normal and disaster circumstances.

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'*. Availability of the resources to quickly transport patients in need of tertiary care remains a focus of statewide and regional planning.

Delaware State Police Aviation Section



MISSION STATEMENT

To enhance the service provided by the Delaware State Police with effective and efficient aviation resources, to safely support the delivery of law enforcement, emergency medical services, search and rescue operations, while enhancing the quality of life for all Delaware citizens and visitors.

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.

2018 Accomplishments

In 2018, the Aviation Section had an extremely busy year with its diverse and ever growing mission profiles:

Law Enforcement Profile

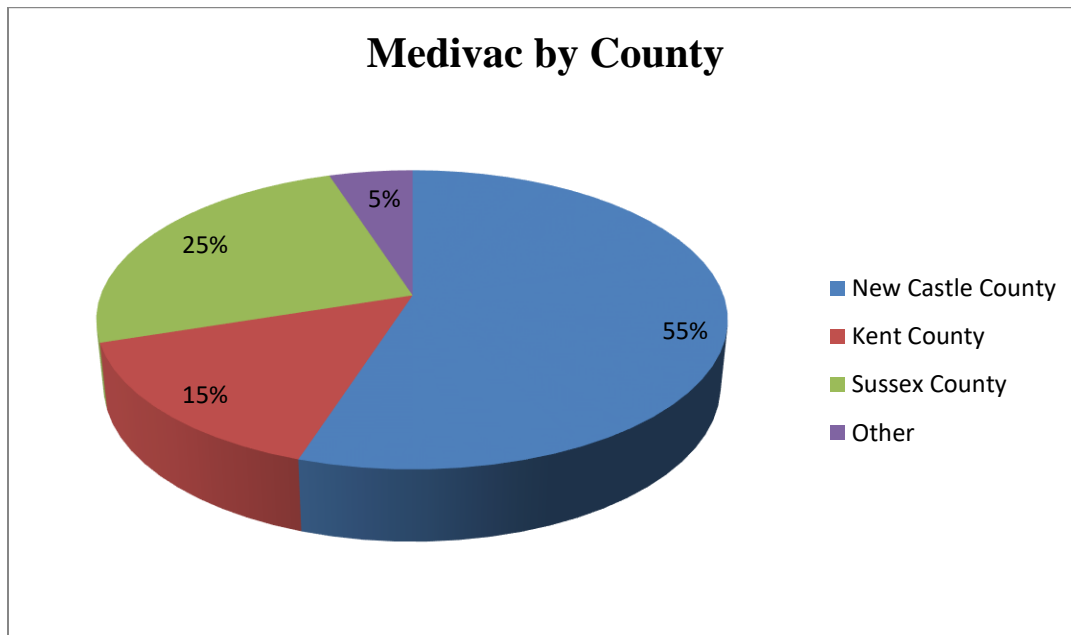
The Aviation Section supports State, Federal, and Local law enforcement by providing aerial assistance in several areas:

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

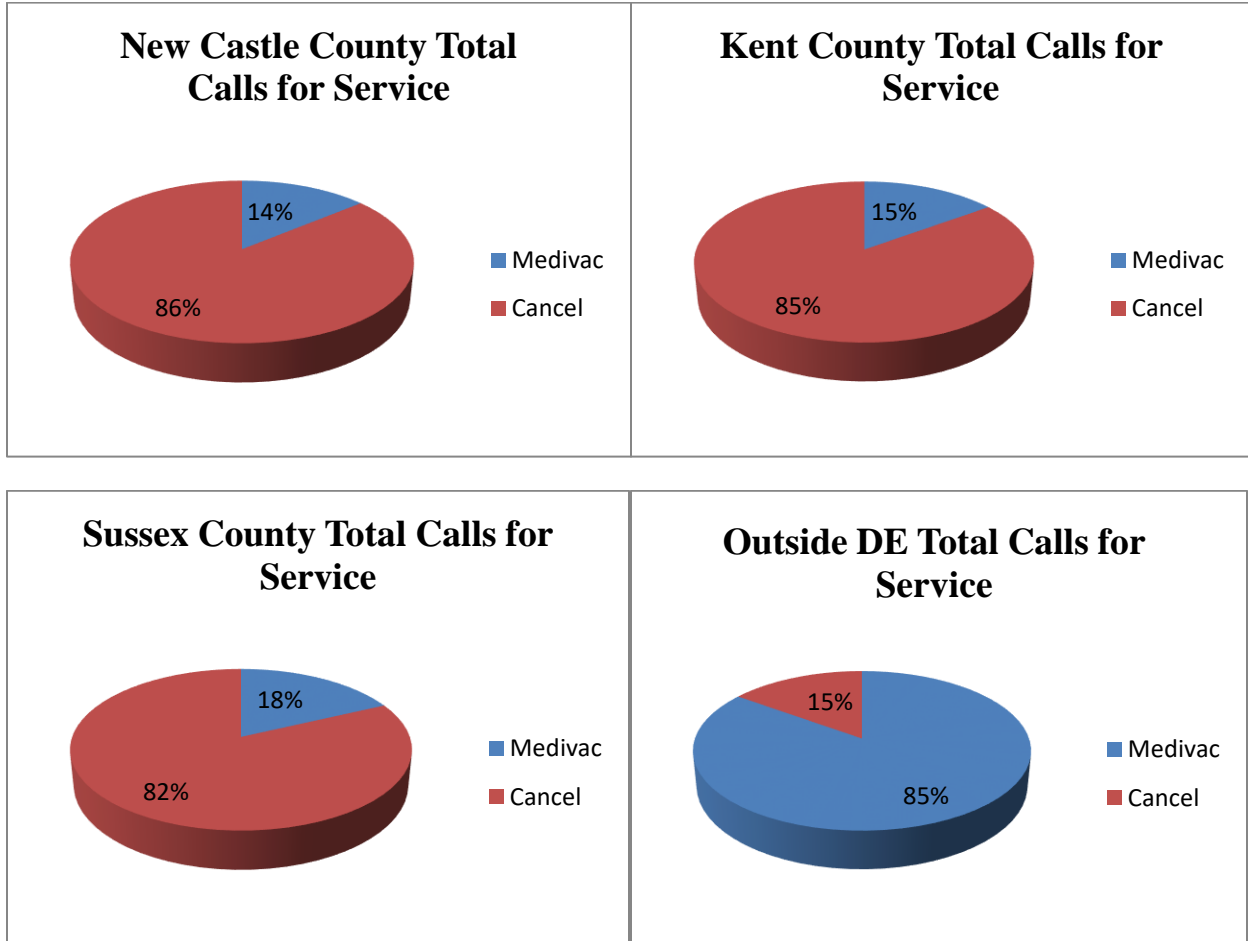
In 2018 the Aviation Section conducted 429 Criminal Searches resulting in 132 apprehensions and 75 Pursuits resulting in 52 apprehensions. This works out to approximately 1.2 Criminal Searches a day that result in a 31% apprehension rate and approximately 1 Pursuit every 5 days that result in a 69% apprehension 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 2018, the Aviation Section had 1,528 requests for medivac services.



Mission Data



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 State Coast Guard by providing aerial support, rapid insertion, and hoist evacuation capability for the entire State of Delaware, its coastlines, its many waterways, and its diverse landscape.

In 2018 the Aviation Section conducted 112 Search and Rescue Missions resulting in 82 missions where the person, vessel, and/or aircraft were located.

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, EOD, TCU, SCUBA, & DART
 - Wilmington Police Department SWAT & EOD
- Medical Stand-by Support
 - Special Events
 - NASCAR & Firefly

- Applicant Testing
 - Delaware State Police & Department of Corrections
- Academy Training
- Medical Instruction

In 2018, the Aviation Section conducted 126 Tactical Medic responses, provided 80 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 workforce.

There are 354 Boxes (or 708 Doses) of Narcan deployed in the field. In 2018, Narcan was administered in the field 38 times. This works out to approximately 3 administrations by a Trooper a month. There are 400 AEDs deployed in the field. In 2018 an AED was used 40 times. This works out to approximately 3 AED utilizations by a Trooper a month. In 2018 nine potential infectious disease exposures were investigated. All nine investigations were classified as non-significant exposures requiring no prophylactic care or additional follow-up.

Medical Equipment and Training

In 2018 the Aviation Section researched, developed, and implemented tourniquet training for all 740 Troopers. This included purchasing equipment, writing policy, and conducting kinesthetic learning sessions. Now all Troopers in the State of Delaware are required to have a tourniquet on their person while on duty.

Also in 2018 the Aviation Section researched, developed, and purchased Individual First Aid Kits (IFAK) for all 740 Troopers. Policy is currently being written and training for the new kits will begin in February of 2019.

2018 Challenges

Staffing:

In 2018, oral board interviews were conducted for potential Trooper Medic candidates. Through that process one Trooper was selected and is currently enrolled at Delaware Technical College.

There is one Trooper Medic who will reach mandatory retirement within the next eighteen months which will occur prior to the new Trooper Medic completing his paramedic training. This will require individuals to cover administrative responsibilities while at the same time covering crew shifts.

Training:

In an effort to increase the current level of training, in 2018 the Aviation Section mandated all of its Trooper Medics attend a 32 hours paramedic refresher course every two years.

Fatigue:

The Aviation Section follows strict mandates set by the FAA and Division to mitigate fatigue. The 24-hour shift the Section uses is still under review.

Under Utilization:

Over the past ten years, there has been a steady decline in direct scene-to-hospital transports across the entire State of Delaware. In 2018 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 15% of the time.

2019 Goals

Staffing:

The goals for 2019 is to support our new Trooper Medic as he attends the DTCC Paramedic Training program and select a second Trooper to begin the Paramedic Program in the Spring of 2020.

Training:

The goal for 2019 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.

Fatigue:

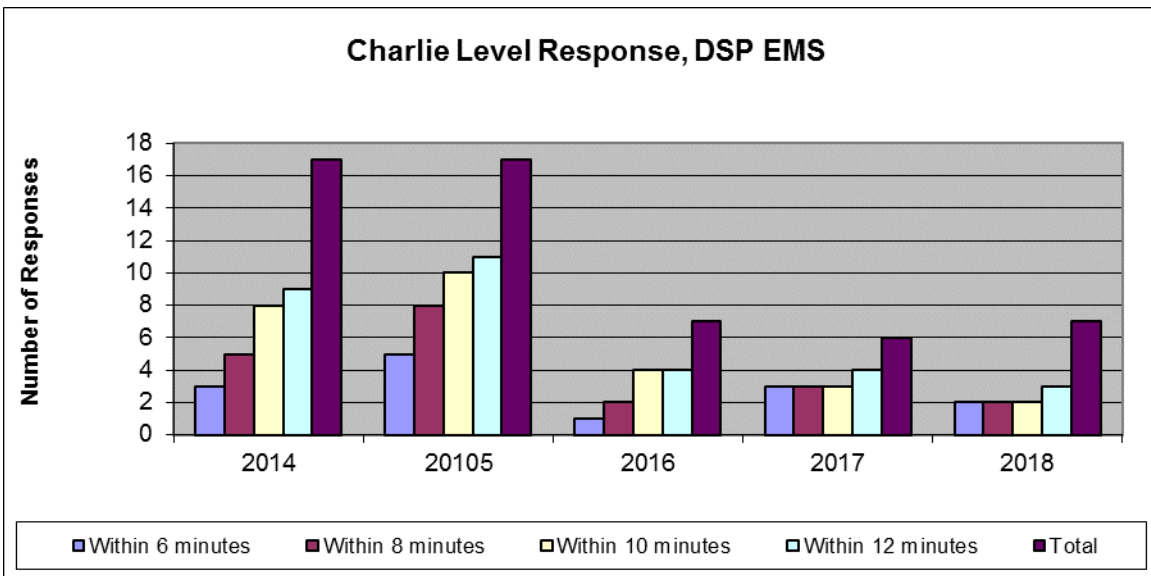
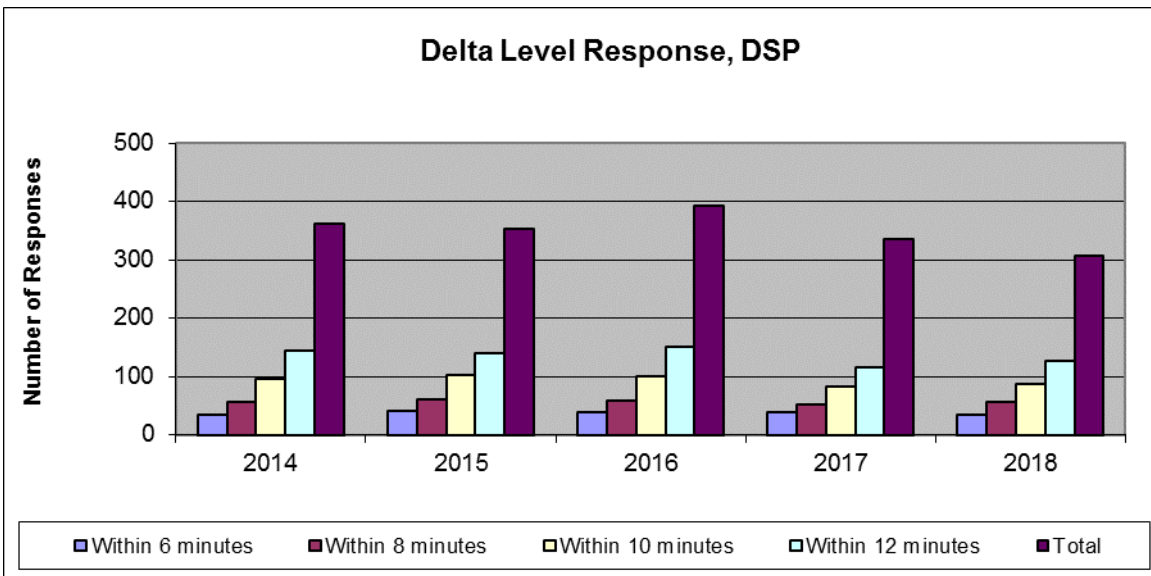
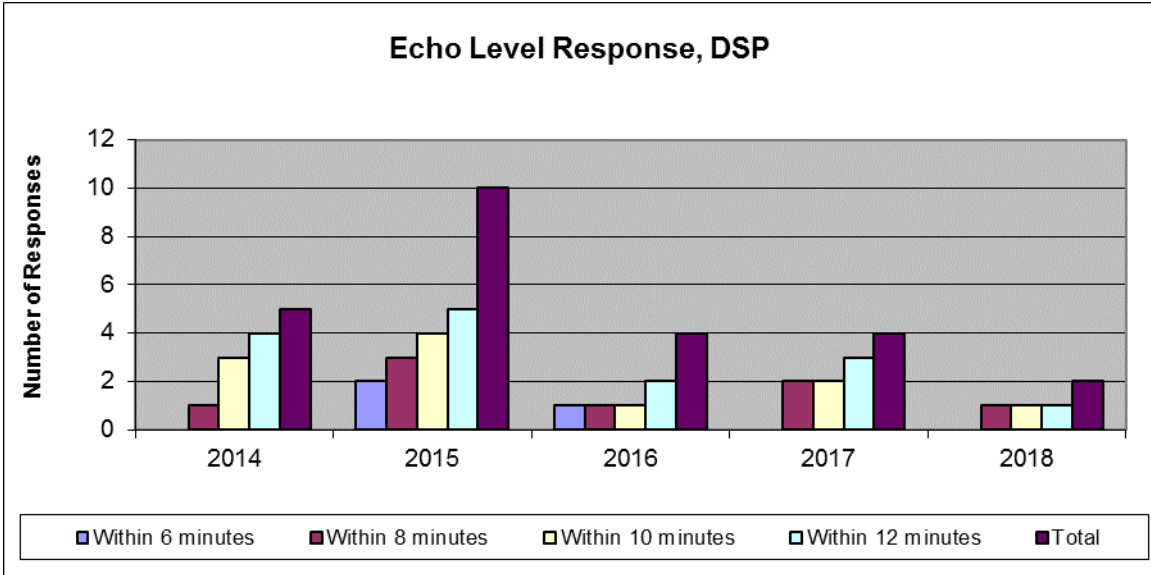
The goal for 2019 is to explore training and scheduling options to ensure the safest working environment.

Under Utilization:

The goal for 2019 is to work with members of DEMSOC to reduce our medivac mission cancelation rate to 50% or less.

New Aircraft:

In 2018, the Delaware State Police secured funding from the State of Delaware Office of Management and Budget (OMB) for the purchase of a new Bell 429 helicopter. The goal for 2019 is to ensure the completion of the aircraft and put it into service before the end of the year.



Prevention

Injury Prevention Coalition 163

Safe Kids 165

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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 2017, **118 persons died instantly** at injury scenes in Delaware. No amount of Trauma System resources, specialists, organization, or planning could save 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. However, 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.

2018 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.

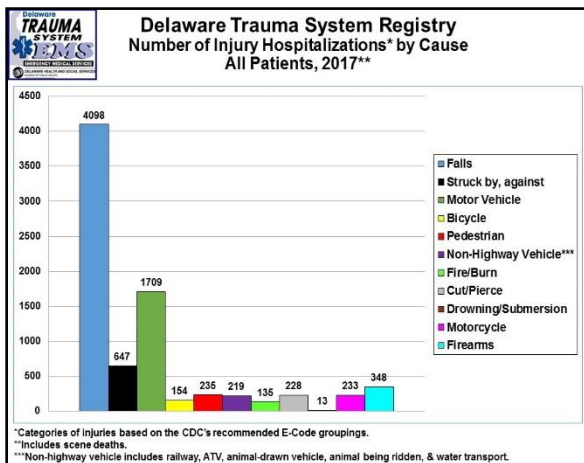
The Coalition's goal is that through their efforts, its vision of safe communities in Delaware will be realized, as measured by fewer injuries, fewer risk-taking behaviors, safer environments, and reduced incidence of injury-related disabilities. Through effective surveillance, partnerships, interventions, 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 2018, 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 to be available in all three counties for use at activities at schools and summer camps.

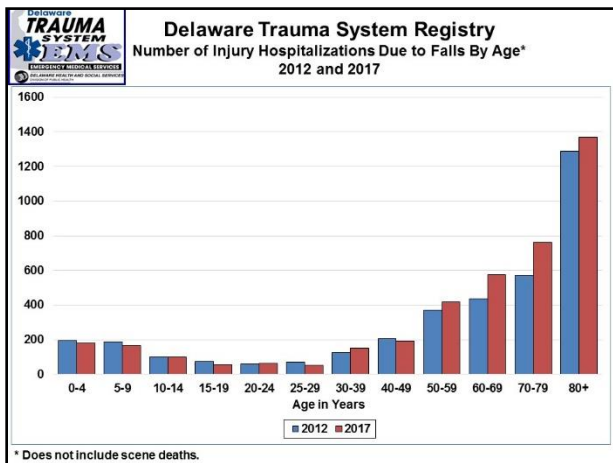
Topics include pedestrian, fire, bicycle, playground, and water safety, how to call 911, seatbelt/car seat use, poisoning prevention, and safety around dogs.

2019 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 2017. Falls again caused over half of the injuries leading to hospitalization, with motor vehicle incidents as the second leading cause of injury hospitalizations. Graph 2 illustrates the age ranges of those who have fallen and sustained injuries requiring hospitalization. It also shows the changes in the five years between 2012 and 2017. While the number of falls in some age groups, particularly the pediatric groups, decreased, the number of older people falling has increased. The Coalition for Injury Prevention has an active Senior Falls Prevention Team, which works with senior centers and community agencies to provide education for seniors on how they can prevent falls.



Graph 1: Number of Injury Hospitalizations by Cause in 2017



Graph 2: Breakdown of Serious Falls Requiring Hospitalization by Age, Comparing 2012 and 2017

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.



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.

2018 Accomplishments - Through three county chapters, Safe Kids Delaware **participated in 627 events reaching over 115,374 people in 2018.** These events covered many safety areas including Fire Prevention, Car Seat Safety, Water Safety, Poisoning Prevention, Bicycle, Pedestrian, and Teen Driving Safety, Fall Prevention, Halloween Safety, Bus Safety, ATV Safety, Concussion Awareness, and Gun Safety. In June 2018, Safe Kids Delaware held their biennial Childhood Injury Prevention Conference.



**PREVENTABLE INJURIES
ARE THE #1 KILLER
OF KIDS IN THE U.S.**

Every year, 8,000 families lose a child because of a preventable injury. When a child dies, the lives of families are changed forever.

2019 Challenges - Unintentional injuries are a leading cause of death and hospitalization for children. There were **538** Delaware children injured seriously enough to require hospitalization in 2017, an increase from the 485 in 2016. The leading causes of injury hospitalizations in this age group are falls (47%) and highway incidents (24%). 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.

Summary - 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@delaware.gov.**

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, E911 Board, Emergency Medical Services for Children, Safe Kids Delaware, Delaware Coalition for Injury Prevention, DE Trauma Committee, NCC Dispatch, KC Dispatch, SC Dispatch, Rehoboth Dispatch, Seaford Dispatch.