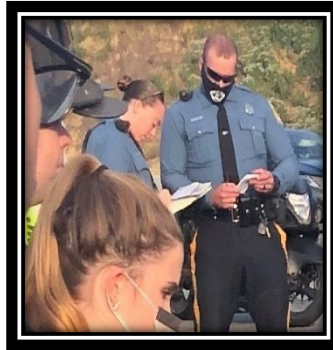


DEMSOC

Delaware Emergency Medical Services Oversight Council



2019 – 2021 Abbreviated Report and COVID Supplement

The Honorable John C. Carney, Governor





DELAWARE EMERGENCY MEDICAL SERVICES OVERSIGHT COUNCIL

April 1, 2022



To the Citizens of Delaware:

On behalf of the Governor John Carney, and my colleagues on the Delaware Emergency Medical Services Oversight Council (DEMSOC), I pleased to present a unique, combined 2019, 2020 and 2021 DEMSOC Annual Report. This report includes a summary of the effects that the COVID-19 pandemic had on Delaware's Emergency Medical Services (EMS) operations.

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 included professionals from multiple EMS provider agencies, representatives from agencies that frequently work with and support EMS, agencies and groups that represent hospitals, and private knowledgeable in the delivery of EMS care.

The EMSOC 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. The past two years (2020 and 2021) have presented challenges unlike any that we have seen. Throughout the COVID-19 pandemic, EMS agencies not only had to handle the challenges of caring for COVID-19 patients, but the "normal" EMS responses didn't stop. Delaware citizens and visitors still suffered strokes, overdoses, myocardial infarctions, and traumatic injuries to which EMS agencies responded. EMS providers dealt with the added stress of wearing appropriate personal protective equipment (PPE) on every patient encounter. They did not know if the patient they were treating has the highly contagious COVID-19 virus that would threaten theirs, as well as their family's health and safety.

As you review this multi-year annual report, I encourage you to use the information provided to increase your awareness of the important and vital role that Delaware's EMS system has within our great state. We humbly 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,

Nathaniel McQueen Jr., Chair
Cabinet Secretary,
Delaware Department of Safety and Homeland Security

**DEMSOC, Office of EMS, 100 Sunnyside Road, Smyrna, DE 19977
302-223-2700, fax 302-223-1330**



Table of Contents

Introduction	7
COVID-19 Summary	10
Delaware EMS System Oversight	
DEMSOC	15
Delaware EMS System Oversight	16
Office of Emergency Medical Services	17
Office of Preparedness	22
State Fire Prevention Commission	28
Delaware State Fire School	30
Delaware State Fire Marshal	32
EMS Medical Direction	33
EMS Safety	36
EMS System Evaluation	
EMS System Evaluation	39
EMS Patient Care Report	40
Clinical Performance	41
Response Time Performance	45
EMS System Cost	49
EMS System Resources	
Human Resources and Workforce Development	55
Education and Training	56
EMS Preparedness	58
EMS Interfacility Transport	60
Speciality Care	
Delaware Systems of Care	65
Trauma System of Care	67
Stroke System of Care	70
Overdose System of Care	73
Pediatric System of Care	76
Safe Kids Delaware	79
Delaware Organ and Tissue Donor Awareness	80
Delaware Healthcare Association	81
Appendices	
New Castle County EMS	85
Kent County EMS	111
Sussex County EMS	123
Air Medical Services	155
Delaware State Police Aviation	156
Delaware Coalition for Injury Prevention	163

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 2019-2021 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 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
- 1,677 EMT-Basics
- 339 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)*

- 262,900 Statewide Total Run Reports
- 153,694 Non-trauma incidents
- 32,217 Trauma Incidents
- 167,802 Basic Life Support Incidents
- 93,488 Paramedic Incidents
- 8,940 Pediatric Incidents (0-17yrs)
- 3,329 ALS Cardiovascular Incidents
- 321 Air Medical Transports

COVID-19 Summary

COVID-19 Summary 10-12

COVID-19 SUMMARY

Executive Summary

COVID-19 has impacted Delaware's first response agencies and staff significantly since the pandemic began in 2020. COVID placed intense focus on employee health and safety, operations, resource requests and allocation, policy and procedure, and relationships with old and new partners. This section summarizes key challenges, successes, and lessons learned from a number of agencies.

Challenges

Since the first presumed case of COVID-19 in Delaware during the month of March of 2020, emergency medical services (EMS) have been impacted in a variety of ways. Christiana Care LifeNet (CCHS LifeNet), Delaware State Police Aviation Unit (DSP Aviation), Kent County Department of Public Safety (KCDPS), New Castle County Emergency Medical Services (NCCEMS) and Sussex County Emergency Medical Services (SCEMS) all reported a decrease in call volume for field operations and medical transports in comparison to the number of calls in 2019. However, there was an increase in severity of respiratory patients transported in 2020. Patients with signs of a respiratory illness or a fever were assumed to have the COVID-19 virus.

Addressing and conforming to the Centers for Disease Control and Prevention (CDC) guidelines when responding to emergency calls during COVID-19 created many challenges. Due to social distancing requirements, paramedics in SCEMS were split into separate vehicles as a means to limit close quarters contact and prevent multiple exposure. DSP Aviation, because of their aircraft configuration, did not have the ability to social distance and isolate the flight crew from the patient compartment. However, no known COVID positive patients were transported via the flight crew. KCDPS paramedics were only engaging with patients individually unless the acuity of the call demanded for additional staff in adherence with social distancing guidelines and to prevent exposure.

During the pandemic, NCCEMS noticed the overall attitude of paramedic personnel during the start of the COVID-19 pandemic was one of unease and concern due to working with an unknown illness. Some were resistant to don the protective equipment while others were hesitant to enter an assisted living facility or high occupancy building due to the spread of the virus. While paramedics and first responders rose to the occasion, KCDPS observed stress, fatigue, and mental duress associated with the excessive and daily challenges the pandemic caused.

At times, positive COVID test results among responding personnel created staff shortages. CCHS LifeNet and SCEMS had to quickly create a tentative staffing plan to address modifications in deployment based on the seriousness of the COVID outbreak as well as increased employee absenteeism due to both illness and quarantine requirements.

Continually changing recommendations from the CDC, and new guidance from Delaware Division of Public Health (DPH), led to the internal creation of new policies and procedures such as personal protective equipment (PPE) usage and patient contact procedures. DSP Aviation created a policy prohibiting flights with known COVID-19 positive patients for the safety of the entire crew due to the inability to clean the aircraft

quickly and effectively. Enhanced decontamination procedures were implemented along with facial hair restrictions at SCEMS. KCDPS and NCCEMS purchased bio misting machines to enhance cleaning efforts to meet the decontamination guidelines. CCHS LifeNet implemented a structured Medisol® application program utilized by many airlines for disinfection. Each application lasts for two weeks and is certified for use with COVID-19.

Supply chain issues in obtaining PPE and disinfecting supplies were experienced mostly during the initial period of the pandemic when the concern for exposure was at its peak. Supplies were difficult to obtain which led to the reuse of PPE or personnel purchasing PPE supplies on their own accord. Medical providers in NCCEMS were given brown bags for multi-use wear of N-95 masks. If a mask was used on a potential COVID-19 positive patient, the mask was discarded. All breached PPE was reported to DPH.

Both positive and negative fiscal impacts were felt from the pandemic. All in-person training, continuing education classes, and meetings were canceled or conducted online via Zoom or other virtual meeting platforms which allowed for reduction in costs. This proved to be extremely beneficial in providing daily consults with staff to provide updates on guidance for all areas of operation. NCCEMS provided online education programs through MedicEd.com and a training video was produced to demonstrate the proper donning and doffing of appropriate PPE.

However, unplanned expenses such as purchasing of PPE, disinfecting supplies, and equipment, in addition to covering costs for overtime to fill vacancies that occurred due to quarantining requirements, created an increase in costs that were not included in original budgets for 2020. These were expenses that were above and beyond what would be considered part of normal operations.

Partnerships

Partnerships with the Delaware Office of Emergency Medical Services (OEMS) and Delaware Emergency Management Agency (DEMA) were strengthened during the pandemic for all agencies involved. These collaborative partnerships allowed for emergency medical service providers to receive expert advice on recommendations and policy development and provide a high level of care during a stressful time. The collaborative partnership between OEMS and DSP Aviation allowed the Trooper medics the ability and resources to vaccinate the DSP.

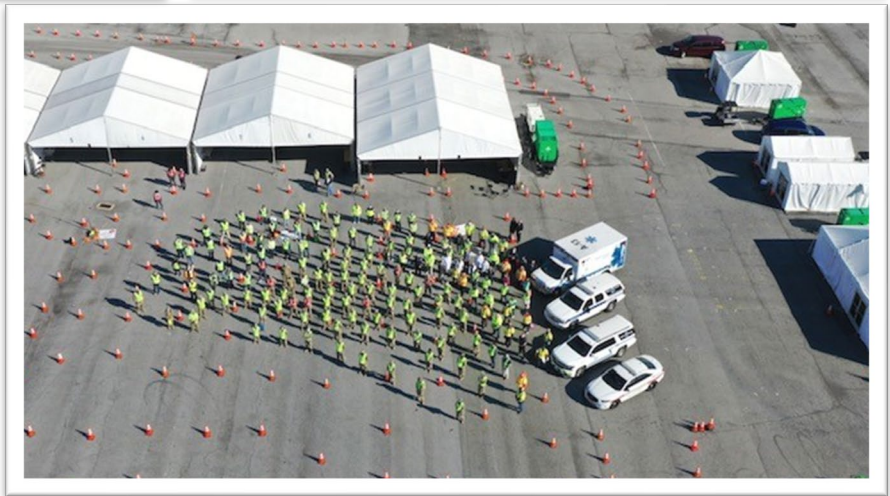
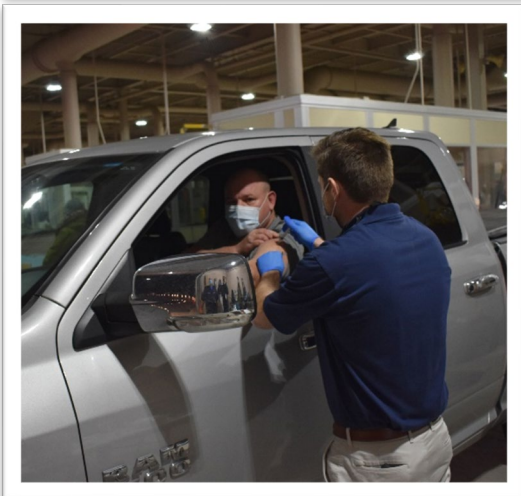
SCEMS had the opportunity to strengthen partnerships with neighboring jurisdictions in Delaware and Maryland in addition to local emergency medical services agencies, dispatch centers, hospital emergency department liaisons, and county safety directors.

Actions Taken / Lessons Learned

Communication and information sharing was accomplished without face-to-face meetings or large gatherings which reduced the risk of the spread of the virus. NCCEMS installed cameras on computers to enable access to online meetings through Zoom or Microsoft Team meetings. SCEMS and KCDPS established daily and weekly conference calls to share information and provide updates on guidance for all areas of operation. Establishing open lines of communication and working relationships prior to an event enabled DSP Aviation to allow for a system to be in place to disseminate information to staff and other agencies in a moment's notice.

Procedure and protocol revisions were made regarding work location, PPE requirements, trainings, disinfectant procedures, and patient handling in an effort to provide safe working conditions and limit exposure within all agencies. Since recommendations were evolving at a rapid pace, NCCEMS assigned one staff member to oversee all changes and assured they were adequately distributed to personnel.

Numerous response plans were reevaluated and updated, and new plans and protocols were put in place. KCDPS now tracks PPE stock electronically to assure maximum use and revised their dispatch protocols to attempt to identify high risk patients who maybe COVID-19 positive. SCEMS created a limited reuse policy for N-95 respirators and developed an emerging infectious disease plan with a three-phase response. Consensus is the new normal involves donning PPE including respiratory protection and gowning with known COVID-19 patients. The hope is that this new process will result in less transmission of all respiratory diseases including the flu.



Delaware EMS System Oversight

Delaware Emergency Medical Services Oversight Council	15-16
EMS & Preparedness	17-27
State Fire Prevention Commission	28-29
Delaware State Fire School	30-31
Delaware State Fire Marshal	32
EMS Medical Directors	33-35
EMS Safety	36

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.

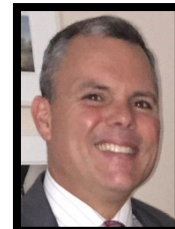
DEMSOC consists of 21 members appointed by the Governor. The Secretary of The Department of Safety and Homeland Security, also serving on the council is the Secretary of Delaware Health and Social Services. DEMSOC includes representatives from the following agencies: the Governor's Office, each county 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.



Nathaniel McQueen



Alan Robinson



Robert Rosenbaum



Wayne Smith



Colin Faulkner



Mark Logemann



Robert Murray



Derrick Harvey



Bruce Nisbet



Romain Alexander



Sean Elwell



Maria Carmen G. Diaz



Ted Stipa

Not Pictured: Molly Magarik, Dan Carrier, Dana Bowerson, Kate Groner, Michael Bundeck, Kimberly Holmes, DVFA Ambulance Advisory: Vacant, Member-at-large/Sussex: Vacant, Member-at-large/New Castle: Vacant

Delaware EMS Oversight

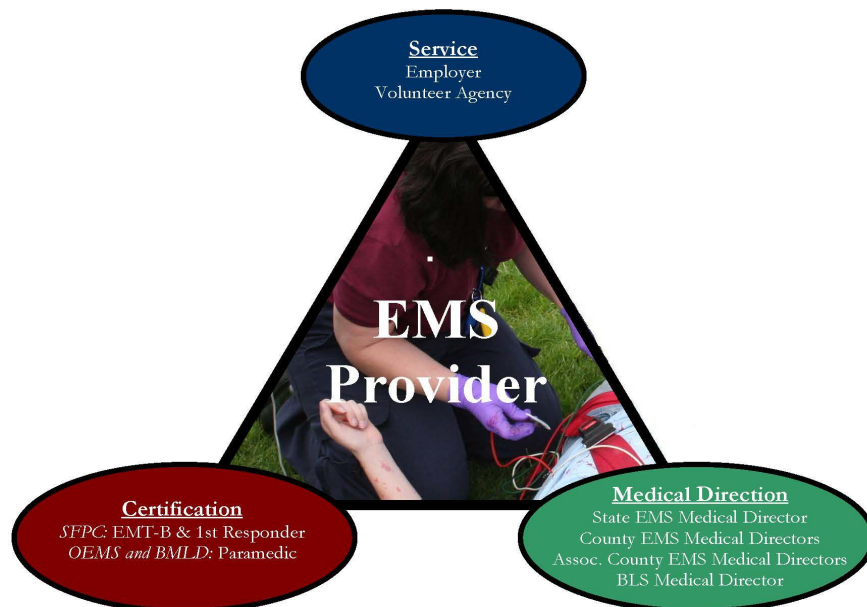
Delaware is a frontline leader in prehospital emergency care through comprehensive coordination, development, and evaluation of the statewide emergency medical services system. The Delaware EMS system is a two-tiered EMS delivery system with shared oversight of Basic Life Support services and personnel 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



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.

Delaware Code Title 16 Chapter 97 states: “The Office shall be responsible for ensuring the effective coordination and evaluation of the emergency medical services system in Delaware which includes providing assistance and advice for activities related toward the planning, development, improvement and expansion of emergency medical services.”

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.

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.

EMS Training: The OEMS monitors EMS training levels to provide information on the availability of training programs for all levels of EMS personnel. In addition, the EMS Office ensures that EMS training agencies in Delaware are aware of regional and national standards.

EMS Transportation: In conjunction with appropriate EMS providers in Delaware, the Office monitors and evaluates emergency medical transportation services in Delaware to ensure that patients in the EMS system have access to effective and efficient transportation to appropriate treatment facilities. The Office shall monitor and evaluate activities of all EMS organizations to ensure that no person is denied emergency treatment or transportation services

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

Stroke System of Care

This program is responsible for coordination of hospitals and provider agencies to ensure optimal care for stroke patients.

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.

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.

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.

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 regard 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”.

State Regulations promulgated through OEMS:

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.

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.

In addition to the roles listed in Delaware Code the OEMS is responsible for the Hospital Preparedness Grant funded through the Assistant Secretary for Preparedness and Response (ASPR) Activities under this grant program include:

Alternate Care Site

The OEMS is continuing the development of the Alternate Care Site Plan to remove/reduce the burden on the healthcare system, add capacity and capability by moving resources to delay the need for an ACS, cohort patients, planning for a triage/treatment and/or testing site, and provide the framework for an ACS that serves as an outlet for hospital patients.

Crisis Standards of Care

The OEMS is continuing the development of the Crisis Standards of Care Policy with a purpose of identifying, planning and preparing for making adjustments in current health and medical care standards in order to provide for the greatest number of people in Delaware during disaster situations, to guide and coordinate statewide efforts for the allocation of scarce resources, provide a decision making framework for enacting an adapted level of care during times of limited healthcare resources, provide for and establish a method to recover from an incident and return to the normal delivery of healthcare as soon as possible.

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.

High Consequence Infectious Disease Surveillance and Response Annex

The OEMS worked on completing the High Consequence Infectious Disease Surveillance and Response Annex which is an inclusive annex to provide guidance for containing an outbreak of disease caused by a high consequence infectious organism, biological toxin, or other infectious disease emergencies by the Division of Public Health (DPH), to minimize serious illness or death, limit societal disruption, and economic losses, to facilitate effective coordination with responses at the local, state, regional, national and global levels, to outline roles and responsibilities for DPH and other support partners, and to identify specific containment measures and make recommendations for various high consequence infectious diseases (HCIDs) with respect to modes of transmission, clinical signs and other characteristics.

Infectious Disease Response for First Responders

The Infectious Disease Preparedness for First Responders is the creation of a toolbox used as a point of reference to inform first responder employees what information is available to them to increase their knowledge and capability of preparing themselves with the maximum amount of protection from infectious disease exposures.

Medical Response and Surge Exercise

The OEMS manages the Hospital Preparedness Program (HPP), and the Medical Response and Surge Exercise (MRSE) plays an integral part in the planning and response for a sudden health care crisis in Delaware. The exercise uses a scenario to help health care coalitions and other stakeholders assess how well their members can work together. It is an exercise designed to test a coalition's functional surge capacity and to identify gaps in surge planning. This helps the planning for the Medical Surge Plan which includes the Pediatric Surge, Burn Surge, and Interfacility Transport to ensure that all representatives from trauma, emergency departments and paramedic agencies are working towards the same goals. The plan helps guide and coordinate statewide efforts for the care of ill or injured patients during a natural or human-caused disaster incident or public health emergency that exceeds the normal medical capabilities with the state of Delaware.

The MRSE is a yearly functional exercise and this year it will be conducted over the course of eight hours as part of the Hospital Preparedness Program (HPP) grant. The exercise will be conducted via a hybrid model with participants engaging virtually from their respective facility, as well as, physically at the Delaware State Troopers Association. The scenario is an explosion occurring during the Delaware State Fair. While responders are triaging patients, a second explosion occurs. Numerous patients with ages ranging from young children to the elderly with burn and trauma injuries are distributed to local community hospitals. Exercise objectives include Information Sharing, Activation and Notification, Resource Coordination, and Interfacility Transport.

Stop the Bleed

The Emergency Medical Services and Preparedness Section, Office of Emergency Medical Services (OEMS) began the Stop the Bleed Program, a national campaign through the Department of Safety and Homeland Security in October 2017. OEMS staff trained 70 Delaware Medical Reserve Corps (DMRC) members on "Stop the Bleed" with the use of the Tourniquet "Leg" Trainer to provide training in the community and health care system. An OEMS staff member instructed staff at Delaware Emergency Management Agency (DEMA) and hospitals have borrowed the leg to train medical staff and office staff. Several school nurses have trained staff, students, HOSA (Health Occupations Students of America) members, and PTO (Parent Teacher Organization) members on "Stop the Bleed". To date, we have trained 8,577 people (5,642 adults, and 2,935 under the age of 18). OEMS will continue to coordinate training for the "Stop the Bleed" program.

Strategic Planning

The OEMS is working on the development of the Strategic Plan to assure a comprehensive, effective, and efficient statewide emergency medical care delivery system to reduce morbidity and mortality rates for the citizens of Delaware.

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 2019 including radiological, nursing, mass care, along with the annual Public Health Symposium. Additional events were held virtually throughout 2020 and 2021 due to the COVID-19 pandemic.

Family Assistance Center Tabletop Exercise and Workshop

On February 26, 2019, the Emergency Medical Services and Preparedness Section, Office of Preparedness hosted the Family Assistance Center and Mass Fatality Incident workshop. The purpose of the workshop was to review the Delaware Department of Health and Social Services working draft of the Family Assistance Center Plan. The need to update and revise this plan is due to Delaware's responsibility to address the increasing occurrences of mass casualty events. Fifty-seven participants attended this workshop. Sixty-four Federal, state, local and non-governmental agencies played a critical role during the exercise process of testing the plan. The workshop helps EMS/SPS in making improvements to the plan and determine the items to correct prior to the next phase when the plan is tested in a functional exercise.

Disaster Mental Health Support

On October 9, 2019, staff from the Emergency Medical Services and Preparedness Section, Office of Preparedness, in collaboration with the Division of Substance Abuse and Mental Health (DSAMH), hosted a Disaster Mental Health workshop. This workshop is the start of the development of the Delaware's Disaster Mental Health Response Plan that developed throughout the fiscal year 2019-2020 and serves as a kickoff to upcoming planning projects. The goal of the plan is to sustain mental health of the public and first responders, awareness of the impact a disaster would have on the mental health system and, how through collaboration, we can improve to build a more resilient system. The event hosted approximately 90 attendees from state agencies and private sector partners. Speakers at this event include Steve Formanski, Psy.D., CAPT. USPHS, from the Office of the Assistant Secretary for Preparedness and Response (ASPR); Rick Hong, M.D., the Public Health Medical Director; Malika Boone, LPCMH, from MRSS Youth Crisis Services, Delaware Guidance Services for Children and Youth; and Cara Sawyer, from DSAMH.



Additional meetings continued virtually throughout 2020 and 2021 when time permitted. On June 9, 2021, a tabletop exercise was held at the State Troopers Association. The planning continues in 2022.

Medical Countermeasure (MCM) Distribution and Dispensing Full Scale Exercise

On September 26, 27, and 28, 2019, the Emergency Medical Services and Preparedness Section's (EMSPS), Office of Preparedness conducted a three-day Receive, MCM Distribution and Dispensing Full Scale Exercise which is required by the Public Health Emergency Preparedness (PHEP) Grant. The exercise included activating staff assigned to the State Health Operations Center (SHOC), Receive, Stage, and Storage (RSS) Site activities, and two Points of Distribution (PODs) locations. Participation included employees from the Division of Public Health (DPH), the Division of Substance Abuse and Mental Health (DSAMH), the Delaware Emergency Management Agency (DEMA), and the Delaware National Guard.

The scenario for the exercise was a release of anthrax and involved sending the 'samples' to the Delaware Public Health Lab. After testing the samples, staff from EMSPS contacted the Federal government to request medications from the Strategic National Stockpile (SNS). SHOC is then activated to allow dispensing at the PODs. Staff from Southern Health Services and Northern Health Services practiced hands-on dispensing skills at POD locations at the Delaware Technical and Community Colleges Terry Campus and Stanton Campus. Additionally, the Delaware Medical Reserve Corps, funded by EMSPS's Office of Preparedness, provided volunteers and staff to assist in throughput of medications at the PODs. Overall, the 3-day exercise included over 400 people including staff from state agencies, volunteers, and partners.



DHSS Mass Care Plan

The Emergency Medical Services and Preparedness Section, Office of Preparedness and the Department of Health and Social Services (DHSS) Disaster Committee met throughout 2019 to

complete the DHSS Mass Care Plan. It was presented to and signed by all the Division Directors. In addition to the Mass Care Plan the Radiological Emergency Annex was completed and signed by the Division Directors. Work continues to develop and implement the Family Assistance Center Plan to support response to an aviation, maritime, highway, pipeline, rail accident, natural disaster, or terrorism event. Continued work is needed to formalize staffing and training for the various roles needed in response to a mass care incident.

Response to COVID-19

The State Health Operations Center (SHOC) was activated on January 27, 2020, to Level 1 in response to the COVID-19 emergency. Leadership and assigned SHOC staff activated at the Emergency Medical Services and Preparedness Section office at the Delaware Hospital for Chronically Ill and at the Public Health warehouse in preparation for the event. SHOC Level 2 began on March 5, and SHOC level 3 on March 12. The Department of Health and Social Services (DHSS) Disaster Committee held a conference call to discuss the event on March 13. Also on March 13, the Presidential Declaration started. On April 5, Delaware issued an Emergency Disaster Declaration. The Emergency Medical Services and Preparedness Section (EMSPS) staff continue to work at the SHOC and warehouse throughout the COVID-19 response with very few working remotely.

Numerous Division of Public Health (DPH) staff, National Guard, volunteers from across the state, and DEMA employees participated in the response through SHOC activities, call center operations, medical countermeasure dispensing, and points of dispensing. Staff shortages hindered the ability to work on updating plans and training and exercises were rescheduled. Additional funding has provided opportunities to add staff and office space which is on-going.

The Public Health Lab performed COVID-19 testing along with other testing normally accomplished. Epidemiological surveillance and investigation conducted to support COVID-19 response activities.

Personal Protective Equipment, supplies, testing supplies, and medications were provided throughout the state. Activities in both hospitals and long-term care facilities were coordinated to manage surge requirements. COVID-19 variants require continued monitoring of potential risks to the jurisdiction. The SHOC Level was lowered to Level 2 on March 7, 2022. Resource requests continue and SHOC staff are still activated. From the beginning of the COVID-19 response on March 4, 2020, to December 31, 2021, there have been 4919 resource requests processed through the SHOC and Public Health warehouse. Resource requests included personal protective equipment, COVID-19 testing needs, vaccines, along with requests for volunteers.

Plans

The Emergency Medical Services and Preparedness Section (EMSPS), Office of Preparedness, continues to review and update plans and assist with review of plans outside of DPH. Completion of the DHSS Mass Care Plan and the Radiological Emergency Annex was finalized in January 2020. Additional plans under review include the Family Assistance Center, Division of State Service Centers (DSSC) Repatriation, Functional Access Support Teams (FAST), Reunification,

DPH Continuity of Operations (COOP), Division of Substance Abuse and Mental Health (DSAMH) Mental Health, Individual Assistance, Social Services Standard Operating Guidelines (SOG), and Reception Centers. Additional training included Shelter Managers through virtual/online services. Throughout the emergency, face-to-face meetings were transitioned to virtual/online.

Children in Disasters

A Children in Disasters workshop was held on Jan. 8, 2020, in partnership with DEMA, and Department of Services for Children Youth and their Families (DSCYF). The goal of the workshop was to bring awareness to the specific needs of children in disaster and look for ways to improve disaster response in Delaware. More than 100 people attended the event. Meetings were started again in early 2022.

Radiological Emergency Preparedness Drills

On February 26, 2020, EMSPS staff participated in a drill held with DEMA to prepare for a radiological emergency involving the Salem, New Jersey, nuclear power plant. Multiple agencies and staff from across the state participated. Additional drills were held on April 28, 2021, and September 22, 2021, in preparation for the Federal Emergency Management Agency (FEMA) graded exercise in May 2022.

DHSS Disaster Planning

The Office of Preparedness worked to move the Human Services Branch Director (HSBD) role from DSS to EMSPS which was finalized in January 2020. Additionally, a DHSS Disaster Planner III was put in place at EMSPS. Both positions were activated in early 2020 and participated in COVID-19 management and response. During the early testing phase, they worked with DEMA to set up housing needs at a hotel to isolate COVID-19 positive employees from Sussex County testing sites. The HSBD and Planner assisted with medical countermeasure administration at the various testing and vaccine sites across the state along with new EMSPS staff to assist people with disabilities and those with access and functional needs.

Additional response includes the flooding response from Hurricane Ida where they assisted with damage assessments with local agencies and FEMA staff. Additionally, housing needs continue since then and they work with other agencies to assist.

Planners work closely with Delaware Emergency Management Agency (DEMA), DHSS leadership, the DHSS Disaster Committee, along with state and local partners to prepare and respond to public health events.

Response to Hurricane / Tropical Depression Ida

Support was provided to the Wilmington Eleventh Street Bridge neighborhood over the September 2021 Labor Day weekend due to historic flooding resulting from Hurricane / Tropical Depression Ida. Two shelters were set up over the weekend for those that were impacted. COVID-19 testing was also provided at the shelters along with personal protective equipment.

Staff from EMS/PS, Office of Preparedness, and various agencies walked the neighborhood to speak with residents and get information on needs and see the impact to the area over the holiday weekend. There was significant damage to homes, buildings, and vehicles throughout the area. FEMA participated in the walk to provide documentation for the Public Assistance and Individual Assistance requests.

The DHSS Disaster Coordinator and Disaster Planner assisted in coordinating a state-run Disaster Recovery Center which opened on September 7 from 6 AM – 6 PM at The Warehouse youth organization close to the impacted area. The Disaster Coordinator was able to pull together multiple agencies that were able to provide support to those impacted. The DHSS Disaster Coordinator continued with support for the newly homeless over the following months for sheltering and personal needs. Support was provided to over 375 impacted residents, representing 200 households, by connecting them to multi-agency and community partners.

ASTHO Assigned Staff

The Association of State and Territorial Health Officials, ASTHO, with support from the CDC, has embedded Disability and Preparedness Specialists in 15+ jurisdictions. The primary role of the position is an inclusive, all-hazards approach to ensure the needs of individuals with disabilities and others with access and functional needs are integrated into emergency preparedness planning, mitigation, and recovery with focus on COVID-19 response. The program began on January 4, 2021 and was originally planned for one year. The program was extended an additional six months, until July 31, 2022.

The role expectations included completing two gap analysis assessments, which were used to develop an improvement plan. The first assessment was a health agency capacity assessment, and the second assessment was a health agency partnership assessment with focus on state/territorial health agency partnerships and community engagement.

From the assessments, the next expectation was to develop an improvement plan. The gaps/areas of improvement were prioritized and the ‘Do Now’ gaps and/or areas of Improvement for the partnership assessment that fell under high importance, urgency and feasibility were:

1-Networked Partnerships: (internal) The Office of Preparedness has limited engagement with Community Health Services and the Bureau of Health Equity, specific to meeting the emergency preparedness needs of individuals with disabilities and others with access and functional needs.

2-Networked Partnerships: (external) The Office of Preparedness does not have enough partnerships with disability and access and functional needs community-based organizations,

faith-based organizations, and businesses specific to meeting the needs of individuals with disabilities and others with access and functional needs.

3-Partner Training: The Office of Preparedness has a gap in training/awareness on the emergency preparedness needs of individuals with disabilities and others with access and functional needs.

4-Plans – (moderate feasibility): whole community planning—people living with disabilities do not directly have input in the development of emergency preparedness plans, rather, this is provided via agency/organization advocates.

The Disability and Preparedness Specialist also provided support with, standing up the Functional Assessment Service Team (FAST). This included developing training, developing official documents, assisting in FAST volunteer recruitment, being the FAST Lead at multiple COVID-19 vaccination points of dispensing and at an emergency shelter to manage flood victims from the remnants of Hurricane Ida.

Volunteers

The Delaware Medical Reserve Corps (DMRC) was used throughout the COVID-19 response and included hundreds of volunteers that assisted with points of dispensing, testing sites, call centers operations, shelters, and management of the three county volunteer groups.

In 2021 the name of the DMRC was changed to reflect the use of non-medical volunteers. The new name is RespondDE, and the volunteer list has expanded along with the need for additional staff to manage the program. Recognition events for the volunteers is ongoing to reflect the participation during the COVID-19 response.

Staffing

Other staffing has been added throughout the EMSPS office with limited term positions including additional planners, administrative staff, volunteer manager, access and functional needs support, logistics, and technical positions. Impacts to EMSPS knowledge continue though, with trained staff moving to other positions within the state due to expanding opportunities with staff shortages and retirements.

Summary

The Office of Preparedness participates in numerous internal and external assessments of the Division of Public Health and its ability to respond to threats including natural disasters with public health impacts and public health emergencies such as infectious diseases. The activities include performance measures, capability planning guide assessments, the National Health Security Preparedness Index (NHSPI), the CDC Operational Readiness Review (ORR), site visits, and the completion of a public health hazard mitigation plan. This information allows the division to identify gaps, and then prioritize projects and funding in effort to improve capabilities for public health response and recovery.

Photos by Office of Preparedness staff

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, State Fire School Director, and State Fire Prevention Commission Executive 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.
- The Commission is empowered to impose civil penalties, fines, fees for all certifications issued by the Commission.
- The Commission is charged with administering the volunteer firefighter tuition reimbursement program.

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 \$22,664,564.00 for the period of December 24, 2014, until December 31, 2021. The funds are distributed on a bi-annual basis.

2019 - 2021 Investigator II/Compliance Officer Statistics

Complaints Received	250
Investigations on Existing Cases	132
New Ambulances	62
Ambulance Inspections	668

Ambulance Inspection Deficiency Notices:

Critical	19
Cautionary	44
Watchful	117

2019 – 2021 EMT Certification and Ambulance Licensing Statistics

Fire Company Audit Received	189
Civil Penalty	\$4,900.00
EMT (Initial) Certification	322
EMT Recertification	2,698
EMT Reciprocity	179
EMT Background Checks	947
Ambulance Licensing/Renewals	189

Delaware State Fire School (DSFS)

Submitted by Craig R. Stephens



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.



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

- To certify and recertify basic life support personnel as Nationally Registered (NREMT) and State of Delaware Emergency Medical Technicians (EMT).
- To provide BLS training to the First Responders and citizens of Delaware.

2019 Accomplishments

Agency conducted EMS training in 2019:

- Emergency Medical Technician – 11 classes – 255 students
- Emergency Medical Technician Refresher – 22 classes – 446 students
- Delaware Emergency Medical Technician Reciprocity – 4 classes – 48 students
- Emergency Medical Responder (EMR) – 6 classes – 78 students
- Emergency Medical Responder Refresher – 18 classes – 245 students
- Conducted training for Active Shooter reaching over 500 students
- Conducted 84 American Heart Association classes reaching 900 students

2020 Accomplishments

Agency conducted EMS training in 2020

- Emergency Medical Technician – 6 classes – 141 students
- Emergency Medical Technician Refresher – 22 classes – 378 students
- Delaware Emergency Medical Technician Reciprocity – 6 classes – 68 students
- Emergency Medical Responder (EMR) – 3 classes – 43 students
- Emergency Medical Responder Refresher – 7 classes – 81 students

2021 Accomplishments

Agency conducted EMS training in 2021

Emergency Medical Technician – 10 classes – 198 students

Emergency Medical Technician Refresher – 18 classes – 497 students

Delaware Emergency Medical Technician Reciprocity – 7 classes – 108 students

Emergency Medical Responder (EMR) – 8 classes – 87 students

Emergency Medical Responder Refresher – 7 classes – 78 students

Conducted 38 American Heart Association classes reaching 394 students

2022 Goals

To review, update, and develop DSFS EMS Programs.

Conduct training for the approximate 1,700 Delaware EMTs and 1,200 EMRs.

Provide students with a hands-on FTO program.

Provide students with blended learning EMS training programs.

Enhance & promote psychomotor skills practice in all EMS Courses.

Enhance our partnerships with outside agencies for coordinated training opportunities.

Expand our presence in the community to recruit more firefighters and EMTs

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 50 fulltime State employees in 2021.

In 2022, 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 10 fire fatalities in 2021, eight victims were in homes without an operating smoke alarm. None of the structures had fire sprinklers. 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 back-up 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 55 casualties involving a nonfatal, fire related injury in 2021. 20 injuries were the result of smoke inhalation. 34 injuries were burns. There was 1 other injury that involved a laceration.

The Delaware State Fire Marshal and staff will continue to provide a fire safe environment for all citizens and visitors of Delaware.

Join us at www.statefiremarshal.delaware.gov or email us at Fire.Marshall@delaware.gov

Medical Direction

EMS Medical Direction

The past 2 years have seen a number of changes in Medical Direction at the Office of EMS and have obviously posed challenges during the COVID pandemic.

EMS Medical Direction has seen a leadership change with the retirement of Dr. Ross Megargel in November of 2020 after over 20 years of service as the State EMS Medical Director. Dr. Megargel was the first EMS Board Certified physician in Delaware. His leadership during these 2 decades saw tremendous evolution in pre-hospital care and led to Delaware becoming one of the most respected statewide EMS systems in the country. Delaware owes Dr. Megargel a debt of gratitude and the Office of EMS is fortunate to have had such an outstanding leader.



Dr. Robert Rosenbaum has succeeded Dr. Megargel as State EMS Medical Director as of September 2021. Dr. Rosenbaum previously worked as the Public Health Preparedness Medical Director after the terrorist attacks of 2001 and then as EMS Medical Director for New Castle County from 2005-2021. Dr. Rosenbaum is Board Certified in Emergency Medicine and has sub-specialty Board Certification as an EMS Physician. He continues the strong work already in place and is helping advance new ideas and modernization of some practices to lead our State EMS system through the next decade.

The COVID pandemic posed multiple challenges for EMS but also demonstrated the value paramedic services can bring to our health system in a time of crisis. EMS Medical Directors increased the frequency of contact with Chiefs and Command staff with near daily calls or meetings in the initial stages of the pandemic during periods of great uncertainty and rapidly evolving recommendations. EMS Medical Direction assessed needs and approved practice

modifications to maintain safety for EMS providers while continuing to deliver the highest quality care. Avoiding aerosolizing procedures was a critical change in practice and the addition of filtration devices and modification of treatment delivery for respiratory conditions helped to lessen risks to providers and the potential for critical manpower shortages had providers been infected with COVID-19 while delivering care. As the pandemic progressed, paramedics were a key element of the public health response assisting at testing and vaccination centers. Our EMS system had contingencies in place to allow the expansion of paramedic service during a public health emergency and this first application of these contingency plans expanded our response capability.

EMS Medical Direction also recognized the importance of continuing to be attentive to non-COVID EMS issues. Medical Directors worked with our hospitals and within the Statewide Systems of Care to continue delivery of excellent care for Trauma, Stroke, Overdose, Pediatric and Cardiac patients addressing these clinical areas that were ongoing throughout the pandemic. Some highlights of these interventions:

- Trauma- There was a notable increase in victims of violence. Modification of practice was added to standing orders to move toward rapid assessment and transport off scene particularly in penetrating trauma. Emphasis on maintenance of patient warmth with a focus on trauma victims to minimize adverse coagulation risks from hypothermia. An ongoing PI project to actively warm patients and avoid clotting cascade issues is in progress. Hemorrhage control was emphasized with prioritization of increased use of TXA, tourniquets and clotting factor impregnated bandages.
- Stroke- monitoring of recognition and timely intervention for stroke patients with increasing use of the Comprehensive Stroke Center for treatment of large vessel occlusion (LVO) strokes. Planned modification and simplified early assessment for EMS to identify LVO stroke symptoms even more quickly and reliably.
- Overdose- Continued increasing needs to provide care for patients with symptoms related to opioid overdose. This has been a major initiative to decrease morbidity and mortality. EMS Medical Directors are active participants in the Overdose System of Care and are working to go beyond response to add proactive care. EMS providers are able to distribute Narcan with the “Narcan leave behind” program. They provide resource options for treatment of opioid use disorder. Expansion of EMS protocols is being actively pursued to look for additional treatment and referral opportunities and integrate EMS into the Public Health response to this ongoing public health crisis.
- Cardiac Arrest- The Cardiac Arrest Registry for Enhance Survival (CARES) has been adopted by all 3 counties providing statewide analysis of data on all patients who have out-of-hospital cardiac arrest. Patient data from dispatch to discharge can be analyzed to look for opportunities for improvement in delivery of care and to possibly identify interventions that are associated with a higher rate of survival from out-of-hospital cardiac arrest.

A number of modernizing ideas have been added or are in discussion as we move into the next few years.

- Electronic transmission of EMS patient information has been introduced with use of Twiage to send EKG data and some patient arrival information. This technology has the potential for additional applications which will be explored in coming years.

- Preliminary concepts for use of paramedics in non-traditional EMS environments is being explored and the ideas of Mobile Integrated Health (MIH) are expected to grow.
- Patient transport by 9-1-1 providers to destinations other than hospital settings will be explored as the Emergency Triage, Treat and Transport (ET3) from the CMS Innovation Center allows transporting agencies to deliver patients to alternative locations and still charge for their services.

Finally, we have begun to explore improvements in care that are on the cutting edge of EMS care delivery including the use of whole blood in the field and the use of point-of-care ultrasound by paramedics to assist in the delivery of care to trauma patients and patients with cardiac arrest. These new concepts are certain to advance care in Delaware and will serve to further strengthen the reputation of Delaware's EMS System.

EMS Safety

Creating a Culture of Safety in the EMS Workforce

“Scene safety, BSI” is not just some parrot phrase that we utter in the hope of passing a practical exam. Safety must be our top priority. This applies if we are career or volunteer, riding with a fire-based system or on a private ambulance. Issues impacting our safety also impact those around us including our families and patients. If a provider is injured on the job, loss of income could stress the family finances. Injuries take us out of service for our departments. Finding and retaining staff is already a problem. Replacing us is difficult if not impossible.

The Emergency Medical Services and Preparedness Section, Office of Emergency Medical Services (OEMS) remains concerned about responder safety issues. Our mission is to provide training and resources necessary to ensure the safety of EMS providers. On the federal level, the National EMS Advisory Council for the National Highway Transportation and Safety Administration (NHTSA) (<https://www.ems.gov/safety.html>) has identified strategic goals to improve EMS safety. The National Association of EMTs (NAEMT) offers the EMS Safety course as part of their initiative to improve responder wellness.

Fatigue is one of the growing concerns in EMS. As agencies become challenged by staffing shortages, more opportunities present for providers to work additional shifts between agencies. Working extended, or back-to-back shifts at neighboring agencies presents a heightened risk for fatigue-related error and injury.

Drive cautiously and defensively. The increase risks involved during lights and sirens transport have been well documented by an overwhelming amount of data. As a skilled provider, you are effectively managing the patient’s emergency using your skills and protocols. The need to speed to the hospital is no longer necessary. Slow down and exercise caution during your response.

Risks from assaults continue as a national trend. Maintaining good communication and heightened situational awareness may help you avoid this risk. Again, if things become unsafe on scene, back out and get help.

Don’t overlook the simple things. Some of the most common injuries to EMS providers come from slips, trips, and over exertion injuries. Protect yourself by watching where you walk. Plan and coordinate your moves. Use proper body mechanics while lifting. Try to incorporate some stretching exercises at work.

Lastly, while you work to stay physically well, don’t neglect yourself mentally. Responder suicides are a growing trend. It’s difficult to be exposed to what we see and not be affected. Add a pandemic that changed so much of our lives. Take a moment to look out for yourself and your partners. Let folks know its ok to not feel ok. Be there to talk, comfort, and most of all, get your partners help if needed. Remember resources such as the Code Green Campaign (<https://codegreencampaign.org/resources/>) or contact Safe Call Now (1-206-459-3020) – a 24/7 helpline for emergency responders and their families. You are valuable as a person, and as a provider. Stay safe!

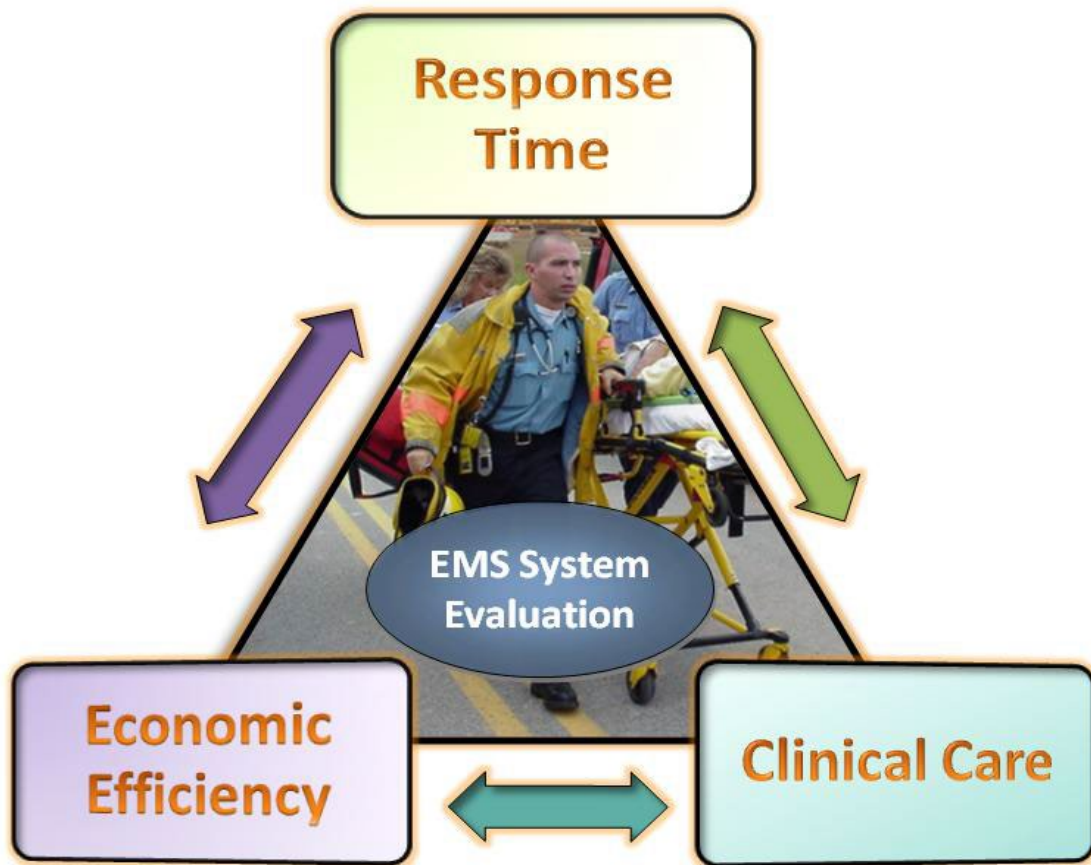
EMS System Evaluation

EMS System Evaluation	39
EMS Patient Care Report	40
Clinical Performance	41-44
Response Time Performance	45-48
EMS System Cost	49-52

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:

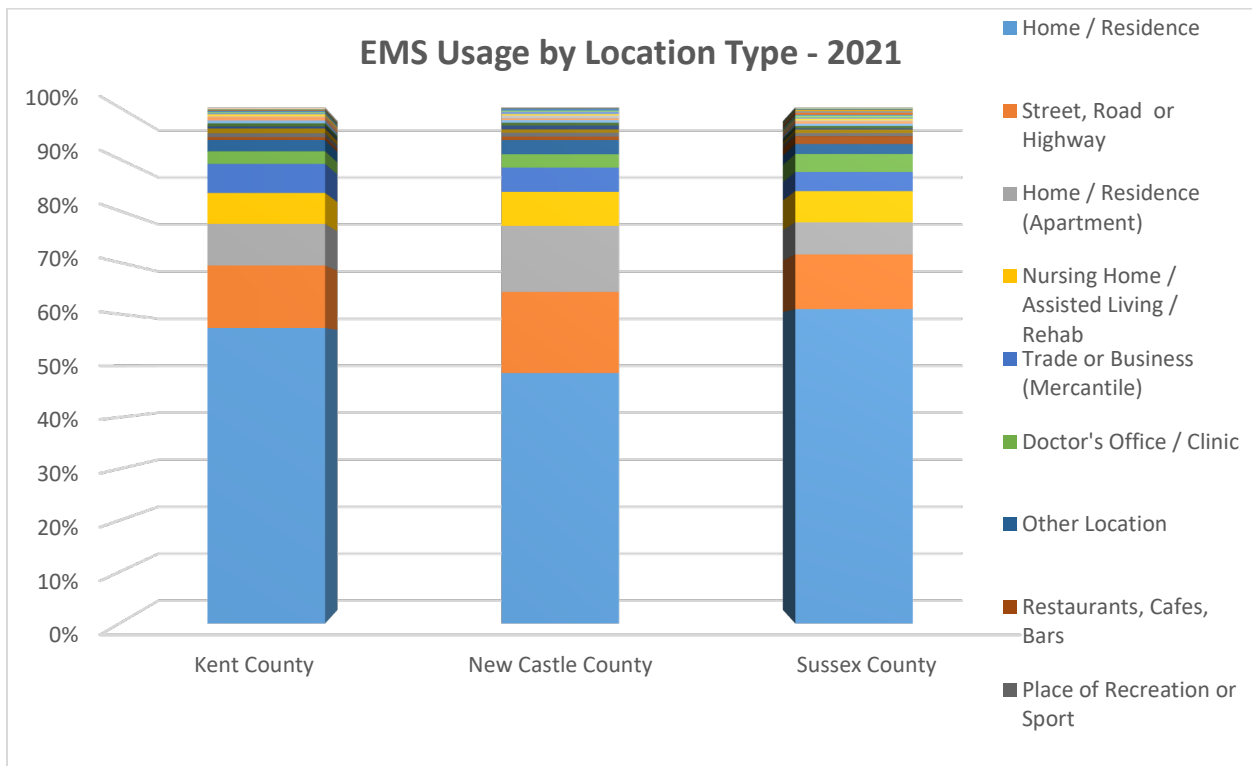
The Delaware Emergency Medical Reporting System (DEMRS) transitioned to an updated operating system called Elite in January 2018. This upgrade to Elite made us NEMSIS 3.4 compliant and offers enhancements for the patient care providers while entering patient care reports.

Clinical Performance

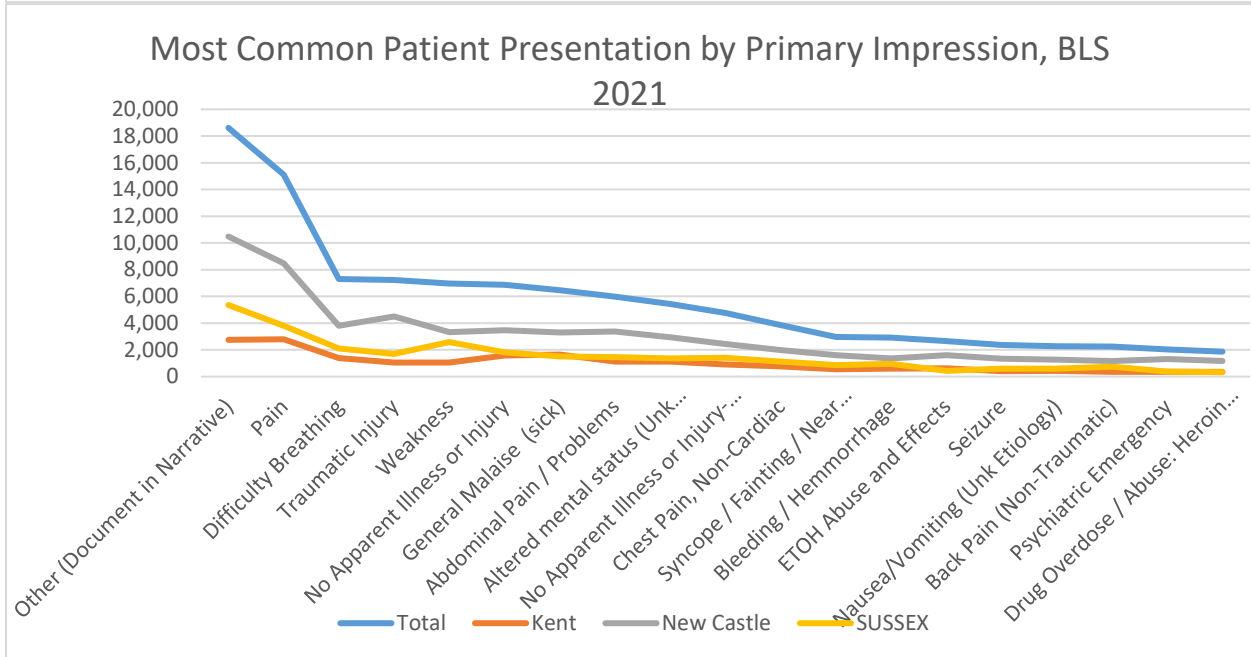
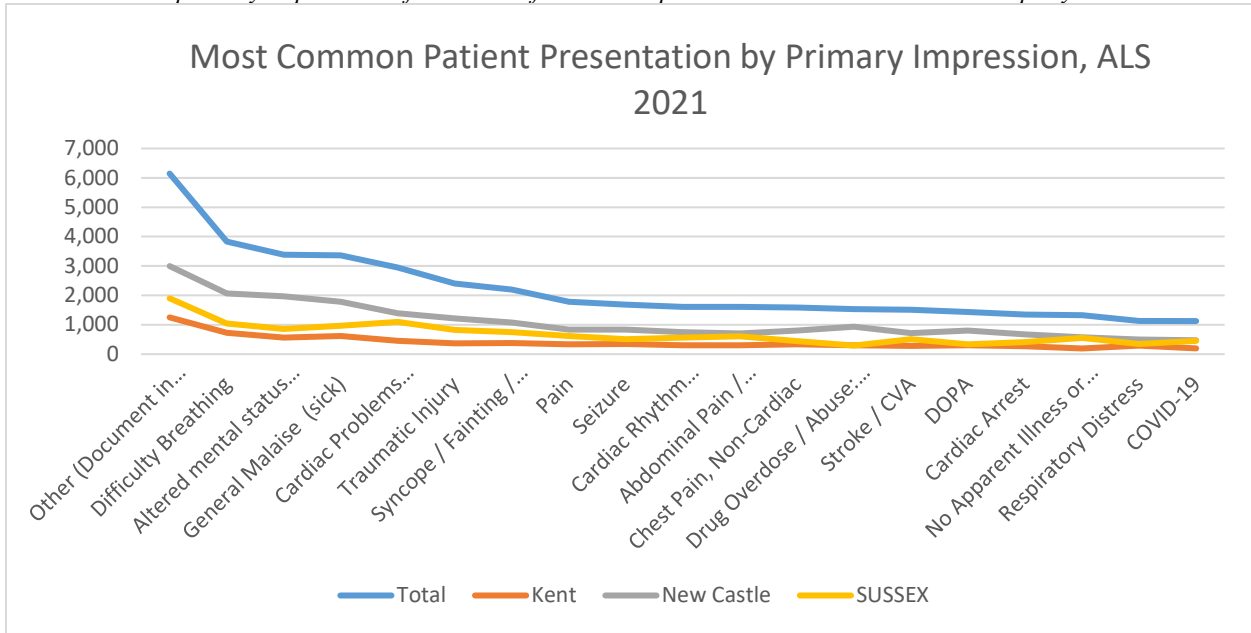
EMS systems were originally developed to reduce fatalities from traumatic injuries, especially from motor vehicle crashes. It was noticed during military conflicts that patients had better outcomes when injuries were quickly stabilized in the field and the patient was then transported to a care center.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

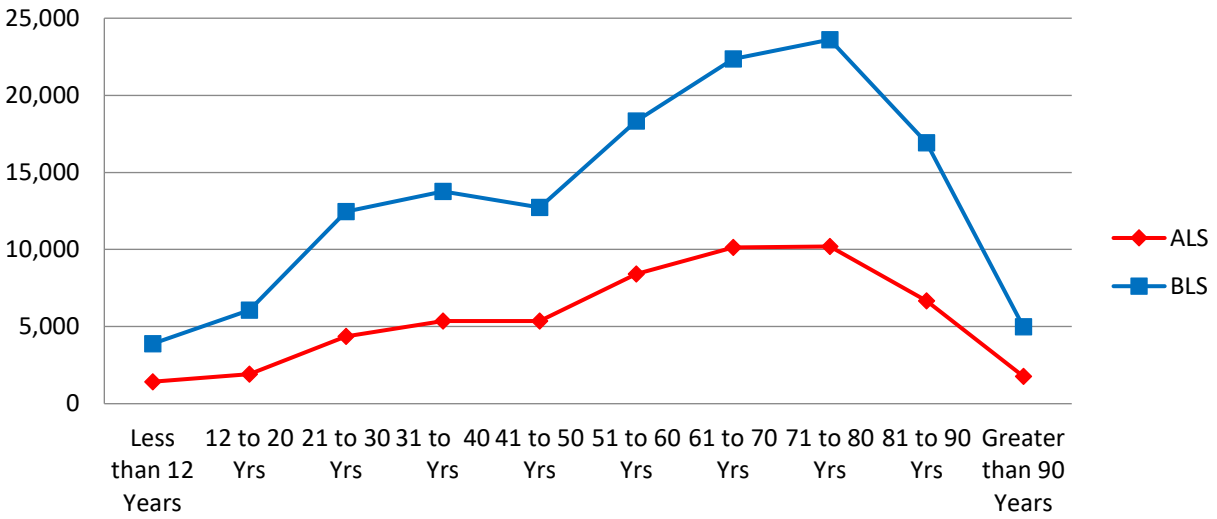
(All data used for this section and throughout the report were, unless noted otherwise, extrapolated from the Delaware Emergency Medical Reporting System (DEMRS). Please note for this report, Advanced Life Support (ALS) and BLS data are reported separately. While reading this report please do not combine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



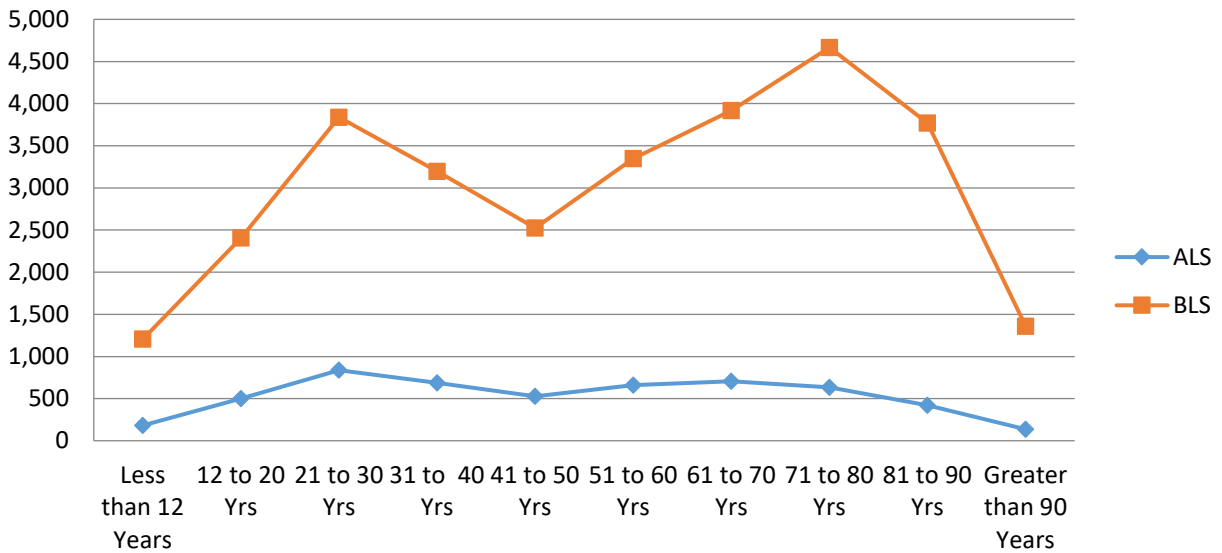
Primary Impression is the EMS provider's evaluation of the patient based on: signs, symptoms, patient's chief complaint and other factors. These graphs do not take into account the type of patient (medical, trauma). The primary impression of other is defined in the patient narrative and not able to query.



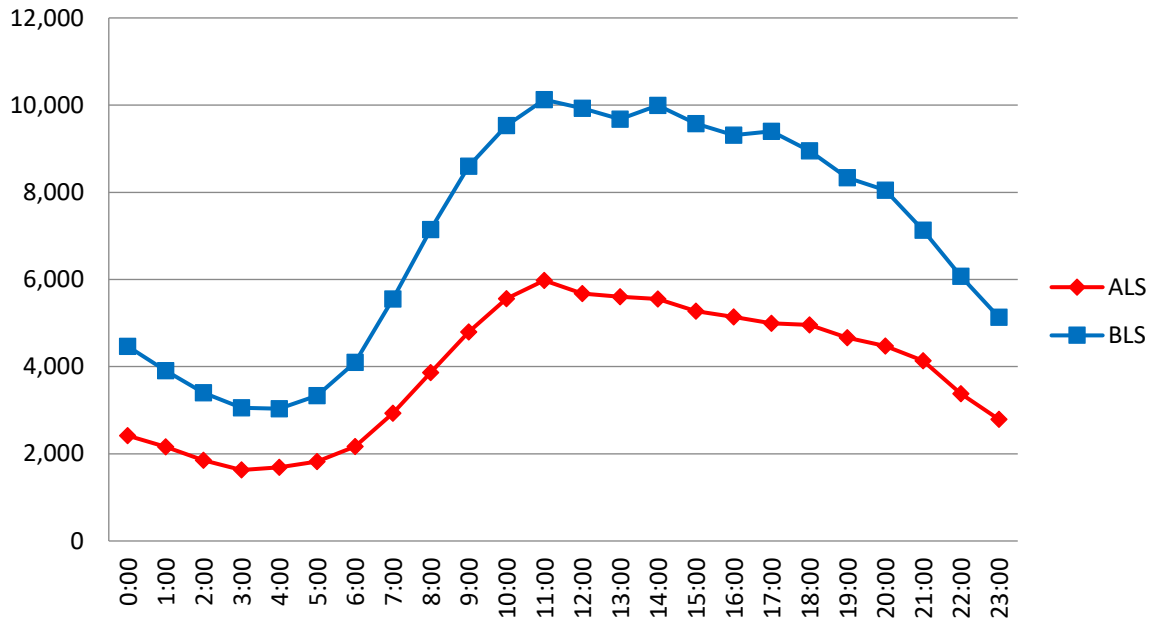
ALS and BLS Patient Age Comparison - 2021



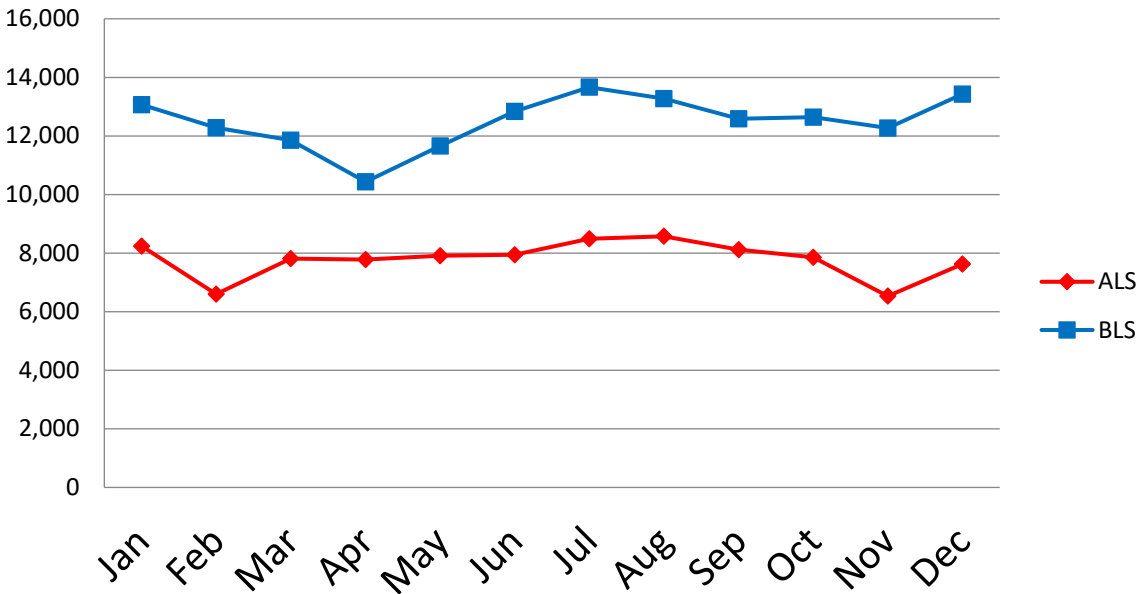
ALS and BLS Patient Age Comparison - 2021 Possible Injury Patients



Time of Day When EMS Incidents Occur - 2021



ALS/BLS Incidents by Month - 2021



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.

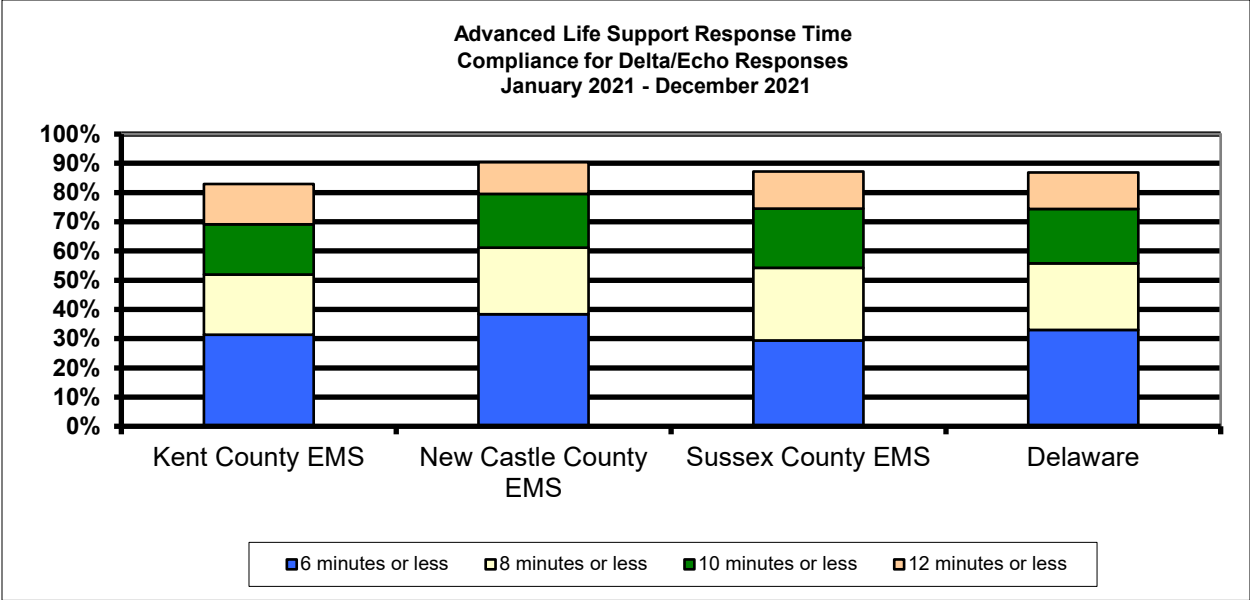
Bravo – Requires a BLS response. Example is with unknown patient status.

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

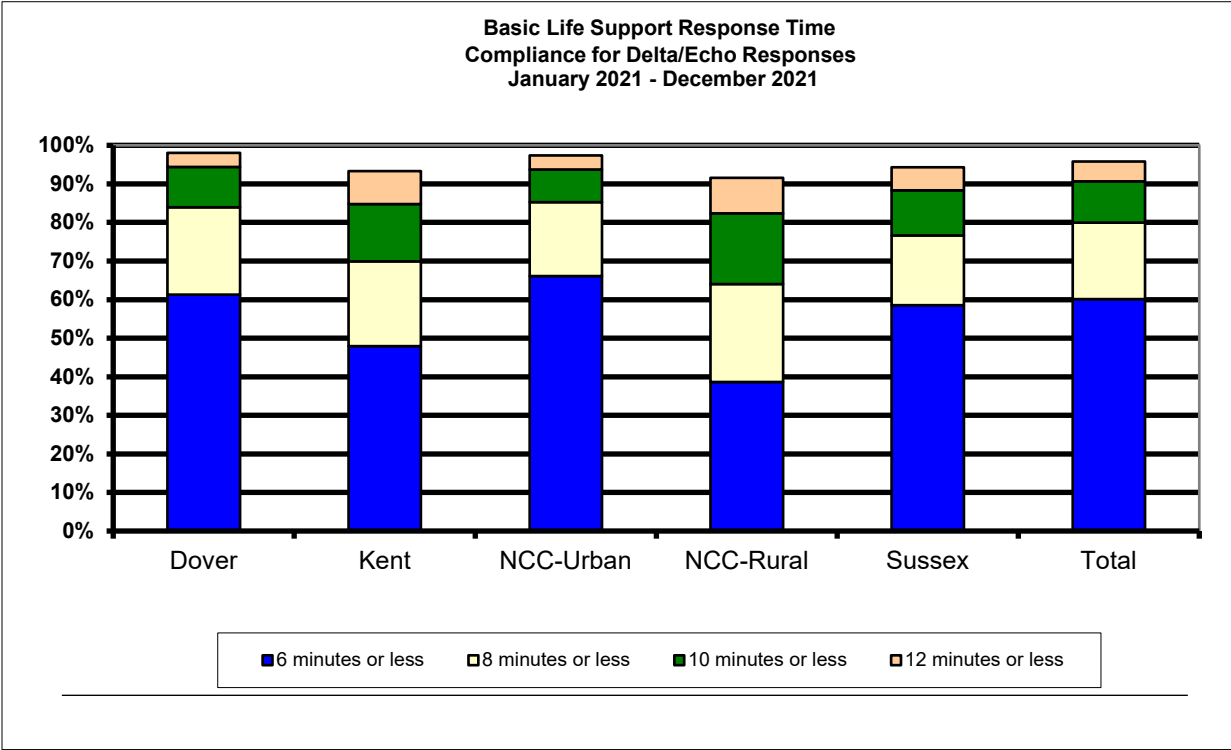
Delta – Requires ALS and BLS response. Example is an unconscious burn victim.

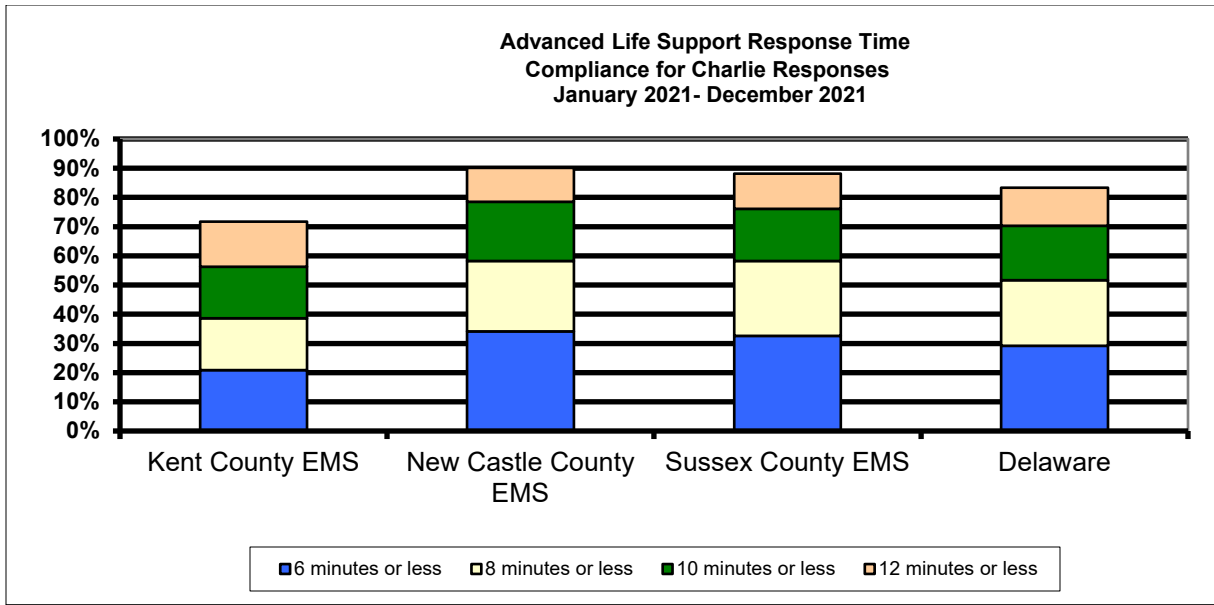
Echo – Response type not addressed in the legislated response time goals, but it requires a maximum response to include available first responders. Example would be a cardiac arrest.

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.

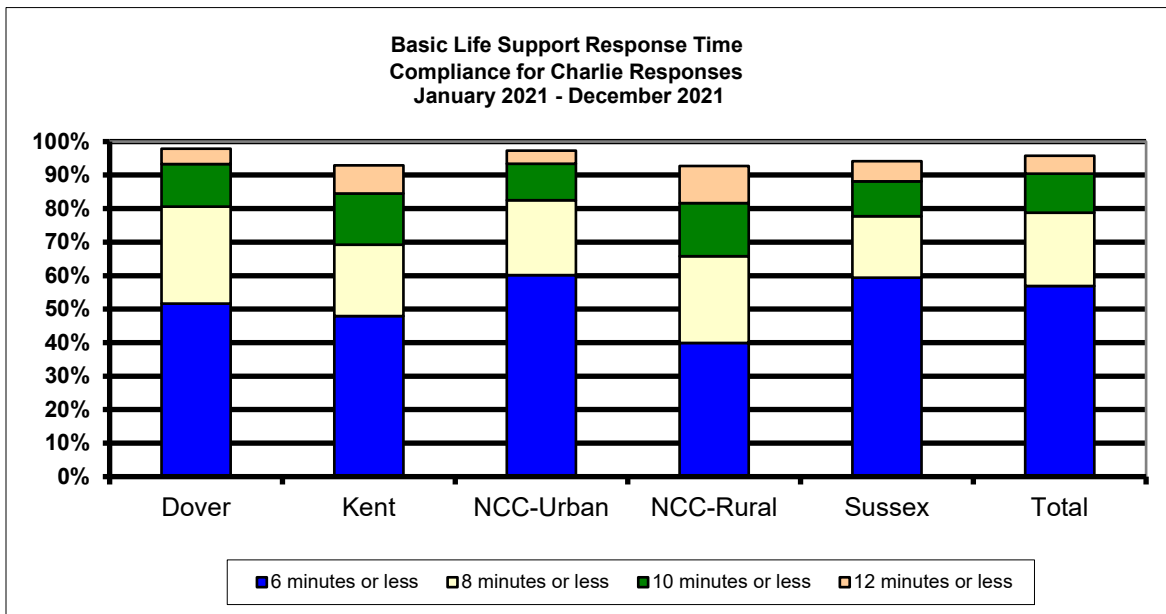


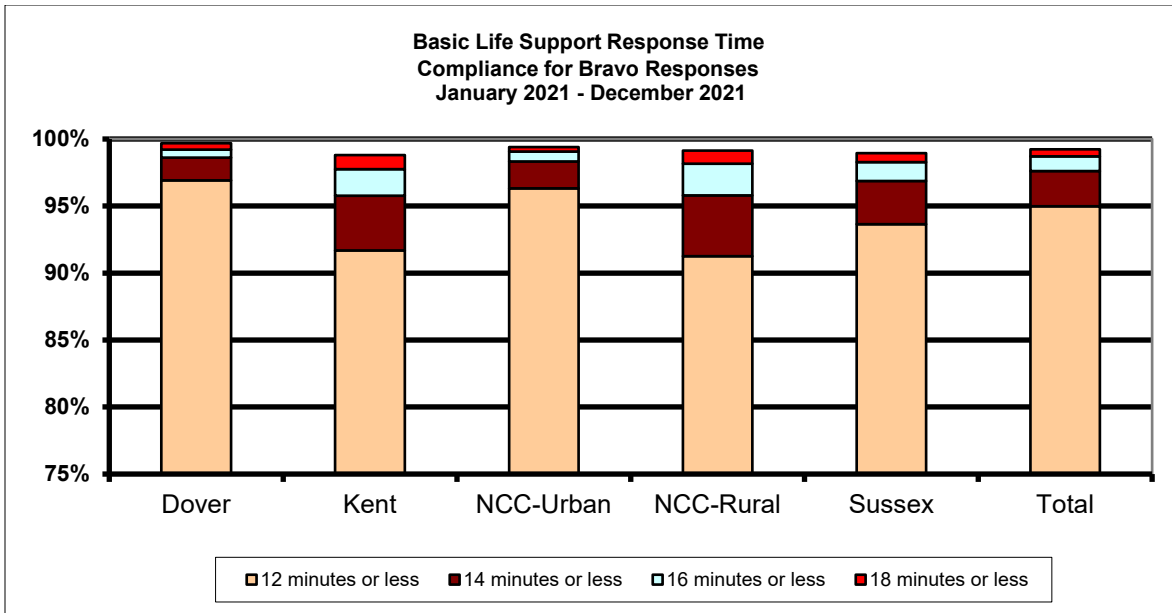
Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Delta calls on at least 90% of the time. BLS ambulance unit on scene within 10 minutes of the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



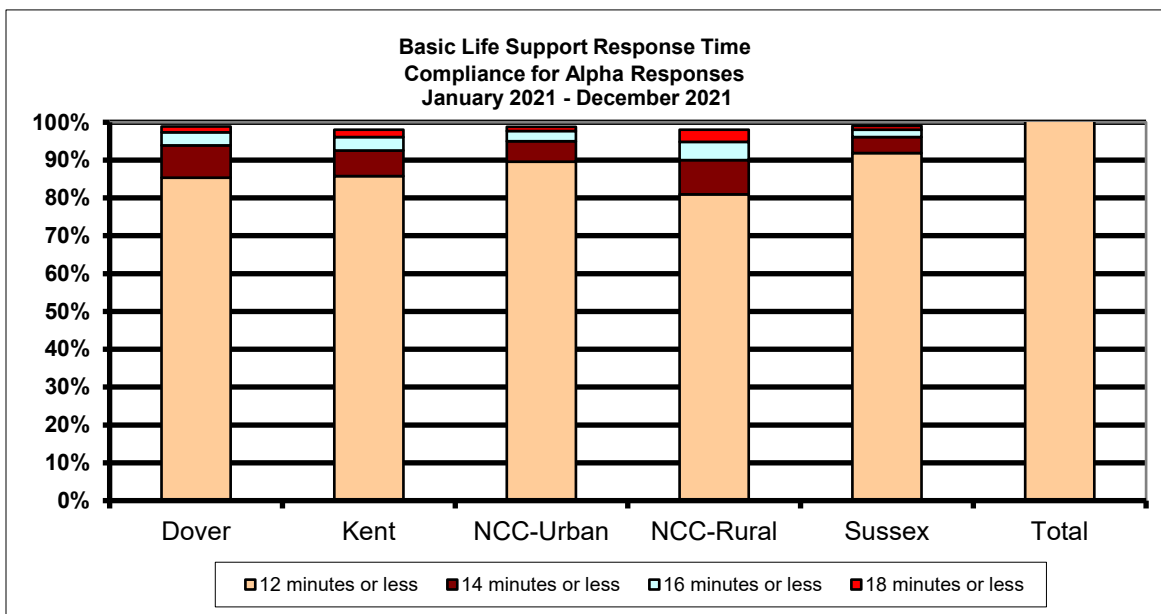


Goal: Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Charlie calls on at least 90% of the time. BLS ambulance unit on scene within 12 minutes of the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



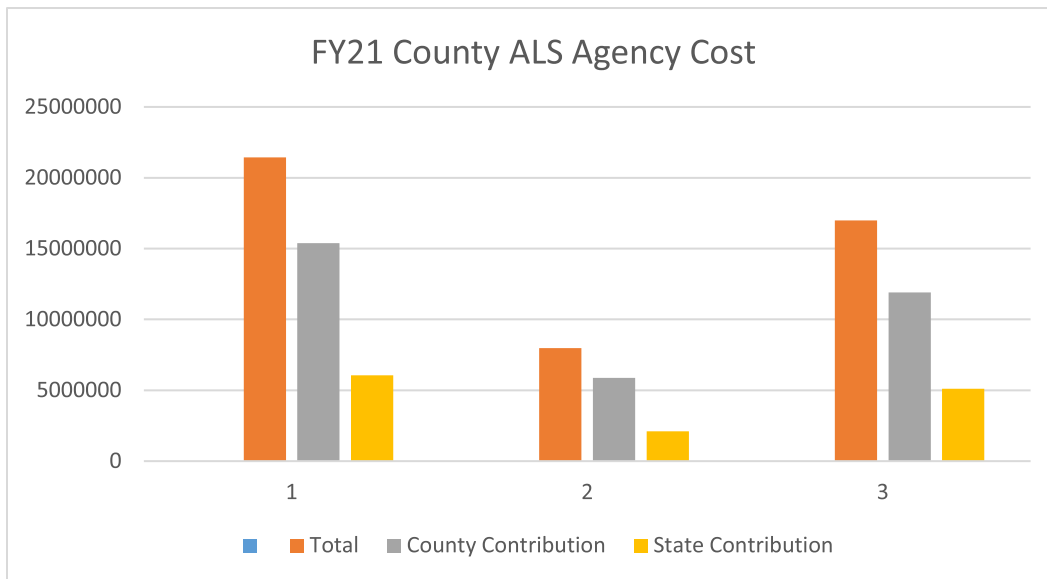


Goal: BLS ambulance unit on scene within 12 minutes of the receipt of Bravo calls on at least 90% of the times in urban areas and 70% of the times in rural areas.



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.



	New Castle EMS	Kent EMS	Sussex EMS
Total	21,443,863.00	7,971,980.00	16,999,575.00
County Contribution	15,380,726.00	5,869,670.00	11,899,702.00
State Contribution	6,063,137.00	2,102,310.00	5,099,873.00

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	6 FT – 14 PT	24H
Bridgeville Fire Co. 72	337-3000	4 FT- 15 PT	12H
Dagsboro Fire Co. 73	732-6151	5 FT – 10 PT	24/7
Delmar Fire Co.	846-2530	9 FT – 16 PT	24/7
Ellendale Fire Co. 75	422-7711	5 FT – 20 PT	24/7
Frankford Fire Co. 76	732-6662	4 FT – 5 PT	24/7
Greenwood Fire Co. 78	349-4529	7 FT – 4 PT	12H
Gumboro Vol. Fire Co. 79	238-7411	8 FT – 12 PT	12H
Laurel Fire Dept. 81	875-3081	7 FT – 10 PT	24/7
*Lewes Fire Dept. 82	645-6556	17 FT – 20 PT	24/72
*Memorial Fire Co. 89	422-8888	3 FT – 7 PT	24/7
Mid Sussex Rescue Squad Inc.	945-2680	13 FT – 25 PT	
Millsboro Fire Co 83	934-8359	13 FT – 18 PT	24/72
Millville Vol Fire Company 84	539-7557	16 FT – 23 PT	24/72
Milton Fire Co. 85	684-8500	7 FT – 8 PT	24/7
Rehoboth Beach Vol. Fire Co. 86	227-8400	15 FT – 13 PT	24/7
Roxana Vol. Fire Co. 90	436-2300	8 FT - 30 PT	24/72
Seaford Vol Fire Co. 87	629-3112	10 FT – 23 PT	24/7
*Selbyville Fire Co. 88	436-8802	4 FT – 2 PT	
*Based on 2021 report			

Kent County Paid Personnel by Agency

Agency Name	Phone number	Total Paid personnel	Shifts covered
Bowers Fire Co. 40	335-5966	0 FT-18 PT	12H
Camden-Wyoming Fire Co. 41	697-3201	12 FT-19 PT	24/7
Carlisle Fire Co. 42	422-8001	4 FT-10 PT	24/7
Cheswold Fire Co. 43	736-1516	4 FT- 12 PT, 2 EMT	24/7
Clayton Fire Co. 6	653-7317	9 FT-25 PT	0
Felton Community Fire Co. 48	284-4800	7 FT – 6 PT	24/7
Frederica Vol. Fire Co. 49	335-3235	9 PT	12H
Harrington Fire Co. 50	398-8931	7 FT – 10 PT	12H
Hartly Fire Co. 51	492-3677	0 FT – 25 PT	8H
Leipsic Fire Co. 53	674-0829	10 EMT, 5 Drivers VOL	
Magnolia Vol. Fire Dept. 55	335-3260	33 PT	24/7
*Marydel Fire Co. 56	492-9917	1 FT-20 PT	24/7
Smyrna American Legion 64	653-6465	11 FT – 26 PT	12H
*South Bowers Fire Co.	335-4666	60 VOL	
*Based on 2021 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	11 FT - 5 PT	24/7
Christiana Fire Co. 12	737-2433	10 FT - 45 PT	24/7
Claymont Fire Co. 13	798-6858	9 FT – 28 PT 0 VOL	24/72
Cranston Heights Fire Co. 14	998-3140	8 FT - 39 PT	24/7
Delaware City Fire Co. 15	834-9336	8 FT - 20 PT	24 On ~ 72 Off
Elsmere Fire Co. 16	999-0183	2 FT - 15 PT	24/7
*Five Points Fire Co. 17	994-2245	2 FT - 36 PT	24/7
Goodwill Fire Co.	328-2211	8 FT-20 PT	24/7
Hockessin Fire Co. 19	239-7159	13 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	6 FT - 15 PT	24/7
Port Penn Vol. Fire Co. 29	834-7483	4 FT - 30 PT	24/7
Talleyville Fire Co.	478-1110	10 FT- 42 PT	24/7
Townsend Fire Co. 26	378-8111	2 FT - 8 PT	10H
Volunteer Hose Co.	378-7799	13 FT - 15 PT	24/7
*Wilmington Fire Dept. 100	571-4410	172	24/72
Wilmington Manor Fire Co.	328-3209	15 FT - 30 PT	24/7
*Based on 2021 report			

Aviation and Dispatch Center Cost

Delaware State Police Aviation:

Total Costs: Not Reported

Personnel:

Equipment:

Training:

Dispatch Centers

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

Total Costs: Not Reported

Personnel:

Equipment:

Training:

Kent County 911 Center:

Total Costs: \$3,037,300.00

Personnel: \$2,850,700.00

Equipment: \$42,700.00

Training: \$9,200.00

Sussex County 911 Center:

Total Costs: Not Reported

Personnel:

Equipment:

Training:

Seaford 911 Center:

No longer receives 911 calls

(No EMS Dispatch)

Rehoboth Beach 911 Center:

Total Costs: \$557,875.21

Personnel: \$534,296.84

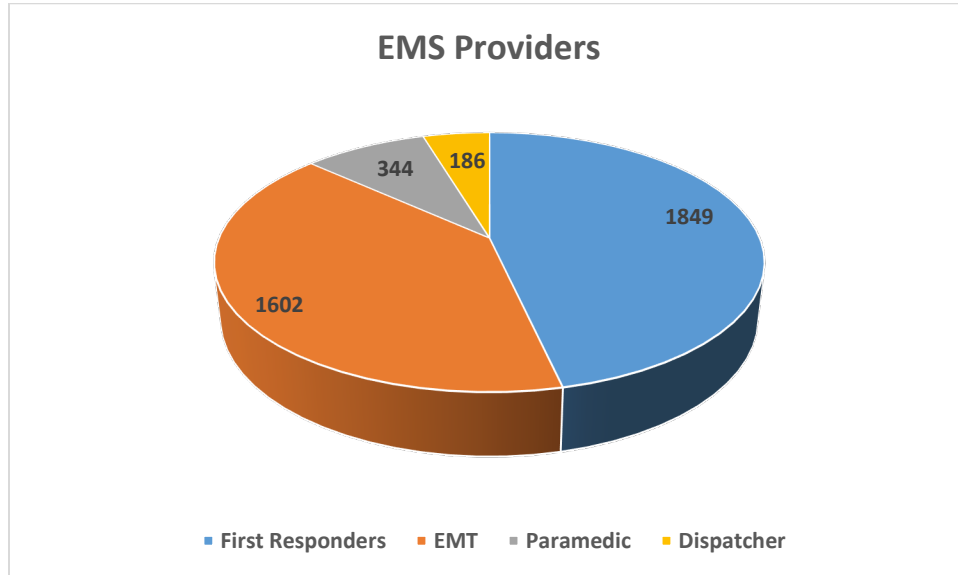
Equipment: \$4,835.76

Training: \$18,742.61

EMS System Resources

Human Resources and Workforce Development	55
Education and Training	56-57
EMS Preparedness	58-59
EMS Interfacility Transport	60-61

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 continues 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 2020 and 2050, Delaware’s population will increase 12.4%. Sussex County is expected to see the largest percent increase in population by 28%. Kent County's population is projected to reach 204,411 by 2050, an increase of 12%. New Castle County is expected to grow by approximately 6% over the same period, adding 32,699 to reach a 2050 population of 603,757.

While the aging population is increasing, the volunteer population is beginning to decrease. Information from the National Association of State Emergency Medical Services Officials (NASEMSO) 2020 National EMS Assessment shows that the majority of EMS responders nationwide are between the ages of 30-39. Many people within this age range are finding it more difficult to volunteer their time with the increases in dual income and single parent families, and the fact that many people are working longer hours.

Education and Training

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

To comply with the EMS Agenda for the Future, A Systems Approach and depending on the level of certification, the designation has changed over the last 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 transitioned to NCCP for all paramedic level providers in the 2019 recertification cycle.

Introduction - Paramedic Education

Submitted by Chris Hainsworth

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 paramedic graduates that will help to meet the staffing needs of the Delaware paramedic services. 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 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 maintained accreditation since 1999.

2019, 2020 & 2021 Accomplishments

In 2018, the program returned to the practice of admitting one cohort of students annually. In 2019 there were seven graduates from the program and nine students were admitted with an anticipated graduation in 2020. These students were the first affected by the pandemic when they shifted to entirely online instruction in March 2020. They began their field instruction on paramedic units in Kent and Sussex counties in July, finishing in the early fall. The eight students entering the program in May 2020, started their instruction in a completely online environment. This required a combination of creativity and technology. Classes and lab simulations were first conducted via zoom. We were able to return to campus to utilize the paramedic sim lab with modifications that reduced the number of students in the lab and required social distancing for safety. This class graduated all members, on time, in 2021. In May 2021, twelve students were admitted to the program, with anticipated graduation in August 2022.

During this three-year period, twenty-two graduates took and passed the National Registry Paramedic certification exam. The program has maintained a one hundred percent pass rate since 1999. Twenty-one of these graduates entered the Delaware workforce.

2022 Challenges/Goals

In October 2021, the college responded to requests by the county paramedic services to produce more paramedics, by starting an additional cohort in January 2022. The greatest challenge in 2022 is going to be filling the two cohorts with students who want to become paramedics.

The primary mission of the Delaware Tech paramedic program is to produce competent entry-level paramedics who serve the citizens of the State of Delaware and help to meet the staffing needs of the Delaware Advanced Life Support system. The program now has clinical agreements with all three county paramedic services to place student for their capstone Field Internship. Our primary goal is to admit as many students as possible in 2022 and to prepare to admit as many students as possible in 2023.

EMS Preparedness

Emergency medical services 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.

COVID-19 Preparedness for EMS Agencies

Without a doubt, the efforts to respond to the pandemic have committed major resource and personnel expenditures to aid our state EMS responders. Our ALS and BLS providers were challenged in many ways never experienced. Increased need for personal protective equipment (PPE) taxes supply chains nationwide. Testing EMS responders to ensure they remained healthy enough to remain in the workforce was something never done. Prior to the pandemic, almost every EMS agency in the state faced staffing challenges. As COVID-19 spread through the community, EMS responders found they were not immune. This burdened services already experiencing staffing shortages.

EMSPS stepped in to provide help to the state's response agencies in multiple ways. Possibly the most valuable service provided was the establishment of regular conference calls available to the agencies. This facilitated a dialog between hospitals, governmental resources, and emergency response agencies. Service managers could learn what resources were available and what precautions were in place at local receiving facilities. In addition, information provided by medical directors helped provide clarification on PPE requirements.

As supply chain issues arose, EMSPS aided by getting out PPE items needed for emergency response. This was a major undertaking and brought in many other partners such as the National Guard into the mix. By distributing needed items like masks and gowns, EMSPS was able to keep local agencies in service to manage their community responses.

EMSPS also assisted state agencies through providing mechanisms to test providers for illness. EMS providers who were potentially exposed to COVID-19 had a rapid means to assess their infection status and return to work quickly if healthy. This greatly improved the staffing shortages that sprung up by avoiding unnecessary quarantine of uninfected personnel. State EMS agencies also assisted EMSPS by supplying additional staff to support testing events.

Finally, EMSPS facilitated responder vaccination by acquiring and distributing vaccine to the counties. Working with the county ALS agencies, responders such as police, EMS, and firefighters could be vaccinated to remain healthy and serve their communities. ALS agencies also supported EMSPS efforts by staffing many public vaccination PODs throughout the state.

Public Information

A pandemic does not eliminate other threats that continue to exist. It is important to keep citizens informed about how to prepare for or respond to other public health emergencies. EMSPS accomplishes this normally by participating in public information events. However, with the onset of the pandemic, public events that were held in-person disappeared. EMSPS was able to continue their mission of educating the public by participating in many virtual events. Information could be provided to help citizens prepare for public health emergencies. Many events target vulnerable populations such as children, the elderly, individuals with functional disabilities or other underserved groups. EMSPS will return to in-person involvement as the pandemic precautions ease.

Opioid Abuse

Another social problem that was not eliminated by the pandemic was the crisis of opioid addiction in the state. Our state's EMS responders have been carrying the opioid-reversal medication, naloxone, for many years. Availability of the antidote is even more widespread as it is currently available through many law enforcement agencies throughout the state. An additional effort intended to increase its availability is the naloxone leave behind program.

In many situations, once someone who has overdosed on opioids is treated and regains consciousness, they decline offers by EMS to transport them for further medical evaluation at a hospital. This presents a risk for any recurrence of symptoms or even from the possibility of repeated overdose. Over the past few years, naloxone has become readily available to the public through neighborhood pharmacies. The incidents in which naloxone has been administered by a family member prior to EMS arrival have increased. To aid in getting even more naloxone out to those in need, EMSPS has promoted a naloxone leave behind program. This program supplied opioid rescue kits to EMS agencies who wish to carry them. On incidents where a patient is revived from a suspected opioid overdose, but does not consent to transport, providers on scene can educate family members and leave naloxone with them in case any repeat occurs. In addition to naloxone, these kits contain instructions on how to recognize and treat opioid overdoses before EMS arrives. And most importantly, they contain information related to addiction counseling for those who seek help.

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:

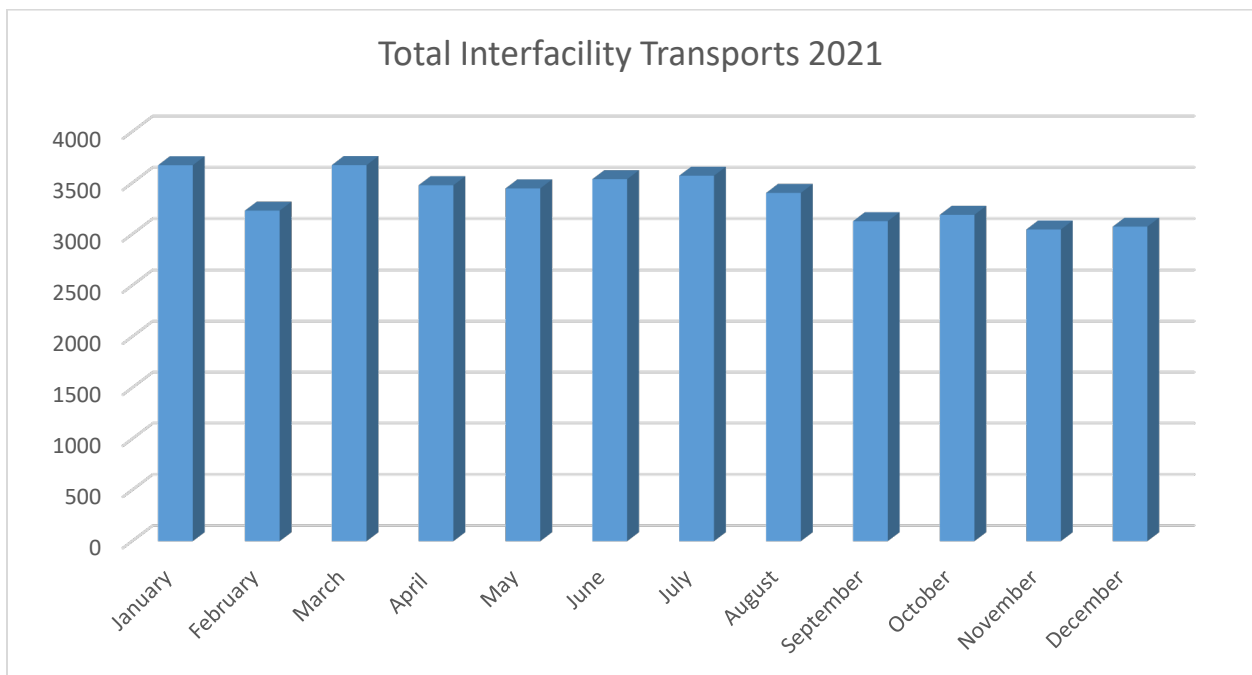
- **Basic Life Support (BLS):**
 - Ambulances are staffed with Emergency Medical Technicians (EMTs). EMTs provide basic care and patient monitoring including oxygen therapy, bandaging, and splinting, etc.
 - Interfacility transport EMTs have the same scope of practice as 911 EMTs and utilize the same statewide treatment protocols.
 - Delaware has 11 Basic Life Support Interfacility agencies with a total of 111 BLS Interfacility ambulances and 159 911 ambulances licensed and operating in Delaware:
 - Christiana Care
 - Delaware Park
 - East Coast Ambulance
 - GEM
 - Hart to Heart
 - Keystone Ambulance
 - 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

- East Coast Ambulance
 - Hart to Heart
 - LifeStar
 - Mid-Atlantic
 - St. Francis
- **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.



Speciality Care

Delaware Systems of Care	65-66
Trauma System of Care	67-69
Stroke System of Care	70-72
Overdose System of Care	73-75
Pediatric System of Care	76-78
Safe Kids Delaware	79
Delaware Organ and Tissue Donor Awareness	80
Delaware Healthcare Association	81

Delaware Systems of Care

The Office of Emergency Medical Service's Systems of Care Office has seen a tremendous amount of change since 2019.

MarySue Jones, who spear-headed the development of the Systems of Care within Delaware, retired in October of 2019 after 25 years of service. We cannot thank MarySue enough for her passion and dedication to making Delaware's Trauma System one of the best systems in the nation!

Paul Westlake was hired in February 2020 to replace MarySue. Paul was initially hired as a Planner in the Hospital Preparedness Program in July of 2019, relocating to Delaware from Ohio to be closer to family. He has over 35 years of EMS experience. Paul previously worked as the EMS Coordinator for EmergiMed, Inc. (an Emergency Department physician's group) and Union Hospital in Dover, Ohio. In his role there he was responsible for many aspects of EMS system design including developing a STEMI program for EMS, trauma system development for the county and working on EMS stroke protocols/procedures as part of the stroke system for the county.

In 2020, the System of Care Office reclassified a Stroke Nurse position to a Planner III. Elizabeth Hammond was hired for this position, and will be assisting in writing the strategic plans, rules and regulations, and other projects within the Systems of Care Office.

The Systems of Care Office staff also includes an MAIII who oversees system data, an ASI who provides administrative support for the Coalition for Injury Prevention, SafeKids Delaware and the Organ and Tissue Donor Awareness Board, and an ASI who handles the administrative duties for the office as a whole and all Trauma, Stroke and Overdose systems.

The overarching goals of Delaware's Systems of Care are:

- Reduce morbidity and mortality.
- Match resources with the needs of the patients.
- Get the right patient to the right facility in the right amount of time.
- Preserve lives and livelihoods.
- Save healthcare dollars.

The Systems of Care Office is legislated by Delaware Code to oversee and coordinate the Trauma, Stroke, and the Overdose Systems of Care, and Delaware's Air Medical Transportation Certification process. The Office oversees several coalition partnerships including SafeKids Delaware, the Delaware Coalition for Injury Prevention and the Governor's Organ and Tissue Donation Awareness Board and participates in the Emergency Medical Services for Children (EMS-C) program.

The Systems of Care Office participates in several key workgroups set up by the Office of Emergency Medical Services that have a direct impact Delaware's System of Care:

1. The Interfacility Transport Workgroup has been formed and continues to meet to address the key role that timely interfacility transport plays in the care of severely

injured trauma victims and stroke victims from Community Hospitals to Level I Trauma Centers and Comprehensive Stroke Centers.

2. The Medical Surge Workgroup is working to develop state-wide plans to address
3. The Pediatric Surge Workgroup is looking at ways to increase the awareness and ability of Delaware health care systems to accommodate large numbers of injured children.
4. Delaware Hospital Preparedness Coalition (DHPC), Alternate Care Site Workgroup, Children in Disaster Preparedness Workgroup, and the Delaware Medical Orders for Scope of Treatment (DMOST) committee.

Effects of COVID-19 on Delaware's Systems of Care

COVID had quite an impact on the Office. Systems of Care staff were assigned to roles in the State Health Operations Center (SHOC). Staff worked to develop First Responder COVID Guidelines, participated in testing and vaccination clinics, tracked First Responder exposures, and are now overseeing the allocation and distribution of COVID-19 therapeutics throughout the state.

While COVID-19 response and SHOC activation slowed activities, the Systems of Care Office has continued to work on existing projects as well as making considerable progress on the Overdose System of Care.

- All committees have continued to meet virtually and have had good attendance from the members. In fact, attendance has been higher than what was experienced before COVID.
- Hospitals have been hit very hard with staffing shortages and a surge of patients. This has required most of the trauma and stroke committee members to work in areas away from their trauma and stroke duties.
- Interfacility transfer agencies, a key component in the Delaware Systems of Care plans, were hit with staffing shortages, which in turn caused some hospitals to report delays in getting critical patients transferred.
- Agencies faced critical PPE shortages, both for the hospitals and the First Responders.
- Programs that rely heavily on interaction and education with the public were especially hit hard. During most of 2020 and 2021, all in person meetings were cancelled. This caused many agencies to develop virtual training so the public could still be interacted with.
- Trauma and stroke admissions dropped during 2019 through 2021. Trauma centers saw an 18% drop in trauma patients and stroke patients declined by 13%.
- Overdose deaths have continued to increase during the COVID-19 pandemic. The increase in deaths is being attributed to increased use of fentanyl, methamphetamine, and cocaine¹. It will take further research to determine what part the pandemic played, if any, on this increase.

¹ [Drug Overdose Deaths in the U.S. Top 100,000 Annually \(cdc.gov\)](https://www.cdc.gov/drugoverdose/deaths-us-annual-2019.html)



The Delaware Trauma System of Care

June 30, 2021, marked the **25th anniversary** of the passage of legislation creating Delaware’s 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 Committee on Trauma (ACS COT) 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.

Current Delaware Trauma Center designations are:

REGIONAL LEVEL 1 TRAUMA CENTER – ChristianaCare-Newark

PEDIATRIC REGIONAL LEVEL 1 TRAUMA CENTER - Nemours Children’s Health

COMMUNITY LEVEL 3 TRAUMA CENTERS - Bayhealth Hospital, Kent Campus; Bayhealth Hospital, Sussex Campus; Beebe Healthcare; ChristianaCare - Wilmington Hospital; Saint Francis Healthcare; Tidal Healthcare - Nanticoke; Peninsula Regional Medical Center (Salisbury Maryland) via reciprocity

Accomplishments

Trauma System of Care Committees and subcommittees are continuing to meet and are well attended. All legislated positions have been filled.

In 2020, all trauma centers received a one-year extension on their ACS verification due to COVID-19. In 2021, the ACS Committee on Trauma (ACS COT) began conducting virtual verification visits. Four Delaware Trauma Centers (St. Francis Healthcare, Bayhealth Hospital – Sussex, ChristianaCare – Wilmington, and Beebe Healthcare all were reverified by ACS COT as Level III Trauma Centers and were subsequently designated by the Trauma Center Designation Committee.

In March 2019, a Burn Surge workshop was held. This workshop focused on the potential need that up to 200 burn patients may need to be kept in state if we were to experience a regional burn disaster that would overload the burn centers in Pennsylvania and Maryland. A Burn Surge Workgroup has been established to address this capacity and plan.

Trauma System leaders are involved in teaching Stop the Bleed throughout Delaware. The program has been taught in Delaware schools with tourniquet kits being distributed to all public-school systems and universities within Delaware. Progress is being made in getting the kits to private and parochial schools as well. Staff at Delaware's Department of Transportation, public office buildings, law enforcement agencies and others have received tourniquet kits.

Continuing Medical Education (CME) requirements for Level III trauma surgeons were amended to reflect the requirements defined by the American College of Surgeons.

The Quality and Evaluation Committee is very active with review of trauma data and case studies at the quarterly meetings. One of several quality improvement projects from these meetings was the formation of a Interfacility Transfer workgroup. This workgroup is separate from the OEMS workgroup and will address over and under triage issues to stress appropriate interfacility transfer decisions, which may influence the interfacility transfer issues facing the state.

The Trauma Registrar Subcommittee approved and updated the Delaware Trauma Registry Data Dictionary to facilitate accurate data entry in the Delaware Trauma Registry.

Challenges

It is very difficult to determine the cost of trauma in Delaware. The Centers for Disease Control estimate that the 2019 nationwide cost of trauma was \$4.2 trillion, with \$327 billion in medical care alone.² By comparing the number of 2019 trauma patients nationwide to the number of trauma patients in Delaware, this translates to an estimated cost of \$8.7 million for medical care alone. This does not include the costs of physical assets, personnel, lost wages, extended care, etc.

Trauma funding is a major concern within the Trauma System. The Trauma Registry, a trauma patient database that is required by Delaware Code, stands to see a 100-400% increase in annual costs that must be borne by the trauma centers and the state of Delaware. A workgroup has been formed within the Trauma System Committee to explore funding sources.

Interfacility transports, which is a key component of getting patients from one facility to a facility that provides a higher level of care, is facing several challenges of timely and appropriate transfers. This problem is being addressed through the Office of EMS and the Trauma System of Care.

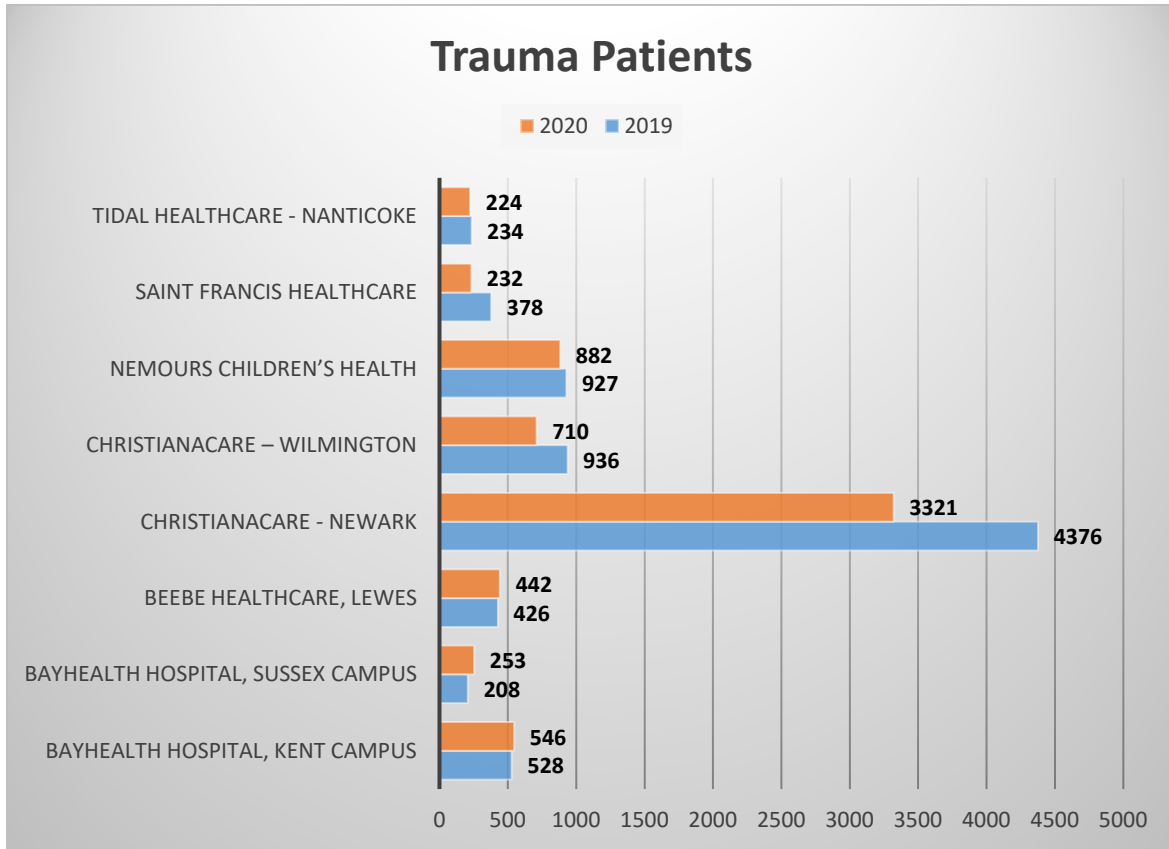
Trauma System Rules and Regulations (Delaware Administrative Code) were last updated in 2013. Plans are currently underway to update these Rules and Regulations.

The American College of Surgeons Committee on Trauma is releasing a new version of their Trauma Center Guidelines in March of 2022. Implementing these changes will take place over the next 12-18 months.

² CDC MMWR Economic Cost of Injury – United States, 2019

Trauma Center Patients 2019 – 2021

At the time of report creation, complete 2021 data was not available.



Delaware Trauma Registry



The Delaware Stroke System of Care

The Delaware Stroke System of Care was created through enabling legislation passed in June 2016 (Title 16 Chapter 97). The Stroke System of Care has experienced significant growth. In addition to the Stroke System of Care Committee, there are several subcommittees and workgroups, including the Stroke System Data and Quality Subcommittee, Nominating Subcommittee, Public Education Subcommittee, Strategic Plan Workgroup, Stroke Center Designation Workgroup, and a Rules and Regulations Workgroup are meeting to develop their assigned aspects of this System of Care.

The Delaware Vital Statistics Annual Report 2019 (page 166) lists Cerebrovascular Disease as the fourth leading cause of death overall in the state. Both non-Hispanic black and non-Hispanic white stroke mortality rates decreased 15 percent from 2000-2004 to 2014-2019. In 2015-2019, the non-Hispanic black stroke mortality rate of 55.9 deaths per 100,000 population was 39 percent higher than the non-Hispanic white rate of 40.3 deaths per 100,000 population. (Delaware Vital Statistics Annual Report 2019 page 170). Addressing these disparate rates is part of the mission of the Delaware Stroke System of Care.

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.³ Continued development of an organized Stroke System of Care will enable effective management of increasing patient populations with improved patient outcomes.

Like the Trauma System of Care, Delaware's Stroke System of Care is also all inclusive, with all of Delaware's hospitals at some level of Stroke Center certification:

COMPREHENSIVE STROKE CENTER - *ChristianaCare – Newark Campus*

PRIMARY STROKE CENTERS - *Bayhealth Kent Campus, Bayhealth Sussex Campus, Beebe Healthcare, ChristianaCare - Wilmington Hospital, Saint Francis Healthcare, and Tidal Health – Nanticoke.*

Accomplishments

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

Stroke System of Care Quality Evaluation Committee - A statewide quality improvement program to identify opportunities for improvement and share best practices, through discussion and case studies.

³ . (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).

Stroke Center Certification – At this time, 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.

Social media presence for stroke-related messages has increased. The Stroke Education Committee sends bi-monthly posts regarding stroke health and is tracked using #stopstrokeDE.

A Strategic Plan for the Stroke System of Care has been completed, and identified six goals to accomplish by 2024:

1. Increase EMS Stroke Alert notifications.
2. Develop a Stroke Center designation process along the lines of the Trauma Center Designation process.
3. Determine appropriate time metrics (performance indicators) for appropriate procedures to assure the stroke patient is receiving timely and appropriate care. **(Completed)**
4. Determine the need to change the EMS field stroke assessment tool to identify large vessel occlusion (LVO). **(Completed)**
5. Increase public awareness of strokes and the Stroke System of Care Committee work. **(Partially met)**
6. Assure that Delawareans being transferred to an out-of-state Stroke Center are receiving the same or higher level of care that they would receive within the state.

Challenges

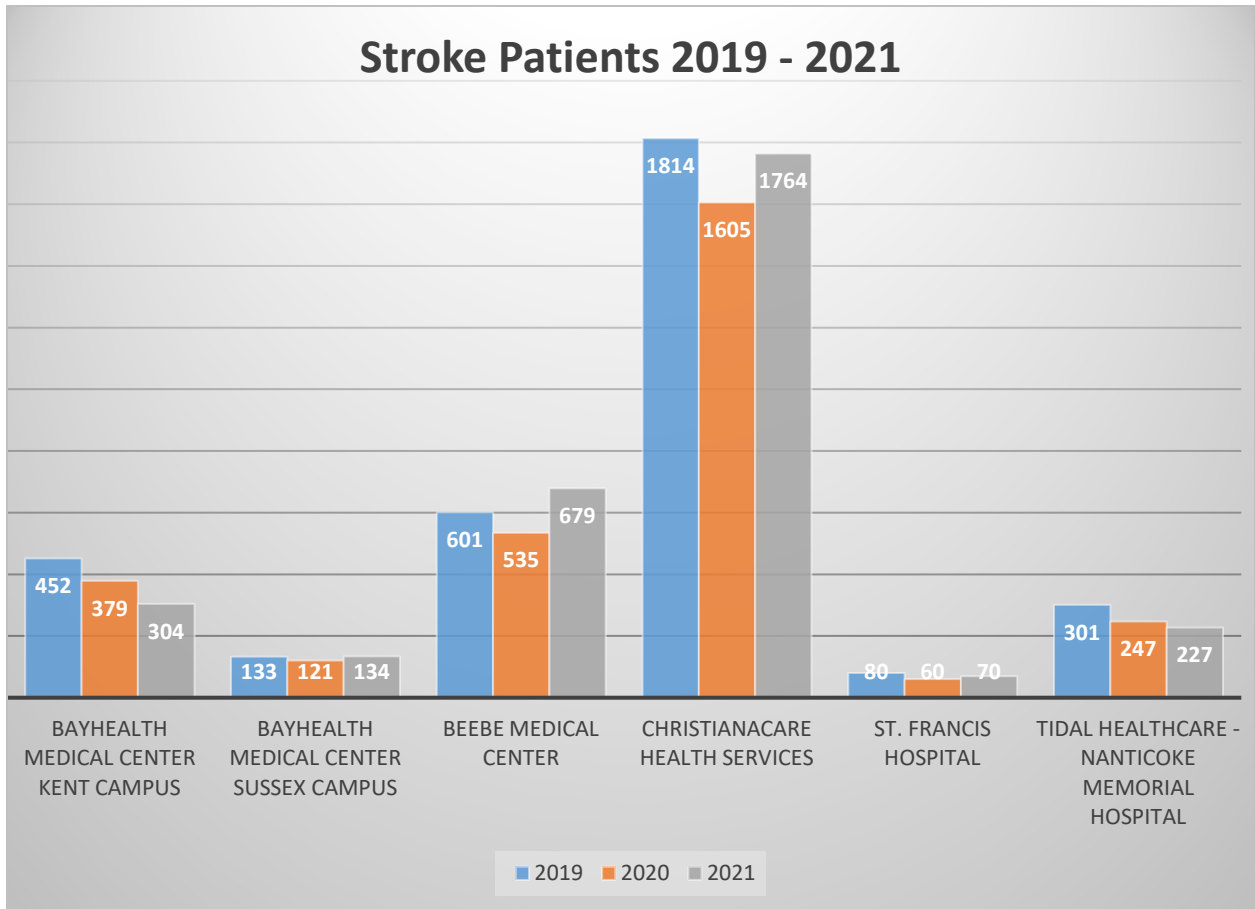
Complete the Stroke Rules and Regulations to submit for administrative approval and publishing.

Appoint members to the Stroke Center Designation Committee and begin the Delaware Stroke Center Designation process.

Interfacility transports, which is a key component of getting patients from one facility to a facility that provides a higher level of care, is facing several challenges of timely and appropriate transfers.

Implement the bridge between the Delaware Emergency Medical Reporting System (DEMRS) and the American Heart Association's Get with the Guidelines (GWTG) Stroke Registry to pull in EMS-related data and performance indicators for overall quality improvement of the Stroke System.

Stroke Patients 2019 – 2020



American Heart Association Get With the Guidelines Delaware Stroke Patient Registry



Delaware Overdose System of Care

The Delaware Overdose System of Care (OSOC) was created through enabling legislation passed in 2018 (Title 16 Chapter 97). After a slow start, the Overdose System of Care has experienced significant growth. In addition to the Overdose System of Care Committee, there are several subcommittees and workgroups, including the Quality and Data Evaluation Subcommittee, Naloxone Leave Behind Subcommittee, OSOC Rural Subcommittee, and the Acute Opiate Use Disorder (OUD) Stabilization Subcommittee.

Delaware is the third highest state in the nation for per-capita deaths due to drug overdoses⁴.

The Overdose System of Care Committee is currently chaired by the Director of the Division of Public Health, Dr. Karyl Rattay, and the Director of the Division of Substance Abuse and Mental Health, Joanna Champney. The OSOC Committee contains a wide and varied membership of several state, healthcare, and private partners. Health Management Community Strategies, a contracted service paid for by grants, has been very instrumental in coordinating and guiding the OSOC Committee.

The Overdose System of Care Committee has been filled with all its legislated positions.

Overdose System of Care Accomplishments

A strategic plan was adopted in 2021 with four goals, and workgroups have been formed to work toward reaching these goals:

1. Establish a structured and universal Overdose System of Care to improve the care, treatment, and survival of overdose patients in Delaware.
2. Fully implement the first responder, hospital, and correctional institution naloxone leave-behind programs.
3. Establish Stabilization Centers in Delaware, in accordance with the OSOC legislation.
4. Use existing and build new data systems and tools to drive timely and informed responses to addressing overdose deaths across Delaware.

The Naloxone Leave-Behind program leaves naloxone and educational materials with a person who has overdosed, revived with naloxone, and then refuses transport to an emergency department. As of this writing, all 3 county Emergency Medical Services and 17 law enforcement agencies participating.

The Rural Subcommittee was formed to address circumstances that are unique to rural areas of the state. This committee received a Health Resources and Services Administration (HRSA) grant to work on these issues.

⁴ www.cdc.gov CDC Drug Overdose Mortality by State

The Quality and Data Evaluation Subcommittee is developing a set of performance indicators to measure progress in meeting the goals and objectives of the strategic plan.

A toolbox has been created to bridge patients who have received Medication for Opiate Use Disorder (MOUD) to follow-up with community MOUD providers. This resource has been sent to emergency departments so the patient can be referred.

2022 Goals for the Overdose System of Care

Incorporate wraparound support and services into the MOUD bridging process.

Pilot MOUD induction prehospital by an EMS agency.

Integrate data from all community naloxone distribution programs.

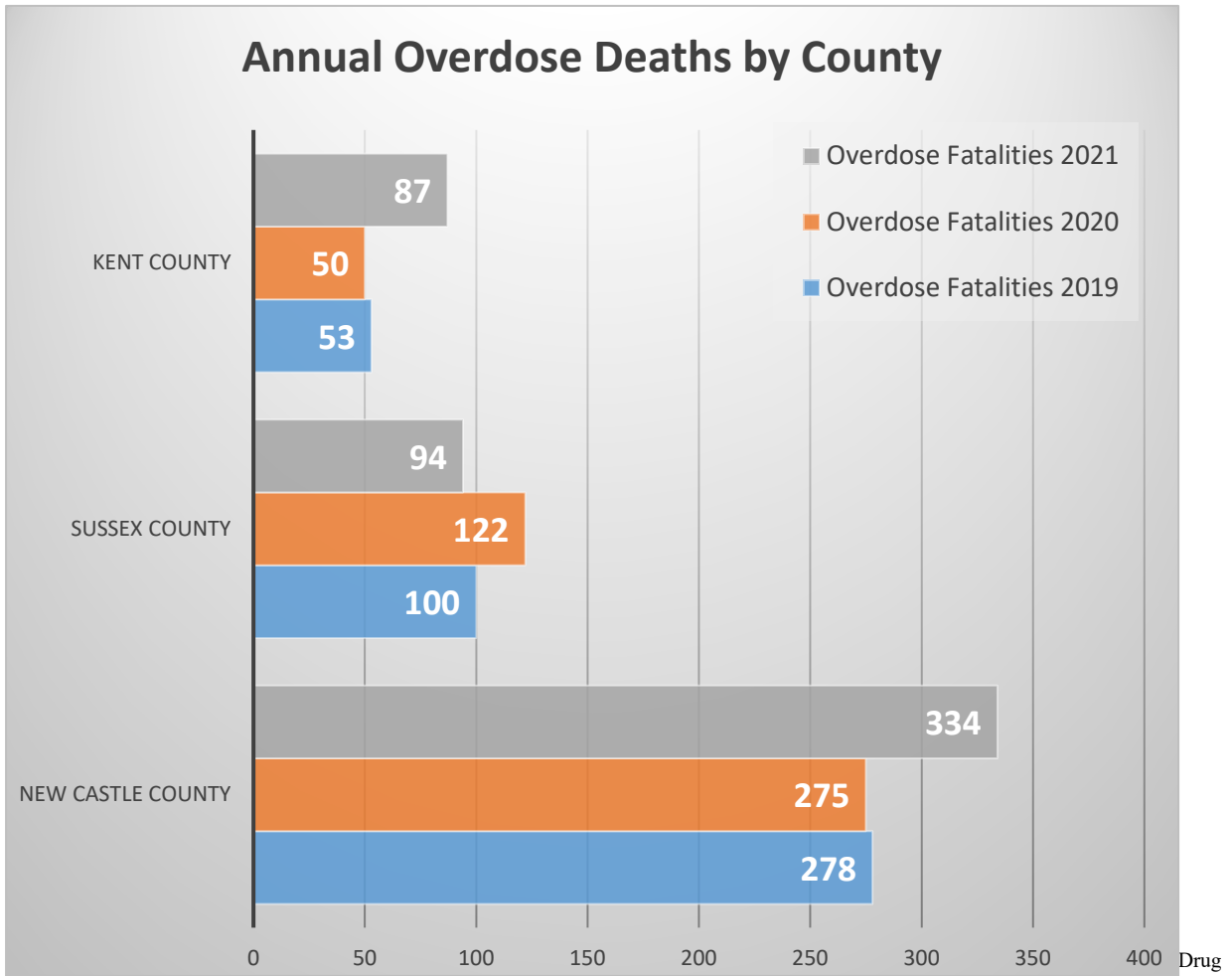
Work with the Delaware Division of Medicaid and Medical Assistance (DMMA) to develop a sustainability plan for continued distribution of naloxone.

Adopt the national ODMap database statewide to ensure real-time data and monitoring of overdoses.

Work with the Drug Monitoring Initiative (DMI) partners to identify data sources for the performance indicators for quality improvement.

Develop a confidential quality review process to report to the Quality and Data Evaluation Subcommittee, as covered under the Delaware Code.

Overdose Fatalities 2019-2021



Monitoring Initiative Annual Reports, 2019, 2020, 2021



Delaware Pediatric System of Care (Emergency Medical Services for Children)

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.

Approximately 30 million children are evaluated in emergency departments (ED's) each year in the United States. Children account for approximately 10% of all Emergency Medical Services (EMS) transports. Since the needs of children treated in the prehospital setting are different from those of adults, prehospital care providers must have appropriate equipment and training, along with safe and effective protocols to treat children (Foltin, G. L., Dayan, P., Tunik, et al. 2010. Priorities for pediatric prehospital research. *Pediatric emergency care*, 26(10), 773-777).

Children account for nearly 25% of ED patients, and the vast majority are not seen in children's hospitals (Institute of Medicine Committee on the Future of Emergency Care in the US Health System. 2006. Hospital-based emergency care: at the breaking point). While as many as 50% of U.S. hospitals see fewer than ten pediatric patients per day, all hospitals can and should be pediatric ready (Remick, K., Snow, S., & Gausche-Hill, M. 2013. Emergency department readiness for pediatric illness and injury. *Pediatric emergency medicine practice*, 10(12), 1-13).

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.

2021 Accomplishments

EMSC Metrics 02 & 03:

In 2021, the EMSC Program focused specifically on EMSC metric 02: A PECC (PEDIATRIC EMERGENCY CARE COORDINATOR), The percentage of EMS agencies in the state or territory that have a designated individual who coordinates pediatric emergency care. As well as EMSC metric 03: The percentage of EMS agencies in the state or territory that have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment. The EMSC has educated the agencies of the importance of a PECC representative and pediatric equipment training. In partnership with NEDARC (The National Emergency Medical Services

for Children Data Analysis Resource Center) the EMSC surveyed 100% of all Delaware EMS agencies.

Pediatric System and Pediatric Emergency Care Facility (PECF) Recognition Program.

In 2021 the EMSC program complete virtual site visits for all ten facilities. All ten facilities met requirements to continue with their recognition status for the next three-year cycle. All hospitals and free-standing Emergency Departments in the state voluntarily participate in the Pediatric System and Pediatric Emergency Care Facility (PECF) Recognition Program. There are 4 levels with defined standards of care for each level:

Level I: Nemours Children’s Healthcare

Level II: ChristianaCare-Newark, BayHealth Kent

Level III: BayHealth Sussex, Beebe Healthcare, Christiana-Wilmington, St Francis Hospital, Tidal Health Nanticoke

Level IV: Christiana Middletown, BayHealth Smyrna

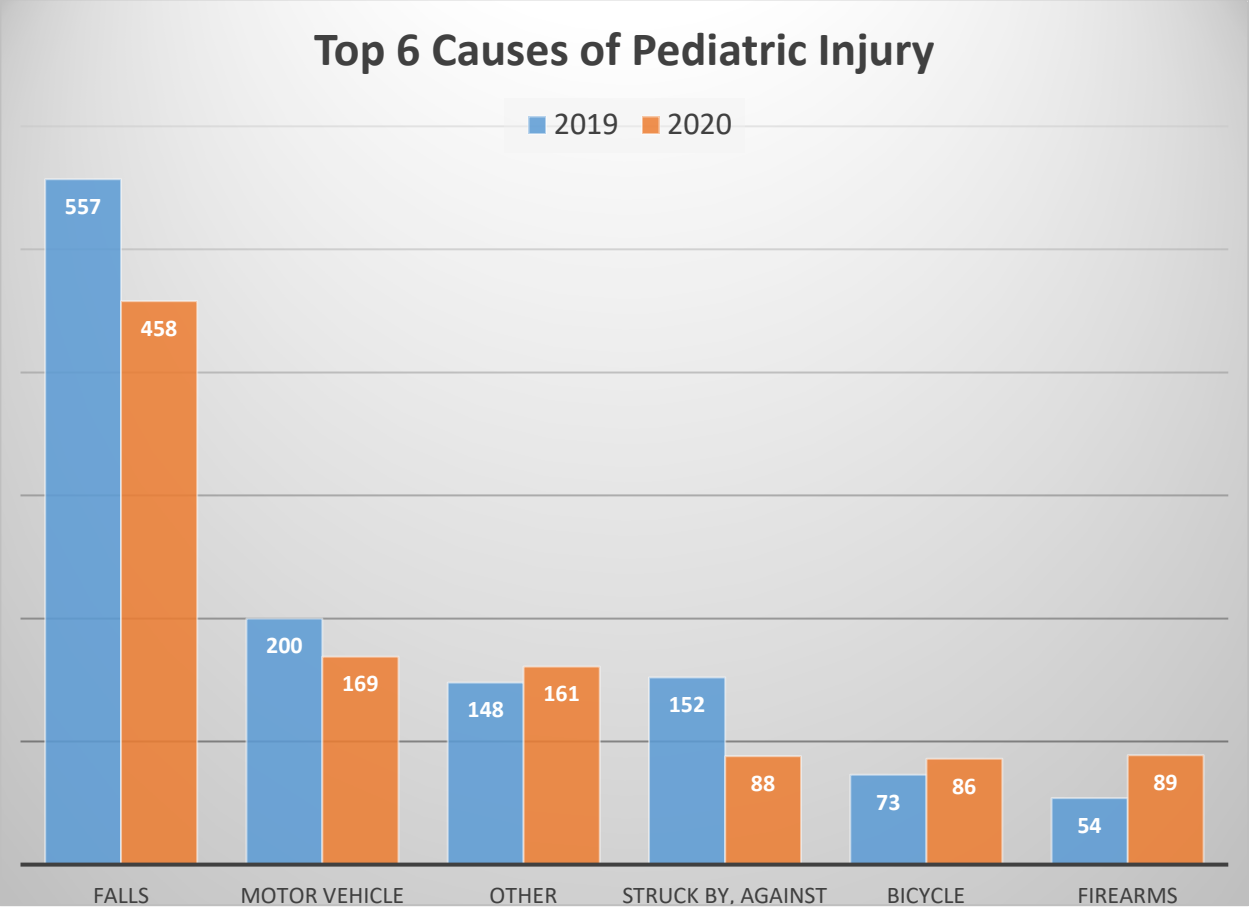
The EMSC Quality Program has been collecting pediatric quality indicator data from the hospitals, including ED documentation. Along with the hospital in cycle providing a case study we have added to the case study the EMS providers perspective, that transported the patient to the hospital. Thus, growing and including prehospital services to the quality meetings. The Quality committee is also revised the PECF standards document that was created in 2015. The EMSC program also added virtual pediatric skills trainings to reach the state while in pandemic conditions.

2022 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.

Pediatric Causes of Injury

At the time of report creation, complete 2021 data was not available.





Delaware Pediatric System of Care (Safe Kids Delaware)

Unintentional injuries are a leading cause of death and hospitalization for children. The leading causes of injury hospitalizations in this age group are falls and highway incidents. Violent injuries such as those involving firearms lead to longer hospital stays, and motor vehicle crashes are responsible for a higher number of severe injuries.

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. Each of Delaware’s three counties has their own chapter under the Safe Kids Delaware umbrella.

Safe Kids Delaware subcommittees (injury focus groups), include 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.

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.

Safe Kids Delaware Accomplishments

	Number of Events	People Reached	Car Seats Distributed
2019	939	113749	52
2020	121	6000	10
2021	235 (including 194 virtual)	10546	9

In 2019, there were 1406 Delaware children injured enough to require hospitalization. In 2020, there were only 1260 injuries that required hospitalization, a 10% decrease.

The Car Seat Assistance Program, which provides car seats to Delawareans using a discounted voucher system, is a very large component of what Safe Kids Delaware does. COVID caused the cancellation of in-person meetings, so the numbers really dropped over 2020 and 2021.

Safe Kids Delaware has started using social media platforms through DHSS and DPH to spread the message about childhood injury prevention.



Delaware Organ and Tissue Donor Awareness Board (OTDAB)

Created by Delaware Code, Title 16, Chapter 27, Anatomical, Gifts and Studies, Section 2730, this Governor-appointed Board has the responsibility of promoting and developing organ and tissue donor awareness educational programs in Delaware. These programs include 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 donors through the state driver's license or identification card program.

Accomplishments

Since 2019, the Delaware Organ and Tissue Donor Awareness Board has established a program to encourage high school students to create videos promoting organ donor awareness. OTDAB arranges for the program to be advertised and promoted and it also arranges for the videos to be collected, viewed, and judged. Up to \$5000.00 are awarded each year, with a minimum of one winner per county.

As of February 2022, there are 428,323 Delawareans with organ donor designation currently registered through the DMV in Delaware.

County	Total	Donor Designations	Percentage (%)
New Castle	470,414	233,723	49.68
Sussex	226,269	122,985	54.35
Kent	148,402	71,615	48.26

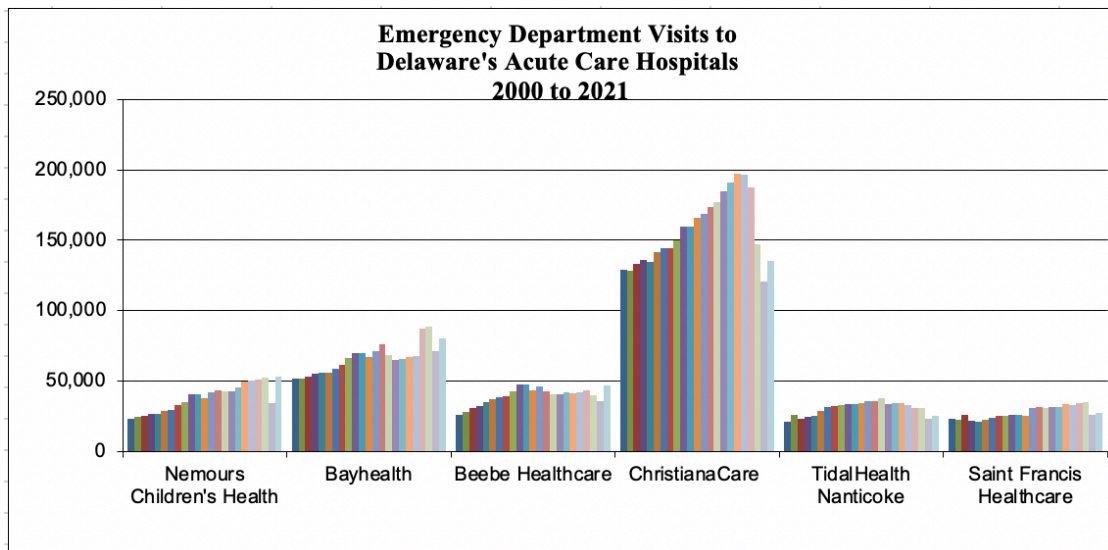
Delaware Division of Motor Vehicles, Office of Driver and Vehicle Services

Delaware Healthcare Association

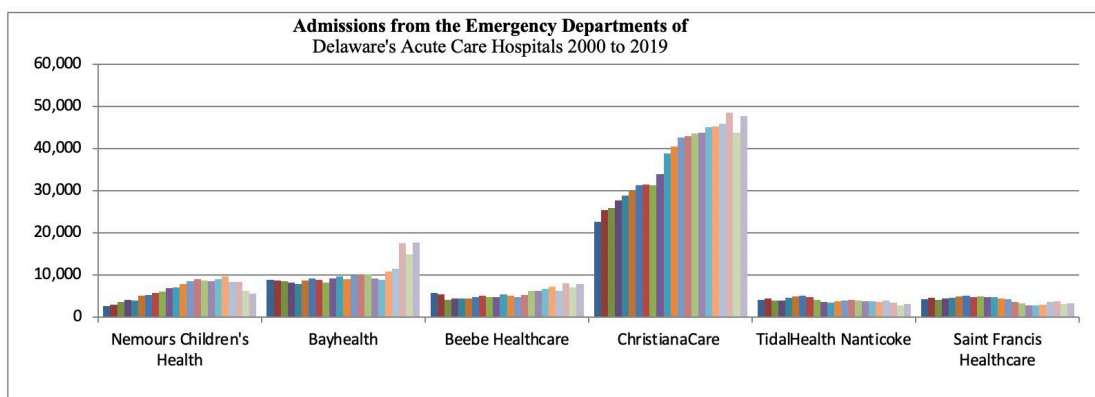
As Submitted by Megan Williams

Information provided by the Delaware Healthcare Association indicates there were 368,375 visits to the Delaware acute care hospital emergency departments in 2021, which is an increase of 93,844 (34.18 %) hospital emergency department visits statewide from the same period in 2000.

Of note, this actually represents a decrease of 12.25% in visits to our Delaware hospital emergency departments from 2019 to 2021 (393,789 vs 368,375).



In addition, there were 84,887 patient admissions from the emergency department for 2021, an increase of 36,875 (76.80%) from the same period in 2000.



Of note, this actually represents a decrease of 9.54% in admissions to our Delaware hospital emergency departments from 2019 to 2021 (89,410 vs 84,887).

Appendices

New Castle County EMS	85-110
Kent County EMS	111-122
Sussex County EMS	123-154
Delaware Air Medical Services	155
Delaware State Police Aviation	156-162
Delaware Coalition for Injury Prevention	163-164



**NEW CASTLE COUNTY
EMERGENCY MEDICAL SERVICES
ANNUAL REPORT**
Submitted by Mark R. Logemann





New Castle Emergency Medical Services 2021 Annual Report

OVERVIEW

Introduction

The mission of the New Castle County Emergency Medical Services Division, 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 Services Division 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” 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 2021, New Castle County EMS deployed nine (9) paramedic units during its high call volume period during the day and eight (8) paramedic units during non-peak operating hours at night. The EMS Division field supervision includes two (2) Paramedic Sergeants on a 24-hour basis. An EMS Lieutenant serves as the shift commander on a 24-hour basis. Both Paramedic Sergeants and the on-duty EMS Lieutenant are equipped as advanced life support responders.

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

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

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.



Assistant Chief Christopher A. Johnson
Commander, Administration/Special
Operations Branch



Chief Mark R. Logemann
Commander, New Castle County
Emergency
Medical Services



Assistant Chief Mark P. Allston
Commander, Operations Branch



Lieutenant Isaac J. Hankins
Commander, EMS Platoon 1



Lieutenant Autumn M.
Tuxward
Commander, EMS Platoon 2



S/Lieutenant Joseph J.
Dudley
Commander, EMS Platoon 3



Lieutenant Donald L. Morris
Commander, EMS Platoon 4



S/Lieutenant Michael R. Nichols
Operations Support



S/Lieutenant Kelli A. Starr-
Leach
Commander, Quality
Improvement



Lieutenant David B. Aber
Training/FTO Coordinator



S/Lieutenant Michael A. McColley
Commander, Paramedic Academy

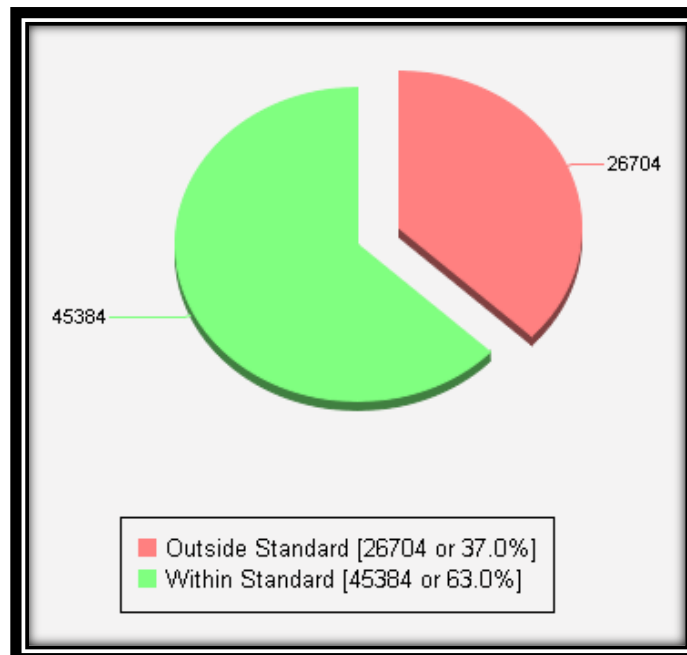
OPERATIONS

Paramedic Service Operational Demand

New Castle County EMS has a clearly defined call volume pattern that begins to increase at approximately 0700 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 2021, 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. In addition, when staffing allowed, a power shift unit was added during the day and night.

The New Castle County Paramedics responded to the below total incidents during calendar years 2020 and 2021 with a paramedic unit arriving on scene 63% 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.



**NCC*EMS Division Responses
(January 1 to December 31)**

	2020	2021
EMS Senior Staff	186	255
EMS Lieutenants	1,048	1,187
EMS Sergeants	5,715	6,699
Medic 1 (Wilmington)	6,142	6,652
Medic 2 (New Castle)	5,613	5,780
Medic 3 (Newark)	4,307	4,725
Medic 4 (Brandywine 100)	4,630	4,776
Medic 5 (Middletown)	2,144	2,447
Medic 6 (Glasgow)	4,041	4,449
Medic 7 (Prices Corner)	5,031	5,493
Medic 8 (Wilmington)	6,178	6,369
Medic 9 (12 hour/day unit)	3,629	3,677
Medic 10 (Special Duty MOT area)	528	510
Medic 11 (Special Duty)	52	144
Medic 12 (Special Duty)	13	63
Medic 13 (Special Duty)	1	0
Medic 14 (Special Duty)	1	0
Medic 15 (Special Duty)	1	0
Medic 16 (Special Duty)	1	0
Medic 20 (TEMS)	115	108
MEDCOM	14	4
Bike Team	4	0
Single Paramedic Responses	4,096	4,067
TOTAL RESPONSES	53,490	57,405

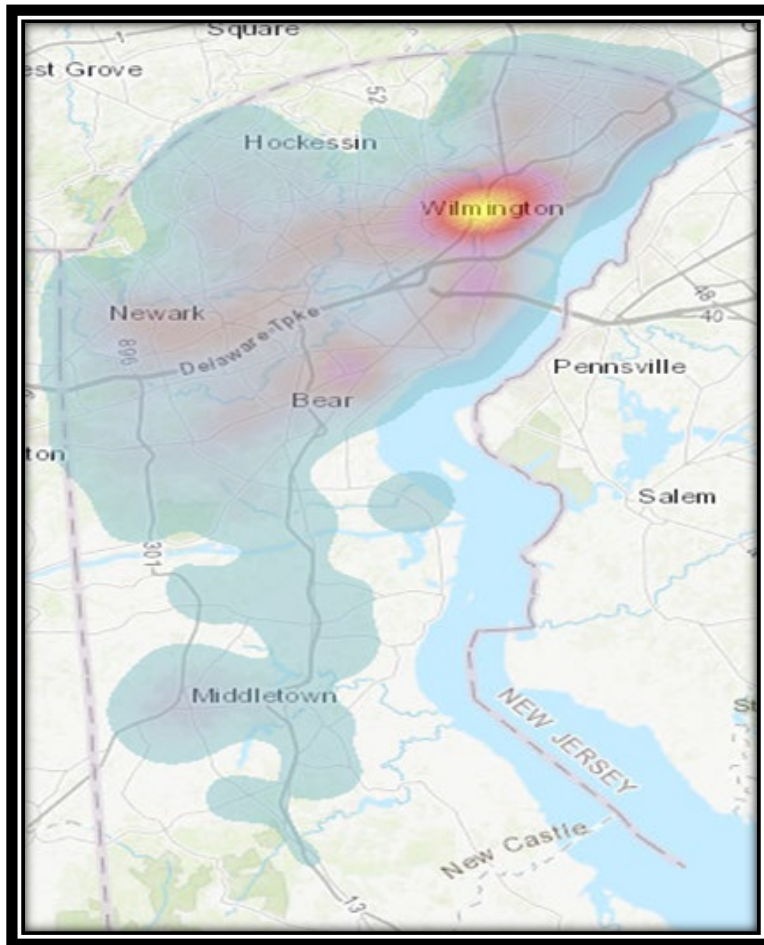
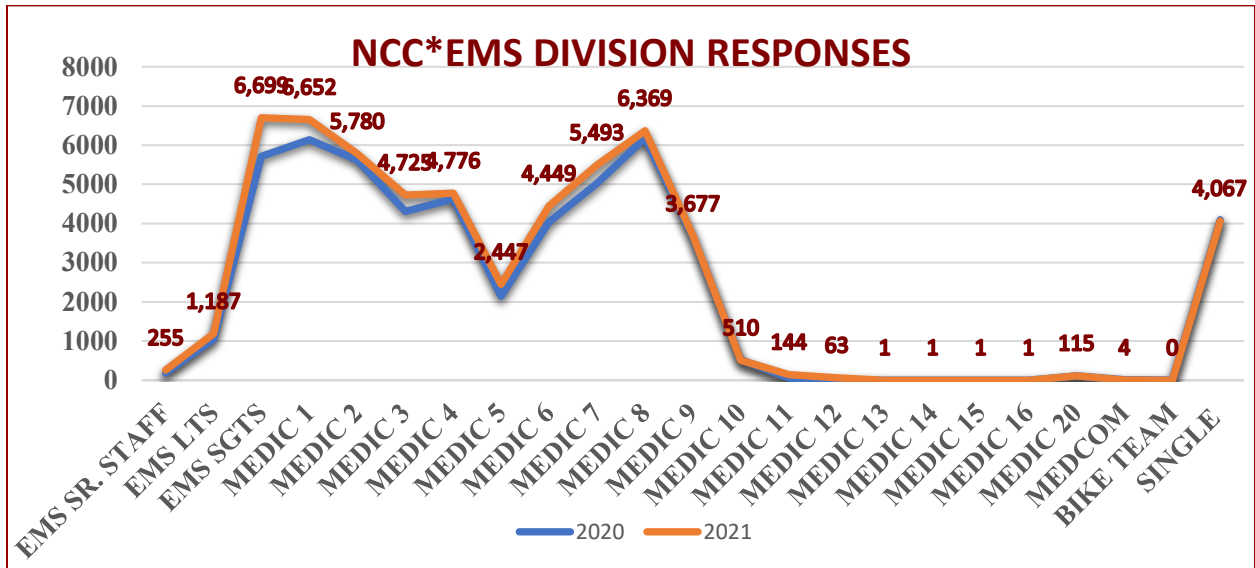
Source: First Watch via New Castle County CAD system

2020-2021 there was an increase of 3,912 responses

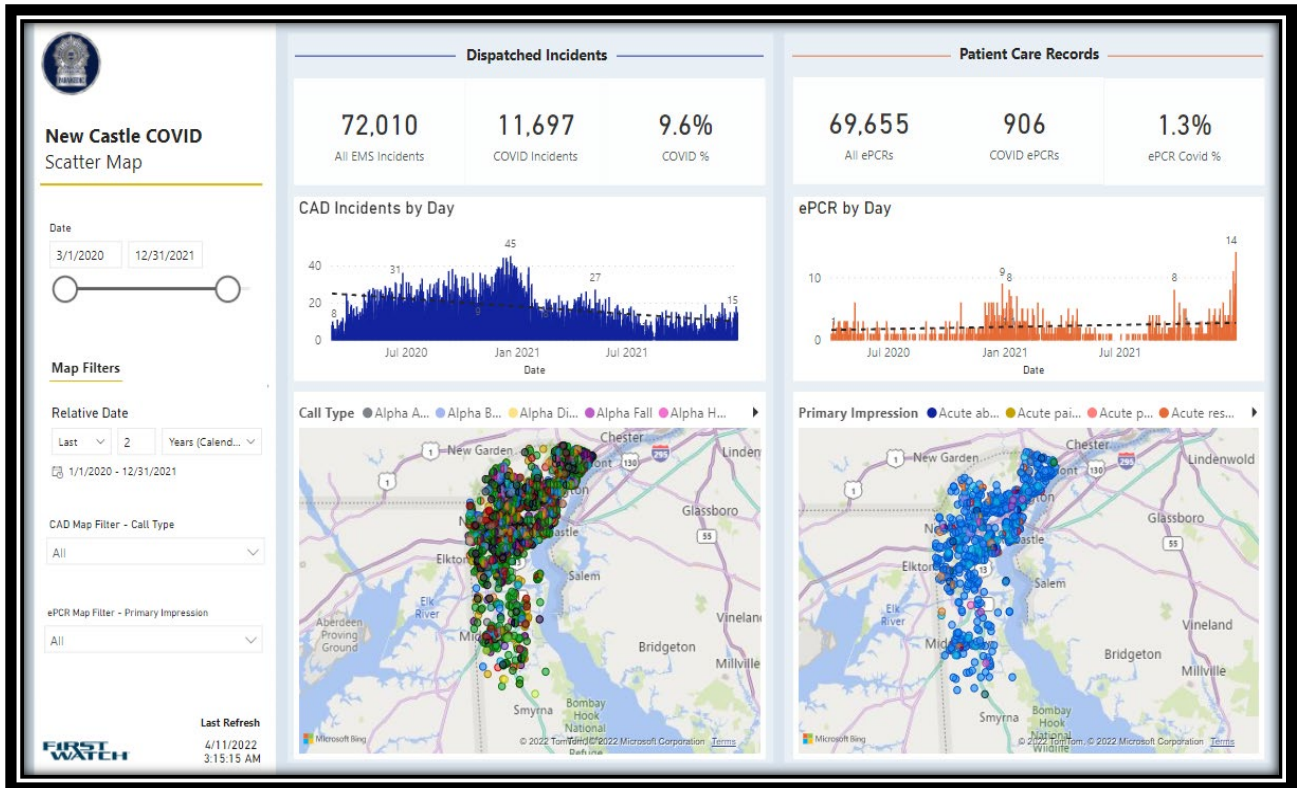
Total Percentage overall increase of 9.3%

2020 & 2021 NCC*EMS DIVISION RESPONSES

SOURCE: FIRST WATCH™



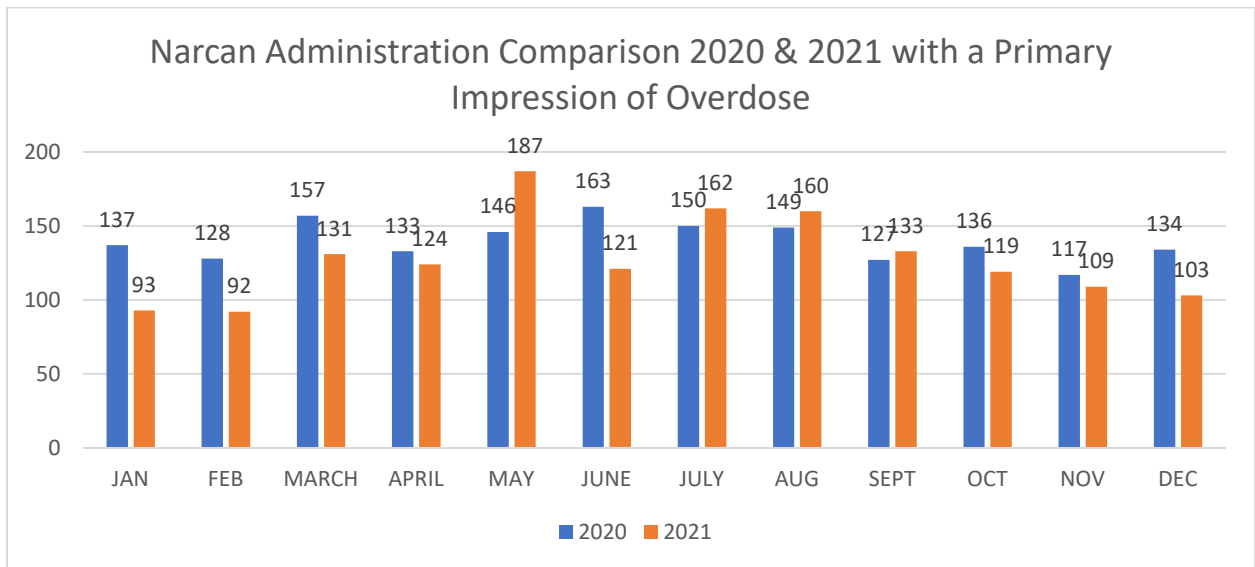
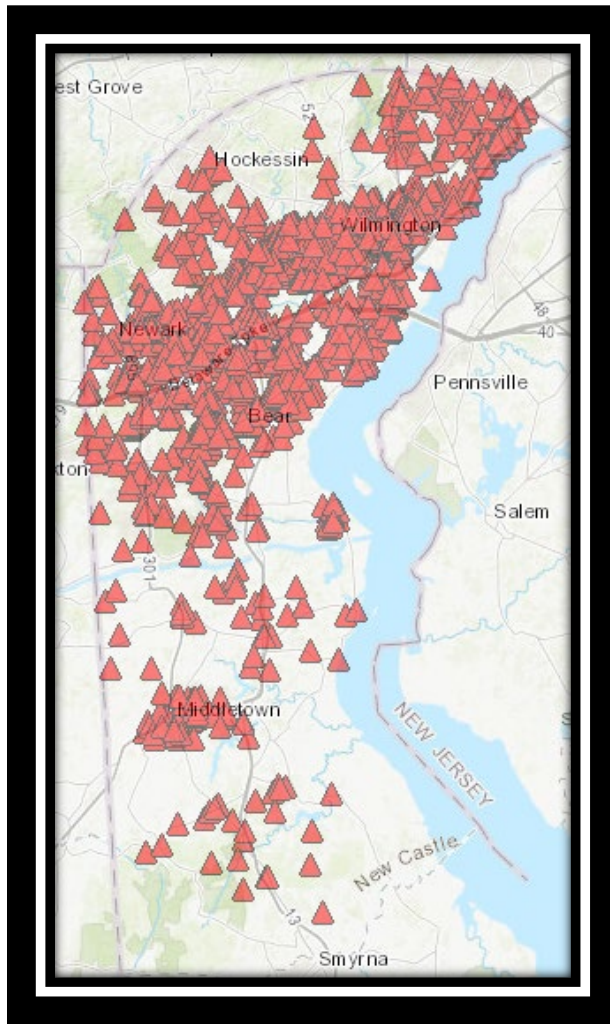
COVID-19 IN NEW CASTLE COUNTY



The above charts represent a comparison between number of incidents dispatched with COVID precautions, as compared to patient care records that the paramedic indicated signs and/or symptoms of suspected COVID or positive diagnosis.

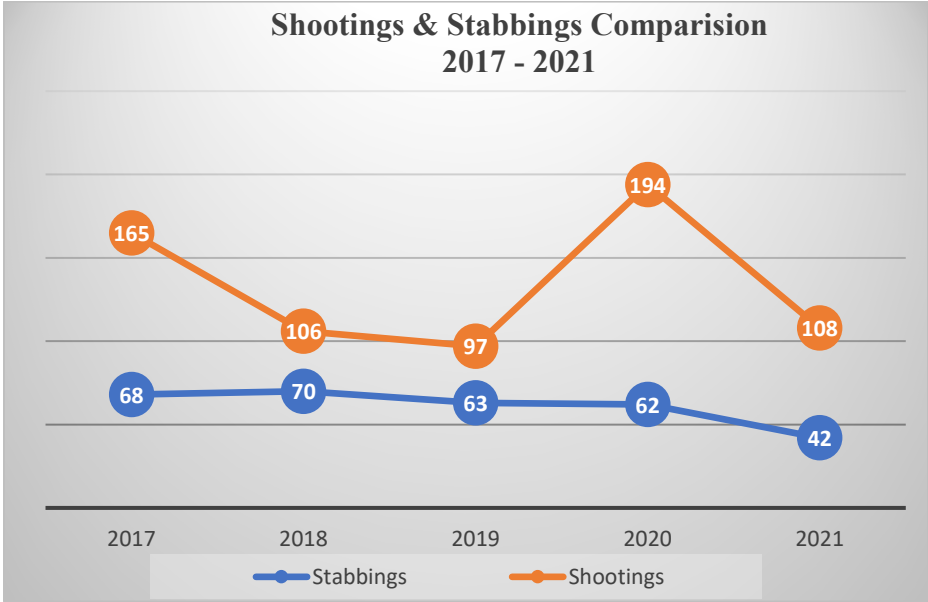


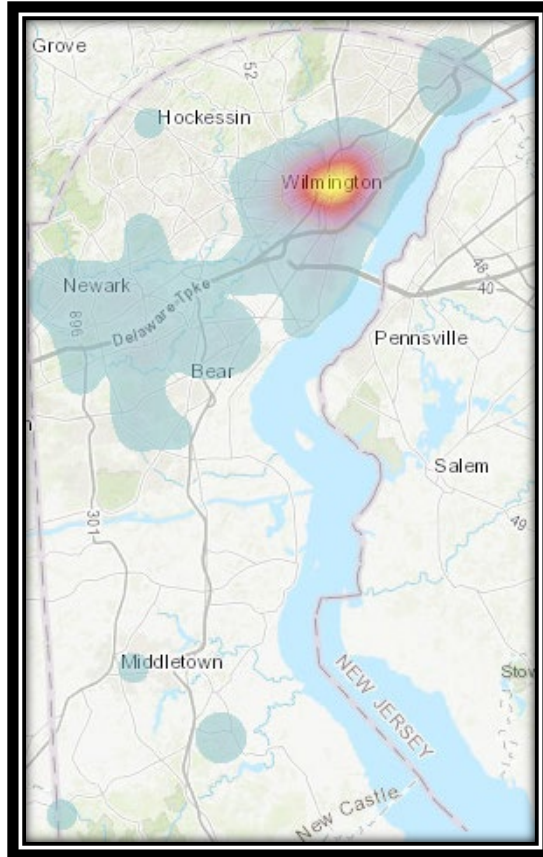
2020 & 2021 NARCAN ADMINISTRATIONS



SOURCE: NCC*EMS FIRST WATCH™

PENETRATING TRAUMA IN NEW CASTLE COUNTY EMS





Heatmap of penetrating trauma incidents 2021

**Top 10 Reasons for Dispatch of a New Castle County
Paramedic Unit in 2020 & 2021**

TYPE OF INCIDENT	2020	2021
Breathing Problems (Delta Level)	6,096	6,309
Interfacility (Charlie Level)	4,263	4,726
Sick Person (Charlie Level)	4,299	4,398
Syncope/Unconscious Person (Delta Level)	2,930	3,460
Chest Pains (Delta Level)	3,599	3,304

Breathing Problems (Charlie Level)	1,851	2,842
Cardiac/Respiratory Arrest/Death	1,060	2,306
Unknown Medical Problem (Delta Level)	913	2,032
Stroke/TIA (Charlie Level)	1,262	1,963
Chest Pain (Charlie Level)	1,223	1,848

SOURCE: NCC*EMS FIRST WATCH™



ADMINISTRATIVE ACTIVITY

*Due to the COVID-19 Pandemic, many of New Castle County's normal outreach events were hampered.

Recruitment Events:

January 1 – March 1, 2020, NCC*EMS hosted numerous ride-along opportunities for the St. George's Technical High School EMS Programs

March 25, 2020, NCC*EMS offered a recruiting presentation to the students of Alfred G. Waters Middle School

September 13, 2020, New Castle County Paramedics participated in Hope Street Delaware's First Responder Appreciation Day. Paramedic and other first responders had the opportunity to meet and spend time with organizers and members of various, non-profit peer support group serving those in need of help with addiction.

September 26, 2020, NCC*EMS participated in the New Castle County Department of Public Safety Open House



January 9, 2020, New Castle County paramedic and Staff attended the dedication ceremony at Delaware State Police Troop 2, where LaGrange Avenue was renamed CPL/1 Stephen J. Ballard Way.



January 30, 2020, Sergeant Matthew Watson graduated from the New Jersey State Association of Chiefs of Police Command and Leadership Academy.



February 26, 2020, New Castle County EMS held the 8th Annual Sudden Cardiac Survivor Reunion event. We celebrated 43 survivors of sudden cardiac arrest in 2019 recognizing 316 emergency responders and 19 civilians for their efforts.



July 29, 2020, New Castle County EMS received the American Heart Association 2020 Mission Lifeline EMS Gold Plus Award.





September 16, 2021, New Castle County hosted a procedural lab where paramedics were able to enhance skills in a realistic manner.

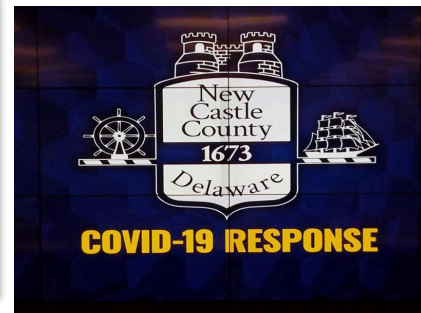
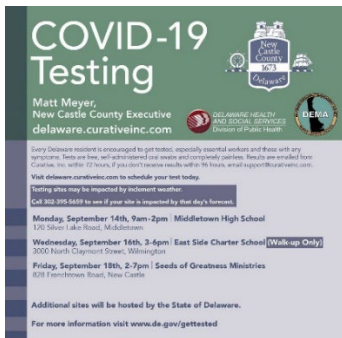


December 2, 2020, New Castle County EMS deployed four LUCAS devices placed on the field supervisor units.





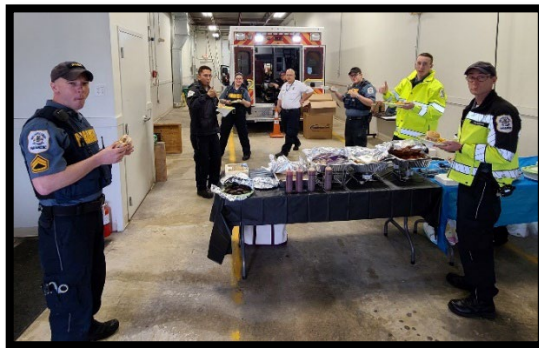
Beginning in March 2020, New Castle County EMS began facing the challenge of the COVID-19 Pandemic. On June 2, 2020, New Castle County announced the opening of a series of free COVID-19 testing initiative to its citizens. New Castle County EMS Division took the lead role in scheduling of testing. Year to date there have been 332 testing sites provided to the community.



In December of 2020, New Castle County EMS participated in a series of Delaware Department of Health Vaccination pods beginning with New Castle County's first responders.



New Castle County Paramedics received an outpouring of recognition by our community who provided lunches and snack baskets for us.





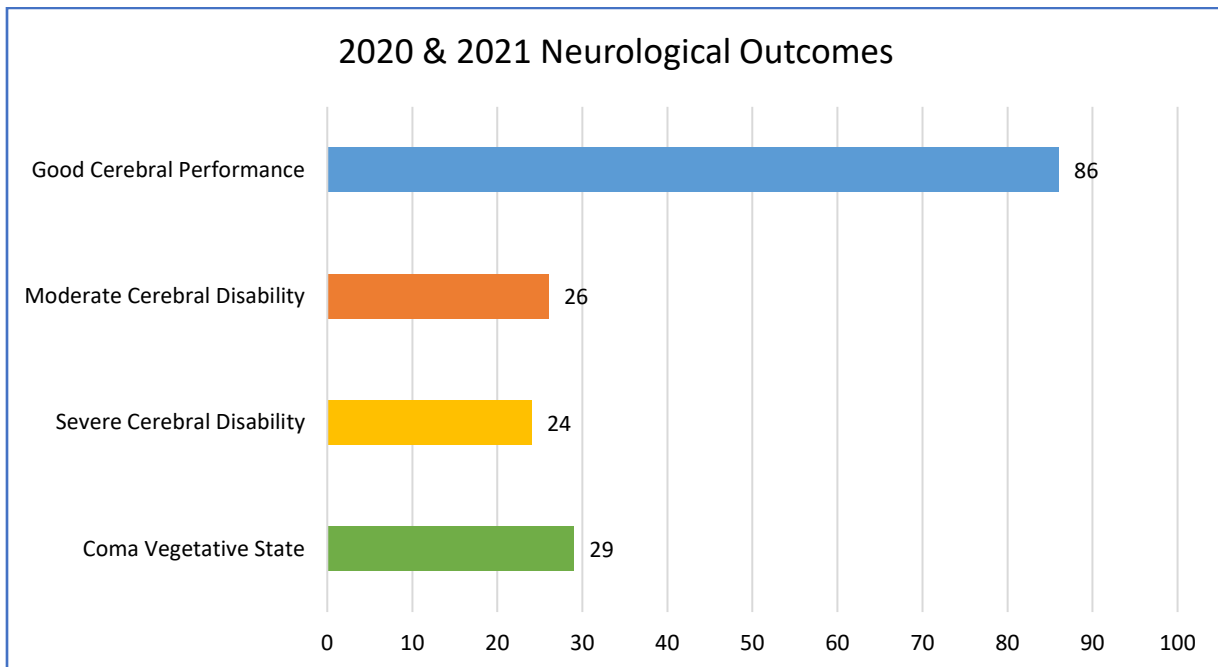
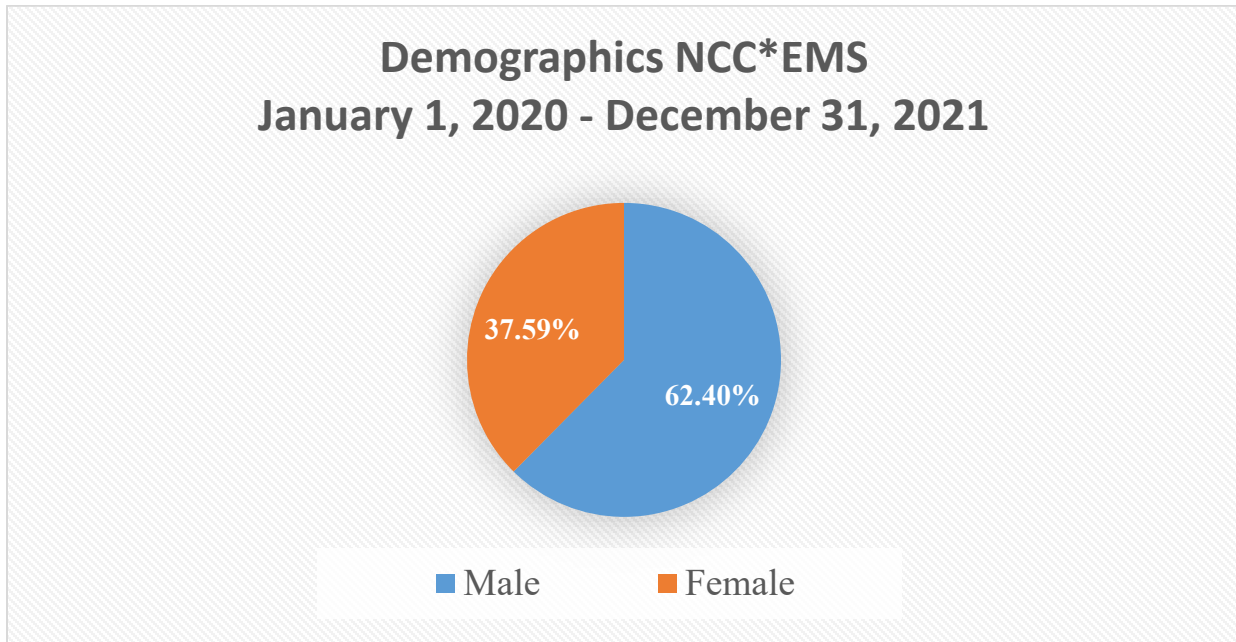
In 2022, the New Castle County EMS Division will continue to seek ways to improve survival rates for out-of-hospital sudden cardiac arrest by presenting an annual Delaware Resuscitation Academy. The course is designed to provide attendees with both knowledge and practical measure to improve cardiac arrest survival within their communities. To date the Delaware Resuscitation Academy has presented ten (10) Resuscitation Academies.



February 26, 2020: The New Castle County Emergency Medical Services hosted the 8th Annual Sudden Cardiac Arrest Survivor’s Reunion, at the Laird Performing Arts Center at the Tatnall School. The event honors those who have contributed to the successful discharge of a sudden cardiac arrest victim during the period of December 1 -November 30, 2019. This year’s event recognized 66 New Castle County Paramedics, 2 Paramedic Recruits, 7 Emergency Communications personnel, 316 from the New Castle County Fire

Service, 22 Law Enforcement Officers, 2 first responders from Christiana Care Lifenet and 26 civilians and 44 Out of hospital cardiac arrest survivors.

Cardiac Arrest Demographics for New Castle County EMS January 1, 2020 – December 31, 2021



The Emergency Medical Services Division has completed the following accomplishments in Fiscal Year 2021

- **The EMS Division was evaluated by representatives from the Commission on Accreditation of Ambulance Services for re-accreditation. The evaluators found no deficiencies and the EMS Division received a “perfect score” towards a three-year renewal of accreditation.**
- **New Castle County Paramedics assisted in the COVID -19 vaccination of countless first responders and citizens. Paramedics proved to be a valuable resource during a public health emergency.**
- **The recruitment and hiring of a diverse group of Paramedic Candidates was completed and a rigorous paramedic training program began in January 2022. The EMS Division continues to be understaffed and needs to increase the division staffing to handle the significant increase in call volume.**
- **Completion of the capital project to renovate Paramedic Station No. 5 in Middletown. This station remained the only facility that did not provide shelter, security and temperature control for vehicles assigned to the paramedics in the southern New Castle County area.**
- **The continued aggressive recruitment of certified paramedic applicants throughout the delivery of the Paramedic Academy. The recruitment of certified paramedics along with the running of paramedic academies is necessary to continue to fill vacancies.**

The Emergency Medical Services Division will achieve the following major goals in Fiscal Year 2022

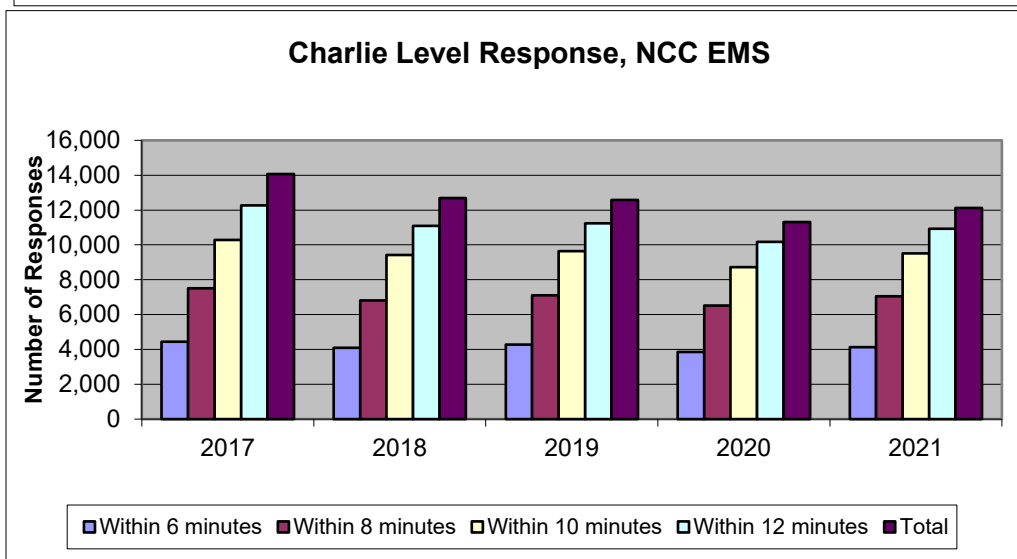
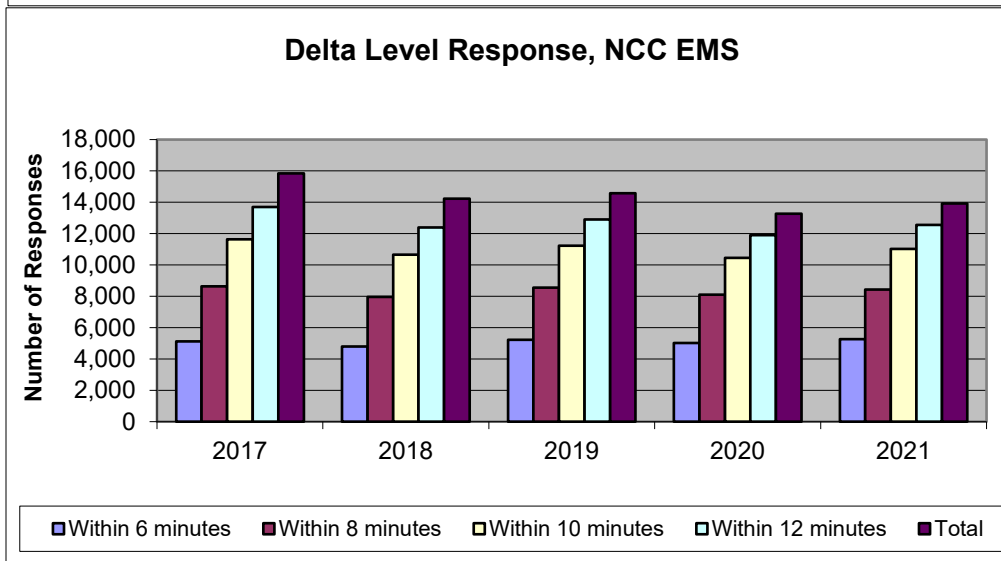
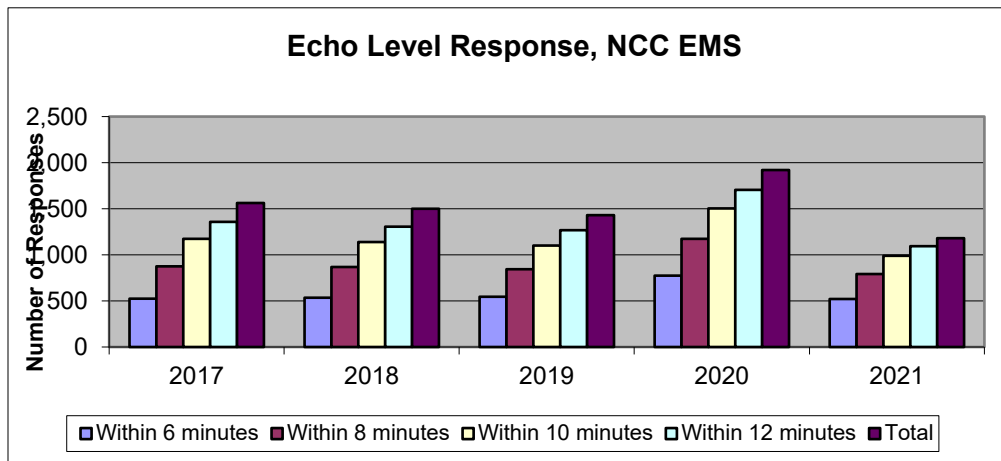
- **Completion of the current Paramedic Training Academy. This will allow the EMS Division to deploy a diverse cohort of paramedics in order to increase staffing levels to achieve better response time to critically ill and injured patients.**
- **Recruitment and selection of recruits for the next Paramedic Academy slated to begin in January 2023. The continued process of hiring and training recruits is necessary as the pool of certified paramedics continues to decrease as the need to grow the service increases.**

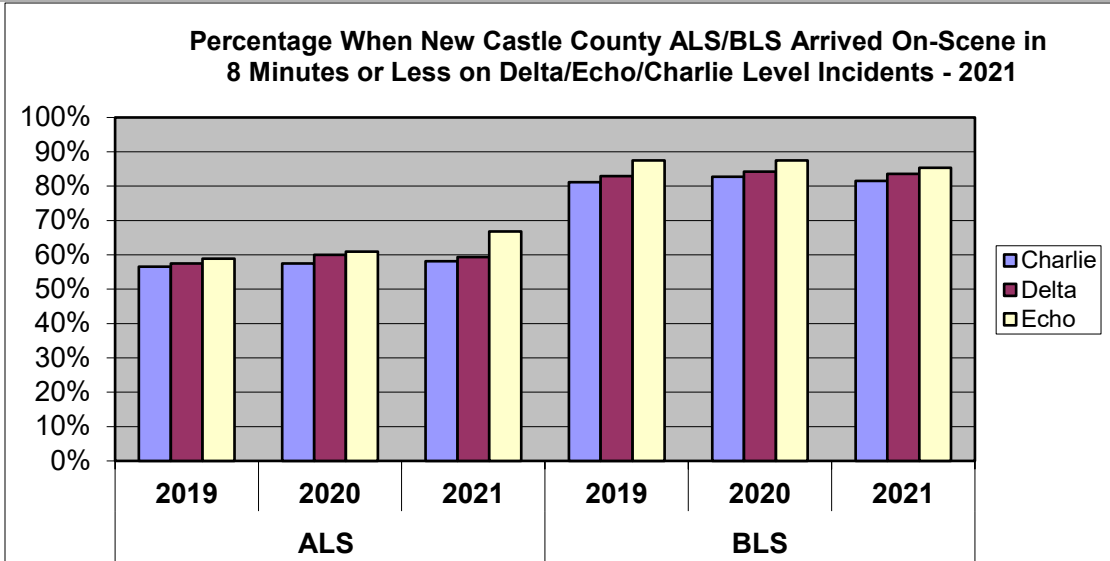
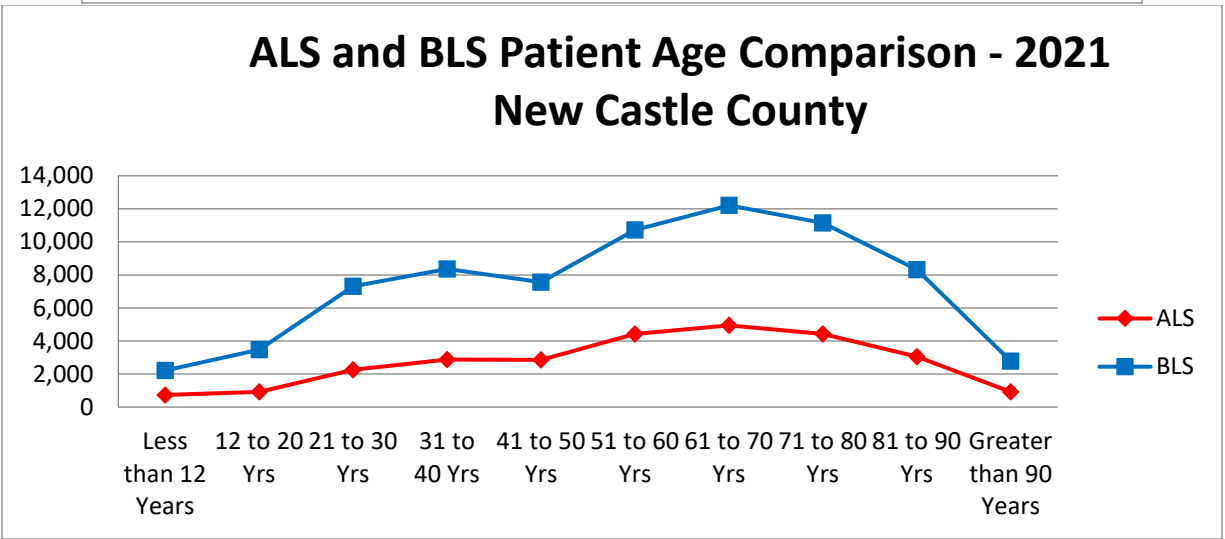
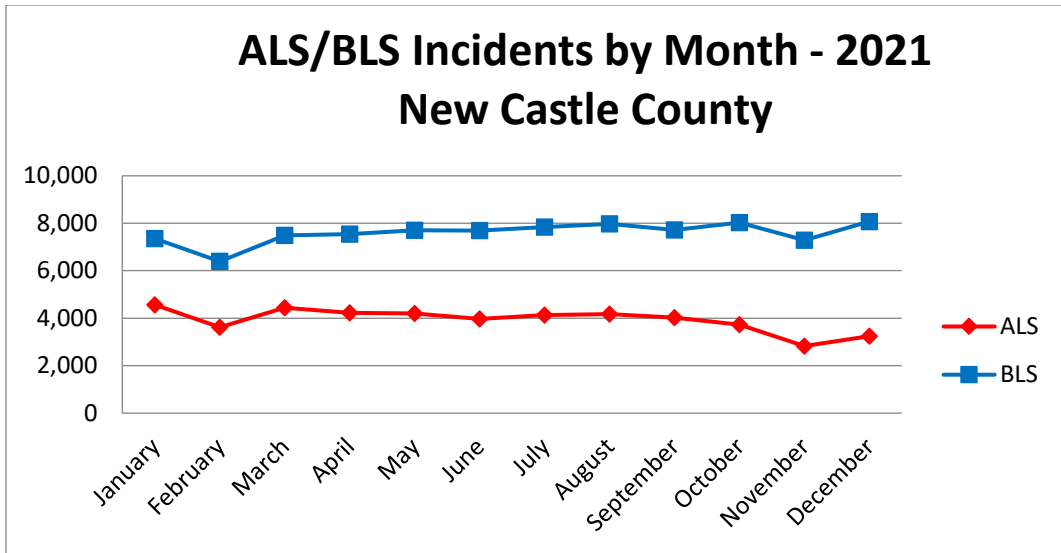
- **Deploy a fleet of new cardiac monitors.** The current cardiac monitors utilized by New Castle County EMS have reached the end of their service life and require replacement. As one of the most vital pieces of equipment for a paramedic, new monitors have been ordered and are expected to be delivered in the summer of 2022.
- **Maintain the administrative, operational and organizational requirements for national accreditation.** The achievement of accreditation requires ongoing maintenance of the standards to verify the EMS Division continues to meet the “gold standard” for a modern emergency medical service. December 2022 will mark the 12th consecutive year of accreditation for the New Castle County EMS Division.
- **Implement a pilot program to evaluate the use of Point of Care Ultrasound in the pre-hospital setting.** This project will be utilized to treat victims of cardiac arrest to determine the specific care required.

Summary

We are dedicated to living up to our motto of “Excellence in Service” The New Castle County Emergency Medical Services Division continues move forward in providing the best medical care to the sick and injured residents and visitors of New Castle County. Embracing new technologies and training personnel to the highest standards are critical to our success.

The continued aggressive recruitment and retention of paramedics is critical to our success. As we move forward it is our intention to run regular paramedic academies and simultaneously recruit quality certified paramedics. This will allow the Division to increase our staffing and place additional units in service to meet growing demand.



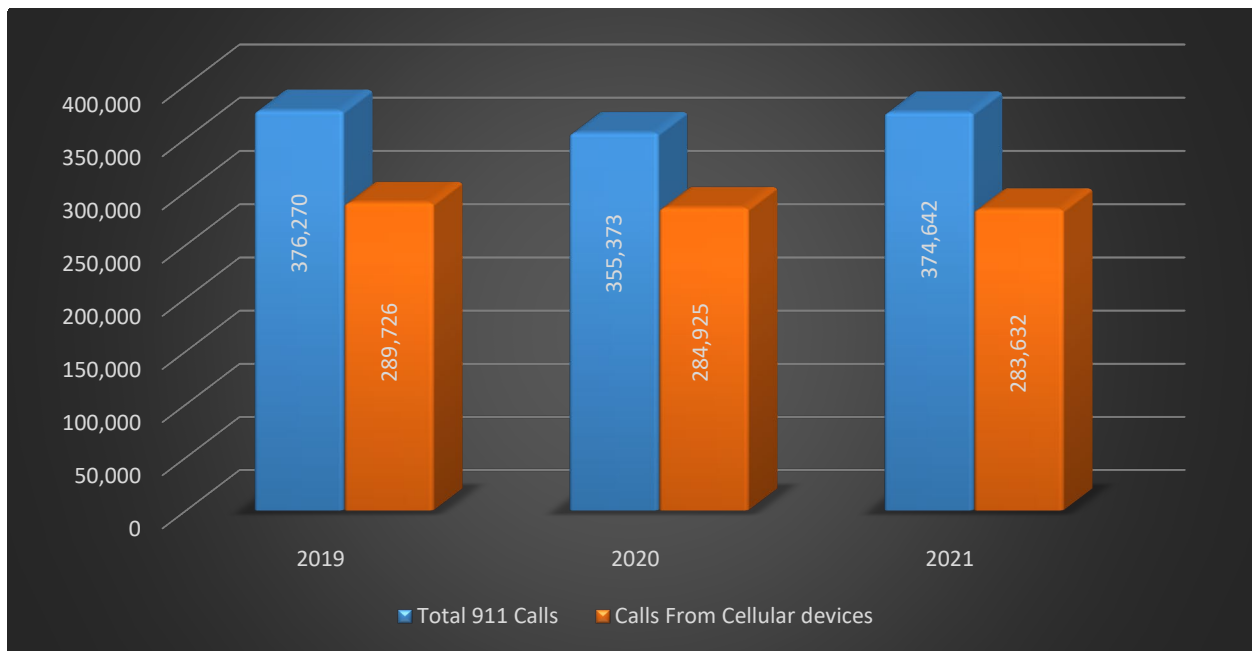


**Communication Center
New Castle County**
Submitted by Chief Jeffrey P. Miller



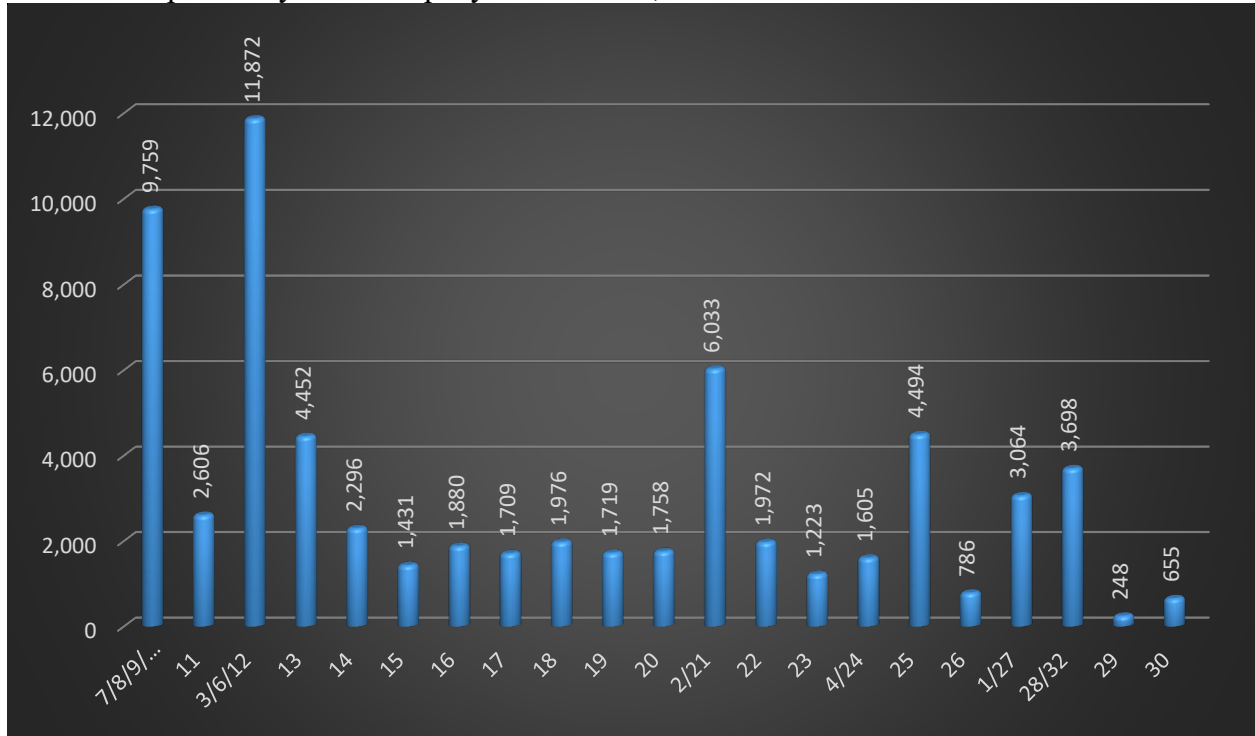
The New Castle County 9-1-1 Emergency Communications Center receives 911 calls through a variety of phone exchanges and numerous cell towers throughout New Castle County. The total number of 911 calls processed in year 2021 was 374,642. Another 109,176 non-emergency calls were also processed by our Public Safety Operators. The Center dispatched or processed a total of 160,194 fire/medical incidents and 243,435 police incidents in year 2021. The New Castle County Emergency Communications Center handled over 49.9% of the 751,032 total 911 calls in the State of Delaware for 2021.

Total 911 Calls:



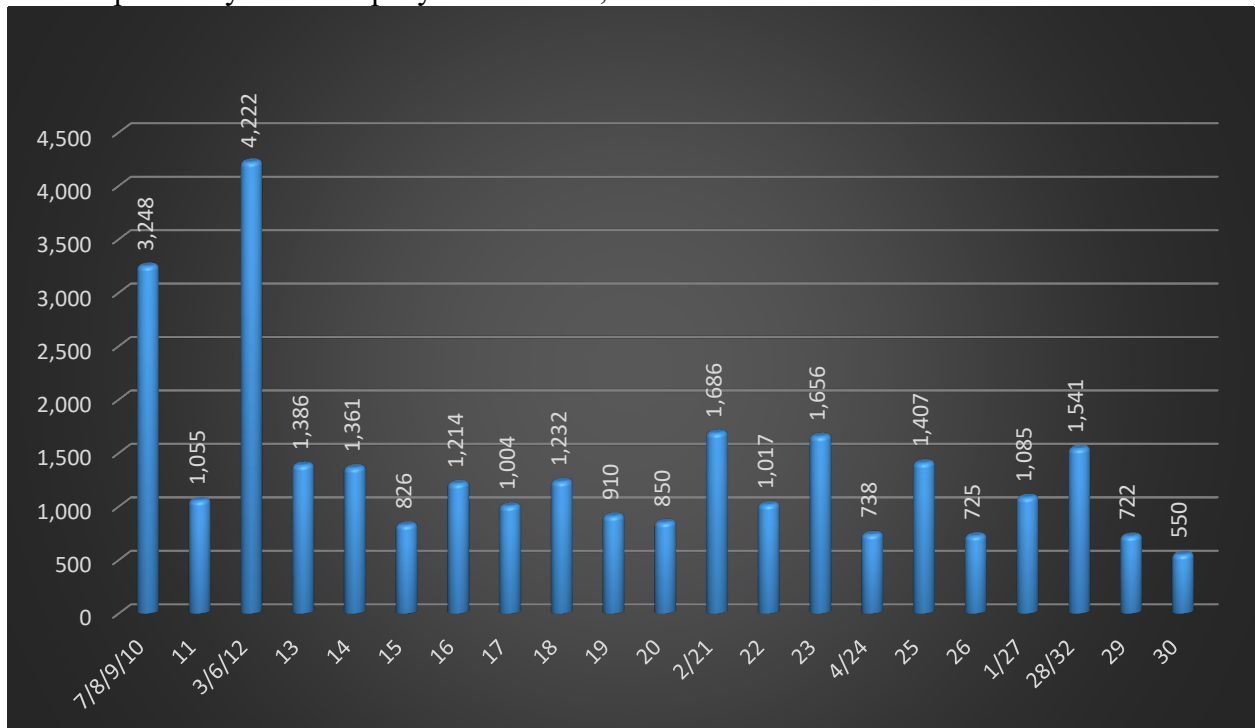
* This information provided by West.

Medical Responses by Fire Company for 2021: 65,236



*This information provided by Tyler Technologies

Fire Responses by Fire Company for 2021: 28,435



*This information provided by Tyler Technologies

Accomplishments

- Answered all 911 calls 92.36% (2019), 93.52% (2020), and 93.45% (2021) of the time in ten (10) seconds or less, once again exceeding the NENA and NFPA standard of all 911 calls being answered in ten (10) seconds or less 90% of the time.
- Completed our fourth and fifth Emergency Telecommunicator Courses. This course is offered to members of the public who dedicate their time to learn about all aspects of 911 and its vital role in Public Safety.
- Maintained our ACE rating with Medical Priority Dispatch (Accredited Center of Excellence) for Medical Protocols.
- Completed the installation of four new workstations within the Public Safety Operators section of the 911 center. This initiative will better serve our citizens during shift changes and during peak call volume hours.
- Started the installation process of CradlePoints within the Volunteer Fire Service BLS units (60 in total). This will ensure every unit can be tracked and located in our CAD system as well as our GIS mapping system.

2022 Challenges and Goals

- Continue to maintain staffing levels through normal attrition to allow us to continue to exceed NENA and NFPA standards of all 911 calls being answered in ten (10) seconds or less.
- Start the process to become an Accredited Center of Excellence for Fire Protocols.
- Continue to enhance the Communications Division Training Program and curriculum to include materials as well as practical scenarios related to 911.
- Continue upgrading current CAD System with next generation technology and software.
- Continue the installation process of CradlePoints in the Volunteer Fire Service.
- Implement the RAVE Aware CAD interface. This will allow disparate CAD systems to communicate with one another in the exchange of emergency incidents for dispatch. We will be able to share in a CAD-to-CAD environment with Kent County, Cecil County and Delaware County information instantaneously with each other.
- Sustain funding for maintenance, upgrades, and enhancements of CAD and 800mhz Radio systems, consistent with the everchanging technology of Next Gen911 systems and services to serve our citizens and field responders with the best technology as it becomes available.

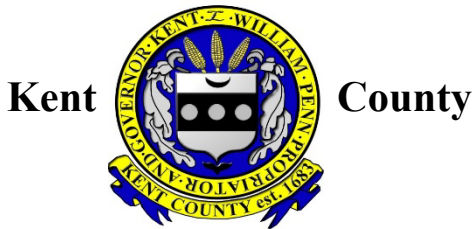
Summary

The New Castle County Emergency Communications Center is staffed by twenty-seven full and part-time Public Safety Operators, twenty-four Police Communications personnel, twenty-four Delaware State Police Communications personnel, twenty-five full-time Fire/Medical Communications personnel, and an administrative staff of seven personnel.



The New Castle County Emergency Communications Division utilizes the International Academies of Emergency Dispatch protocol system to triage incoming emergency calls to determine the appropriate level of service. All our Emergency Communications Division personnel are trained to provide pre-arrival instructions for all calls for service.

Each of our Emergency Communications personnel participate in numerous hours of continuing education training to maintain their proficiency and certifications in each protocol.



Kent County

Department of Public Safety Annual Report

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

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

911 Public Safety Blvd. Dover,
DE 19901 (302) 735-2200
Fax (302) 735-2186

Cindy Grygo, Deputy
Asst. Dir. of Public Safety
Division of Emg. Med. Services

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

Submitted by Chief Colin T. Faulkner

The Kent County Department of Public Safety is pleased to present this Executive Summary for the Annual DEMSOC Report. We are 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 with its expanded role into Homeland Security/Terrorism Preparedness/Protective Options and Response. Additionally, our partnership extends 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.

It would be a momentous mistake to not mention the performance of our men and women of the Kent County Department of Public Safety over the last two years in an environment of unparalleled times. During these times in which some of the challenges continue; our first responders and support staff all performed in an exemplary manner under extreme duress and the conflict so embedded with Covid-19 and its variants. Our department and all agencies in Delaware challenged to continue on in this unusual environment unprecedented since World War II; are to be commended. The hidden challenges and impact on our first responders will most likely never be fully understood by most; this Department remains on record commending the full spectrum of response from all in Delaware and our Nation in their valiant efforts to perform their duties regardless of the danger or consequence.

Our 911 Center is a state-of-the-art operation with highly trained professionals managing a myriad of calls and who process these calls through national accreditation standards for emergency medical and fire dispatch. This assures the appropriate assets and personnel are deployed based on national standards. Our Division of Communications through the efforts of all staff proudly maintain their Emergency Medical and Emergency, Fire Dispatch accreditation status as well as standards of Police Protocols via Priority Dispatch. 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 911Center. We remain proud of this relationship and our enhanced level of serving our citizens and visitors. With enhancements provided from the nationwide Next Generation 911 and the continuing technology initiatives on the horizon, our Center remains well positioned with the

expertise and infrastructure to accommodate emerging technology. Our 911 Center will receive a re-design over the next fiscal year which will add four workstations to our current 18. Kent County 911 also supports Pulse Point, Smart 911 and the Rave Panic Button, all public programs to improve emergency response. Our department continues to grow its drone program with the addition of pilots and a goal of 24/7 immediate deployment. This program is led by 911 with pilot support from all three Divisions of the Department. The Kent County Levy Court has officially recognized our dispatchers as first responders and which is consistent with emerging national trends of correct recognition. The sum total of these efforts assures that the Kent County 911 Center remains the Crown Jewell of our County and the cornerstone of all responses from beginning to end.

Our Division of Emergency Medical Services deploys paramedics throughout our 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. The 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.

This current year will see the deployment of a new paramedic sub-station in western Kent County. This will allow paramedics to meet response time goals and demand for service that is emerging in that region. We will see the addition of five new paramedic positions to complete our staffing of this station. Upon completion, we will have a fully staffed two-person paramedic sub-station 24/7 in western Kent County.

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’ will participate administratively in oversight/investigative programs as the need emerges and as it relates to opioid addiction. Our department has committed to Narcan/information (leave behind), teaching, and educational programs. We will continue to explore and participate as partners in efforts to continue the fight.

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 funding conduits such as the Homeland Security Grants Program. 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 safety 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 regrettably, a 'when' even; regardless of where.

Our response obligations continue to grow and our next year will see a seven per cent increase in volume. Our entire Department remains prepared to meet these challenges along with our support partners and sister agencies. Future challenges exist for our services including funding and especially in our Emergency Medical Services Division, obtaining qualified paramedics. The Kent County Levy Court has approved an academy approach with Good Fellowship Paramedic Education Program whereupon we hire candidates, pay a salary, and put them through school. We have also established a 'sign-on' bonus for trained paramedics. We continue our excellent relationship and support of Delaware Technical and Community College in their goal of providing all of Delaware with a field of qualified paramedic candidates. We continue to welcome DTCC students into our department and to facilitate their educational processes as well.

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

2021 marked the 30th 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

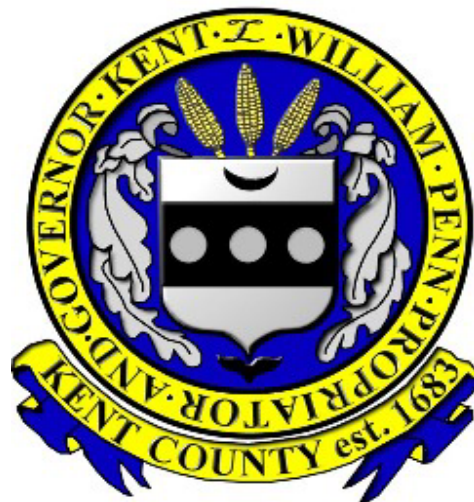
Service: We are committed to help the sick and injured by providing superior service to our patients and our community with skill, concern, and compassion.

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

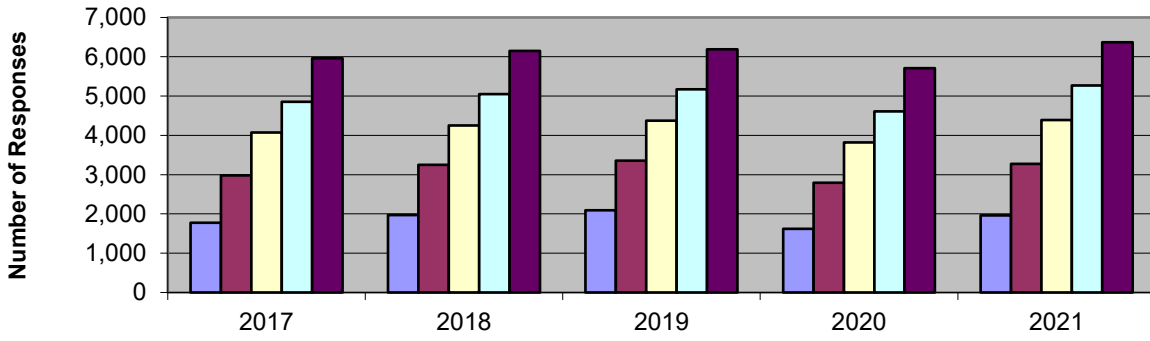
People: The men and women who are our paramedics, and those associated volunteers, physicians, nurses, and students are the source of our strength. They will create our success and determine our reputation. We will treat all of them with respect, dignity, and courtesy. We will endeavor to create an environment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

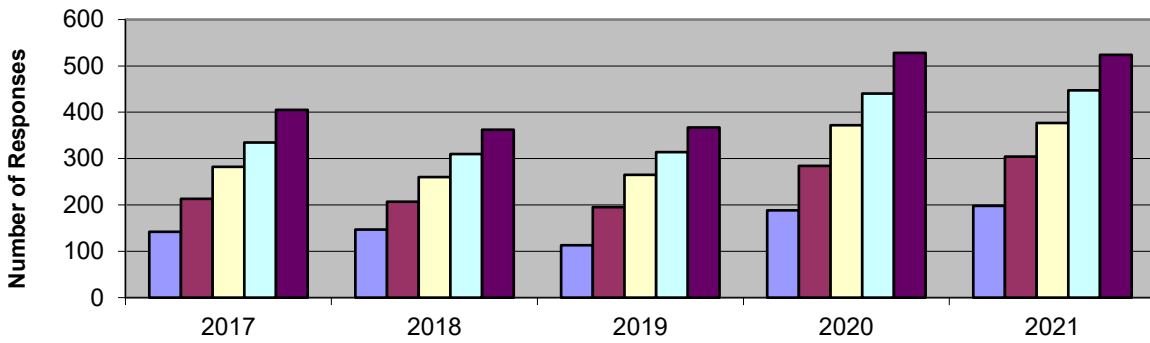


Delta Level Response, Kent County EMS



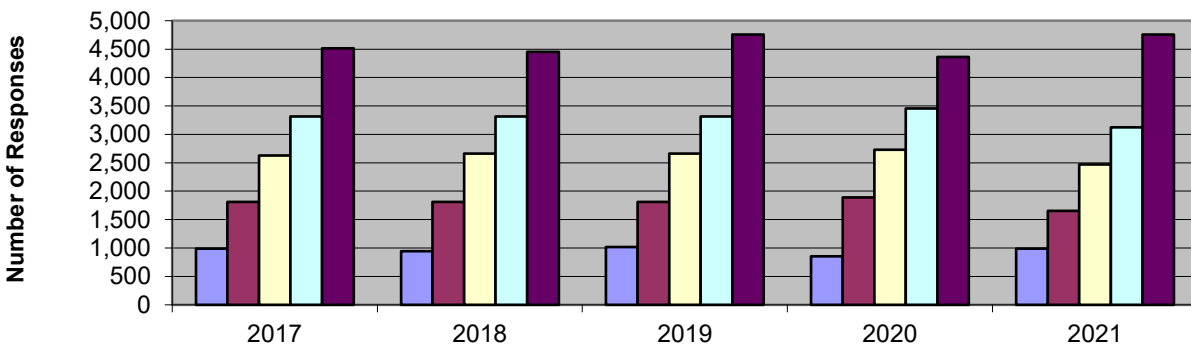
■ Within 6 minutes
 ■ Within 8 minutes
 ■ Within 10 minutes
 ■ Within 12 minutes
 ■ Total

Echo Level Response, Kent County EMS



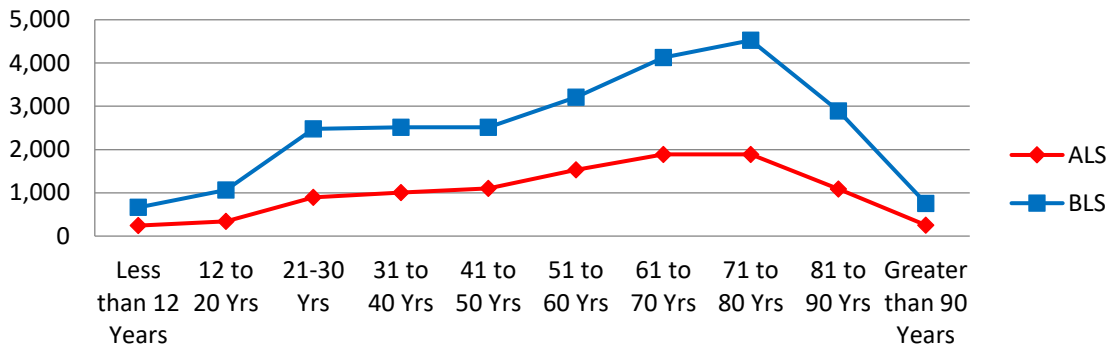
■ Within 6 minutes
 ■ Within 8 minutes
 ■ Within 10 minutes
 ■ Within 12 minutes
 ■ Total

Charlie Level Response, Kent County EMS

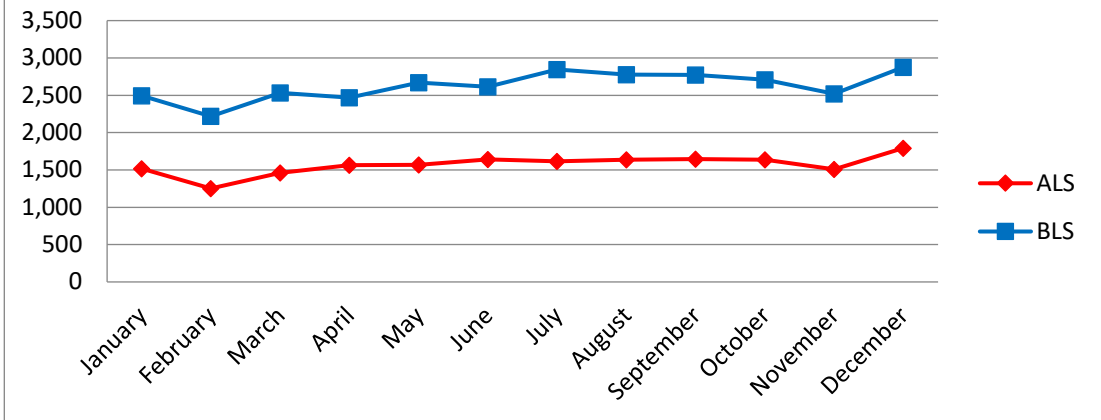


■ Within 6 minutes
 ■ Within 8 minutes
 ■ Within 10 minutes
 ■ Within 12 minutes
 ■ Total

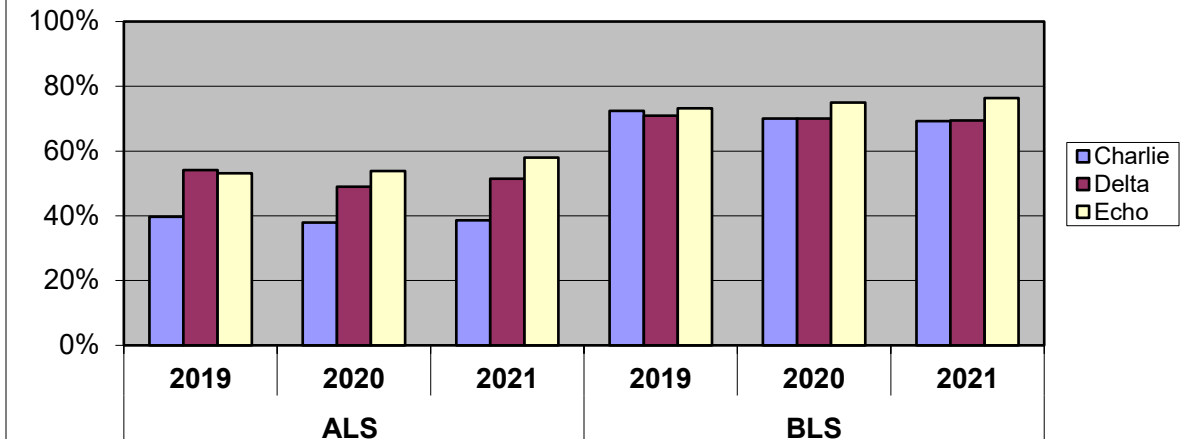
ALS and BLS Patient Age Comparison - 2021 Kent County



ALS/BLS Incidents by Month - 2020 Kent County



Percentage When Kent County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents - 2021



Communication Center

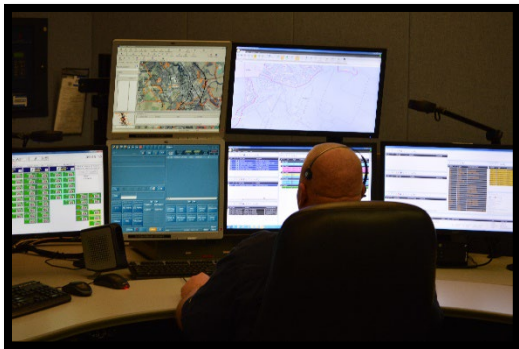
Kent County

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 2021 was 99,438. Another 58,365 non-emergency calls were also processed by our dispatchers. The Center dispatched or processed 36,398 medical incidents, 7,659 fire incidents and 115,997 police incidents in year 2021.

Emergency Medical and Fire Dispatch

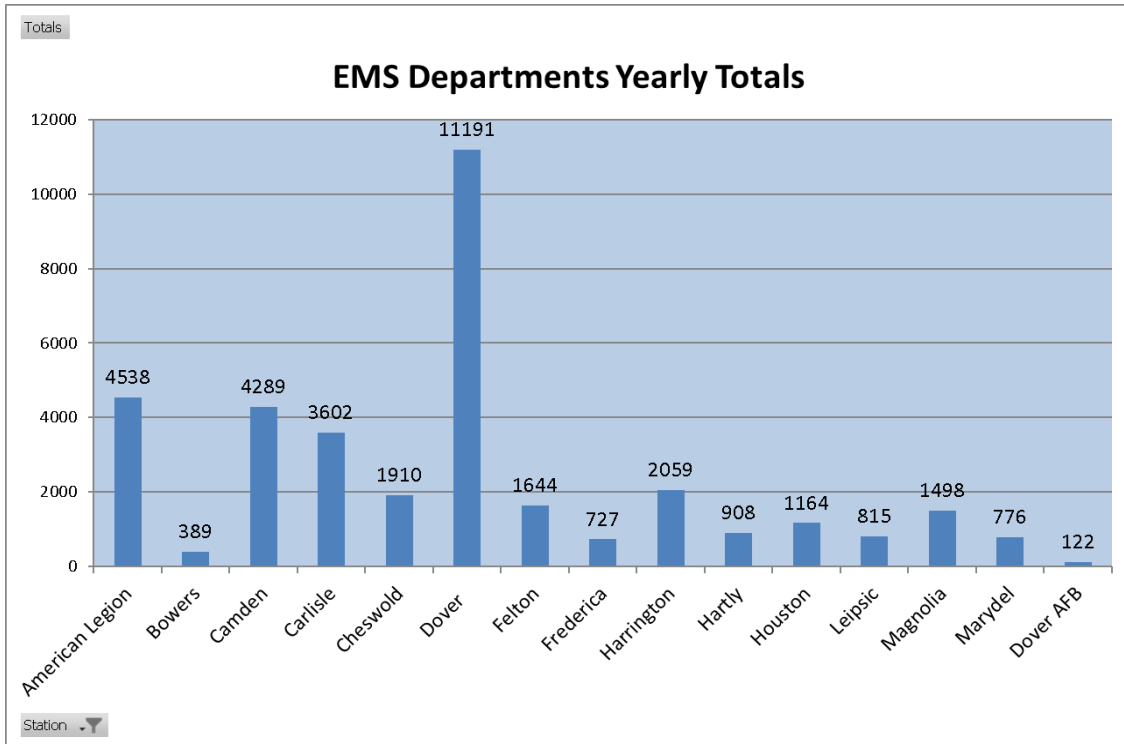


The Kent County Emergency Communications Center provides Fire/EMS Communications to eighteen Volunteer Fire Companies, two EMS Companies and the Kent County Paramedics. The Center is staffed with twenty-two Fire/EMS dispatchers and an administrative staff of three personnel. The Delaware State Police 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/Police Protocols and

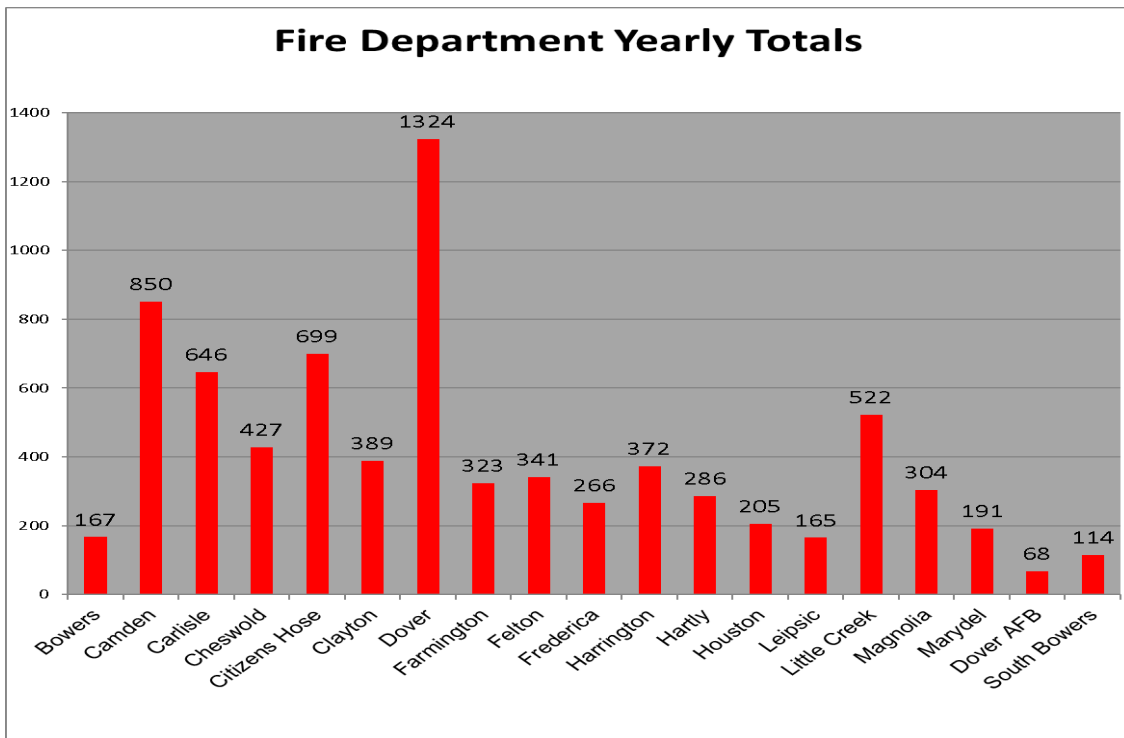
cross-trained to assist with any activity in the Center.

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

Operational Overview



This chart represents the total BLS responses by Emergency Medical Services in 2021.



This chart represents the total fire related responses by Fire Companies in 2021.

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.



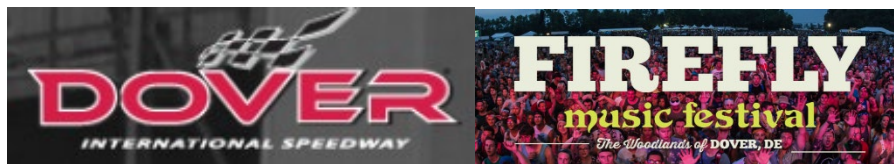
Smart911[™]

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 2019. 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 three times a year is the NASCAR race, FireFly Musical event at the Dover International Speedway and the Delaware State Fair in Harrington, Delaware in July. The NASCAR/FireFly events bring over 130,000 people to our County mostly in the Dover area. Starting on Thursday of the event, Kent County provides trained dispatchers to answer and dispatch Fire/EMS calls to

the emergency responders that are working. The Delaware State Fairgrounds encompass over 300 acres and features concerts, agricultural exhibits and other typical state fair demonstrations and events. During this 10-day event over 200,000 people visit the State Fair.

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

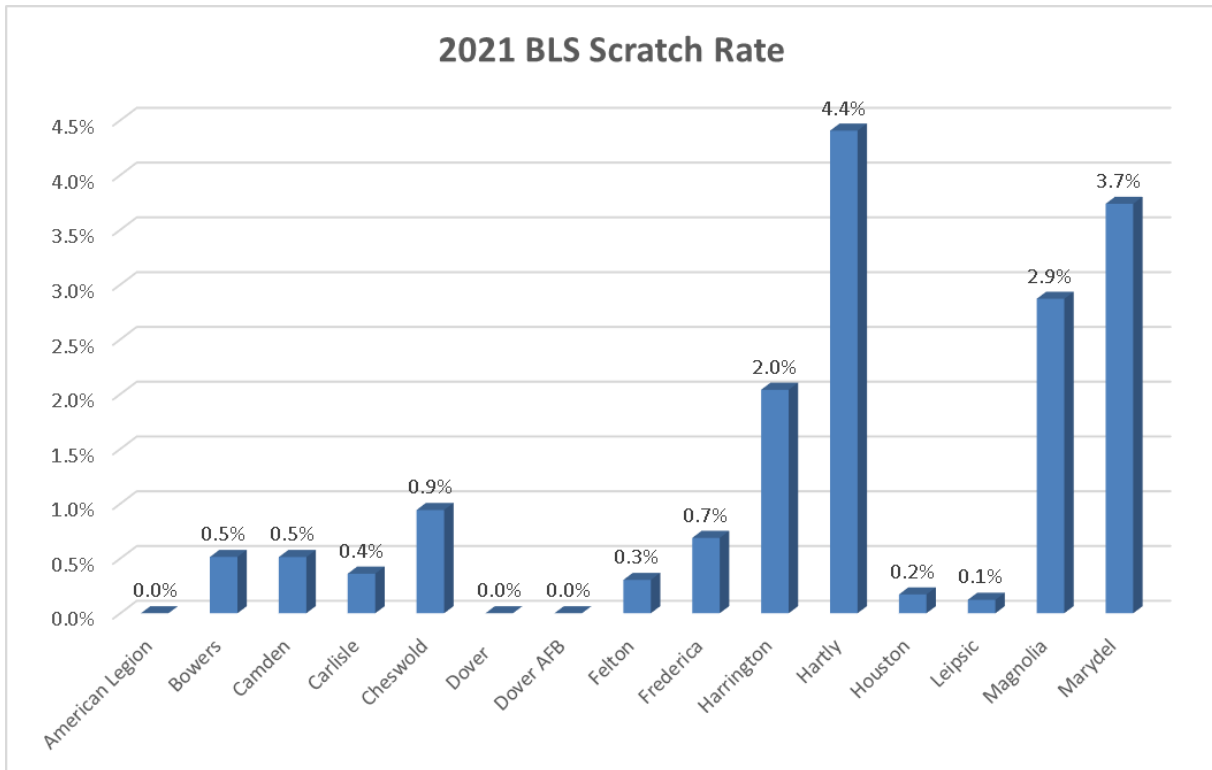


allowing the County Public Safety Answering Point (PSAP) to continue with normal dispatching functions. Maintained in a constant state of readiness at the Camden-Wyoming Fire Station, the Incident Command Vehicle may be utilized at Fire/EMS and police emergencies, civil disturbances, natural disasters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

recording capabilities and a radio inter-operability system.

In 2021 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.





*Kent County Department of Public Safety
Emergency Communications Division
BLS Scratch Report 2021*

2021 Accomplishments

- Upgraded our Computer Aided Dispatch/Mobile Data systems to a new platform through funds from the State 911 Board.
- Created a Drone Team consisting of Public Safety personnel.
- Implemented PulsePoint Verified Responder throughout Kent County. PulsePoint Verified Respond is a Smartphone app designed to support public safety agencies working to improve cardiac arrest survival rates through improved bystander performance and active citizenship. PulsePoint Respond empowers everyday citizens to provide lifesaving assistance to victims of sudden cardiac arrest. Currently we have 8819 subscribers as of the end of 2021.

2022 Goals

- Continued to maintain our Medical and Fire Dispatch Accreditation through the International Academy of Emergency Dispatch.
- Provide additional training on National trends in Public Safety.
- Expand the footprint of the Communications Center to include 22 Dispatch Consoles.
- Expand our staff to include a GIS analyst for GIS issues and improvements.
- Improving technology in our Mobile Command Vehicle

Kent County 911 Center:

Total Costs:	\$3,037,300.00
Personnel:	\$2,850,700.00
Equipment:	\$42,700.00
Training:	\$9,200.00

SUSSEX COUNTY EMERGENCY MEDICAL SERVICES



ANNUAL REPORT

2019 Data Submitted by Robert Mauch

“Caring People. Quality Service”



Introduction

2019-2020 Sussex County EMS Goals

- Achieve national recognition as a CAAS accredited EMS agency
- Enhance knowledge and skill-levels by increasing training for licensed paramedics
- Improve overall employee experience through 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 2019, Sussex County Emergency Medical Services (SCEMS) continued its tradition of excellence in pre-hospital care. Achieving CAAS Accreditation, starting an MIH program, and receiving the GOLD Plus award from the American Heart Association were a few of the year’s highlights. This was achieved while providing paramedic service to over 1,000 square miles. Responding from nine stations utilizing ALS rapid response vehicles, our staff is supervised by two District Supervisors, a Shift Commander, and an administrator on call. Behind the scenes, all paramedics are supported by clerical, logistical, information systems, and administrative personnel to ensure a constant state of readiness.

CAAS Accreditation

Nearly two years ago, SCEMS officially embarked on the journey to join the small number of EMS agencies that have achieved recognition by the Commission on the Accreditation of Ambulance Services (CAAS). The accreditation process required SCEMS to prove compliance with the comprehensive list of standards prior to submitting the application. There are nearly 120 standards covering all aspects of an agency’s operations including patient and employee safety, financial management, medical director involvement, and a comprehensive quality improvement program. Upon acceptance of the application, SCEMS hosted two evaluators for an in-depth two-day evaluation. This was a confirmation of the processes described in the application were utilized in daily practice. At the conclusion of their visit, the two evaluators commented how polite, professional, and welcoming the staff was, adding that this is not a reception that they often receive. SCEMS was then congratulated for achieving a perfect score on the site evaluation. On December 23, 2019, Sussex County EMS was notified that full accreditation status had been approved and that the agency is now included among the nearly 200 EMS agencies that have achieved this level of recognition in the United States, Canada, and the West Indies.



Mobile Integrated Healthcare

MIH: Sussex County EMS launched a Mobile Integrated Healthcare (MIH) pilot program in partnership with Beebe Healthcare. This program is the first of its kind in the state of Delaware and is designed to reduce 911 utilization and hospital readmission of high-risk patients. The initial MIH focus is COPD patients with repeat emergency department visits or hospital admissions. Three MIH paramedics see patients two days a week.

The voluntary program follows a patient for 90 days and incorporates weekly in-home visits by an MIH paramedic. During these visits, we work with the patient to coordinate ongoing care, identifying any gaps in care that may exist, identify any social service benefits, provide ongoing education, and assist with any new prescribed medical equipment. The MIH paramedics work closely with a clinical team at Beebe Healthcare to oversee the daily program operations.

The first patient admitted to the MIH program in September of 2019 successfully “graduated” with no readmissions in December of 2019. She wrote the following about the program: *“This is the best program. They helped me so much when I called them with a problem. They would help me right away and I don’t know what I would have done if MIH was not here for me. I am so glad that I got the chance to be in this program. I can’t say enough great things about the program. Thank you, they saved my life.”*



Personnel

Staffing: SCEMS entered 2019 with five vacancies and had eight employees separate from the department. Hiring 11 new paramedics and with one returning from military deployment, we ended the year with three vacancies. Two of the departing employees retired with 25 years or more of service. Three of the new hires were graduates from the Delaware Technical and Community College Paramedic Program and the remaining eight employees were hired from other areas. All new employees spend the first two weeks of employment in an orientation academy to ensure readiness for the field evaluation process.

2019 Incidents

Sussex County EMS experienced a 1% increase in responses in 2019. Over the past ten years, a 53% increase in responses have been appreciated. We meet this demand with nine paramedic units and two supervisors. Each unit maintains readiness to “split” as needed to meet the need of increased call volume.

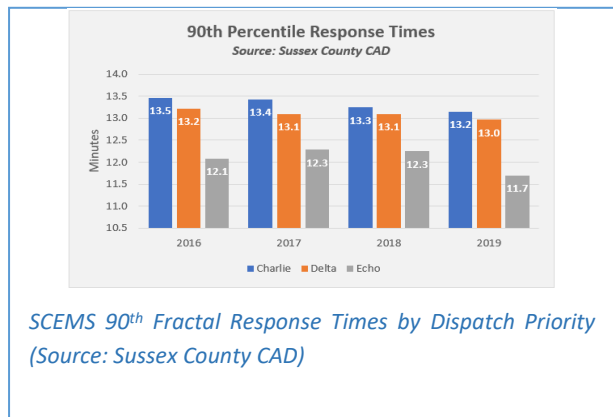
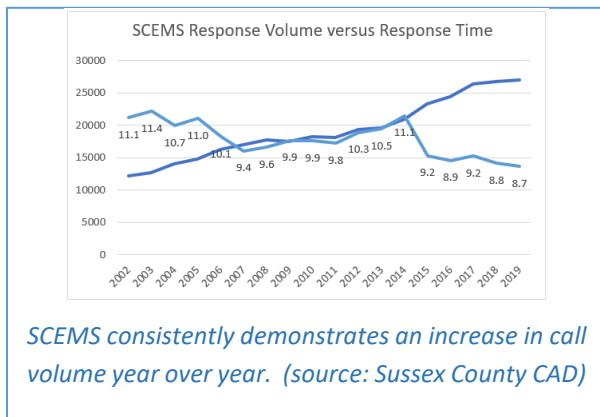
2019 Incident Responses	2019 Volume	Change from 2018
EMS 100 (Eastern Supervisor)	979	2%
EMS 200 (Western Supervisor)	1117	10%
EMS 20 (Shift Commander)	182	-1%
Medic 101 (Lincoln)	2499	0%
Medic 102 (Laurel)	1981	-9%
Medic 103 (Dagsboro)	3096	3%
Medic 104 (Lewes)	3816	2%
Medic 105 (Millville)	2532	4%
Medic 106 (Long Neck)	2901	0%
Medic 107 (Bridgeville 1st Response Unit)	1153	-38%
Medic 108 (Georgetown)	2467	2%
Medic 109 (Summer "Power Unit")	654	34%
Medic 110 (Seaford)	3082	15%
Medic 111 (as needed "Power Unit")	53	N/A
Special Operations	266	158%
Other (Administration)	155	-10%
Total	26936	1%

Incident Responses by Unit (Source: Sussex County CAD)

With Sussex County’s status as a summer vacation destination, we see a substantial increase in call volume during the summer months, especially in the beach areas. SCEMS demographics show that approximately 11% of our patients reside outside of Sussex County.

Medic 109 is deployed daily from Memorial Day through Labor Day primarily in Southeastern Sussex County along the Route 1 corridor. This unit provides valuable district coverage and reduced response times in the beach/tourism areas

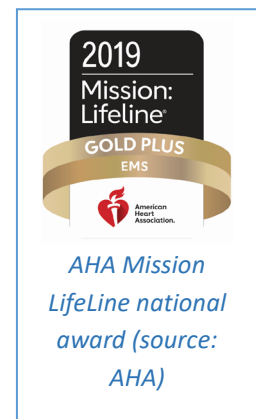
of Sussex County. Medic 109’s call volume in 2019 showed a 34% increase over 2018.



Response times monitoring to reduce the interval from a 911 call to EMS arrival is ongoing. Despite the nearly 1,000 square miles of response area, we have seen improvements potentially due to crews proactively “splitting” into single-paramedic units for area coverage. A backup paramedic unit continues to be sent to meet the state mandate. To achieve this, we must maintain a dual fleet that is operationally ready at every station.

Awards

Mission LifeLine: Sussex County EMS was excited to receive the 2019 GOLD PLUS Mission LifeLine award from the American Heart Association. SCEMS is among the <1% of EMS agencies to be recognized for excellence in cardiac care at this award level. SCEMS continues to more than surpass the minimum performance of 75% compliance in each category. This is a 3rd party review of our cardiac and stroke care documentation which has once again proven that our paramedics are some of the best in the country.





*JEMS Games Medal Ceremony
2019 (source: SCEMS)*

JEMS Games: Sussex County EMS continued to bring home a medal from the JEMS Games held in conjunction with the EMS Today Conference. Earning the Silver Medal in the 2019 JEMS games held in National Harbor, MD. The SCEMS Team competed against 17 teams from across the United States as well as from England and Thailand. This continues SCEMS’s achievement of being the most decorated team in the United States, medaling in 8 of the last 14 years with three gold, four silver, and one bronze medal!

Operations

Public Education: The SCEMS public information and education group believes in injury and illness prevention and views this as the future of EMS. For years, we have worked with Sussex Safe Kids to teach safety. Every summer we host the Safe Kids day in Lewes where over 30 organizations come together to provide safety



*SCEMS paramedics
taught CPR to more
than 3,500 Children in
2019 (source: SCEMS)*

Special Events	68
Bike Medic Events	14
Public Education Events	66
	148
Hands Only CPR events	35
<i>SCEMS Special (source: SCEMS)</i>	

education. Hands only/10-minute CPR is another initiative that continues to grow. Combining Hands only CPR along with Stop the Bleed, we teach participants how to stop severe hemorrhage in addition to CPR. Our 2019 CPR campaign reached over 4500 people.

DriveCam: 2019 was the first full year of system wide DriveCam® use providing performance data for review, coaching, and education. Since implementation, SCEMS has appreciated a 62% decrease in the total number of triggered events and an 89% decrease in event activation scores. As expected, the number one event trigger is speed with the majority of these noted during an emergency response. The goal remains employee safety through behavior modification and risk reduction.



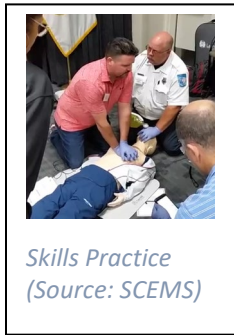
*SCEMS DriveCam
event recorder
(source: Lytx)*

Education and Quality Management

Continuous Quality Improvement (CQI): Sussex County EMS continues to operate a very robust CQI program. One of the challenges we are facing is that the ImageTrend CQI module is not robust enough to match the SCEMS process. While it has a lot of features, it is not intuitive, user friendly, and does not incorporate logic into the question and answer process. A system that allows for ease of case review escalation is an important component that the current system has failed to deliver.



Resuscitation Academy- The road to host a resuscitation academy (RA) in Sussex County began in May of 2017. Five SCEMS paramedics attended multiple RA events in Howard County, MD where they were students, learned how to maintain equipment, setup and breakdown a class, and to observe the best education practices as demonstrated by the Howard County instructors. With regular meetings, guidance from Howard County DFRS, and equipment obtained through a grant, SCEMS was ready for their first RA to be held on September 10, 2019. SCEMS sponsored this inaugural event as a pre-conference offering at the Delaware Volunteer Fireman’s Association (DVFA) annual conference. Expectations were ultimately exceeded by training 55 individuals from the mid-Atlantic region. Planning is already underway for the next event slated for May 2020 in Georgetown at the Delaware State Fire School. The DVFA has also expressed their pleasure with the 2019 RA and has requested another offering at their conference in 2020.



Skills Practice
(Source: SCEMS)

Simulation Program: For over a decade, Sussex County EMS has maintained a high-fidelity simulation program with the mission of providing realistic education to providers in Sussex County. Our new human patient simulator, Apollo METIman, acts much like a real human with the ability to bleed, breath, talk, and even cry. The portability of this new simulator allows education to extend beyond the traditional classroom as was experienced in October when education was coordinated with various fire departments and the DSP Aviation to incorporate the use of helicopter transport.

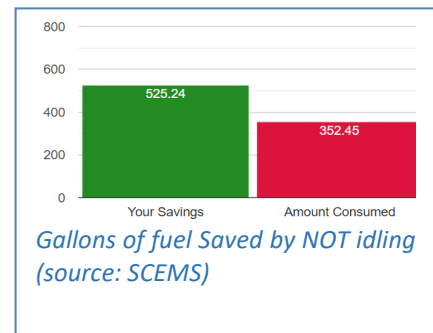


SCEMS training with team-based simulation in real life settings (source: SCEMS)

Logistics and Capital Improvement

Logistics: SCEMS has a five-person Logistics Division that oversees and coordinates station, equipment, vehicle purchase, maintenance and uniforms. In 2019, they handled 3,509 requests for service and repairs. Additionally, our Logistics Division purchased, processed and distributed 57,937 requests for consumable medical supplies.

Response Vehicle Purchases: Four new response vehicles were placed into service. Our fleet drove 527,612 miles using 41,134 gallons of fuel for an average of 12.76 Miles per gallon. A vehicle anti-idling and electric HVAC system was trialed on two vehicles with positive results. A systemwide upgrade is planned for 2020 to reduce engine idling, fuel consumption, and to maintain controlled storage for gear and medications.



Gallons of fuel Saved by NOT idling (source: SCEMS)

Special Operations & Joint Fleet Facility: All SCEMS special operations equipment has been relocated to a joint facilities complex located on the ground of Delaware Coastal Airport. The Joint Complex brings together several services to minimize duplication of resources.

Paramedic Station Updates: Following a slight delay, progress is back on track for the combined West District Supervisor and Medic 110 joint station. Construction is to begin in 2020 with completion in 2021. Property acquisition is underway to move Medic 103 from the leased facility and slightly North of the current location. Completion is expected in 2021.

New EMS Administrative Complex and Education Center: Planning and designing of a new EMS administrative complex and state of the art education center are underway. The nearly 20,000 square foot facility will combine all the EMS functions into one building. The education center will expand simulation and provide for a state-of-the-art learning utilizing the latest technology.

Summary and a look at 2020 Goals

This past year was inspired by the accreditation process. Knowing we had great policies and procedures in place, we were able to improve and go the extra step to ensure full compliance with the standards. It has always been the belief of SCEMS to not simply do something to the minimum standards, but to do it for the right reasons and to maximum compliance. A prime example of this is the installation of the idle management and electric HVAC systems in the vehicles. Temperature monitoring of medications was the accreditation requirement, but taking this extra step, we can ensure that medications will be ready for use with their maximum effectiveness.

Community outreach and education with events such as Stop the Bleed and CRASE will help ensure readiness should the unexpected occur. Our partnership with Beebe hospital allowed us to institute the first mobile integrated healthcare (MIH) program in the state of Delaware. In the end, if we can keep a patient from needing emergency care then we have done our job.

2020 Goals and Initiatives

- Continued progress towards new headquarters with construction beginning in 2021
- Integration of smartphone application-based communications with hospitals
- Completion of EMS 200/Medic 110 station
- Progress towards new 103 station with construction anticipated to begin in 2021
- Maintaining a response ready fleet of vehicle
- Systemwide integration of the GRIP Idle & Electric HVAC management systems
- Improving cardiac arrest survival thru expansion of the RA concept to the BLS agencies
- Improving employee health and wellness with the addition of a mental health component to the employee wellness program and new employee evaluation process
- Improving response times to Milton with the addition of Medic 111 Power Unit
- Improvements to the SCEMS CQI program and performance analysis through a user-friendly interface
- Operative IQ software program expansion to electronically track every vial of narcotic medication in our possession.
- Selection of intravenous infusion pumps and Replacement transport ventilators, education, and implementation

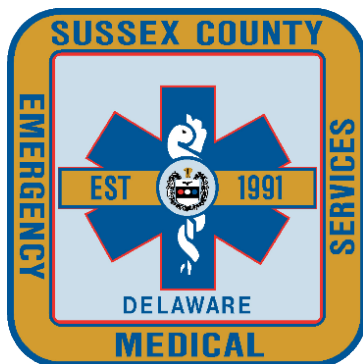


Returning home to a show of support

Annual Report

2020 Data Submitted by Robert Mauch

Pandemic Supplement



SCEMS OPERATIONS DURING A PANDEMIC

How would you characterize the operating environment in 2020 compared to 2019?

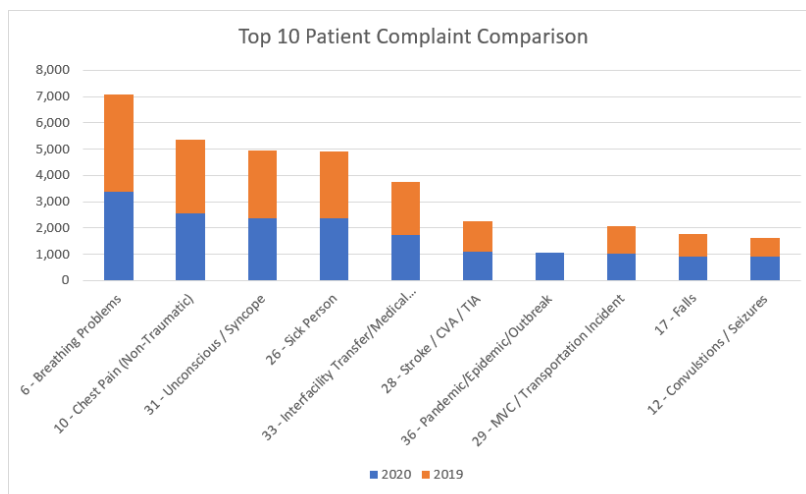
How were call volumes impacted over the reporting period?

With so many changes affecting all aspects of daily life and the changes to the normal summer vacation season at the Delaware beaches, Sussex County EMS did indeed appreciate a change in call volume. For the year 2020, SCEMS noticed a 5% decrease in incident volume when compared to 2019. In the years prior to the COVID pandemic, SCEMS would typically see an increase in incident volume ranging 2-6% per year. Thus, a 5% decrease seems to be a substantial change.

SCEMS also monitors incident responses. This figure evaluates the number of departmental units that are responding to incidents. Factors that have typically necessitate multiple units have included sending two single-staffed paramedic units, a supervisor response to an incident along with a paramedic unit, or incidents were there are reportedly multiple patients. As will be discussed below regarding operational changes, all SCEMS paramedics were split into separate vehicles as a means to limit close quarters contact and increase social distancing. Because of this response modification, an increase in unit responses was appreciated while the incident volume decreased as noted above. For the year 2020, a 7% increase in unit responses was noted for a total of 28,667 responses.

How did patient/call type mix change over the reporting period?

When comparing the top 10 patient complaints for 2020, there is not a significant difference from the past few years. The new dispatch complaint of “36-Pandemic Flu” did find its place in the top 10 list of complaints. The other complaints seemed to vary with the same frequency as noted from year to year.



Source: DEMRS

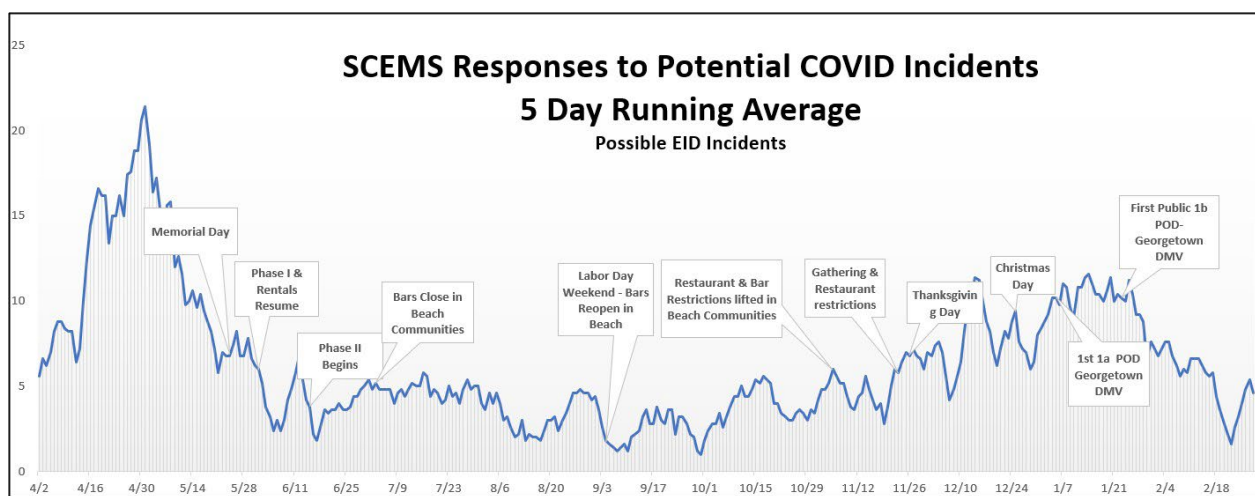
What were staff perceptions of their working environment?

Overall, the majority of the staff at SCEMS indicated that they felt safe and that their safety was of concern. From the early days of the pandemic, the SCEMS administration

maintained open and clean lines of communication with all staff members. A combination of informational conference calls, data sharing, and in-station digital display boards were utilized to share the most current guidelines and the current PPE requirements.

One data point that has been tracked, is the number of encounters with possible COVID patients. The graph below is a running 5-day average of possible encounters. The reported numbers are based on two criteria:

- The paramedic answering YES to the possible EID question within DEMRS, or
- A Dispatch PMD code of 36- Pandemic Flu
- Any incident that is dispatched as a possible 36-Pandemic Flu and the EID question is answered as YES is only counted once



Informal conversations and conference call “comments” have indicated that our staff has been very appreciative of the level of concern and support demonstrated by the SCEMS leadership and the support extended by the Sussex County Council and county leadership.

CHALLENGES THAT IMPACTED OPERATIONS

How immediate were impacts to resource shortages?

Supply challenges faced during pandemic were experienced mostly during the initial period of the pandemic, changes in levels of PPE for incidents varied and the concern for exposure was at its peak or significantly increased. Fit testing had been completed previously for formed N95 masks but there were variances with effective fit noted when conversion to flat fold models. Securing the most used sizes of PPE became increasingly difficult as the pandemic continued.

To maximize the resources on hand, SCEMS did institute a limited reuse policy of N-95 respirators that followed the guidelines established by the CDC. Clear direction was

provided to all paramedics as to how to preserve the integrity of their PPE and when it was appropriate to obtain a replacement.

The table below summarized PPE utilized in 2020:

<i>COVID 19 PPE Usage:</i>	
N-95 masks	8526
Surgical masks	16229
Disposable gowns	2936
Disposable Safety Glasses	597
Antiseptic wipes tubs	396
Disposable face shields	593
Disposable head covers	785
Hand sanitizer 1/2-gallon refills	28
Paper bags (N-95 reuse)	4156

Along with the anticipated shortage of disposable N-95 respirators, many SCEMS paramedics chose to purchase their own reusable respirators. This created a need to implement an approval process to ensure that the items purchased by the paramedics met the protective standards that were necessary to be effective against the COVID-19 virus.

What policy or procedural changes in operations were implemented and at what points in time?

The first formal meeting of the SCEMS administrative staff regarding the COVID-19 threat occurred on March 6, 2020. An emerging infection disease plan was developed that called for a three-phase response to the virus. On March 10, 2020, deployment of enhanced PPE kits was initiated to all paramedic units to supplement supplies already on hand. Guidance was developed to limit provider exposure during scene actions such as only having one paramedic enter a residence and then determining if assistance was needed. Social distancing modifications were made to stations that included the separation of bunk rooms, closing to visitors, and wearing masks. On March 18, 2020, weekly conference calls were established with SCEMS staff and with county fire and BLS leadership to share information. These calls continued until early July.

Weekly COVID-19 information update emails were sent to employees by the Shift Commanders through late-July. The March and April 2020 con-ed sessions were canceled. By May 2020 most con-ed sessions were being delivered via an online format. For those education requirements that had a practical component, sessions were conducted in small groups that followed state group size guidelines.

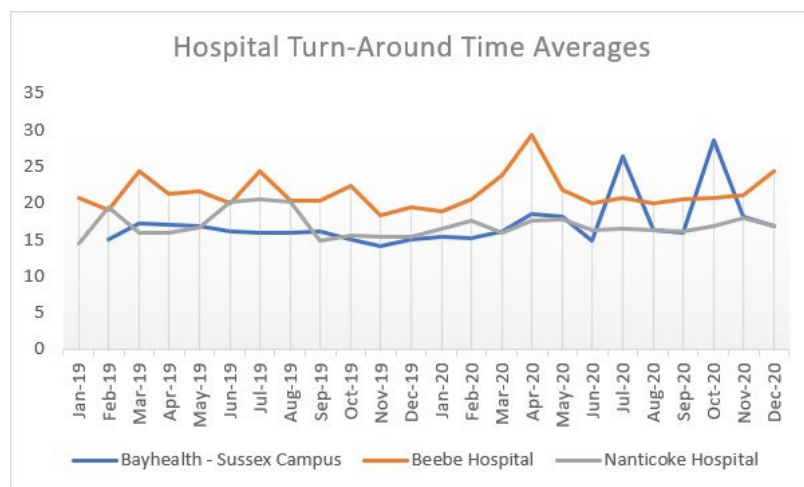
Operationally, a shift to single medic responses occurred on April 2, 2020 to further aid in employee social distancing. This operational change continued until June 15, 2020. Updated facial hair requirements were distributed based on CDC guidelines and

enhanced decontamination procedures with an aerosolized disinfectant were initiated. Reusable cloth facemasks sewn by local volunteers began being distributed on April 3, 2020, and CPAP biofilters were distributed the next day. All rider/observers and students were cancelled until March 2021 with a limited reintroduction of observers.

Several meetings were held with a sub-committee of the Sussex County Volunteer Fire Chief’s Association and Sussex County Volunteer Ambulance Association. The intent was to develop a plan to address potential crisis level staffing shortages. After several meetings a formal plan was developed to ensure continued EMS services to Sussex County. This involved reduced staffing on medic units, placing paramedics on ambulances, and on-duty ambulances covering a larger geographical area. Fortunately, this plan was never activated, however it does serve as a reference for future crisis.

Experiences in increased waiting times for transport or in healthcare facilities?

Extended wait times for a bed within the emergency department have been experienced on an episodic basis. However, when evaluating the average time from patient arrival to the hospital to the units return to service, there has not been an appreciable difference over the course of the year when compared to 2019.



Source: DEMRS Documentation of Times

March, April, and May of 2020 seemed to be the months where an increased turnaround time was noted. These months correlate with the time frame where we seemed to experience our peak in COVID related incidents and patient transports.

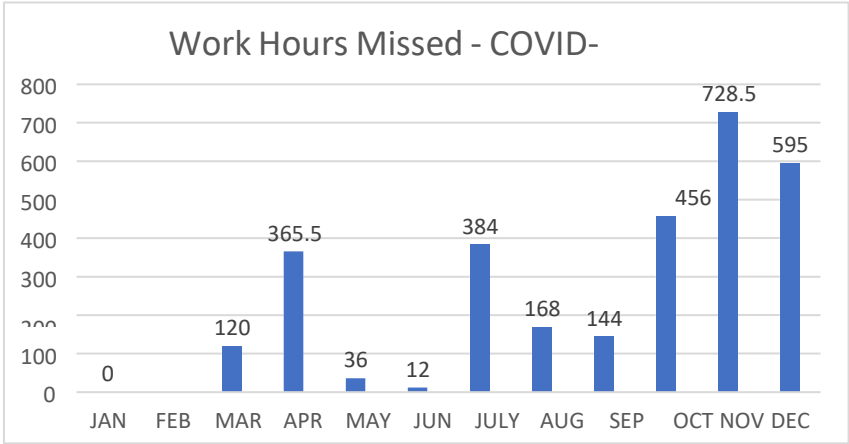
Were staff shortages experienced? When and why (sickness, quarantines, anxiety)?

The COVID-19 pandemic began affecting our department’s staffing as early as March of 2020. Initially, there was a great deal of uncertainty on what the extent of the impact would be on our operations. A tentative staffing plan was drafted by the Operations Command staff to address modifications in deployment based upon the seriousness of the COVID outbreak as well as the impact to employee health. The department prepared for increased absenteeism due to both illness and quarantine requirements.

Early on, we developed a tracking spreadsheet to account for individuals missing work as a result of COVID-related issues. This spreadsheet also provided rudimentary tracking on contacts, both patients and SCEMS staff. It also served as a database when tracking lost time from work.

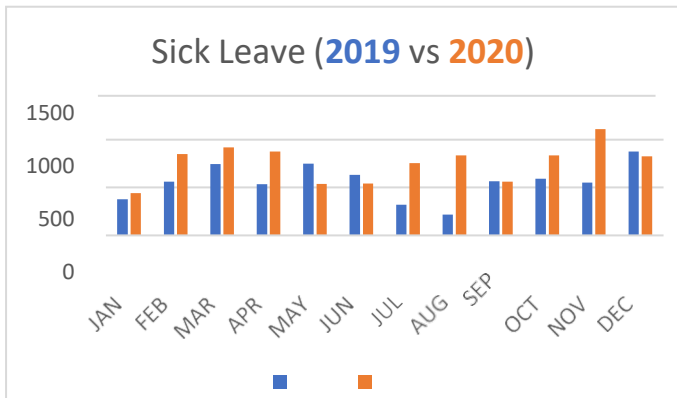
According to our database, in 2020 we experienced a total of 3009 lost work hours due to COVID exposures or mandated quarantine. These figures are broken down monthly in the following table:

	Lost Work Hours
Jan-20	0
Feb-20	0
Mar-20	120
Apr-20	365.5
May-20	36
Jun-20	12
Jul-20	384
Aug-20	168
Sep-20	144
Oct-20	456
Nov-20	728.5
Dec-20	595
Total	3009



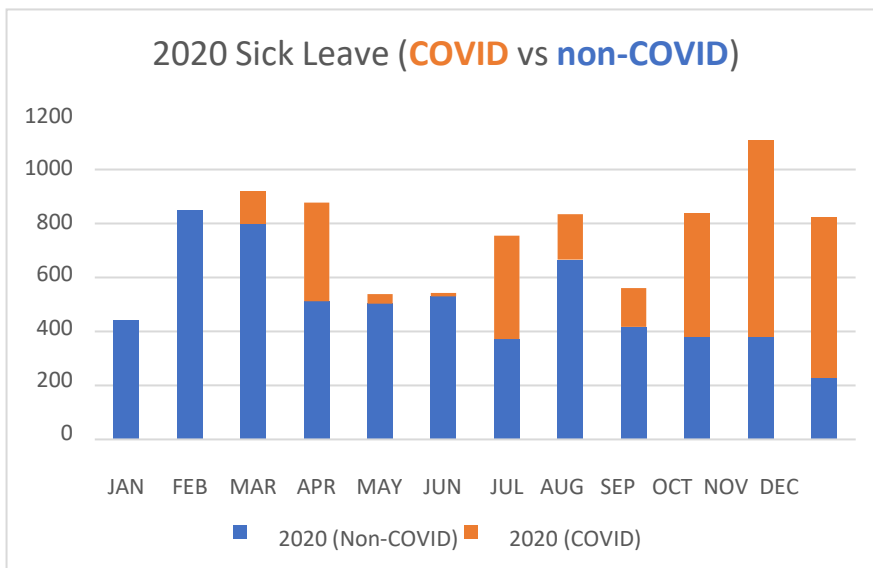
Interestingly, our department appears to demonstrate a trend that many other organizations experienced. After a surge initially, cases seemed to taper off into the beginning of the summer. In the fall, we saw a resurgence of cases that rose to levels exceeding what we experienced initially.

As a comparison, this graph compares our sick time call outs between 2019 and 2020:



With the exceptions the months of May, June, and December, a significant increase in leave time use in 2020 was noted as compared to the previous year.

The following graph compares sick-leave use for COVID-related conditions versus other (“non- COVID”) sick time. As the year ended, more sick hours were utilized to cover COVID-related problems than for other reasons.



What were the fiscal impacts that were experienced and for what reason were they significant?

SCEMS encountered numerous expenses related to the COVID response that were unforeseen and unplanned. The following is a breakdown of those expenses:

N-95 Respirators	\$ 7,388.21
Reusable N-95 Respirators	\$ 946.63
Surgical Masks	\$ 16,263.63
Eye/Face Protection	\$ 856.63
Hand Sanitizer	\$ 1,981.00
Head Covers	\$ 785.00
Gowns	\$ 2,936.00
Thermometers	\$ 567.12
Reusable Face Shields	\$ 1,834.25
Decon Sprayers	\$ 1,681.26
Other Misc. PPE/Decon	\$ 1,550.83
Station Laundry (washer & Dryer)	\$ 25,163.00
COVID Testing Event Coverage	\$ 4,220.65
COVID Related Illness Coverage	\$ 130,611.82
Staff Meetings/Conference Call	\$ 23,555.35
Total	\$ 220,341.38
<i>Summary of SCEMS expense related to COVID response. This is not an all inclusive list but a summary of the larger expenditures.</i>	

These unplanned expenses did have a fiscal impact simply because they were unplanned and not included in a budget projection. These expenses are above and beyond what would be considered part of the normal SCEMS operations.

WORKING TOGETHER IS A MUST

What were the key partnerships that were renewed or started over the past year?

What partnerships were strengthened as a result of the response to the pandemic?

Prior to the pandemic, the SCEMS leadership hosted regularly scheduled meeting with the leadership from the local EMS agencies and hospital emergency department liaisons. These were established as a means to maintain open communications and to address concerns before they became problems. The feedback from these meetings was positive and all participants appreciated the value of these meetings.

From the start of the pandemic, SCEMS hosted weekly conference calls that included the leadership from our fire and EMS partners in Sussex County and the neighboring jurisdictions in Delaware and Maryland. These calls also included law enforcement partners and the hospital served by our county EMS system. These calls were established with the intent of sharing the latest procedural updates and most current PPE guidelines that SCEMS paramedics would be following. Traditionally, the Fire and EMS community have looked to SCEMS for guidance and recommendations. In the end, these helped ensure that all providers were on the same page and aware of the same PPE and safety guidelines.

While we have had a limited partnership with State Park employees, Municipal and Private Lifeguards, United States Coastguard – Indian River, over the past year these relationships strengthened. We held conference calls with them at the beginning of the summer to discuss COVID and SCEMS related plan. While we had our plans in place and Fire / EMS were in place, the activation of seasonal lifeguards started the learning curve again from the beginning. We found ourselves being contacted frequently with questions from all lifeguard groups.

We have worked with our County Safety Director multiple times over the years. Early on during the pandemic we worked together daily. We quickly saw how knowledgeable he was, and he became one of our most significant point of contacts. We leaned on him for respiratory protection guidance and decontamination guidance. We hit the jackpot with this relationship and were lucky to have him on our team.

What new partnerships have been established as a result of the pandemic?

From the very beginning, our department took a very pro-active response in preparing for the pandemic. In May, we partnered with Public Health Preparedness and conducted COVID Testing training for our staff. On May 18, 28 SCEMS paramedics received education on performing nasopharyngeal testing. After completion, our staff tested hundreds of individuals throughout the county. Testing was done either as part of formalized events sponsored by the state or small-scale testing done for local beach patrols, law enforcement agencies, and other first responders. SCEMS exhibited a great deal of flexibility in facilitating to assist test any local agency in need. One of the largest events SCEMS assisted at was a June 29 testing at the Starboard in Dewey Beach. Approximately 8 of our staff assisted DEMA and Public Health in one of the largest testing events in southern Delaware. It is difficult to quantify the staffing provided to

cover testing as many of the tests were performed using on-duty supervisors, shift commanders, and other administrative staff.

As the year ended, SCEMS efforts shifted to focus on vaccination. On December 28th, our department received doses of Moderna COVID-19 Vaccine. Immediately we placed our vaccination plan into effect and in the span of three days, we vaccinated over 60 members of our staff. Our efforts continued into the new year and as of this writing, over 70% of our staff has received their complete vaccination series.

New partnerships were established with Dogfish Head Brewery and Beach Time Distilling placed emergency services at the top of the list by donating and supplying hand sanitizer at a reduced cost ensuring that we had needed supply.

While not exactly a new partnership, the connection that SCEMS has with the community at large was reinforced. SCEMS was the recipient of an amazing show of appreciation with hundreds of handmade masks, coffee, baked goods, and full meals donated to the paramedics.



LESSONS LEARNED

What were the lessons learned and the actions implemented that will mitigate the impact of potential future high consequence infectious diseases?

- Relationships are key. Do not wait for a crisis to develop and grow the relationship. Three years ago, we began meeting three times annually with BLS Supervisors, hospital EMS Liaisons and Dispatch centers. When this occurred, the transition to weekly calls was smooth. The concept of us sharing information and guidance was already established. There was already a mutual respect established. This made all of the difference in the world and led to our success.
- Be honest with you staff. There were many times that we did not know the answers. We were forced to make decisions with limited information. One hundred percent of the time we made decisions with the health and safety of our staff at the top of our priority list. Our staff understood that and trusted us. Establishing a quality relationship with staff during the “good” times, sets the stage during a crisis.
- Don’t believe vendor delivery times. It became far too easy for vendors to initially indicate a delivery date only to have them eternally extended. We quickly realized that we needed to establish new relationships with vendors, particularly those outside of Healthcare and Public Safety. We were able to order supplies from poultry industry and paint vendors.

Sussex County Emergency Medical Services



ANNUAL REPORT

2021 Data Submitted by Robert Mauch

“Caring People. Quality Service”



INTRODUCTION

2021 Sussex County EMS Goals

- Continued progress towards a new education and EMS Administration facility with construction beginning in early 2022
- Completion of EMS 200/Medic 110 station
- Continued progress towards a new Medic 103 station with construction anticipated to begin in 2022
- Maintaining a response ready fleet of vehicles
- Training and implementation of the new SCEMS CQI platform
- Deployment of intravenous infusion pumps
- Expansion of the simulation lab through the addition of additional manikins of various ages and sizes
- To develop and implement a prehospital whole blood administration program in coordination with the Delaware State Police Aviation Division

2021 was a challenging year that started off much like those before. Sussex County Emergency Medical Services (SCEMS) continued its tradition of excellence in pre-hospital care while once again traversing the challenges of a global pandemic. The MIH program enjoyed another year of service. The pilot program came to end as the grant funding that supported the MIH program ended. The SCEMS competition team was prepared to travel to San Antonio, TX for another competition with the hopes of bringing home another gold medal. Unfortunately, the EMS Today conference and JEMS Games competition were cancelled due to rising COVID-19 numbers. Once again receiving the GOLD Plus award from the American Heart Association was another of

the year's highlights.

The observer program was restarted with a few modifications. Only those stations that would allow for social distancing were opened to a small group of eligible observers. SCEMS was excited to once again welcome back students from the Delaware Technical & Community College (DTCC) nursing program to experience a day of observation with our paramedics. Medic 109 continued its deployment over the summer months bringing the daytime units to eleven. Our staff continues to be supervised by two District Supervisors, and an administrator on call. Behind the scenes, all paramedics are supported by clerical, logistical, information systems, and administrative personnel to ensure a constant state of readiness.

COVID RESPONSE

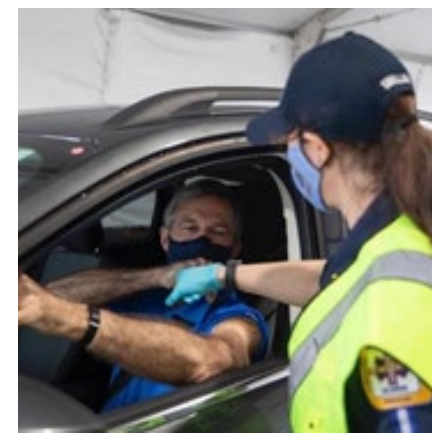
Throughout 2021, Sussex County EMS continued the internal response by providing testing and vaccinations to county paramedics as well as other essential workers in the county government. To serve the community, our department also worked with Public Health Preparedness to receive testing kits and perform these tests on other essential workers throughout the county. Our staff tested local law enforcement officers, town officials, beach patrol members, librarians, and others in our communities who served vital roles in keeping things moving through the ongoing pandemic. On many occasions, our staff shuttled completed test kits directly to OEMS staff or the state testing lab to facilitate prompt results.

As vaccines became available, SCEMS staff answered the call by providing vaccinations to their fellow paramedics and other essential staff. Our department’s internal vaccination program administered a total of 141 doses of first- and second-round vaccinations. Later, when booster doses were recommended and available, we “boosted” our paramedics.

Sussex County EMS also assisted with vaccinations for our local first responder partners at the state sponsored vaccination pods. SCEMS had the honor of providing a vaccine to Governor Carney during a vaccination event held at Dover International Speedway.

An exciting partnership was formed in March where Sussex County EMS provided paramedics to accompany Beebe Healthcare and the county library’s Book Mobile to distribute vaccinations to county residents. This program took vaccines to those who faced technology or transportation barriers.

Through our department’s vaccination program, we were able to provide protection to our frontline EMS provider staff, as well as to our office and logistical support personnel who keep our system working. We were also able to help with efforts to serve the public in a preventative capacity to support our primary response mission.



District Supervisor Ellie Mitchell “fist bumping” Governor Carney after administering his COVID vaccination (Source: SCEMS Glenn Marshall)

CLINICAL ADVANCES

Infusion Pumps- SCEMS took possession of 45 Sapphire IV infusion pumps in early spring 2021. In the weeks that followed, all paramedics received training and education to ensure a safe and effective roll out of the new device. Education was conducted in person via small group settings to allow for hands on practice. In-field follow up education was conducted by the Education and Field Training Coordinators to ensure knowledge retention of the education. The infusion pumps were added to the SCEMS arsenal of equipment to ensure a safer and more effective delivery of medicated infusions. Patient safety remains a top priority and the addition of the sapphire IV pumps will add an additional layer of safety when medication infusions are being delivered and when IV fluid rates need to be closely controlled.



Whole Blood- The initiative to bring the delivery of whole blood to the pre-hospital environment in Sussex County is underway. The initial planning and basic framework for this project has been established. The pilot project has received support from the Office of EMS, the State of Delaware EMS Medical Director, the Sussex County Medical Directors, and the Board of Medical licensure and Discipline. The implementation timeline for this initiative has been delayed while the process of obtaining the units of whole blood can be solidified. Ongoing evaluation of storage equipment to ensure the safe storage and transport of the whole blood units continues.



Preliminary education for all SCEMS personnel has begun. This education has focused on the history and benefits of whole blood delivery. Training regarding the procedures for delivering whole blood will be conducted closer to the time of deployment. SCEMS continues to include the Delaware State Police Aviation division in the planning and education phases of this initiative.

DOSE PROGRAM

Sussex County EMS implemented our state sponsored "DOSE" program in 2015. DOSE stands for Direct On-Scene Education and aims to educate and provide resources for families caring for infants under 12 months of age as well as expectant mothers. DOSE packets contain infant safe-sleep information and avenues of access to prenatal and postnatal care. The DOSE program highlights the ability of first responders to be accepted into the homes of individuals that are expecting or currently caring for infants, and to utilize their community established trust to gently educate on safe-sleep practices. In 2021, twenty-eight DOSE packets were provided to families caring for infants. The DOSE program also provided emergency set-up of free cribs to infants in emergent need of a safe-sleeping space. The goal of the program is to prevent sleep-related deaths before they happen, and to establish a culture of infant safe-sleep practices within the hard-to-reach areas of the community.



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

NARCAN LEAVE BEHIND PROGRAM

In December 2021, Sussex County EMS began carrying opioid rescue kits on all response vehicles. These kits were provided by the Office of Emergency Medical Services as part of an outreach program to target those at risk of death secondary to opioid overdose.

During the November continuing education session, paramedics received training on how to provide instructions to those on scene of an opioid overdose. In many circumstances, once a person awakens from an opioid-induced coma, they wish to refuse further medical treatment. The goal is to leave a rescue kit in the hands of friends or family members who may be with a person at their time of crisis.

Since placing these kits in service in December 2021, Sussex County EMS has responded to 17 incidents involving cases where a patient was suspected of opioid overdose but ultimately refused transportation to the hospital. 13 opioid rescue kits were left behind with family or friends. Twenty-one individuals were trained on scene on how to recognize opioid overdose and provide care while awaiting EMS. The department is working to enhance our program by identifying any missed opportunities in which a rescue kit was not left behind. Some of the cases missed in December involved patients who were in police custody when encountered.

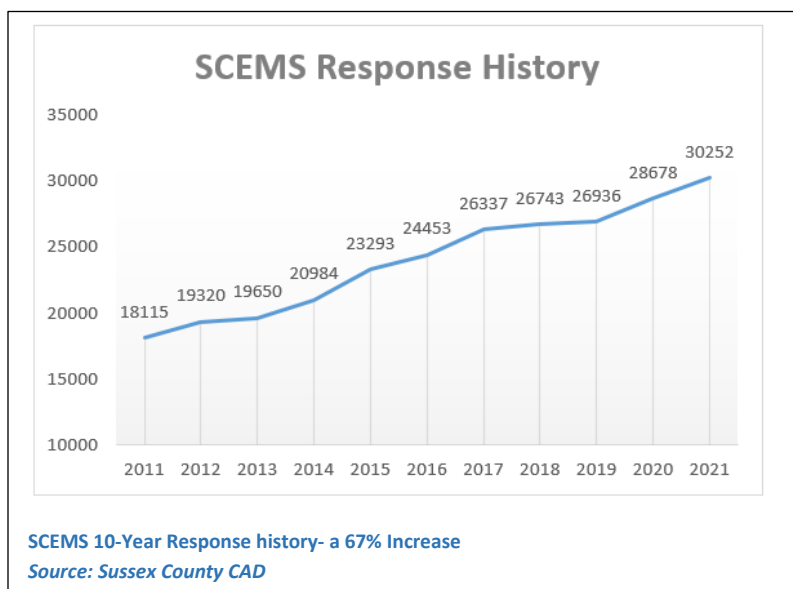
PERSONNEL

SCEMS entered 2021 with five vacancies and had twelve employees separate from the department, two of which were retirements. Hiring 15 new paramedics, including five DTCC students in their final semester, we ended the year with one vacancy. Two of the departing employees retired with 25 years or more of service. Five of the new employees, as previously mentioned, are graduates from the Delaware Technical and Community College Paramedic Program and the remaining ten employees were hired from other areas of the state and country. The traditional new employee academy continued although in a modified format for 2021 due to the ongoing pandemic. Although an altered format, all personnel received the preparation necessary to ensure readiness for the field evaluation process.

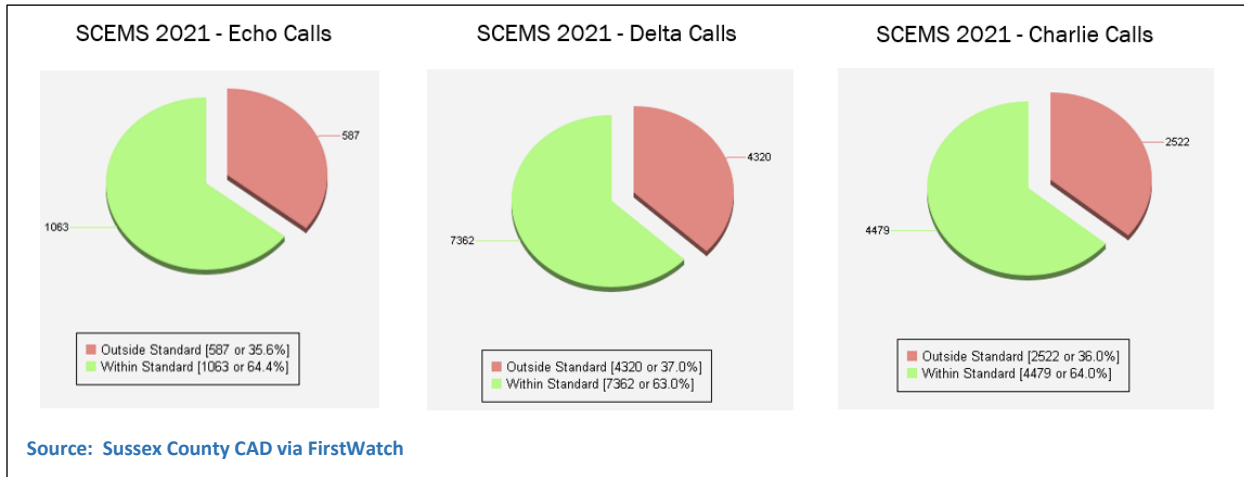
2021 INCIDENTS

For the year 2021, SCEMS experienced a 9% increase in response volume when compared to 2020. In the years prior to the COVID pandemic, SCEMS would typically see an increase ranging 2-6% per year. In 2020, a 5% decrease in responses was noted and attributed to the pandemic. Thus, a 9% increase is a substantial change. Over the past ten years, a 67% increase in unit responses have been appreciated. This demand has continued to be met with ten

paramedic units (including the daytime Milton “Power Unit”) and two district supervisors. The role of the shift commanders has been modified to include a health and safety officer and an administrative level Manager of Operations. The response configuration was not modified in 2021, as it was the previous year, in response to pandemic related social distancing needs. All units responded in a “normal” response configuration while maintaining readiness to “split” as needed to meet the need of the system.



Meeting the goal of an 8-minute response time continues to be a challenge in Sussex County. Our geography continues to be the greatest barrier. While responses times are evaluated based on EMD code, the compliance with an 8-minute standard is consistent between Charlie, Delta, and Echo responses.



With Sussex County’s status as a summer vacation destination, the 2021 vacation season seemed to be a return to near normal. Despite the pandemic and the modified vacation season, SCEMS demographics show that approximately 12% of our patients for 2021 reside outside of Sussex County. This represents an increase of 2% from 2020.

Almost all SCEMS paramedic units faced an increase in response volume when compared to 2020. Responses into the Lewes and Rehoboth Beach areas were well above the system average. Plans for a Dewey Beach power unit are underway for the 2022 summer season to help with increased response volume.

2021 Incident Responses		Δ from 2020
EMS 100 (Eastern Supervisor)	1,205	31%
EMS 200 (Western Supervisor)	1,114	1%
Medic 101 (Lincoln)	2,971	7%
Medic 102 (Laurel)	2,707	12%
Medic 103 (Dagsboro)	3,251	1%
Medic 104 (Lewes)	4,293	7%
Medic 105 (Millville)	2,455	-7%
Medic 106 (Long Neck)	3,312	12%
Medic 107 (Bridgeville)	1,418	14%
Medic 108 (Georgetown)	2,766	2%
Medic 109 (Summer "Power Unit")	323	-8%
Medic 110 (Seaford)	3,786	15%
Medic 111 (Milton "Power Unit")	1,061	32%
Special Operations	259	548%
Other (Administration)	283	22%
Total	31,204	9%

Incident Responses by Unit (Source: Sussex County CAD)



Medic 109 was again deployed daily over the summer months with some modifications to the typical date range. The continued focus for medic 109 was the Southeastern corner of Sussex County. This unit once again provided valuable district coverage and reduced response times in this corner of Sussex County. Medic 109’s response volume in 2021 was actually down slightly, an 8% decrease, and can be attributed to staffing challenges throughout the year resulting in the modified deployment/staffing schedule (see staffing section below).

AWARDS

Mission LifeLine: For the fourth consecutive year, Sussex County EMS has been presented with the GOLD PLUS Mission LifeLine award from the American Heart Association. SCEMS remains among the top 1% of EMS agencies to be recognized for excellence in cardiac care. Continuing to exceed the minimum standard of 75% compliance, SCEMS paramedics perform in excess of 90% compliance in the numerous measures. This recognition by the American Heart Association serves as a third-party evaluator of our cardiac and stroke care data. Once again, they have confirmed that SCEMS paramedics are among the best in the country.



JEMS Games: The annual JEMS games were cancelled in 2021 due to increasing COVID cases in the country. The SCEMS competition team has continued to practice and maintained a readiness to compete. Their preparations have them looking forward to a competition in the Spring of 2022.

2021 Joshua M. Freeman Valor Award: Sussex County EMS was recognized by and awarded the Joshua M. Freeman Valor Award. The men and women of SCEMS who have responded more than 28,000 times since the COVID pandemic began (in calendar year 2020). At a time when increased requirements for personal protective equipment became the norm and during a time when personal fears needed to be pushed to a back burner, our paramedics answered the call. Despite fears of not only acquiring the virus at work, but the heart-wrenching real possibility of bringing home the virus to those who we cherish most, our paramedics performed in a manner in which we could not be more proud. From treating the residents and visitors to Sussex County, to providing education, testing and vaccinations, Sussex County paramedics were there. In recognition of their tireless and selfless acts over the past year, all Sussex County EMS team members were recognized as recipients of the 2020 Joshua M. Freeman Valor Award.



Award presentation by the Joshua M.

OPERATIONS

Staffing: Like many other industries in 2021, SCEMS was faced with staffing issues and challenges. In addition to the “normal” number of employees out of work due to illness or injury, SCEMS was also challenged by the pandemic. Paramedics who were out of work either with COVID illness or due to a need to quarantine led to staffing challenges that required extended shifts. With a 20-30% increase in overtime hours during the months of September, October, and November, a plan to modify the certification and orientation process for recent Delaware Technical and Community College paramedic graduates was instituted. The modification immediately helped to alleviate more than 60 shift vacancies. With the continued dedication of SCEMS paramedics and administrative staff, the need to down staff paramedic units was avoided. In the months leading up to this staffing challenge, the need to modify, and in some cases down staff, Medic 109 was necessary to ensure adequate coverage of the county’s primary paramedic units.

Public Education: 2021 saw SCEMS special operations section focusing on the statewide mission to limit the spread of COVID. SCEMS personnel dedicated over 2,300 personnel hours staffing 93 vaccination pods during which they administered over 22,000 vaccines. Special event coverage increased as restrictions were removed allowing for an increase of events covered from 28 during 2020 to 122 in 2021 (June-December). SCEMS provided Presidential coverage during three visits establishing strong relationships with the United States Secret Service in turn creating continuing education and hazmat training opportunities further enhancing SCEMS special operations capabilities. Our Honor Guard Unit served for the Laura Madara LODD services. The SCEMS hazmat team participated in a two-day structural collapse training with the Sussex County Technical Rescue



SCEMS Paramedic providing event coverage at the Freeman Stage

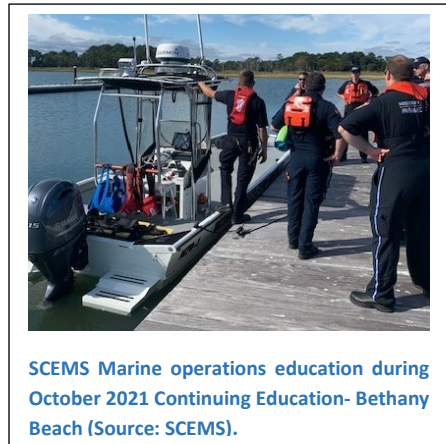
Team, Lewes, and Rehoboth Beach Fire Departments. SCEMS Special Operations projects a return to pre-COVID event volume and looks forward to engaging with the citizens and visitors of Sussex County with our smiles visible and a readiness to respond.

EDUCATION AND QUALITY MANAGEMENT

Continuous Quality Improvement (CQI): The SCEMS CQI program is in the midst of an overhaul. The ImageTrend CQI module has proven to not meet the robust demands of the SCEMS peer review process. A replacement system has been identified and purchased. The system is being built and the workflow tested. It is anticipated that a transition to a new analysis tool will occur in the coming year. A robust CQI program is a must for SCEMS and has contributed to our ongoing clinical excellence. The new system allows for review questions to be built with integrated logic allowing follow-up questions to generate based on the response to previous questions.



Continuing Education- One of the most enriching aspects of Sussex County EMS is the emphasis and commitment that is made to education. In the beginning of 2021, hybrid virtual and in-person continuing education was still in place until April due to Covid restrictions which required our medics to complete online learning sessions while reporting to the classroom in small groups to conduct hands on sessions. May introduced a new Education Coordinator who, under the guise of Covid restrictions being lifted, was able to promote a new atmosphere of monthly continuing education sessions that shifted the focus to more hands-on learning and simulation in a professional conference style format. In June, the entire department participated in one session over a four-day period that offered in depth training and hands on practice to prepare for the deployment of the Sapphire IV pumps. The year 2021 saw the recertification of the



departments American Heart Association Certifications in: BCLS, ACLS, and PALS as well as half of the departments National Registry Paramedic certifications.

October's continuing education was our most popular yet as it was held at the Bethany Beach Fire department and involved agencies from: DNREC, SCEMS, DSP Aviation, and multiple fire companies: 70, 82, 84, 90. Each shift participated in a full day of training based around boating operations, water rescue, and pediatric emergencies. These comprehensive sessions were featured in several media publications. The year ended with a guest speaker from Beebe Healthcare who reviewed vascular access challenges and provided hands on time for our medics. Our paramedics were introduced to self-defense strategies during a session taught by the Heroes Self Defense Foundation. Our education team closed out 2021 with 25 days of pharmacology where paramedics received training every day for the Month of December on the most important medications that they carry. When medics are not in their 8 formal continuing education sessions each year, they are constantly working on furthering their education through: degree programs, online Cornerstone learning, simulation, or self-training with equipment, gear, and manikins provided to station in the county.

Simulation Program: Due to Covid restrictions varying throughout the year, simulation was withheld until the fall when 38 paramedics participated in one of eight sessions. Each session was held in conjunction with BLS and the fire departments. Scenarios included pedestrians struck by vehicles and pediatric cardiac events. The simulation team worked to purchase a family of new manikins through Echo Healthcare that provide a level of realism that is certainly new to our department.



SCEMS simulation training with the new manikins that provide an increased sense of reality. (Source: SCEMS)

Cardiac Arrest Improvement: Sussex County EMS strives to continuously improve our cardiac arrest care with a primary focus on high-performance cardiopulmonary resuscitation (HPCPR). Each cardiac arrest chart is reviewed through CODE-STAT™ Reviewer 11 and annotated for HPCPR criteria. This includes our chest compression fraction (CCF), ventilation rate, placement time of mechanical CPR device, and other ACLS interventions. CCF varied within the department initially. However, with continuous post-incident review feedback and dedicated training, CCF began to improve. Our goal is a minimum of 91% CCF. We found that when our CCF is $\geq 91\%$, our occurrence of a return of spontaneous circulation (ROSC) improved greatly. This is mainly achieved by utilizing a mechanical CPR device in cooperation with training our department to apply it with less than a 10-second interruption in CPR. Although ROSC is not the only benchmark for quality of life, it is the basis for transferring from the scene to definitive care.

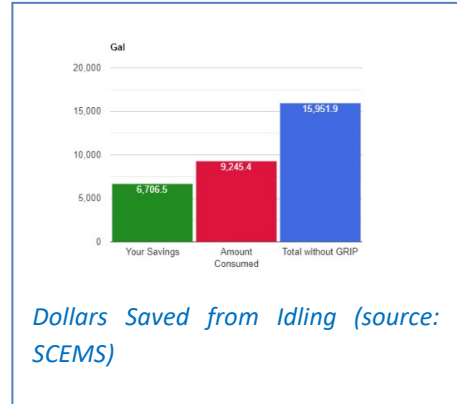


High Performance CPR practice with first responder partners on the beach

LOGISTICS AND CAPITAL IMPROVEMENT

Logistics: SCEMS has a five-person Logistics Division that oversees and coordinates station, equipment, vehicle purchase, maintenance, and uniforms. In 2021, they handled 2527 requests for service and repairs. Additionally, our Logistics Division purchased, processed, and distributed 90,183 requests for consumable medical supplies. This represents a 64% increase over 2020 due to the continued COVID -19 response as well as a return to some normal activities.

Response Vehicle Purchases: Six new vehicles were placed in service, four ALS response Suburban's, two pickup trucks, one for Special Operations and one for Logistics. Our fleet drove 514,435 miles using 40,713 gallons of fuel for an average of 12.63 miles per gallon. Anti-idle and electric HVAC system retrofits were completed, and savings noted in adjacent chart.



IV Pump Purchase: Small EMS intravenous pumps were placed for use with each ALS gear set. The battery-operated device will provide exact medication delivery to patients.

Paramedic Station Updates: The combined West District Supervisor and Medic 110 station was completed. Planning is underway to move Medic 103 from the leased facility to slightly North of the current location, completion expected in 2023. Land acquisition is occurring for the Lincoln and Milton future station placements.

New EMS Administrative Complex and Education Center: Construction of a new EMS administrative complex and state of the art education center is underway. The nearly 20,000 square foot facility will combine all the EMS functions into one building. The education center will expand simulation and provide for a state-of-the-art learning environment utilizing the latest technology.

SUMMARY AND A LOOK AT 2022 GOALS

This past year has been a combination of continued operations during a pandemic as well as an attempt to return to a sense of normalcy. Many of the guidelines that were implemented in response to COVID have been adopted as an ongoing best practice with employee safety in mind. The continued requirement for eye protection on every call is a practice that has been adopted and will continue. The latter part of the year saw a return to some normalcy. Special events and public outreach activities increased. Visitors returned to our beach communities.

Our focus on paramedic education continued and was achieved through a combination of virtual presentation, small group sessions in the EMS classroom, and larger in person events taking place outdoors. Education was provided that allowed for the deployment of IV infusion pumps. With education and simulation as the focal point, design and planning for a new state of the art EMS headquarters that will feature an education center with a large classroom, a simulation lab, and multiple smaller breakout room. Construction is set to begin in early 2022 with completion anticipated in the spring of 2023.

All SCEMS activities are completed with our mission of “Caring People, Quality Service” in mind. As we look towards 2022, planning is underway for new Medic 101, 103, and 111 stations. SCEMS will be submitting for CAAS reaccreditation in 2022 as we remain committed to meeting the standards of the accreditation process and welcome their verification process.

2022 Goals and Initiatives

- Continued progress towards a new education and EMS Administration facility with construction beginning in 2022
- Continued progress towards a new Medic 103 station with construction anticipated to begin in 2023
- CAAS Reaccreditation in 2022
- Accreditation of the SCEMS Simulation program
- Maintaining a response ready fleet of vehicle
- Implementation of the new SCEMS CQI platform
- To develop and implement a prehospital whole blood administration program in coordination with the Delaware State Police Aviation Division
- Continuation of the paramedic student program
- Expansion of services through deployment of an additional day-time seasonal unit in Dewey / Rehoboth.

Rehoboth Beach Communication Center

Submitted by Keith W. Banks

The Rehoboth Beach 9-1-1 Communications Center receives 9-1-1 calls through phone exchanges and cell towers in the Rehoboth area. The number of 9-1-1 calls processed for 2020 totaled 6,863. Another 13,803 non-emergency calls were also processed by our Telecommunicators for 2020. The number of 9-1-1 calls processed for 2021 totaled 10,007, another 14,406 non-emergency calls were also processed by our Telecommunicators for 2021. For the year 2020, the center dispatched and/or processed a total of 3,151 EMS Incidents, 642 Fire Incidents, 2,739 Police Incidents, 1,963 9-1-1 Disconnects, and 1,841 traffic stops. For the year 2021, a total of 3,768 EMS Incidents, 762 Fire Incidents, 3,040 Police Incidents, 3,384 9-1-1 Disconnects, and 2,405 traffic stops.

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, then re-accredited in August 2019 through 2022. In 2019, Rehoboth 9-1-1 Center was accredited in Excellence in Emergency Fire and Police Dispatch. We are currently going through the re-accreditation process in 2022. Rehoboth Beach 9-1-1 Center was the first in the State of Delaware to receive Accreditation in all three disciplines of Fire, Police, and EMS and are the 17th in the World. In 2020 and 2021, the Center's overall EMD/EFD/EPD compliance rate was above the National Academy Requirements.

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 10 full-time Emergency Telecommunicators, two 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 operates within the Rehoboth Beach Police Department. The Center utilizes West Intrado 9-1-1 Phone System for administrative calls, VOIP Ring Central phone system, Motorola Centracom Elite Radio System, Verint Recording System and Tyler/New World AEGIS CAD System to process calls for service.

Projects for 2021 focused on Medical, Fire, and Police National Academy protocols and standards with continuing education to achieve and exceed requirements set forth in each specific protocol. We continued work with the 9-1-1 Administration on upgrades to our CAD System as well as the 9-1-1 system. As in previous years, for 2020 and 2021, we focused on a variety of training for the calendar years. Continuing education was achieved through web-based training courses through International Academies of Emergency Dispatch due to the Covid19 outbreak. We began our 2022 training with continued education involving training in documentation and records within our CAD system at the Delaware State Police Computer Lab taught by Tyler Technologies. We will continue to focus on training this year beginning with attendance at the International Academies of Emergency Dispatch Navigator Conference in Nashville, Tennessee. Continuing education will once again be obtained through International Academies of Emergency Dispatch web-based training courses, with the hopes of conferences continuing to be held throughout the year.

Rehoboth Beach 911 Center:

Personnel: \$534,296.84

Equipment: \$4,835.76

Total Costs: \$557,875.21

Training: \$18,742.61

Sussex County Emergency Operations

Submitted by Joseph Thomas

Introduction:

Sussex County Emergency Operations provides the citizens and visitors of Sussex County with quality and timely emergency services, which includes 9-1-1 law enforcement call taking, Fire and EMS dispatching as well as Emergency Management to prevent, prepare, respond, and recover from natural and man-made disasters that threaten Sussex County. The 9-1-1 Dispatch Center strives to provide the most effective emergency communications possible by meeting established professional standards, promoting efficiency and professionalism.

2019, 2020 & 2021 Accomplishments:

On October 30, 2019, Seaford's 9-1-1 Center discontinued providing emergency dispatching and transitioned services over to Sussex County Emergency Operations. This reflects an increase of approximately 11,000 9-1-1 calls and 4,400 Fire/EMS incidents yearly.

On November 2, 2020, after agreement with the Delaware State Police, ALL 9-1-1 calls received are being handled by County dispatchers. Law enforcement calls are transferred electronically to DSP as we continue to dispatch Fire and EMS incidents. Currently this reflects on average an increase of approximately 4,744 Law Enforcement incidents handled monthly.

Increased staffing 40% to meet call volume needs. Prior to October 2019, there were 24 dispatchers assigned to 4 shifts. After October 2019, staffing increased to 28 dispatchers across 4 shifts to accommodate the Seaford transition. After November 2020, staffing has been increased to 40 dispatchers across 4 shifts to accommodate handling approximately 213,000 phone calls and 99,000 incidents annually.

From 2009-2019 the average yearly increase in Incidents handled was 1,072. In 2020, incidents handled increased by 7,655 incidents. In 2021, incidents handled increased by 53,782 incidents.

From 2009-2019 the average yearly increase in 9-1-1 calls answered was 535. In 2020, the Center answered 115,547 9-1-1 calls, an increase of 8,164 from previous year. In 2021, the Center answered 124,792 9-1-1 calls, an increase of 9,248 from previous year.

In 2021 call volumes were up; 9-1-1 Calls up 7%, FIRE Incidents Dispatched up 12%, EMS Incidents Dispatched up 10%, Total Incidents Handled up 49%.

2022 Challenges/goals:

CAD Server Rehost, current CAD Rehost is due to expire in October 2023. Rehosting is the practice of moving a license from one machine to another. This often involves deactivating the license on the machine being decommissioned and then activating the same license on the new machine.

Dispatch Center Carpet Replacement, The EOC opened its doors in April 2008 and the carpet in the 9-1-1 Center has had 24-hour foot traffic since that time. The replacement carpeting chosen is a Level 3 Staticsmart carpeting to prevent static discharge. The price includes all labor to carefully lift all consoles about a 1” where needed to install new carpeting, removal and disposal of old carpeting and grounding of the new carpet.

SUSSEX COUNTY EMERGENCY OPERATION CENTER 911 DISPATCH CENTER CALL STATISTICS 2021													
	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
9-1-1 Calls Received	8,488	7,339	8,873	9,097	11,018	12,189	14,318	12,707	#####	#####	9,354	9,921	124,792
Wireless Percentage of 9-1-1 Calls	80% 6,773	81% 5,952	81% 7,219	84% 7,599	86% 9,502	87% 10,602	88% 12,594	87% 11,093	85% 9,498	85% 8,776	83% 7,809	84% 8,309	85% 105,726
Administrative Calls Received (7-Digit)	4,826	4,008	4,925	4,859	4,487	4,731	4,613	4,536	4,493	4,780	4,180	4,186	54,624
Administrative Calls Generated (7-Digit)	2,712	2,183	2,554	2,728	3,220	3,935	2,224	2,794	2,794	2,794	2,794	2,794	33,526
Total Calls Handled	16,026	13,530	16,352	16,684	18,725	20,855	21,155	20,037	#####	#####	#####	#####	212,942
Fire Incidents Dispatched	459	437	525	470	551	621	658	606	569	510	519	544	6,469
ALS Incidents Dispatched	1,584	1,243	1,336	1,329	1,390	1,498	1,739	1,769	1,577	1,656	1,399	1,680	18,200
BLS Incidents Dispatched	1,429	1,186	1,400	1,285	1,409	1,418	1,623	1,513	1,492	1,337	1,337	1,533	16,962
Police Incidents Handled	3,398	2,953	3,844	4,076	5,337	5,652	7,065	6,057	5,199	4,871	4,185	4,287	56,924
Total Incidents Handled	6,870	5,819	7,105	7,160	8,687	9,189	11,085	9,945	8,837	8,374	7,440	8,044	98,555
Advised Incidents (Non-Dispatched Incidents)	557	397	762	898	428	405	426	436	420	630	567	530	6,456

Delaware Air Medical Services

The scene and interfacility air medical transport services provided for the most serious trauma and stroke patients are an integral part of Delaware's Systems of Care. Trauma and stroke are time-sensitive diseases, and Delaware's Air Medical Service priorities continue to be safety, efficient and appropriate utilization, and '*Getting the right patient to the right facility in the right amount of time*'. 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.

Delaware's Division of Public Health first promulgated regulations for Air Medical Ambulance Services in 1993. These, and subsequent regulations in 2002, provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware.

The Office of Emergency Medical Services, Systems of Care Office, oversees the certification and recertification process. The initial certification period is three years, with recertification required every three years subsequently.

Currently, there are 9 air medical services that are certified to provide care to the citizens and visitors of Delaware. After completing their application process, they receive a three-year certification based on three levels, depending on their qualifications:

1. **911 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. In addition, both Maryland and New Jersey State Police Aviation Sections are available to our state through Mutual Aid agreements.
2. **Full Interfacility:** Provide point to point transport service from and to facilities within the state of Delaware, in addition to one-way transport to or from Delaware. 6 agencies.
3. **Limited Interfacility:** able to provide one-way transport either into or out of Delaware only. 3 agencies provide this service.

Accomplishments

Since in-person visits are not required for recertifications, all Delaware certified air medical services have received recertification without difficulty. The recertification process has been streamlined and is done entirely electronically.

Delaware State Police Aviation Section

Submitted by Theodore Stipa



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



Print courtesy of Cpl/1 David Huynh Delaware State Police

Introduction

The Aviation Section's primary missions are to provide rapid transport of critically sick or injured persons to medical facilities and to support law enforcement ground personnel in the apprehension of criminal suspects. In addition, the Section conducts search and rescue

operations, airborne security for visiting dignitaries, homeland security operations, photographic missions, narcotics interdiction, pursuit support and maritime security missions. The Section consists of 32 pilots and medics providing 24-hour coverage from two locations, Georgetown and Middletown. The aircraft fleet consists of three (3) Bell 429 helicopters and one (1) fixed wing Cessna 182 aircraft.



Hoist Photo DSP Aviation File – Scene Work photo Assistant Chief Chris Johnson New Castle County ALS

2019, 2020, 2021 Accomplishments

Law Enforcement Profile

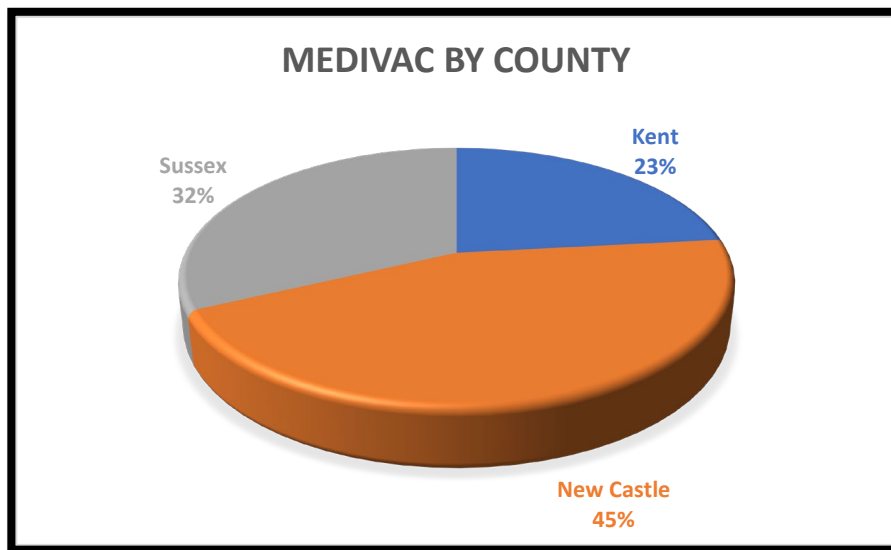
The Aviation Section supports State, Federal, and Local law enforcement by providing aerial assistance in several areas:

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

The assistance by the Aviation Section has increased over the last 3 years with total number of transport calls rising from 1,849 in 2019 to 2,022 in 2021. Additionally, the total number of missions and flight hours increased from 2019 to 2021 by 5% and 1 % respectively.

	2019	2020	2021
Total Transport Call	1,849	1,839	2,022
Total Missions	4,293	4,219	4,494
Total Flight Hours	1,389	1,245	1,407

The Aviation Section provides air medical transport and advanced life support backup for ground transport of the seriously injured and/or ill persons. In 2021, the Aviation Section had 2,022 requests for medivac service.



In 2019, 2020 and 2021 the Aviation Section conducted respectively 341, 307 and 374 Criminal Searches resulting in 46, 45 and 47 apprehensions respectively. In 2019 there were 113 Pursuits resulting in 42 apprehensions. In the following years, 2020 and 2021, the Aviation Section conducted 130 (2020) and 97 (2021) Pursuits resulting in 65 (2020) and 18 (2021) apprehensions.

	2019	2020	2021
Criminal Searches	341	307	374
Apprehension (Criminal)	46	45	47
Pursuits	114	130	97
Apprehension (Pursuit)	42	65	18

Delaware State Police Aviation Tactical EMS Missions

The Delaware State Police Tactical Medic Mission is comprised of four (4) Trooper medics who have received specialized training and equipment to provide medical support for the Delaware

State Police Training Academy, Delaware State Police Special Operation Response Team, FBI Special Weapons Tactical Team, Wilmington Police Department Special Weapons Tactical Team, Delaware State Police Explosive Ordinance Disposal Unit, and the Delaware State Police SCUBA Team during high-risk operations. In 2021, the DSP Tactical Medics had a total of 132 activations, during 2020 a total of 78 activations and in 2019 a total of 110 activations.

President of the United States (POTUS) Missions

Delaware State Police Aviation Section has been supporting the United States Secret Service during POTUS movements in the State of Delaware by providing aerial overwatch. Since 2019 the Aviation Unit has been engaged in 69 missions supporting this effort.

Medic Training

In 2019, 2020 and 2021, the medics attended training at the University of Maryland Baltimore County to satisfy their continuing education credits needed to maintain their paramedic certifications. Trooper medics also participated in continued education with New Castle County ALS, and Sussex County ALS. The Delaware State Police Trooper medics provide CPR training for all sworn Troopers. Law enforcement medical response training which is a 40-hour class is taught to all recruit Troopers and Municipal recruits.

Delaware State Police Aviation Section hired a civilian paramedic trainer in 2021. This trainer provides all of the Divisional CPR and LEMR training. The civilian trainer also provides medical and tactical flying officer training to our section members.

Automated External Defibrillator (AED) and Narcan Deployments:

In addition to supervising day-to-day operations the Paramedic Commander is 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 460 Boxes (or 920 Doses) of Narcan available to be deployed in the field for 2022. In 2021 Troopers deployed their Automated External Defibrillator (AED) 29 times/Narcan 52, in 2020 (AED) 26 times/Narcan 73, and in 2019 (AED) 28 times/Narcan 39.

Infectious Disease Exposures:

During the 2021 calendar year the Delaware State Police had a total of 46 confirmed infectious disease exposures. While, in 2020 there were a total of 113 confirmed infectious disease exposures compared to a total of 13 confirmed infectious disease exposures in 2019.

Covid -19 vaccination

Prior to the state-wide distribution of the vaccine by the government, Delaware State Police Aviation medics gave 435 vaccination shots to both sworn and civilian members of the Delaware

State Police. This effort was coordinated with multiple opportunities for vaccinations and booster across all 3 counties at a Troop to ensure widespread and quick response to ensure adequate dates with the shifts. Following the initial vaccination, the booster was offered to all sworn and civilian members of the Delaware State Police

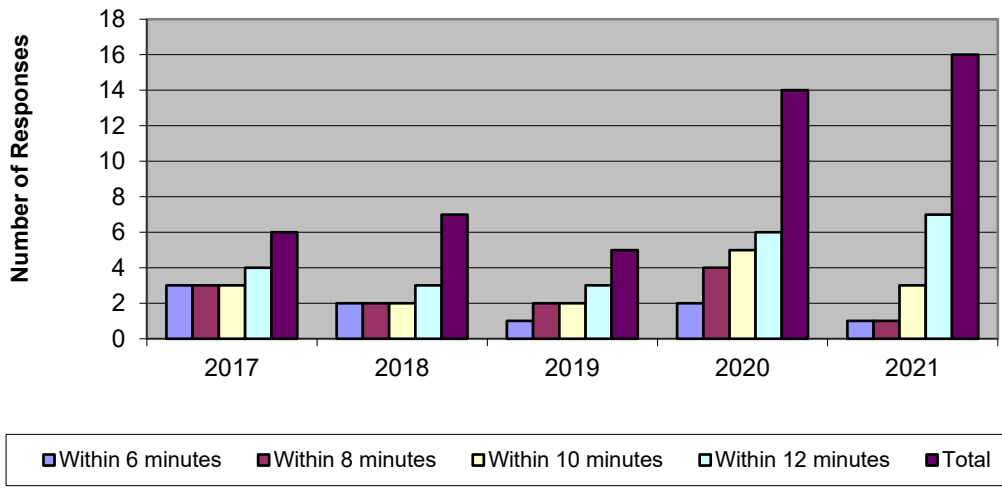
Training

The goal for 2022 is to increase training and proficiency by incorporating training with all three ALS agencies, riding with ground ALS agencies, and attending nationally recognized Paramedic Conferences. The Delaware Aviation Tactical medics will continue to train monthly with the tactical paramedics from New Castle County ALS. This tactical medical training is personally overseen by the Delaware State Police Medical Director / New Castle County Paramedic Medical Director Dr. Justin Eisenman, DO.

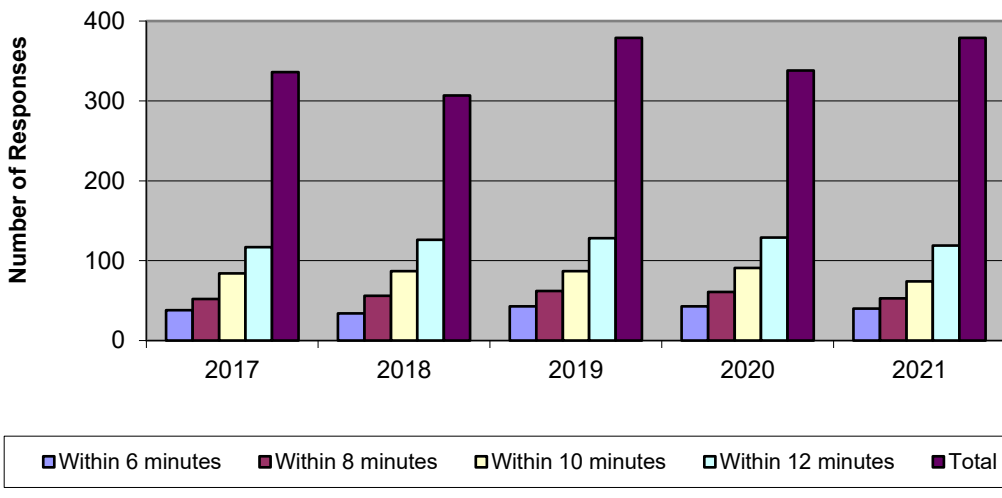


Training with Wilmington Fire Department photo courtesy of Bell Helicopter

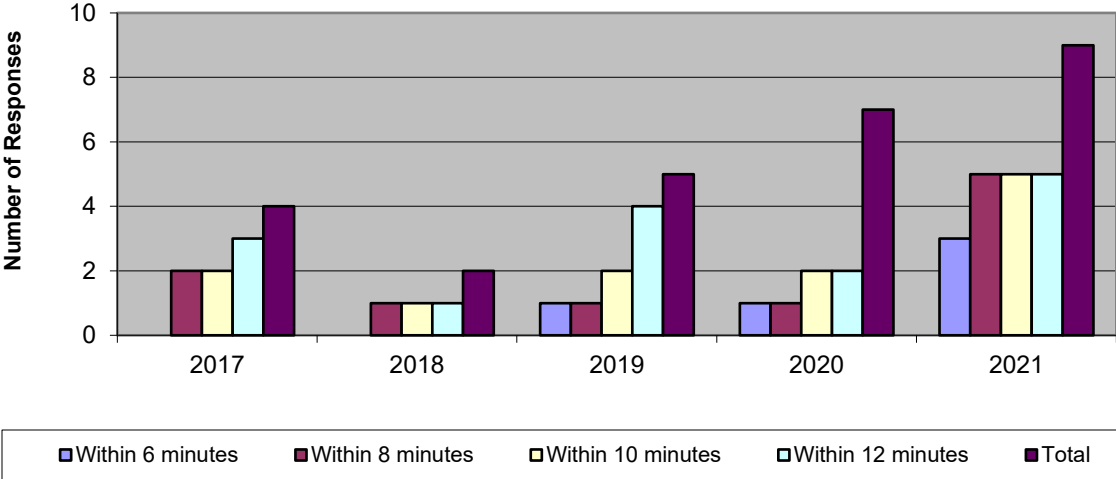
Charlie Level Response, DSP EMS



Delta Level Response, DSP



Echo Level Response, DSP



Delaware Coalition for Injury Prevention



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*.

Between 2019 and 2020 (statistics for 2021 not yet available), **413 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.

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. 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 coalition has several teams, or subcommittees, that address specific areas of focus such as fall prevention, water safety, fire and burns, traffic and motor vehicle safety, poisoning, dog bites, traumatic brain injury, violence prevention and ad hoc groups as needed.

Accomplishments

Throughout COVID, Coalition members have gotten creative in how to interact with the public. Virtual meetings and learning sessions were held. Narrated video presentations were made. One member had a book created that addressed approaching a dog and getting a child's first puppy.

An active social media campaign has been getting timely messages posted under the DHSS and DPH social media pages.

Challenges

Falls are the leading cause of preventable injuries. 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.

To reach the most Delawareans, funding of injury prevention programs needs to be made a priority. Traditionally, in trauma spending, injury prevention gets a very small piece of the pie, and if we hope to make a difference, we must invest in new and existing technology to reach the largest number of people. Pre-made presentations and videos reach a lot of media but cost money.

Significant Mechanism of Injury Comparison

	2019	2020	2021
Fall	4,637	3,957	3,691
MVC	1,696	1,232	1,182
Other Blunt	571	488	478
Firearms	242	329	279
Assault	257	208	161
Motorcycle	247	173	204
Pedestrian	194	160	180
Bicycle	198	174	157
Not Documented	193	203	59
Other Penetrating	141	133	122
ATV/Moped	89	114	122
Burn	115	93	79
Biting	74	94	90
Knife	83	54	69
Glass	30	24	19
Grand Total	8,767	7,436	6,892

Delaware Trauma Registry

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.