



# DEMSOC

Delaware Emergency Medical Services Oversight Council

# ANNUAL REPORT 2022

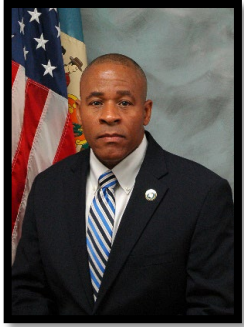


The Honorable John C. Carney, Governor

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# **DELAWARE EMERGENCY MEDICAL SERVICES OVERSIGHT COUNCIL**



To the Citizens of Delaware:

March 14, 2023

On behalf of Governor John Carney, and my colleagues on the Delaware Emergency Medical Services Oversight Council (DEMSOC), I am pleased to present the 2022 DEMSOC Annual Report.

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

The annual DEMSOC report is designed to inform others about Delaware's Emergency Medical Services (EMS) system and heighten awareness of the issues that most directly affect the delivery of EMS service and the quality of EMS patient care.

The past few years have presented challenges unlike any that we have seen. Many of those hurdles continued throughout 2022. EMS agencies balanced caring for COVID-19 patients, as the "normal" EMS responses also continued. EMS providers dealt with critical internal challenges and external demands facing their personnel and their families. Despite it all, EMS, personnel persevered and meticulously attended to the health and safety of Delaware citizens and visitors. Throughout the year we have witnessed great achievements in the EMS community and this report attempts to capture those successes as well as to build the framework for addressing the challenges that lie ahead.

As you review this year's annual report, I encourage you to use the information provided to increase your awareness of the important and vital role 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

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## Introduction

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

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

As you read the 2022 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. 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:

- 1,112 Certified First Responders
- 1,752 EMT-Basics
- 318 Paramedics
- 107 Dispatchers
- 8 Medical Directors

**EMS services provided to the State of Delaware include:**

There are 58 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 11 BLS inter-facility medical transport services, five ALS inter-facility medical transport services and two specialty hospital transport services. The units that respond to 911 calls for service receive their directions from certified dispatch centers located throughout the state.

- 168 BLS ambulances providing 911 services
- 99 BLS ambulances providing non-emergency services
- 22 Full Time & 8 Part Time ALS units providing 911 services
- 5 ALS Supervisor units
- 4 Air Medical helicopters providing 911 services
- 5 ALS agencies providing non-emergency services
- 2 Specialty hospital transport 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 2022, the EMS system in Delaware responded to the following incidents: *(information based on EMS patient care reports)*

- 255,065 Statewide Total Run Reports
- 157,236 Non-trauma incidents
- 36,000 Trauma Incidents
- 172,195 Basic Life Support Incidents
- 82,870 Paramedic Incidents
- 10,328 Pediatric Incidents (0-17yrs)
- 3,150 ALS Cardiovascular Incidents
- 365 Air Medical Transports



# EMS Strategic Planning Initiative

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## **Emergency Medical Services – Strategic Planning Initiative**

The past few years have placed a significant strain on the EMS system and providers within our state and nation. Increased stress levels due to the unknown of the pandemic, supply chain issues, recruitment & retention.

The National Association of State EMS Officials (NASEMSO) had begun an effort to assist states with the development of a statewide EMS Strategic Plan.

A strategic plan functions as a roadmap for the organization. It aligns stakeholders around strategic priorities and communicates goals and objectives. A recommendation was made at the April 2022 Delaware Emergency Medical Services Oversight Council meeting for Delaware to participate in the strategic planning process.

In October of 2022, the Office of EMS in collaboration with the Delaware State Fire Prevention Commission, Paramedic Services, representatives from the BLS community met with representatives from the National Association of State EMS Officials to begin working on a strategic plan for the Delaware EMS System. This was a two-day workshop that identified a variety of issues for the OEMS and the DSFPC to address to improve the EMS system and working environment for our EMS providers.

### **Vision Statement**

To be a state EMS system that is comprehensive, accessible, and sustainable which is realized through collaboration and provides clinically superior, efficient, and innovative care

### **Mission Statement**

The mission of the Delaware EMS system is to evolve a cost effective, collaborative, and outcome-based EMS delivery system that produces clinically superior and culturally competent care, while achieving high levels of patient satisfaction from the residents and visitors to the State of Delaware.

### **Goals identified**

- To review and update Delaware Code title 16 chapters 97 and 98
- To develop a sound financial base for acquiring and maintaining resource necessary to operate a comprehensive, reliable, and safe statewide EMS system
- To implement a functional system for collecting and exchanging relevant critical data and evaluating system components, specifically resource management to ensure the ongoing quality and integrity of the EMS system
- To develop and implement programs that support the needs of the workforce by stabilizing the existing workforce and improve recruitment and retention
- To design and implement EMS educational programs that meet the needs of the EMS clinicians and ensure high quality patient centered and culturally competent care

Now is when the hard work begins. Taking the goals that have been identified, further developing the objectives and activities to support the identified goals.

# Delaware EMS System Oversight

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## Delaware Emergency Medical Services Oversight Council (DEMSOC)

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

DEMSOC consists of 21 members appointed by the Governor. The Secretary of The Department of Safety and Homeland Security, also serving on the council is the Secretary of Delaware Health and Social Services. DEMSOC includes representatives from the following agencies: the Governor’s Office, each county government, the Delaware State Fire Prevention Commission, The Delaware Volunteer Fireman’s Association and its Ambulance Committee, The Delaware Healthcare Association, The Delaware Association of Chiefs of Police, 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



Romain



Ken Ryder



Mark Logemann



Colin Faulkner



Robert Murray



Robert Rosenbaum



Sean Elwell



Dana Bowerson



Megan McNamara Williams



Bruce Nisbet



Derrick



Maria Carmen G. Diaz

Not Pictured: AJ Schall, Molly Magarik, William Kelly, Kate Groner, Michael Bundek, Ted Stipa. Kimberly Holmes, DVFA Ambulance Advisory: Vacant, Member-at-large/Sussex: Vacant, Member-at-large/New Castle: Vacant

## Delaware EMS System Oversight

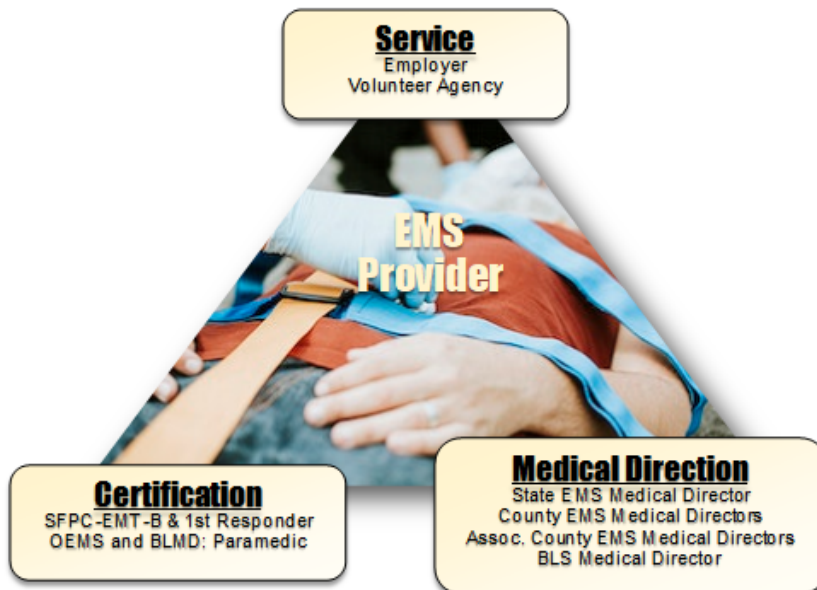
Delaware is a frontline leader in prehospital emergency care through comprehensive coordination, development, and evaluation of the statewide emergency medical services system. The Delaware EMS system is a two-tiered EMS delivery system with shared oversight of Basic Life Support services and personnel 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:*** The role of the trauma system is to organize resources and assure their immediate availability to the injured at all times and in all geographic areas of the system.

***Stroke System of Care:*** This program assists in oversight of the inclusive statewide stroke care system and is responsible for coordination of hospitals and provider agencies to ensure optimal care for stroke patients.

***Overdose System of Care (OSOC):*** 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 (AED) 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 (DSAMH). 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 (OTDAB):*** The Office of EMS provides staff support and represents Delaware Health and Social Services on the Delaware Organ and Tissue Donor Awareness Board. 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 (ACS)***

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.

### ***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 annual 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.

### ***Stop the Bleed***

Beginning in October 2017, the Emergency Medical Services and Preparedness Section (EMSPS), Office of Emergency Medical Services (OEMS) implemented the "***Stop the Bleed***" program education initiative as part of a national campaign through the Department of Homeland Safety and Security. OEMS staff trained 70 RespondDE volunteers and Delaware Emergency Management Agency (DEMA) personnel using Trauma Trainer Legs, Training Tourniquets, and QuikClot® Combat Gauze Moulage to provide training in the community and health care system. OEMS has partnered with RespondDE, DEMA, hospital staff, school nurses, Health Occupations Students of America (HOSA), Parent Teacher Organization (PTO), first responders, and to date we they trained 8,822 people (5,870 adults and 2,952 youth from the age of 18). OEMS plans to continue coordinating training for the "***Stop the Bleed***" program with our community partners.

### ***Strategic Planning***

The Office of EMS in collaboration with the Delaware State Fire Prevention Commission, Paramedic Services, representatives from the BLS community met with representatives from the National Association of State EMS Officials to begin working on a strategic plan for the Delaware EMS System. The group identified a variety of issues for the OEMS and the DSFPC to address to improve the EMS system and working environment for our EMS providers.

## 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.*

The State Health Operations Center (SHOC) remained activated for COVID-19 Pandemic but also activated for the MPX response, trainings, and exercises. Exercises included a Community Shelter Exercise, the Salem Hope Creek Nuclear Generating Station (SHCNGS) Emergency Drill. The Annual Public Health Preparedness Symposium was delivered in-person and virtually.

### **SHOC Response and COVID-19 Response and Recovery**

During 2022, the State Health Operations Center (SHOC) activation level was reduced from a Level 3 to a Level 2. The SHOC processed thousands of resource requests and delivered vaccine, therapeutics, and PPE to first responders, community-based organizations, providers, and healthcare systems across the state. Many sections of the Division of Public Health continued to respond to the needs of Delawareans. A COVID-19 Response and Recovery After-Action Report was written to identify any gaps in preparedness and identify opportunities to capitalize on lessons learned for improvement. A symposium was held during the Fall of 2022, to examine response actions and discuss planned and potential improvements that enhance preparedness for the next pandemic.

A FEMA- supported Increasing Community Access to Testing (ICATT) was set up in Delaware City to support the surge of testing that was needed following the holiday season. The testing site was a joint effort between FEMA, DEMA, CDC, the Department of Transportation and Delaware Public Health. Thousands of COVID-19 tests were completed during the effort.

Parts of the response have demobilized due to decline in demand for services. During the year SHOC was activated for other events that were smaller in nature or shorter in duration including special events, MPX, Ebola, High Path Avian Influenza, and several severe weather events.

The renovation and expansion of the SHOC was completed in 2022 which increased the size and capacity of the SHOC by 25%. In addition, to a call center and a fitness room the SHOC will have more offices break and conference rooms available during future disease outbreaks or responses to public health emergencies. The renovation has increased the capacity of response and will allow for social distancing measures while completing critical missions such as operating a call center.

### **Community Shelter Exercise**

The Division of Public Health (DPH) hosted a Community Shelter Exercise on August 6th, at Dover High School from 7:30 AM to 3:00 PM. During the simulation partners activated a community shelter for residents who have been evacuated from their homes during a technical or natural disaster. The exercise tested the communications, staffing, and coordination of all components of the shelter including the medical station, dormitory, registration, feeding, infectious disease isolation and testing, access and functional needs, mental health, and pet sheltering.



Partners who attended and participated in the exercise included Kent County Department of Public Safety, Delaware Emergency Management Agency, and several Divisions of Delaware Health and Social Services (DHSS) including Public Health, Child Support Services, Mental Health and Substance Abuse, Social Services. DPH included the following sections: Emergency Medical Service, and Preparedness Section and RespondDE (Medical Reserve Corps), The Office of Animal Welfare, Health Systems Protection; Office of Food Protection, Office of Infectious Disease Epidemiology, Office of the Medical Director, and DPH Community Health. The American Red Cross, Dover Police Department, The Delaware National Guard, and Department of Transportation also attended and supported the exercise. More than 150 persons including workers and actors attended the exercise simulation which tested the ability of partners to open and staff a community shelter.

During the exercise actors simulated various medical conditions and access and functional needs that were testing the various components of the exercise. The exercise tested several DHSS and DPH plans. New concepts and plans were also introduced including isolation and testing plan, access and functional needs, diversion kits, and shelter inspection plans. Any identified gaps in training, staffing, communications, or planning will be corrected and shared with partners. This exercise also tested the newly drafted DPH Shelter Inspection Policy. Because emergency shelters can create conditions for disease spread and potential for environmental hazards, state-run emergency shelters can either request or trigger inspections after 24 hours of operation. The purpose

of DPH performing such inspections is to: prevent spread of disease, mitigate further spread of disease, prevent environmental hazards, and prevent access and functional needs concerns.

The DPH inspection team is made up of Epidemiologists, Environmental Scientists, and Environmental Health Specialists. Findings and suggestions are reported to the shelter manager. Resources for unmet needs can be identified and requested to help implement mitigation actions as soon as possible.

## **Training**

Due to COVID restrictions, a number of trainings were transitioned to virtual format. Therefore, the training section of Office of Preparedness during COVID had the new challenge of learning new software to develop online courses utilizing Articulate 360 which allows for interactive/engaging training. With this new software over ten (10) new online courses have been developed that included: Shelter Manager 101 and 102, 800 Mhz Radio Training (updated), RespondDE Orientation training, Three RespondDE Acknowledgement trainings for volunteers, Disaster Preparedness: Assisting People with Disabilities, Mental Health during a Disaster training, DHSS Disaster Preparedness Orientation for Employees Video Segments training, and Four (4) FAST Team trainings, just to name a few. About 6 more courses are currently in the production mode for completion by the end of 2023.

August 2, 2022 was the first in-person SHOC 101 (State Health Operations Center) training since COVID-19 turned the world upside down in March 2020. Because of the new COVID normal, the in-person training looks and feels different than it did in the pre-COVID years. The in-person class was limited to only 13 participants due to COVID with protocols of mask wearing, social distancing and if the student exhibited signs of COVID to not attend the class. Hand sanitizer and Clorox wipes were available on the desks for students to use. The two windows and the door to the conference room was left open to provide cross-ventilation. The SHOC 101 course covers four different topics: 1. The Division of Public Health's Roles and Responsibilities for Emergency Preparedness and Response, 2. An Introduction and Overview of SHOC, 3. The Role of the SHOC Employee, 4. Emergency Preparedness Awareness. The SHOC 101 course stayed the same, only the examples of adding pandemic scenarios with the real-world experience of the evolution of COVID-19 and how SHOC evolved to meet and exceed social distancing challenges.

Trainer/Educators conducted a 3-day Family Emergency Preparedness Training for Division of Public Health Lab employees. Approximately, 46 staff were educated in preparing themselves and their family for sheltering in place or preparing Grab and Go kits. Staff was also provided tools to start preparing emergency kits and were also provided guidance and a communication plan to assist in preparing their families and friends.

Trainer/Educators also partnered with Delaware Emergency Management Agency's Citizen Corps employees to plan the Family Emergency Preparedness Day at Brecknock Park (Camden-Wyoming, DE) on September 16, 2022. Approximately, 750 participants attended the event that focuses on preparing families for emergencies and disasters, as well as providing information and tools. Other activities at this event included demonstrations from emergency medical services, firefighters and police partners who provided hands on activities for families.

Outreach requests within the training section have increased due to COVID relief as more events and venues were added to our trainer/educators' list.

Training section also carries the responsibility of planning exercises by utilizing HSEEP – CDC guidelines. The Office of Preparedness’s Multi-Year Training and Exercise Plan (MYTEP) is completed annually in integration with the 2022 Integrated Preparedness Planning Workshop (IPPW) that was attended by training administrator, with our partners at Delaware Emergency Management Agency (DEMA). This working document provides guidance on upcoming exercises and training per CDC guidelines within the Division of Public Health’s Public Health Emergency Preparedness grant. This year’s document covers planning for 3 years (2023, 2024, and 2025) dated March 1, 2023.

### **Radiological Emergency Preparedness Drills**

On August 17 and December 8, 2022, the Emergency Medical Services and Preparedness Section (EMSPS), Office of Preparedness participated in a quarterly Salem Hope Creek Nuclear Generating Station (SHCNGS) emergency drill at the Delaware Emergency Management Agency (DEMA), Emergency Operation Center (EOC). The drill scenario resulted in SHCNGS declaring a Site Area Emergency which could potentially cause the release of radioactivity from the site. EMSPS supported the DEMA Technical Assessment Center (TAC) by assessing the projected radiation dose to the population living in the Delaware Emergency Planning Zone (EPZ).



### **Volunteers**

RespondDE, (formally Delaware Medical Reserve Corp) continued to provide volunteer support for COVID-19 response in 2022. Below is a list of activity and events that RespondDE has participated in during this reporting period to include, daily Delaware Immunization Record (DelVAX) Data Entry Support at the Division of Public Health Warehouse, 3rd Annual 17th District Day at William Penn High School-Community Outreach, Food Bank of Delaware in Georgetown – Emergency Medical Support, Food

Bank of Delaware in Dover–Emergency Medical Support, Food Bank of Delaware in Stanton – Emergency Medical Support, September Family Emergency Preparedness Day at Brecknock Park Community Outreach AIDS Walk Delaware Vaccination Event in Wilmington and Latin Community Center Vaccinations – MPX Vaccination Support, mobilization for potential migrant arrival Stockley Center in Georgetown – Nursing and Access and Functional Needs (AFN) Support.

RespondDE contributed volunteers to the Community Shelter Exercise held in August, hosted annual volunteer recognition ceremony in April and continued on-going recruitment, training and quarterly Advisory Committee meetings.

### **Vulnerable Populations/Access and Functional Needs**

The Access and Functional Needs Team has developed a training presentation, Autism Awareness for First Responders. Upon final release, this training was disseminated in partnership with Delaware State Fire School as a new addition to the core curriculum for fire and emergency medical responders. The training objectives include recognizing autism, adjusting response to

consider the unique needs of individuals receiving services and increasing overall awareness of Autism in the first responder community. This training product was developed by Access and Functional Needs Team based on improvement plan recommendation formulated by Disability & Preparedness Specialist on loan from the Association of State and Territorial Health Officials (ASTHO) during the previous reporting period; specific to the expansion of community partnerships with those supporting individuals with access and functional needs.

The Community Organization Preparedness Project, in collaboration with Delta Development Group and local Emergency Agency Managers (to include the City of Wilmington) was initiated during this reporting period. The project objective is to engage nonprofits and other community-based organizations supporting Delawareans with disabilities and/ or access and functional needs in the development of emergency operations plans to increase overall whole-community resiliency following disaster or public health emergency. This project is scheduled to conclude in March 2023 with in-person workshop to review draft plans developed by community-based organizations based on resources and technical assistance provided by Access and Functional Needs team. A proposal to present at National Preparedness Summit scheduled for April 2023 in Atlanta, Georgia exploring the implementation of this project as best practice was submitted and accepted.

The on-going Delaware Access and Functional Needs Stakeholder (DE-AFN) Quarterly meetings and Access and Functional Needs Active Shooter Core Workgroup, comprised of stakeholders from the disability community, Delaware Department of Education, Delaware State Police and Delaware Emergency Management Agency continued to meet virtually during this reporting period facilitated by Vulnerable Populations Planner.



Stakeholders participating in the Functional Information Support Center (FISC) during COVID-19 response were recognized at event held on December 20, 2022, at Edgehill Training Center in Dover. Stakeholders who convened during FISC activation to manage unmet needs of the disability and access and functional needs community during the COVID-19 Pandemic received a Certificate of Dedication signed by Director of Office of Preparedness, Tim Cooper and Emergency Medical Services and Preparedness Section Chief, Steve Blessing and presented with a COVID-19 Response Team Challenge Coin by Department of Health and Social Services Disaster Coordinator, Muriel Gillespie in appreciation of their collaborative efforts.

### **Children in Disasters**

The Children in Disasters Committee resumed meeting on a quarterly basis and priorities to guide group work were established. Goal and priority areas include employee and family preparedness, initiatives regarding mental health and reunification for children specific to DSCYF and childcare. Guest speakers were scheduled to share their expertise with participants. Subject matter experts and guest speakers included Dr. Kathryn M. Giordano, with Nemours Children’s Hospital who presented on best practice recommendations for reunification following disaster at the hospital



level and Crystal Spence, Emergency Medical Services for Children (EMSC) Coordinator who presented an overview of EMSC current activities.

### **Division of Public Health Emergency Medical Services and Preparedness Section 9<sup>th</sup> Annual Public Health Emergency Preparedness (PHEP) Symposium**

On Wednesday, November 2<sup>nd</sup>, the Division of Public Health's EMSPS's Office of Preparedness held for the first time since COVID-19 response the annual 9<sup>th</sup> Public Health Emergency Preparedness (PHEP) Symposium and Pandemic Response Improvement Workshop from 8:30 am to 3:30 pm. Eighty-eight attendees (103 registered for event) received a virtual welcome from the Governor, John Carney. Attendees were then provided biographies for key speakers that included Dr. Rick Hong, Interim Public Health Director, and Dr. William Chasanov II, Chief Population Health Office and Physician in Chief with Beebe Healthcare. Dr. Hong shared thoughts on the impact of COVID-19 on the Division of Public Health's workforce and agencies in addition to sharing personal experiences of navigating the pandemic. Dr. Chasanov, as the keynote speaker, discussed Beebe Healthcare system's response to COVID-19. Updates were also provided on the three offices within EMSPS that included the Office of Preparedness, Office of Emergency Medical Services, and the Office of Crisis Response. The afternoon session consisted of the Pandemic Improvement Workshop, as a facilitator asked questions to three panel discussions that included: Epidemiology Infectious Disease Surveillance Panel Discussion, Community and Partner Engagement Panel Discussion and Open Question Panel Discussion with DPH Leadership.

### **Plans**

The Emergency Medical Services and Preparedness Section (EMSPPS), Office of Preparedness, continues to review and update preparedness plans and assist partner organizations in their preparedness efforts. In 2022, the Crisis Risk Communication Plan and Call Center Standard Operating Procedures were finalized. Ongoing plan rewrites based on COVID-19 After Action Report Observations include the Emergency Operations Coordination Plan, Pandemic Influenza Plan and Strategic National Stockpile Plans.

Workgroups in 2022 addressed additional plans under review to include the Family Assistance Center, Functional Access Service Teams (FAST), Reunification, DPH Continuity of Operations (COOP), and Reception Centers.

*Photos and Figures 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 their Executive Director, State Fire Marshal, and State Fire School Director.
- The Commission shall have power to authorize new fire companies or substations; resolve boundary and other disputes; prohibit cessation of necessary fire protection services.
- Investigate injuries to firefighters incurred in the line of duty, to issue subpoenas in furtherance of such investigations, and to issue reports of its findings and conclusions with respect to such investigations.
- The Commission is empowered to enforce its orders in the Court of Chancery.

## **Volunteer Ambulance Company Fund**

The 147<sup>th</sup> 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.

The SFPC distributed \$5,571,238.00 for the period of January 1, 2022, until December 31, 2022. The funds are distributed on a bi-annual basis.

-Ronald Marvel, Chairman Delaware State Fire Prevention Commission

### **2022 Investigator II/Compliance Officer Statistics**

Complaints Received.....	96
Investigations on Existing Cases.....	51
New Ambulances.....	18
Ambulance Inspections.....	203
Ambulance Inspection Deficiency Notices.....	76

### **2022 EMT Certification and Ambulance Licensing Statistics**

Fire Company Audit Received.....	63
Civil Penalty.....	\$5,100.00
EMT (Initial) Certification.....	147
EMT Recertification.....	804
EMT Reciprocity.....	56
EMT Background Checks.....	208
Ambulance Licensing/Renewals.....	68

# Delaware State Fire School (DSFS)



## Introduction

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



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

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

## 2022 Accomplishments

Agency conducted EMS training in 2022:

Emergency Medical Technician – 10 classes – 213 students

Emergency Medical Technician Refresher – 26 classes – 419 students

Delaware Emergency Medical Technician Reciprocity – 9 classes – 115 students

Emergency Medical Responder (EMR) – 9 classes – 110 students

Emergency Medical Responder Refresher – 5 classes – 41 students

Conducted training for Active Shooter response for 47 students (program in revision)

Conducted 97 American Heart Association classes reaching 775 students

## 2023 Goals

To review, update, and develop DSFS EMS Programs.

To combine the Active Shooter Awareness & Operations classes into one

Conduct training for the 1,752 Delaware EMTs and 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.

## 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 2022.

In 2023, the agency will move forward with our Mission statement to provide a fire safe environment for our citizens and visitors. Promoting carbon monoxide detectors, smoke alarms, and residential fire sprinklers are important. The State Fire Marshal has implemented regulatory oversight of the Carbon Monoxide Detection Devices law (DE Code Title 16, Chapter 66C.) requiring mandatory installation of carbon monoxide detectors in specific types of residential occupancies.

Of the 18 fire fatalities in 2022, eleven 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 69 casualties involving a nonfatal, fire related injury in 2022. 17 injuries were the result of smoke inhalation. 46 injuries were burns. There were 6 other fire related injuries.

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](http://www.statefiremarshal.delaware.gov) or email us at [Fire.Marshall@delaware.gov](mailto:Fire.Marshall@delaware.gov)

## **EMS Medical Direction**

The Medical Directors had an eventful 2023. The year saw transition and a refocus of work returning to primarily EMS issues. Some new faces, new standing orders and several exciting new initiatives highlight the year.

We had a change and some additions to our EMS Medical Directors. After over 25 years, Dr. Dean Dobbert retired from his role as EMS Medical Director for Kent County. Dean's career saw momentous changes and expansion of the roles of EMS in Delaware and saw our state system develop into one of the top in the country. His service and years of commitment are greatly appreciated. We are fortunate to have an excellent clinician stepping into the Kent County EMS Medical Director role with Dr. Bryan Choi beginning in that role in July. Dr. Choi is an emergency physician in the BayHealth system with Fellowship training in EMS and a role in the new BayHealth emergency medicine residency program.

The position of New Castle County EMS Medical director saw another addition to EMS Medical Direction staff when Dr. Kyle Burch was hired to fill that role. Dr. Burch completed his EMS Fellowship at Penn State-Hershey Medical Center and returned to Delaware to work in the Christiana Care system as an emergency physician. Dr. Burch has brought experience with field response from his Fellowship and has been involved with large events and planning in his new role.

After a hiatus during the COVID pandemic, the EMS Standing Orders for ALS and BLS were reviewed and updated. Following a rigorous process with review committees of providers from ALS and BLS agencies looking at existing orders and bringing ideas for addition of new treatments, the larger standing orders committee with EMS Medical Directors agreed to many changes. Significant updates on the management of penetrating trauma, head injuries, stroke evaluation and transport, cardiac arrest and post resuscitative care and pain management were included in the protocols which went into effect in November.

Two additional protocols were added on a pilot project basis to advance Delaware EMS further to the forefront of delivery of pre-hospital care. A standing order to allow paramedics to offer Buprenorphine to patients who required resuscitation with Naloxone after an opioid overdose was approved. Cooperative work with multiple partners in Public Health and outpatient treatment facilities has developed as a system which can offer patients with opioid use disorder a path to enter treatment. Extensive training followed and we expect to begin to offer this medically assisted treatment option in early 2023 with all County EMS systems utilizing the protocol. This will make Delaware the first state to offer Buprenorphine treatment from EMS on a statewide basis.

The second innovative treatment approved in 2022 was a project to administer Whole Blood to patients with major hemorrhage leading to shock. Expected to primarily impact trauma patients, whole blood administration early in the treatment of shock is associated with improved chances of survival. Ongoing logistical work is being completed and paramedic agencies in Delaware hope to begin using this treatment by the middle of 2023.

The protocols have also been enhanced to explore ways to provide even higher levels of critical care for patients who need life-saving interventions. Enhancements in stroke care, following consultation with the State Stroke System of Care Committee, identified an opportunity to change the assessment of stroke in the pre-hospital setting. Using a reliable, validate approach to patient evaluation known as the VAN scale, paramedics can now assess patients at high risk of stroke symptoms being caused by occlusion of a larger vessel in the brain. These types of strokes put greater amounts of brain tissue at risk and may benefit from direct transport to the highest level of stroke care with aggressive therapy using a catheter to remove the clot causing the stroke symptoms. Using these treatment protocols in consultation with on-line medical direction may lead to the decision to bypass the nearest hospital to get to a center capable of emergency revascularization. Several patients have already benefitted from the use of this treatment protocol and devastating stroke symptoms have been treated with return to previous levels of neurologic function.

An additional enhancement in critical care was the expansion of a system of post-resuscitation care for patients following cardiac arrest. Even after pre-hospital resuscitation and return of heartbeat and circulation, patients are at very high risk for neurologic injury due to poor blood flow. They are at risk for not only brain injury but other organ damage, repeat cardiac arrest or death. The Initial use of a systematic approach in New Castle County saw improvements in patients who survived to discharge leaving the hospital with a full neurologic recovery. The system, with the mnemonic “SAVE A LIFE” provides a checklist approach to stabilize patients, closely monitor for any negative changes, and provide multiple medications in a controlled setting prior to rushing the patient to a hospital. This approach has validated individual components and using a systemic approach is expected to lead to more survivors of out of hospital cardiac arrest and for more of those survivors to be discharged with intact neurologic function with no deficits.

We look forward to ongoing enhancements in EMS in Delaware using the standing orders, tracking their impact, and adding the new treatments expected to go into practice in 2023. Continuing improvement and finding opportunities to expand further are commitments of the EMS Medical Directors as we work with EMS providers at all levels throughout Delaware to offer the highest level of care that can be provided in the pre-hospital environment.

# EMS Safety

## Creating a Culture of Safety in the EMS Workforce

No situation is so critical that safety practices should be neglected. If we become incapacitated on the response, we fail to help the patient. Safety must be a part of every response, every training, every decision. When one thinks of the word culture, it usually relates to how we do things in our organization. Developing a culture of safety means that our organization values safety by making it a part of every function. Safety must be embraced by all levels. Leadership provides the support through funding and developing policies. But beyond this, the safety effort must be led from the top. It is fruitless for leaders to promote safety programs if they do not follow those same practices.

The Emergency Medical Services and Preparedness Section, Office of Emergency Medical Services (OEMS) focuses on safety through its mission to provide training and resources necessary to ensure the safety of EMS providers. Safety efforts are led nationally by organizations like the National EMS Advisory Council for the National Highway Transportation and Safety Administration (NHTSA) (<https://www.ems.gov/safety.html>).

According to the National Institute of Occupational Safety and Health (NIOSH), in 2022 strains, sprains, and overexertion injuries resulted in the most common sources of injuries to EMS workers (<https://www.cdc.gov/niosh/topics/ems/data.html>). While these hazards aren't glamorous, it is the day-to-day risks that hold potential of ending our EMS careers. Look before you step. Slow down and scan the environment for hazards. Follow proper lifting techniques and communicate well with your teammates. Many services have taken proactive approaches and installed lift-assist stretchers. Know how to use your model but more importantly, know how to troubleshoot it to lift patients safely when it fails.

Of all the high-risk procedures we perform in EMS, driving presents hazards to our providers and the public we serve. Roads are becoming more congested as the population of our state continues to rise. Drivers who are distracted or impaired also put EMS at risk. Our chances of getting into a crash increase exponentially while using lights and sirens. For a long time, the fire service has followed the mantra of everyone goes home. If we continue to allow our responders to use lights and sirens on every transport, we are not practicing what we preach.

Fatigue continues to be a concern in statewide EMS. Staffing shortages force our already stretched providers to work more hours to cover vacant shifts. Many EMS responders work for multiple agencies leading to little time off for rest.

Finally, EMS work can place a great strain on our well-being. Long hours, increasing threats to our safety, and the hard work to stay proficient contributes to this stress. Hours on the job mean less time with family and friends. Don't neglect yourself both physically and mentally. It's o.k. to not be o.k. Reach out to local CISM, peer support programs, and programs like 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. Most of all, watch out for each other. If you see your partner struggling, point them to help. You are valuable as a person, and as a provider. Stay safe!



# EMS System Evaluation

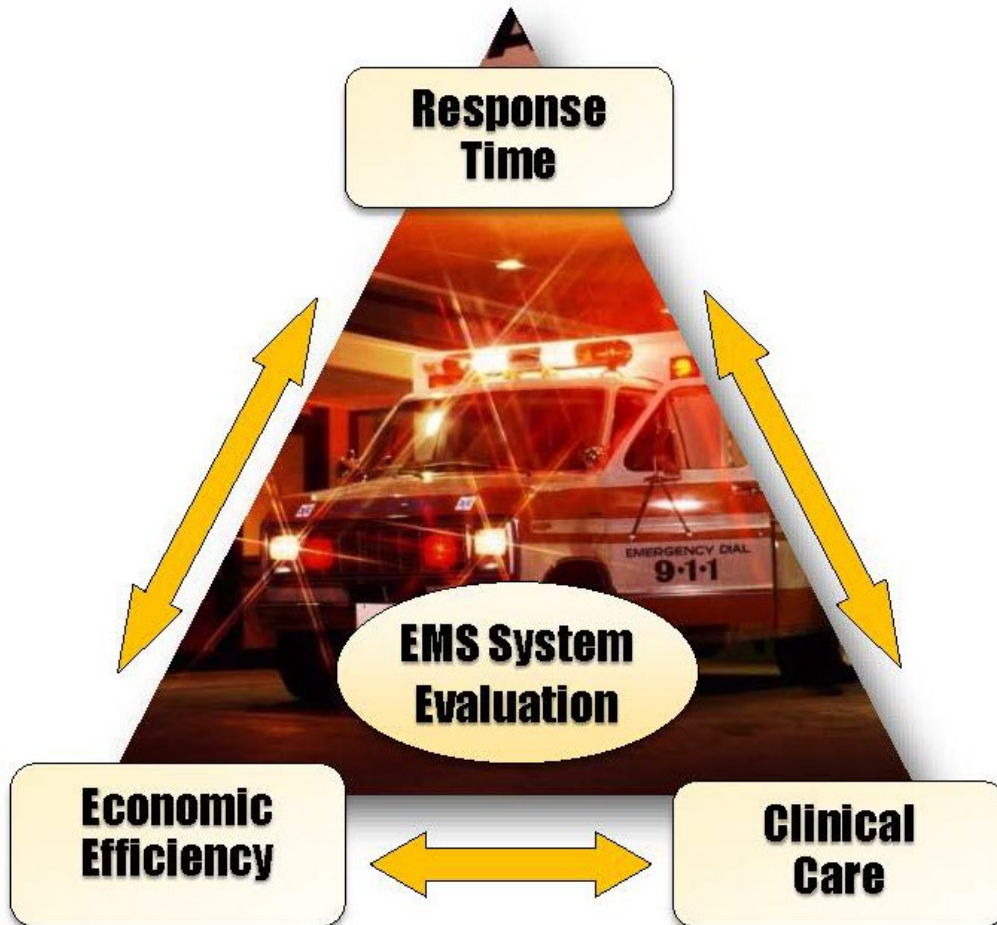
<b>EMS System Evaluation .....</b>	<b>35</b>
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## System Evaluation

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

The National Association of Emergency Medical Services Physicians (NAEMSP) has identified three related variables for measuring EMS system performance: clinical care, response time 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 care and response time. Also, if a system places all its efforts on response time, there will be a significant increase in costs as well as a decrease in clinical care.



## 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.



We will be updating to NEMSIS 3.5 in January 2024.

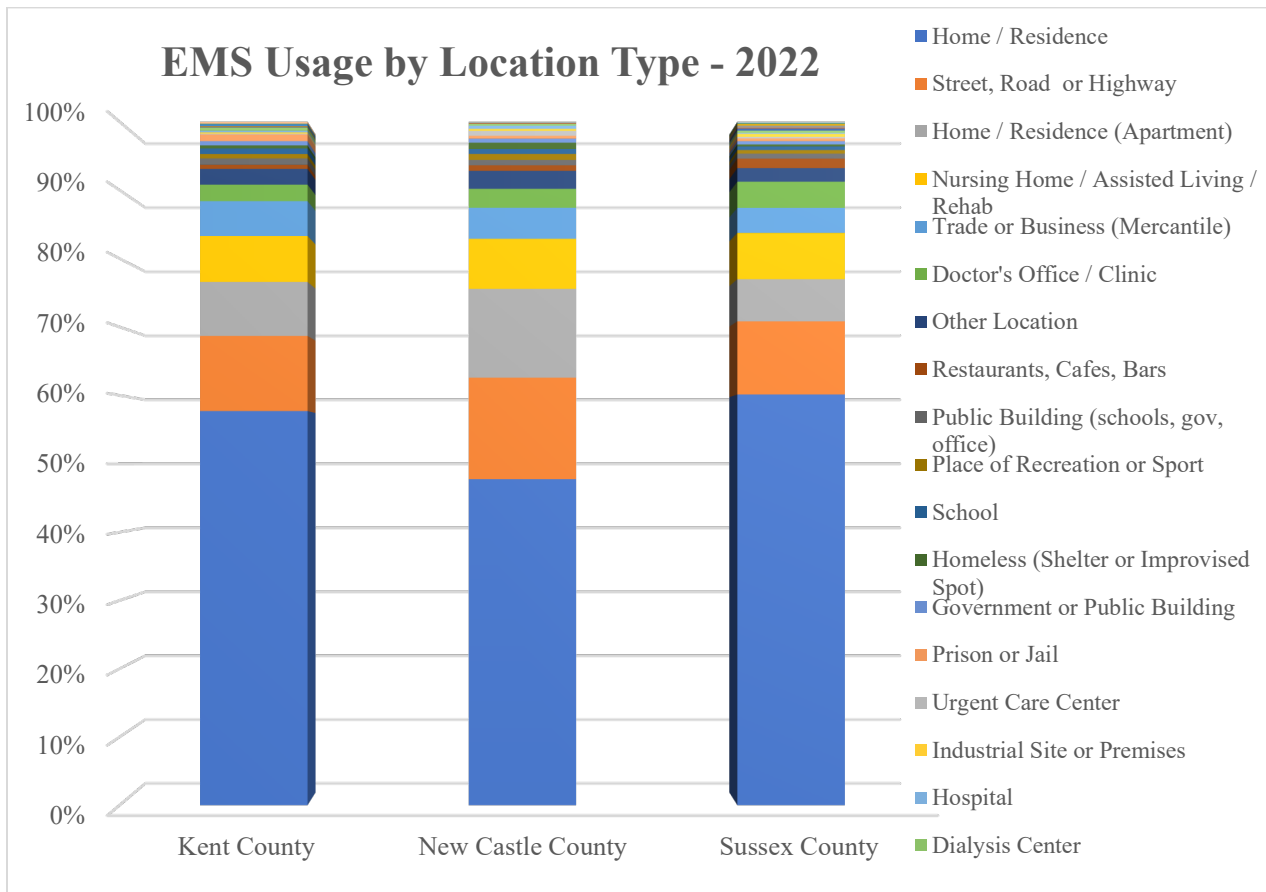


## Clinical Performance

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 most of the emphases placed on traumatic injuries. As the science and practices of prehospital care progressed over the years, so did the scope of the EMS provider. The evolution of evidence-based practices with cutting edge technologies work in tandem to improve the clinical outcome for all types of patients. The EMS system is inclusive of many different disciplines; trauma, cardiac care, medical care, pediatric care, medical transportation, public health, and domestic preparedness just to highlight a few.

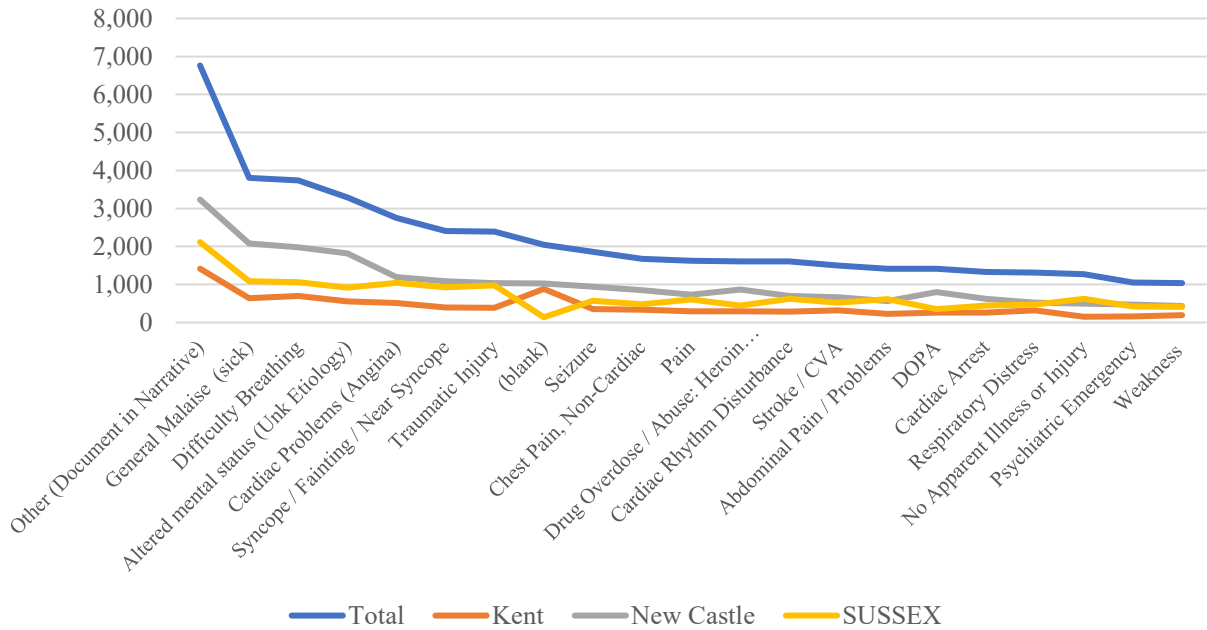
*EMS provides care for those with perceived emergency needs and, when indicated, provides transportation to, from, and between health care facilities. Mobility and immediate availability to the entire population distinguish EMS from other components of the health care system (National Highway Traffic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

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

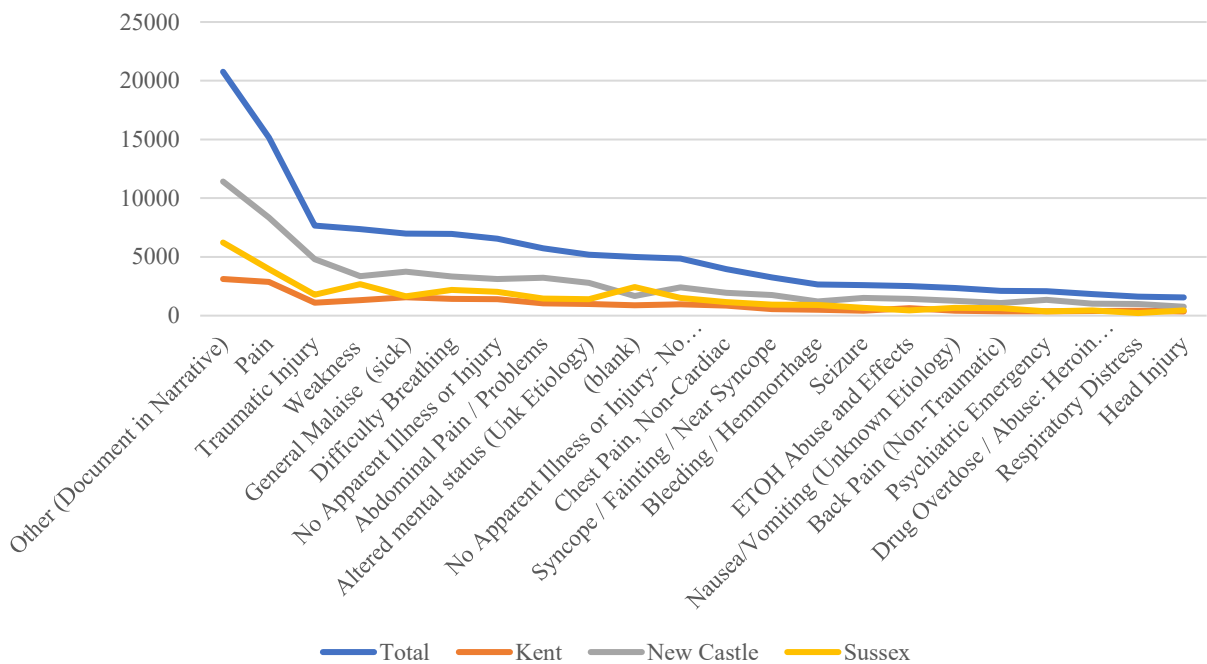


Primary Impression is the EMS provider's evaluation of the patient based on: signs, symptoms, patient's chief complaint and other factors. These graphs do not take into account the type of patient (medical, trauma). The primary impression of other is defined in the patient narrative and not able to query.

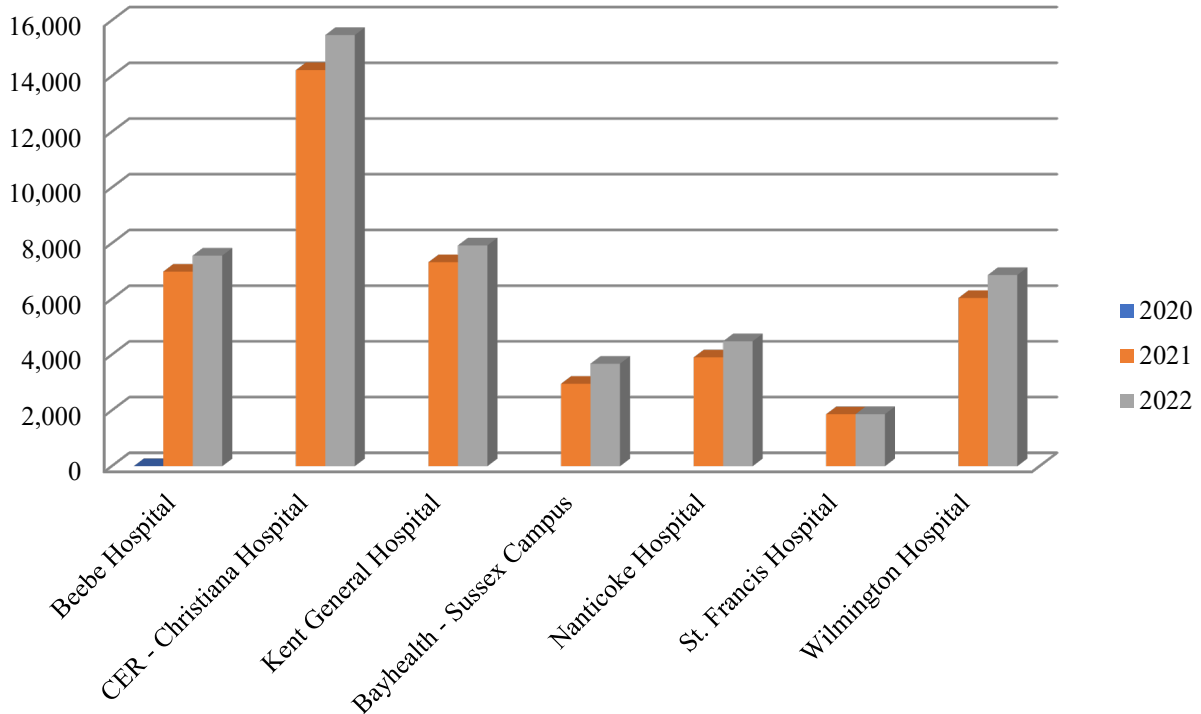
### Most Common Patient Presentation by Primary Impression, ALS 2022



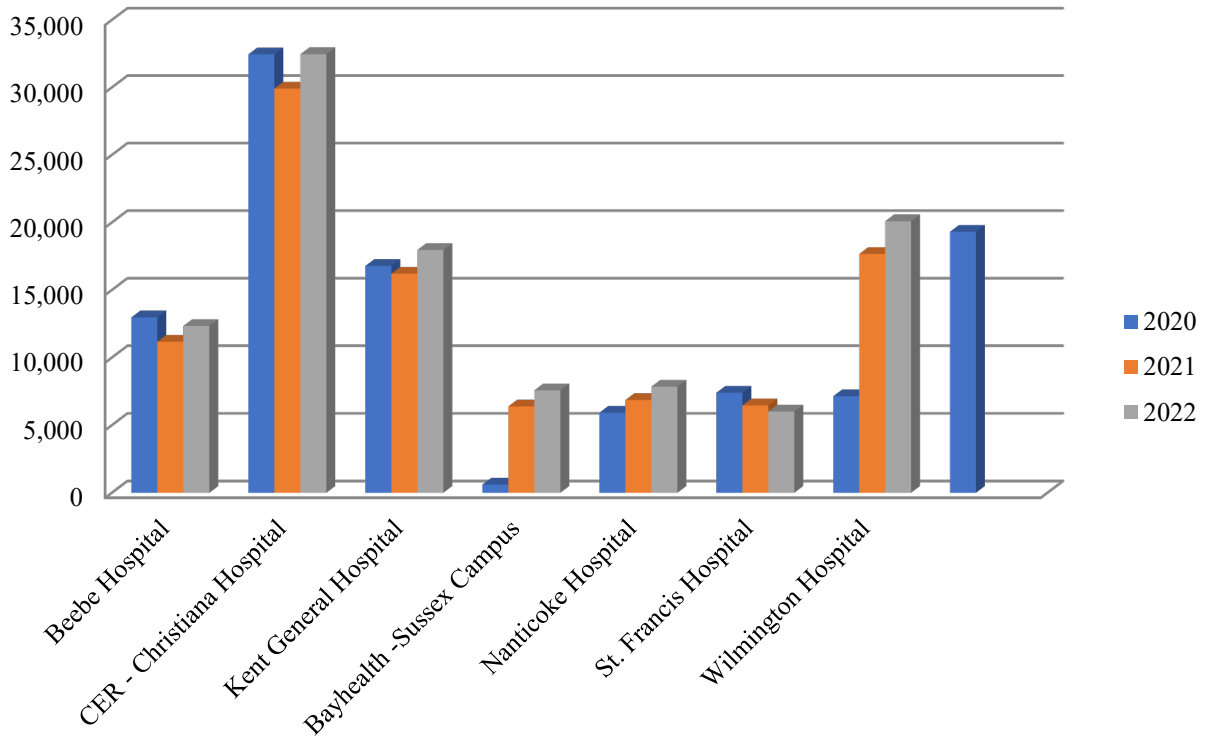
### Most Common Patient Presentation by Primary Impression, BLS 2022



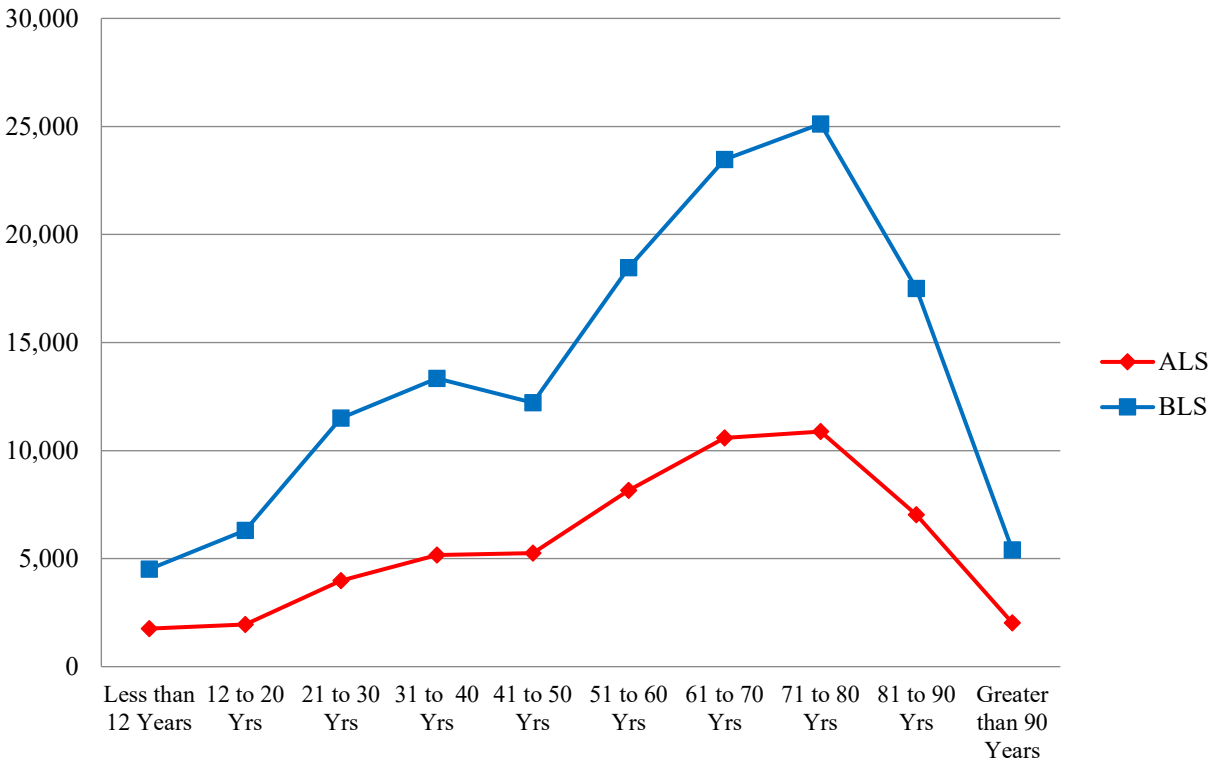
### ALS Receiving Hospital Comparisons 2020-2022



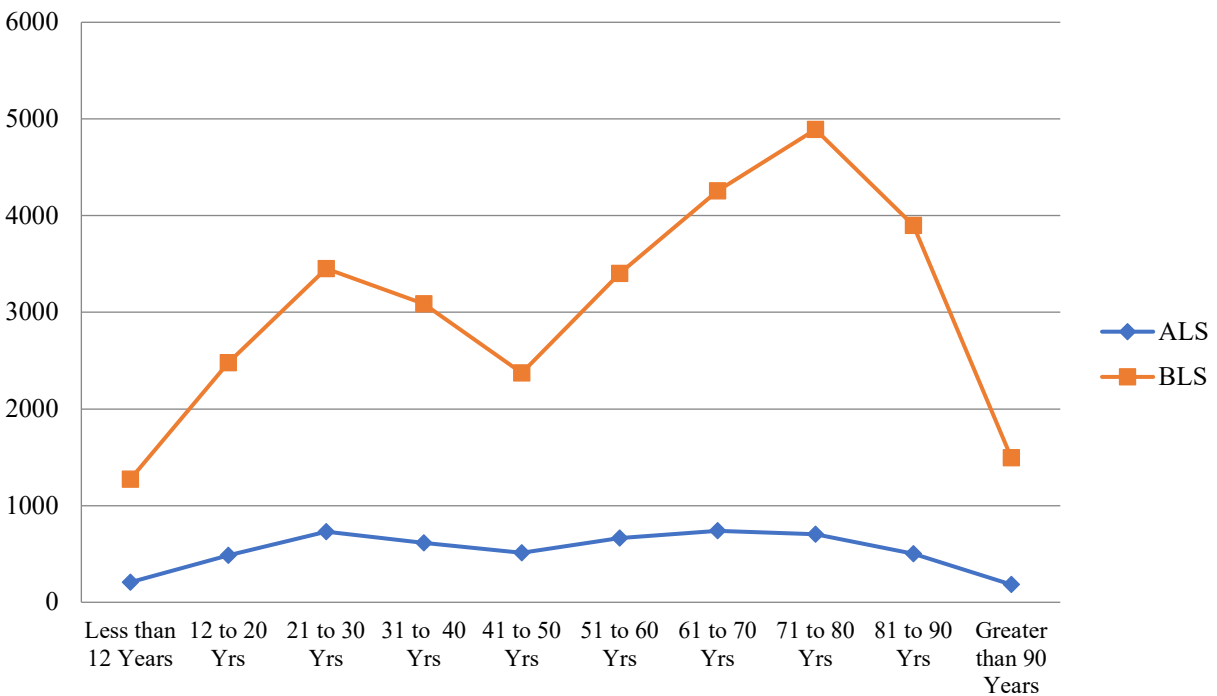
### BLS Receiving Hospital Comparisons 2020-2022



### ALS and BLS Patient Age Comparison - 2022

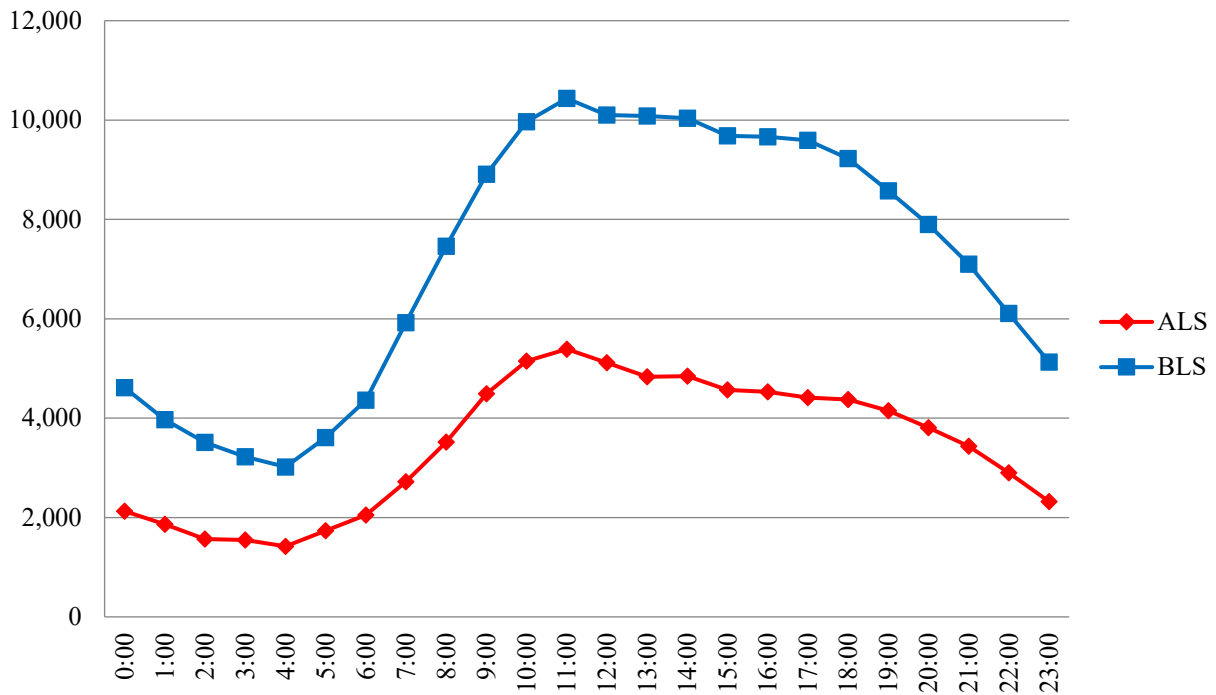


### ALS and BLS Patient Age Comparison - 2022 Possible Injury Patients

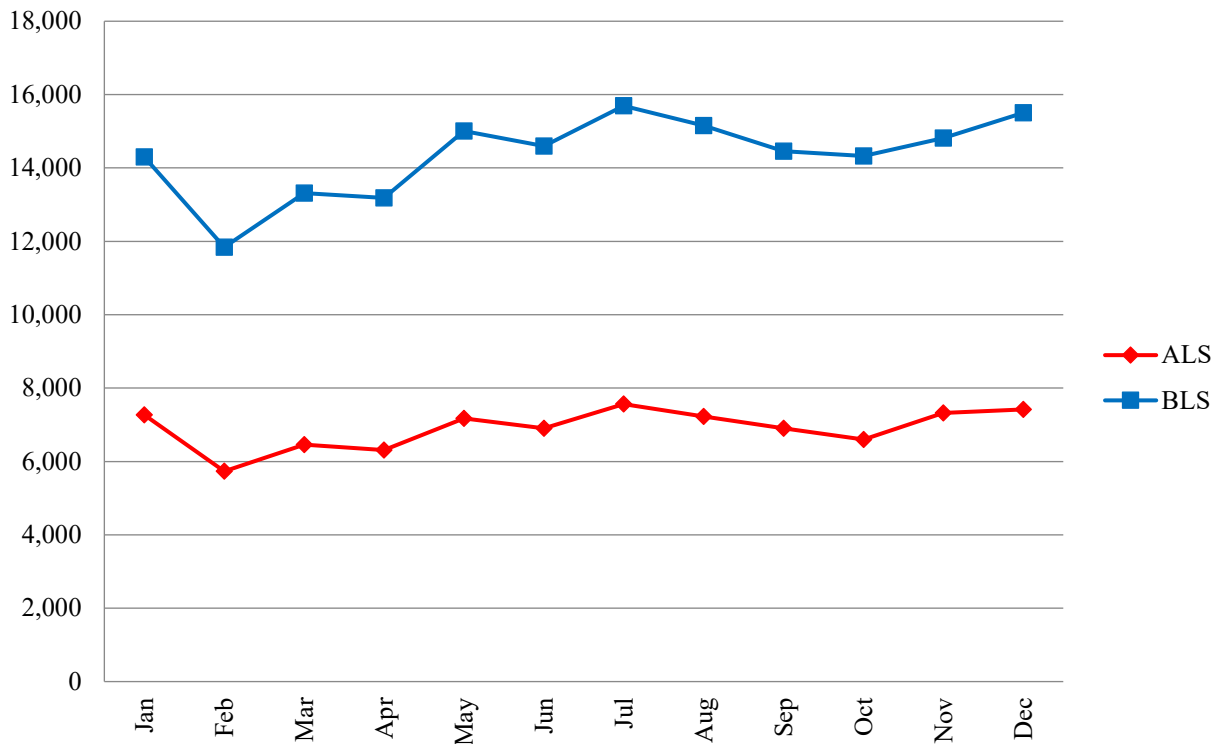




### Time of Day When EMS Incidents Occur - 2022



### ALS/BLS Incidents by Month - 2022



## 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.

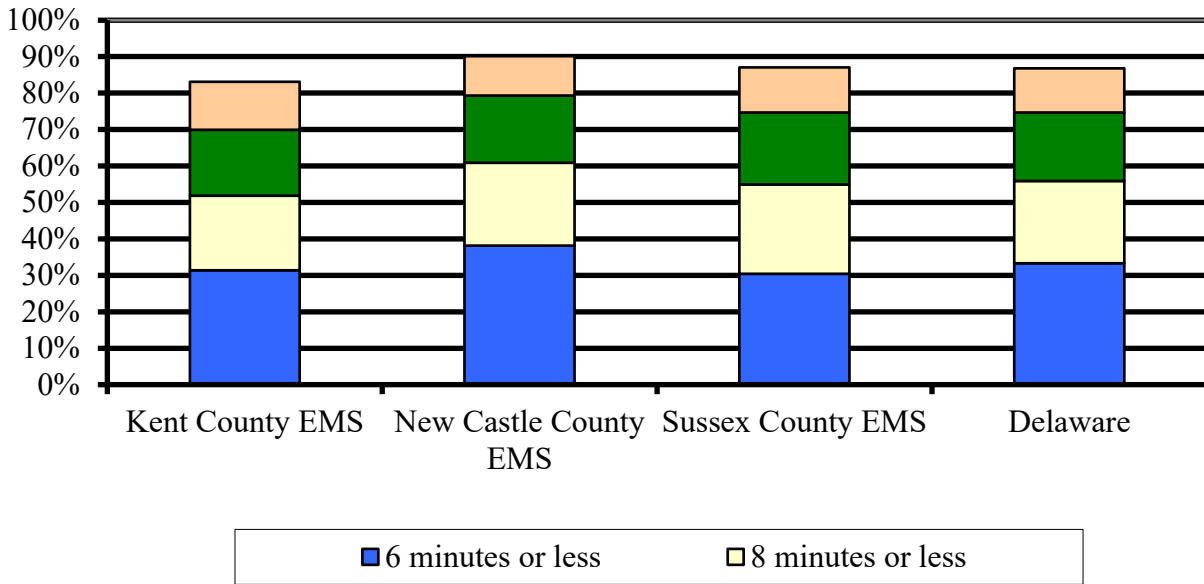
**Delta** – Requires ALS and BLS response. Example is an unconscious burn victim.

**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.

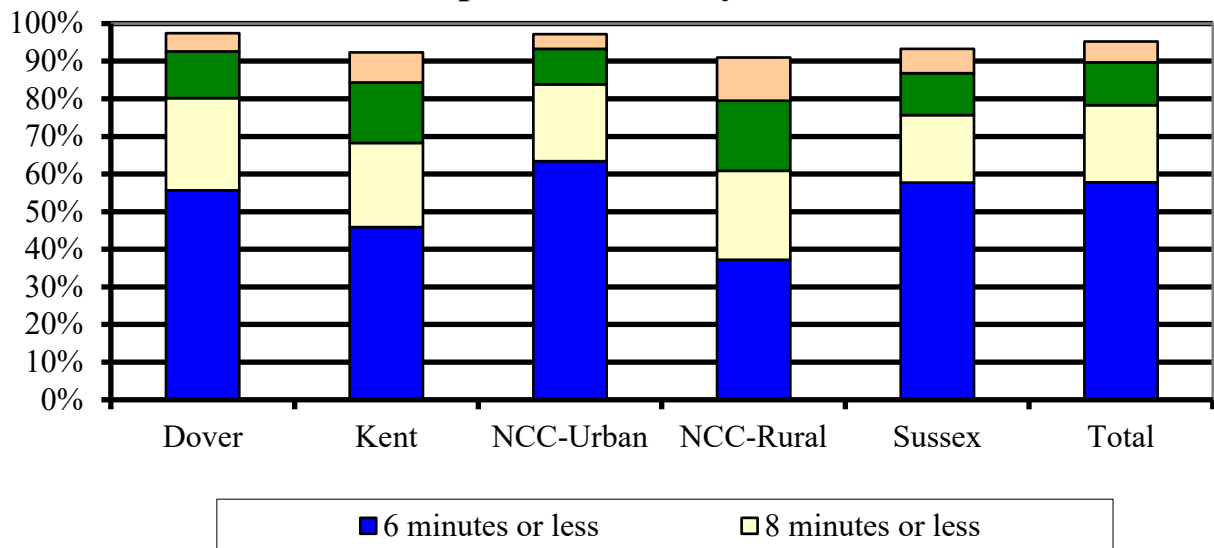


## Advanced Life Support Response Time Compliance for Delta/Echo Responses January 2022 - December 2022

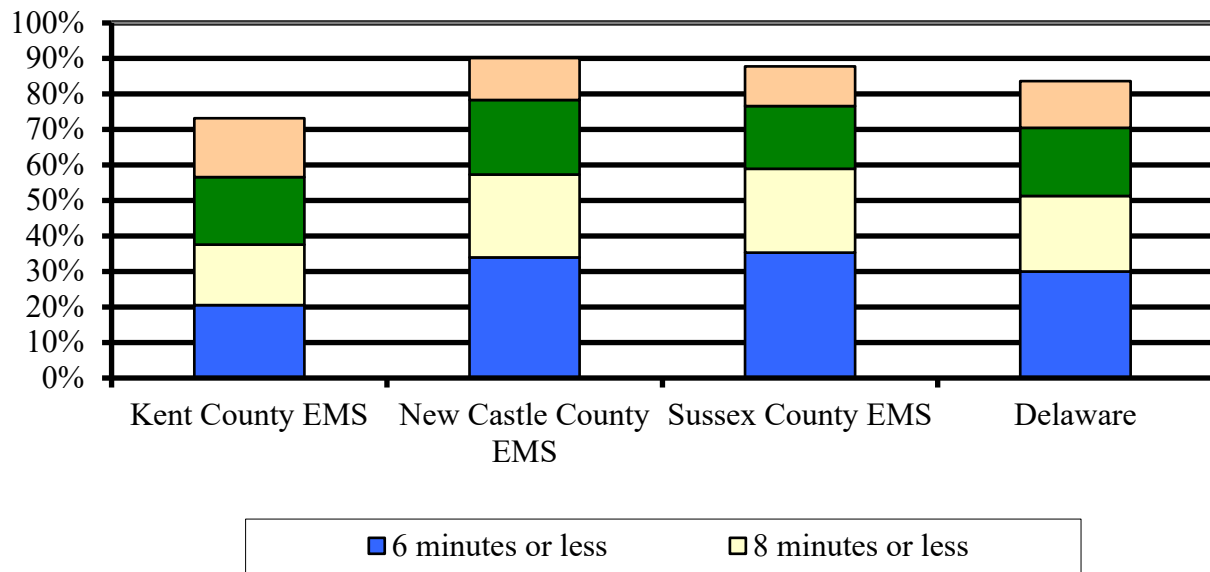


**Goal:** Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Delta calls on at least 90% of the time. BLS ambulance unit on scene within 10 minutes of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

## Basic Life Support Response Time Compliance for Delta/Echo Responses January 2022 - December 2022

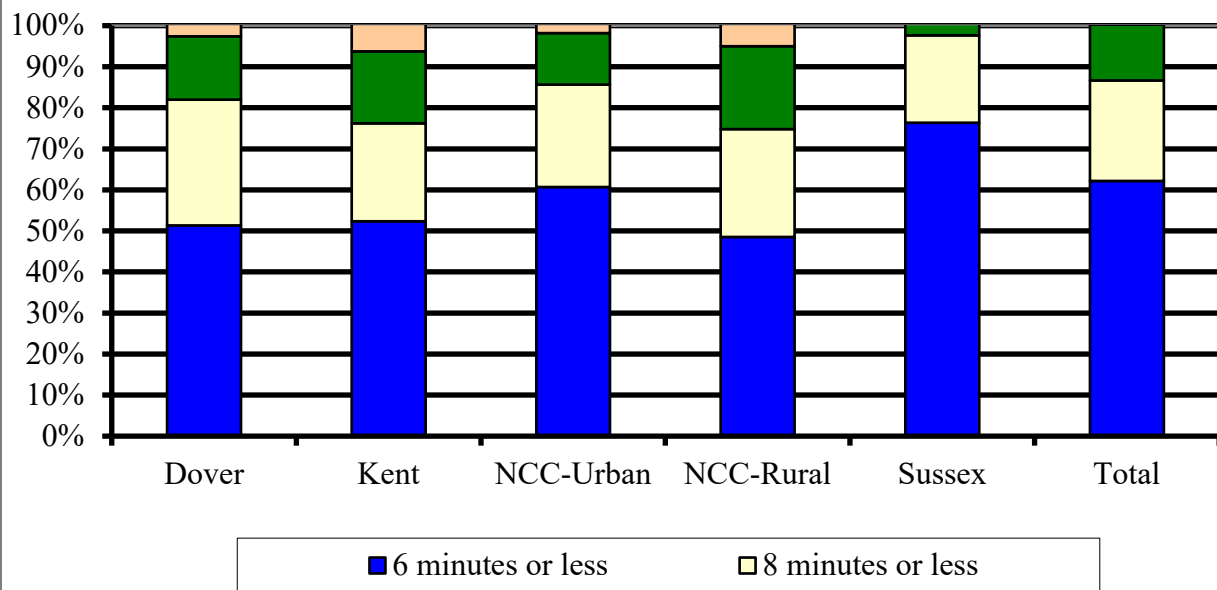


### Advanced Life Support Response Time Compliance for Charlie Responses January 2022- December 2022

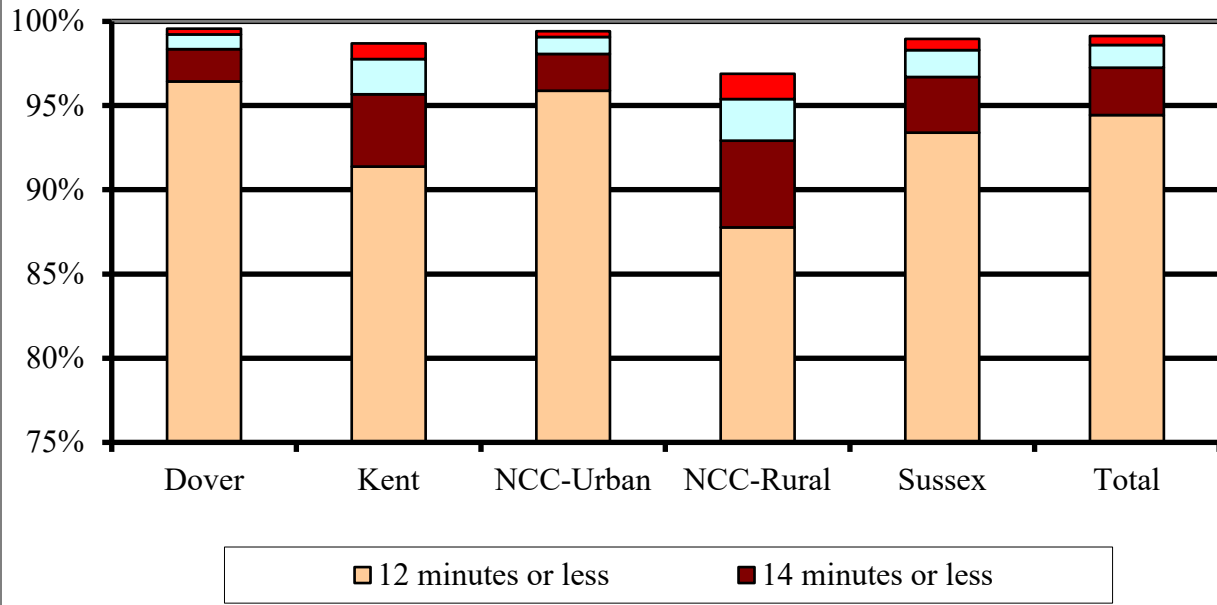


**Goal:** Each Advanced Life Support (ALS) paramedic agency within the Delaware EMS system provide an ALS paramedic unit, as defined by recognized state standard, on the scene within 8 minutes of the receipt of Charlie calls on at least 90% of the time. BLS ambulance unit on scene within 12 minutes of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

### Basic Life Support Response Time Compliance for Charlie Responses January 2022 - December 2022

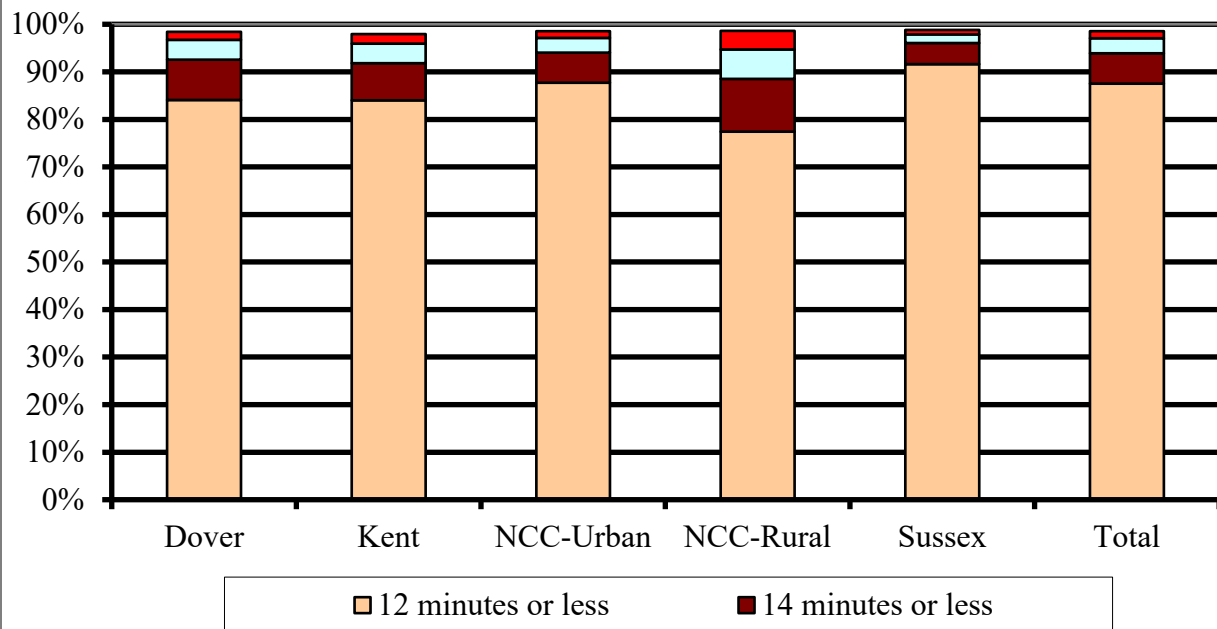


### Basic Life Support Response Time Compliance for Bravo Responses January 2022 - December 2022



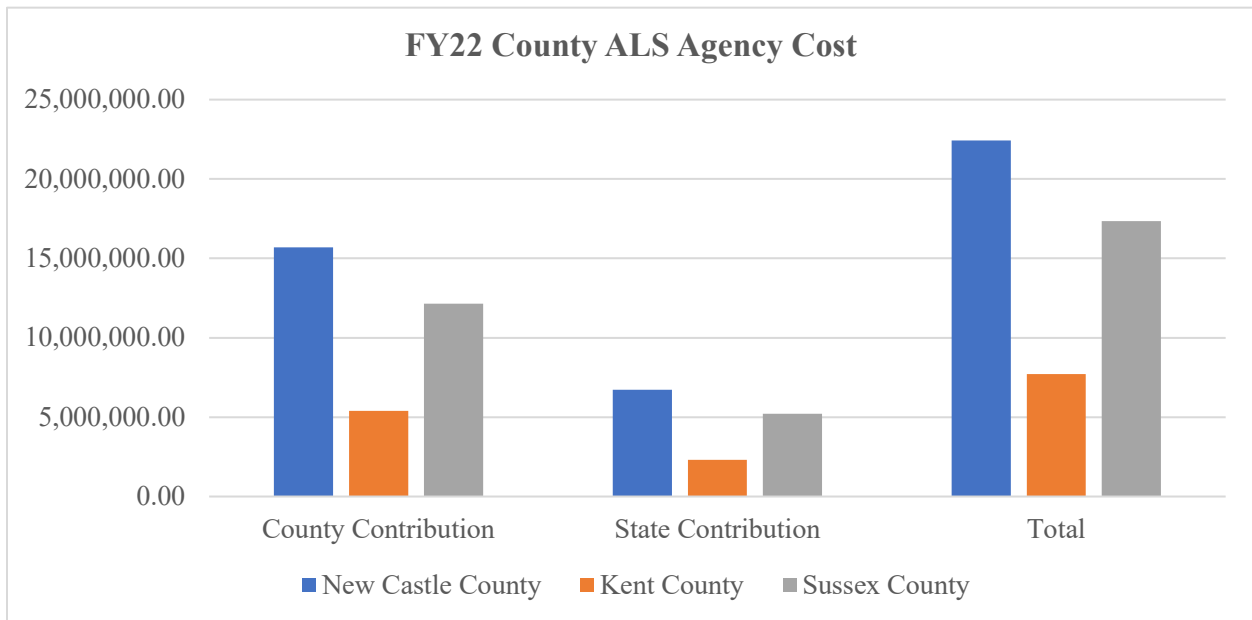
**Goal:** BLS ambulance unit on scene within 12 minutes of the receipt of Bravo calls on at least 90% of the times in urban areas and 70% of the times in rural areas.

### Basic Life Support Response Time Compliance for Alpha Responses January 2022 - December 2022



## Estimate of EMS System Cost

The Statewide Paramedic Services Act of 1990 was adopted to establish a framework for the creation of an effective and efficient means for the provision of advanced life support services to the citizens of the State regardless of their economic status, who require such services without prior inquiry as to the patient’s ability to pay. The statewide paramedic funding program was established for the purpose of state participation with the counties in the financing of the statewide paramedic program. The counties are reimbursed through the State’s Grant in Aid funds for portions of their expenditures for delivery of paramedic services. By law, the State of Delaware is obligated to reimburse the three counties to operate paramedic services. The law stipulates that these costs must have been incurred by the county for the direct costs to operate paramedic services. Upon inception of the Paramedic Services Act of 1990, the reimbursement level to the counties was 60 percent and has been gradually reduced to the current level of 30 percent in Fiscal year 2022.



PGIA 2023	New Castle County	Kent County	Sussex County
County Contribution	15,695,599.00	5,400,332.00	12,149,964.00
State Contribution	6,726,686.00	2,314,428.00	5,207,127.00
Total	22,422,285.00	7,714,760.00	17,357,091.00

**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”.**

## New Castle County Paid Personnel by Agency

<b>Agency Name</b>	<b>Phone Number</b>	<b>Total Paid Personnel</b>	<b>Shifts Covered</b>
Aetna Hose, Hook & Ladder Co.	(302) 454-3310	22 FT - 55 PT	24/72
Belvedere Vol. Fire Co. 30	(302) 998-8021	0 FT - 12 PT	12H
Brandywine Hundred Fire Co. 11	(302) 764-4901	12 FT - 5 PT	24/7
Christiana Fire Co. 12	(302) 737-2433	28 FT - 40 PT	24/72, 12H
Claymont Fire Co. 13	(302) 798-6858	9 FT - 20 PT	24/72
Cranston Heights Fire Co. 14	(302) 998-3140	8 FT - 31 PT	24/7
Delaware City Fire Co. 15	(302) 834-9336	14 FT - 23 PT	24 On ~ 72 Off
Elsmere Fire Co. 16	(302) 999-0183	5 FT - 20 PT	24/7
Five Points Fire Co. 17	(302) 994-2245	5 FT - 49 PT	24/7
Good-will Fire Co.	(302) 328-2211	10 FT - 30 PT	24/7
Hockessin Vol. Fire Co. 19	(302) 239-7159	14 FT - 16 PT	24/7
Holloway Terrace Vol. Fire Co.*	(302) 654-2817	25 PT	24/7
Mill Creek Fire Co. 21	(302) 998-8911	22 FT - 10 PT	24/7
Minquadale Fire Co. 22	(302) 652-0986	9 FT - 9 PT	24/7
Minquas Fire Co. 23	(302) 998-3474	5 FT - 20 PT	24/7
Odessa Fire Co. 24	(302) 378-8929	9 FT - 10 PT	24/7
Port Penn Fire Co. 29	(302) 834-7483	4 FT - 30 PT	24/7
Talleyville Vol. Fire Co.	(302) 478-1110	13 FT - 20 PT	24/7
Townsend Fire Co. 26	(302) 378-8111	8 FT - 7 PT	24H
Volunteer Hose Co.	(302) 378-7799	13 FT - 8 PT	24/7
Wilmington Fire Dept. 100	(302) 576-3950	159 Firefighters	24/48
Wilmington Manor Vol. Fire Co.	(302) 328-3209	16 FT - 27 PT	24/7
<i>*based on 2022 numbers</i>			

## Kent County Paid Personnel by Agency

<u>Agency Name</u>	<u>Phone Number</u>	<u>Total Paid Personnel</u>	<u>Shifts Covered</u>
Bowers Fire Co. 40	(302) 335-5966	0 FT - 19 PT	12H
Camden-Wyoming Fire Co. 41	(302) 697-3201	12 FT - 10 PT	24/7
Carlisle Fire Co. 42	(302) 422-8001	2 FT - 6 PT	24/7
Cheswold Vol. Fire Co. 43	(302) 736-1516	5 FT - 10 PT	24/7
Clayton Fire Co. 6	(302) 653-7317	82 VOL	24/7
Dover Fire Dept.	(302) 736-7168	5 FT - 3 PT	24/7
Felton Community Fire Co. 48	(302) 284-4800	6 FT - 8 PT	24/7
Frederica Vol. Fire Co. 49	(302) 335-3235	23 PT	12H
Harrington Fire Co. 50	(302) 398-8931	5 FT - 20 PT	12H
Hartly Vol Fire Co. 51	(302) 492-3677	23 PT	8H
Houston Vol. Fire Co	(302) 422-5811	5 FT - 8 PT	24H
Leipsic Vol. Fire Co. 53	(302) 674-0829	28 PT	12H
Little Creek Vol. Fire Co.	(302) 674-2149	80 VOL	12H
Magnolia Vol. Fire Dept. 55	(302) 335-3260	26 PT	12H
Marydel Vol. Fire Co. 56	(302) 492-9917	1 FT - 20 PT	24/7
Smyrna-Clayton American Legion Ambulance 64	(302) 653-6465	15 FT - 17 PT	12H
South Bowers Vol. Fire Co.*	(302) 335-4666	60 VOL	
<i>*based on 2022 numbers</i>			



## Sussex County Paid Personnel by Agency

<u>Agency Name</u>	<u>Phone Number</u>	<u>Total Paid Personnel</u>	<u>Shifts Covered</u>
Bethany Beach Fire Co.	(302) 539-7700	16 FT - 25 PT	24 On ~ 48 Off
Blades Vol. Fire Co.	(302) 629-4896	9 FT - 15 PT	24H
Bridgeville Vol Fire Co. 72	(302) 337-3000	4 FT - 10 PT	12H
Dagsboro Fire Dept. 73	(302) 732-6151	4 FT - 12 PT	24/7
Delmar Fire Co.	(302) 846-2530	9 FT - 23 PT	24/7
Ellendale Fire Co. 75	(302) 422-7711	6 FT - 15 PT	24/7
Frankford Vol. Fire Co. 76	(302) 732-6662	3 FT - 20 PT	24/7
Georgetown EMS Station 93	(302) 856-9222	9 FT - 21 PT	24 On ~72 Off
Greenwood Fire Co. 78	(302) 349-4529	6 FT - 17 PT	12H
Gumboro Vol. Fire Co. 79	(302) 238-7411	8 FT - 10 PT	12H
Laurel Fire Dept. 81	(302) 875-3081	7 FT - 7 PT	24/7
Lewes Fire Dept. 82	(302) 645-6556	25 FT - 17 PT	24/72
Memorial Vol. Fire Co. 89	(302) 422-8888	3 FT - 4 PT	24/7
Mid Sussex Rescue Squad Inc.	(302) 945-2680	14 FT - 15 PT	24H
Millsboro Vol. Fire Co. 83	(302) 934-8359	17 FT - 21 PT	24/72
Millville Vol. Fire Co. 84	(302) 539-7557	15 FT - 25 PT	24/72
Milton Vol. Fire Co. 85	(302) 684-8500	9 FT - 11 PT	24/7
Rehoboth Beach Vol. Fire Co. 86	(302) 227-8400	15 FT - 6 PT	24/7
Roxana Vol. Fire Co. 90	(302) 436-2300	7 FT - 15 PT	24/72
Seaford Vol Fire Co. 87	(302) 629-3112	13 FT - 20 PT	24/7
Selbyville Fire Co. 88	(302) 436-8802	8 FT - 8 PT	24/72
<i>*based on 2022 numbers</i>			

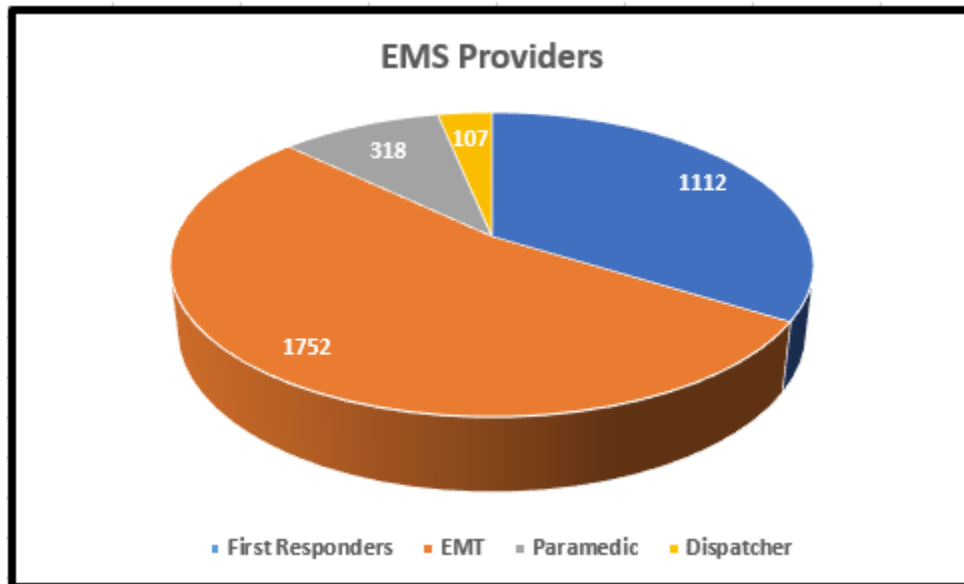
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# EMS System Resources

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## 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 most 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.

### *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.

### *Emergency Medical Technician*

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. All EMTs must maintain their NREMT certification to maintain Delaware EMT Certification. The lead agency for Emergency Medical Technician education is the Delaware State Fire School.

### *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 of their paramedics with oversight from the OEMS.

### *National Continued Competency Program (NCCP)*

The State of Delaware, Office of EMS and Delaware State Fire Prevention Commission, adopted the National Registry of EMTs National Core Curriculum Program (NCCP) for Paramedics, EMTs and EMRs in the State of Delaware. This streamlines the recertification process into three categories consisting of National, Local and Individual.



# **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.

## **2022 Accomplishments**

In 2022, Delaware Tech resumed the practice of starting two cohorts of students annually to help meet the paramedic staffing shortages that were being experienced by the county paramedic services and the State Police Aviation section. There was a total of fourteen students admitted to the program in 2022. Three students started the program in January and eleven started in May. The expected completion dates for these cohorts are May and August 2023 respectively. The paramedic program had five graduates in 2022. This class started with twelve students. Seventy-one percent of the attrition (five students) was due to non-academic reasons. Two students did not complete the program due to academic reasons. All five graduates passed the National Registry Paramedic certification exam, maintaining a one hundred percent pass rate for the program, since 1999. Four of the five graduates entered the Delaware workforce.

## **2023 Challenges/Goals**

The most significant challenge facing the program in 2023 is enrollment. The capacity of the program was expanded in January 2022, and this has continued in 2023. There were three students enrolled in January 2022, one was a Delaware Trooper-medic candidate. Emerging from the covid restrictions, we have noticed a decrease in enrolled students who are interested in becoming paramedics. A second cohort will be enrolled in May 2023. The goal is to enroll as many students as possible into the paramedic program in 2023.

The second goal of the paramedic program in 2023 is progressing through the program re-accreditation process with the Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP). The self-study report was submitted in February 2022. The program was notified that the site visit would take place in late 2024. This unusually long period of time between submission of the report and the site visit is a result of the backlog of programs that need site visits. The program's accreditation status remains current through the time of the site visit.

## **Summary**

The Delaware Tech paramedic program is committed to help meet the staffing needs of the Delaware paramedic agencies. Enrollment is being affected by some residual effects of the pandemic. However, the program graduates are well prepared to become certified and enter the Delaware workforce.

## **EMS Preparedness**

As part of Delaware's Emergency Medical Services system, our responders may be called into service at any time. EMS responds to incidents of all types in any type of weather. The Emergency Medical Services and Preparedness Section (EMSPS), Office of Emergency Medical Services (OEMS), works with other state agencies representing the needs of EMS during disaster and other crisis response. The focus is on providing responders with education and equipment necessary to meet the expanding demands of emergency response. Coordination of resources is critical to the success of any mission. Efforts include planning, evaluating capabilities, and training. Preparedness efforts do not end with the EMS agencies. Partnership with other agencies, participation in exercises to evaluate capabilities, and education of the public are other top priorities. Additionally, this cooperative effort reaps the benefit of improving interagency communications necessary in a disaster situation.

## **Opioid Abuse**

Delaware is not immune from the devastating effects caused by opioid abuse. As drugs of increasing potency continue to flood the market, our EMS responders see an increasing proportion of their responses dedicated to those suffering from addiction. For many years, EMS protocols at both the basic and advanced level have included the use of naloxone, an opioid-reversing antidote that can restore the breathing in an overdosed patient. Beyond equipping EMS, the office is heavily involved with training other first responders including law enforcement officers to provide this life-saving intervention.

2022 saw continued growth of the state's opioid rescue kit distribution. This program helps the patients who have been resuscitated with naloxone but for some reason decline transport for further medical evaluation at a hospital. The problem is that in some cases, the beneficial effects of the naloxone may wear off before the harmful effects of the opioid. Leaving naloxone on scene allows friends or family to administer repeated doses should respiratory depression recur. As part of this program, responders also provide education to recognize signs and symptoms of overdose and how to administer the antidote safely. In cases of repeat opioid use, these kits also provide the resources for those on scene to provide care while waiting for EMS to arrive.

While the naloxone provides the necessary emergent treatment, the rescue kit provides additional resources helpful in more long-term management of the addiction patient. In addition to the 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 wishing to receive help.

Responding to repeated overdose incidents has strained our responders both physically and mentally. These calls are adding to an already increasing call volume for services that are stretching resources. The condition known as compassion fatigue is becoming a new hazard for our responders. Compassion fatigue is the result of the emotional and physical exhaustion felt by those responding to repeated calls for help involving the same set of circumstances. This can contribute to provider burn-out forcing providers out of a profession already short on help. Additionally it can translate into other physical and emotional states of well-being adding to an already stressful profession. This year the office offered a responder wellness summit that



included training on responder wellness and the opioid crisis. It is through this type of awareness training that EMS providers can recognize this response and seek help before it ends a career.

## **Active Threat Situations**

Almost daily, news media presents accounts of violent events occurring in this country. Knife and gun assaults, civil disturbances, and other incidents involving violent tactics are commonplace. Situations occur in almost every community affecting our churches, schools, entertainment venues, restaurants, and social clubs. Whenever these events result in persons injured, EMS will be part of the response.

Delaware emergency responders are working together to plan for these events. Throughout the state, training has brought together EMS, fire, and law enforcement to practice techniques required for these incidents. Programs such as the Advanced Law Enforcement Rapid Response Training (ALERRT) training places EMS and police together in scenarios involving threat elimination, rapid patient access, critical medical interventions, and patient extraction. Besides the knowledge gained through this training, the most value comes from these response agencies playing together and becoming a team. This will benefit our emergency response system on every call, not only the active threat situations.

OEMS is also a part of other efforts targeted at civilians exposed to these situations. Through the Stop the Bleed program, citizens are trained in how to care for themselves before more advanced help arrives. In the case of an active assailant, it may be minutes until EMS and other responders get to the victims. As time passes, and bleeding continues, the risk of loss of life due to hemorrhage increases. Training citizens in how to apply tourniquets and implement other bleeding control methods serves to help staunch hemorrhage until the responders arrive. Schools, civic groups, churches, and other public groups have taken advantage of this program. It provides an essential level of preparedness for the public.

## **COVID-19 Preparedness**

COVID-19 and its variants is certainly not forgotten! EMSPS continues to monitor the supply chain and provide aid by getting out PPE items needed for emergency response. Though the purchasing process for the most part has returned to the hands of the individual EMS agencies, the organization remains ready to help if required.

EMS agencies continue to monitor responder health. COVID-19 is part of many infectious disease processes that our first responders are exposed to. OEMS continues to provide assistance to state agencies through training and information. This year saw these education efforts advance through the offering of educational workshops aimed at the agency infection control officers. This type of training is extremely valuable, particular to our mostly volunteer emergency service providers.

# **Hospital Preparedness Program**

## **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 OEMS completed an MRSE that was a functional exercise conducted over the course of eight hours as part of the Hospital Preparedness Program (HPP). The exercise was conducted via a hybrid model with participants engaging virtually from their respective facilities, as well as, physically at the Delaware State Troopers Association. The scenario was an explosion occurring during the Delaware State Fair resulting in a mass casualty incident. Numerous pediatric and adult patients with burn and traumatic injuries required triage and transport by EMS, while other patients self-transported to area hospitals for treatment. Exercise objectives include Information Sharing, Activation and Notification, Resource Coordination, and Interfacility Transport.

## **Emergency Operations Coordination Annex**

The OEMS is continuing the development of the Emergency Operations Coordination Annex. The purpose of this Annex is to guide the operations of the Delaware Healthcare Preparedness Coalition (DHPC) member organizations during a disaster incident that exceeds the capacity and capability of a facility to address the impact with its own resources.

## **Preparedness Coalition Preparedness Plan**

The OEMS is continuing the development of the Preparedness Coalition Preparedness Plan. The purpose of the Delaware Healthcare Preparedness Coalition (DHPC) Preparedness Plan is to document the organizational process used by the DHPC to work collectively to prioritize the development and testing of operational capabilities that promote communication, information sharing, resource coordination, and operational response and recovery. The DHPC will maintain this preparedness plan to include information collected on hazard vulnerabilities and risks, resources, gaps, needs, and legal and regulatory considerations in collaboration with the Delaware Division of Public Health (DPH).

## **DHPC Healthcare Facility Evacuation Coordination Annex**

The OEMS is continuing the development of the DHPC Healthcare Facility Evacuation Coordination Annex. The purpose of the DHPC Healthcare Facility Evacuation Coordination (HFEC) Annex is to establish statewide procedures coordinating the planned or emergent

evacuation of patients from inpatient healthcare facilities regardless of the size, scope, and duration of the disaster incident, identify and define roles and responsibilities of state agencies, Delaware inpatient healthcare facilities, and other supporting agencies during the planned or emergent evacuation of these facilities and establish procedures for patient transportation preparation classification; patient transport coordination; and inter- and intra-agency communication before, during, and after healthcare facility evacuation operations.

## **Information Sharing Guideline**

The OEMS is continuing the development of the Information Sharing Guideline. The purpose of this guideline is to provide the Delaware Healthcare Preparedness Coalition (DHPC) member organizations a framework under which information will be shared in both day-to-day operations and in emergency operations environments. The guideline will cover all communications from the Delaware Division of Public Health (DPH) to the members of the DHPC and from the DHPC members to DPH and each other.

## **Medical Surge Annex**

The OEMS is continuing the development of the Medical Surge Annex. The purpose of the Delaware Division of Public Health's (DPH) Delaware Healthcare Preparedness Coalition (DHPC) Medical Surge Annex is to support Delaware's medical surge framework and 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 medical resources and capabilities within the state. Also, this annex will describe the processes to rapidly obtain and integrate medical resources and provide medical surge management and the most effective care to the largest number of patients during a medical surge incident and provide for and establish a process to recover from the incident and return to the normal delivery of healthcare as soon as possible.

## **Recovery Annex**

The purpose of the Delaware Healthcare Preparedness Coalition (DHPC) Recovery Annex is to document the organizational process used by the DHPC to ensure continuity of healthcare services and general healthcare operations during and after an emergency.

## **Alternate Care Site Strategies Guideline**

The OEMS is continuing the development of the Alternate Care Site Plan. It is a component of Delaware's Medical Surge Framework which comprises all aspects of the healthcare delivery system in Delaware. The purpose of the ACS is to remove/reduce the burden on the healthcare system, add surge 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 Guidelines for Healthcare Facilities is to establish a framework for responding to a public health emergency which requires adapted standards of care and allocation of scarce resources to provide effective care to the greatest number of people.

## 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.

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 99 BLS Interfacility ambulances and 168 911 ambulances licensed and operating in Delaware:
    - Alpha Ambulance
    - Ambulnz
    - Christiana Care
    - Delaware Park
    - East Coast Ambulance
    - GEM
    - Hart to Heart
    - Keystone Ambulance
    - LifeStar
    - St. Francis
    - U of D
- **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 seven licensed paramedic Interfacility agencies:
    - Ambulnz
    - Christiana Care
    - East Coast Ambulance
    - Hart to Heart
    - LifeStar
    - Nemours
    - 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.



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# Speciality Care

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# Delaware Systems of Care

## What is a System of Care?

A System of Care is an **inclusive**, statewide structure that incorporates **all** patients, **all** providers, and **all** facilities into an **all-encompassing** continuum of care. Each System implements evidence-based and data-supported standards to continuously improve this continuum.

## Benefits of a System of Care

- Improved communication and collaboration among stakeholders.
- An organized approach to patient management throughout the continuum of care statewide.
- Patients receiving the same quality of care no matter where in the state they enter the system.
- Coordination of care, prehospital transport, and inter-facility transfer.
- System data to document incidence, availability of resources, and assure quality.
- A data-driven public education program targeted to high-risk populations.
- Improved patient outcomes.

## Overarching Goals

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

## Systems of Care are Legislated

Delaware has four Systems of Care that are created and defined by Delaware State Code, Title 16, Part X, Chapter 97.

- Trauma System of Care – Enabling legislation: 1996
- Pediatric System of Care – Enabling legislation: 2012
- Stroke System of Care – Enabling legislation: 2016
- Overdose System of Care – Enabling legislation: 2018

Per legislation, the Division of Public Health Office of Emergency Medical Services, is responsible for the development, implementation, and maintenance of the Systems of Care.

## Requirements for Each System

- **Oversight Committee:** Membership to reflect phases of care from prevention through rehabilitation.
- **Quality Evaluation Committee:** Identify areas for improvement and suggest changes to make those improvements.
- **Facility Designation Process/Committee:** Process to become designated by the state of Delaware and to advertise as a Delaware designated facility
- **Specific System of Care Rules and Regulations:** Make up the specific system's plan

## Rules and Regulations Requirements per Legislation

- Prevention/Public Education
- Prehospital Care
- Hospital Care
- Rehabilitative Care
- Continuing Education/Training for Personnel/Providers
- System Evaluation

## What it Means to Delawareans

Wherever an injury, stroke or overdose occurs to adults or children in Delaware, the Systems of Care provides timely access to a system that ensures optimal, equitable and accessible care throughout the entire continuum of care, from the time a patient enters the system, through their treatment and through their rehabilitation and recovery. *The right patient to the right facility in the right amount of time.*





## The Delaware Trauma System of Care

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.

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.

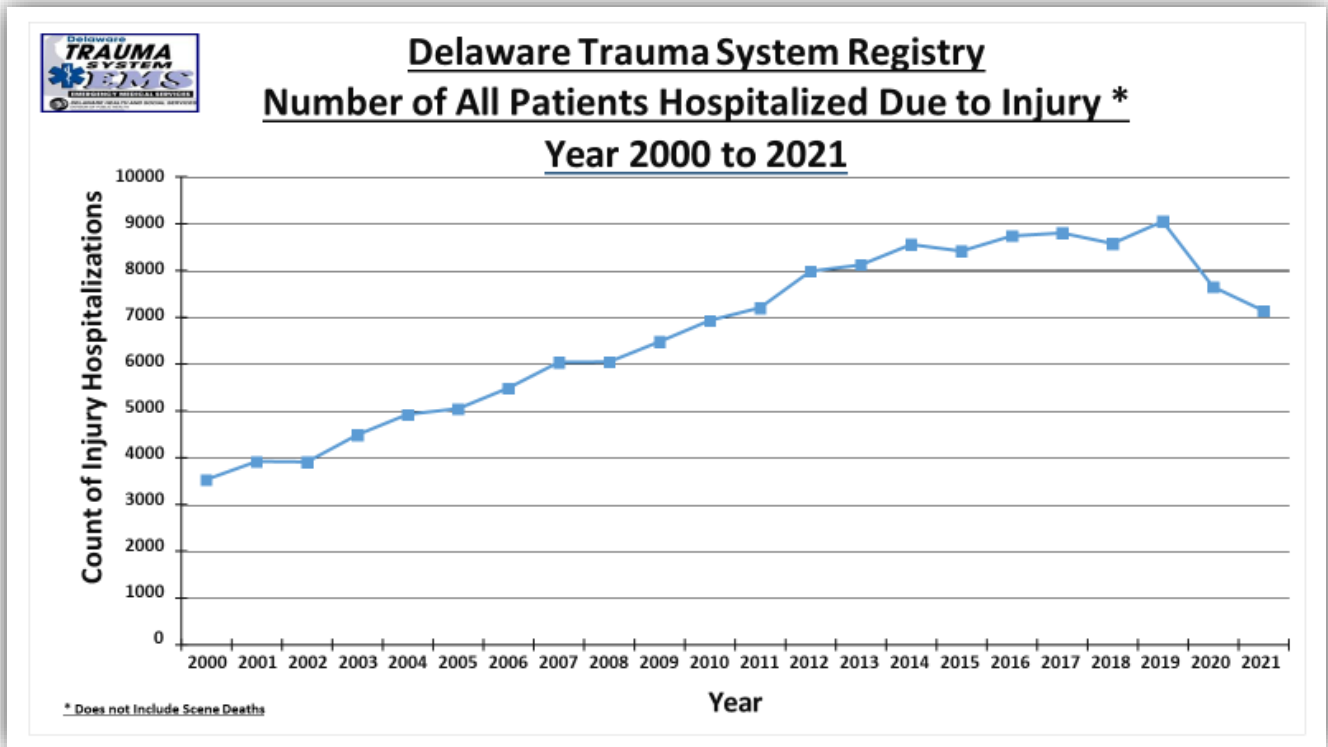
Trauma System Rules and Regulations (Administrative Code 4305) have been updated and are waiting the final approval of the Trauma System of Care Oversight Committee before being sent for official updating.

## Challenges

It is very difficult to determine the cost of trauma in Delaware. The Centers for Disease Control estimate that in 2019, the nationwide cost of trauma was \$4.2 trillion, with \$327 billion in medical care alone.<sup>1</sup> 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. 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.



*Delaware Trauma Registry*

<sup>i</sup> CDC MMWR Economic Cost of Injury – United States, 2019



## 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 2020 (page 166) lists Cerebrovascular Disease as the fifth 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 2016-2020, the non-Hispanic black stroke mortality rate of 60 deaths per 100,000 population was 41 percent higher than the non-Hispanic white rate of 42 deaths per 100,000 population. (Delaware Vital Statistics Annual Report 2020 page 170). Addressing these disparate rates is part of the mission of the Delaware Stroke System of Care.

The time of onset of symptoms to the time of treatment have a significant impact on the outcome of the stroke patient. Continued development of an organized Stroke System of Care will enable effective management of increasing patient populations with improved patient outcomes.

Delaware Stroke Centers are certified through The Joint Commission on Accreditation of Healthcare Organizations (TJC). 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.

**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

By examining outcome-based best practices, both Advanced Life Support and Basic Life Support agencies have implemented a simpler, yet more accurate, stroke score to identify large vessel occlusion (LVO - a major type of stroke), to provide timely and direct transport to a stroke center with the resources to handle an LVO.

Increased the number EMS Stroke Alert notifications to the receiving Stroke Centers.

Identified performance indicators for appropriate procedures to assure the stroke patient is receiving timely and appropriate care and assuring that Delawareans that are transferred out state are receiving the same timely care.

Final draft of new Stroke Rules and Regulations are in the process of being approved for adoption.

Bridging the data between the Delaware Emergency Medical Reporting System (DEMRS) and the American Heart Association’s Get with the Guidelines (GWTG) Stroke Registry to allow a review of EMS-related data and performance indicators for overall quality improvement of the Stroke System.

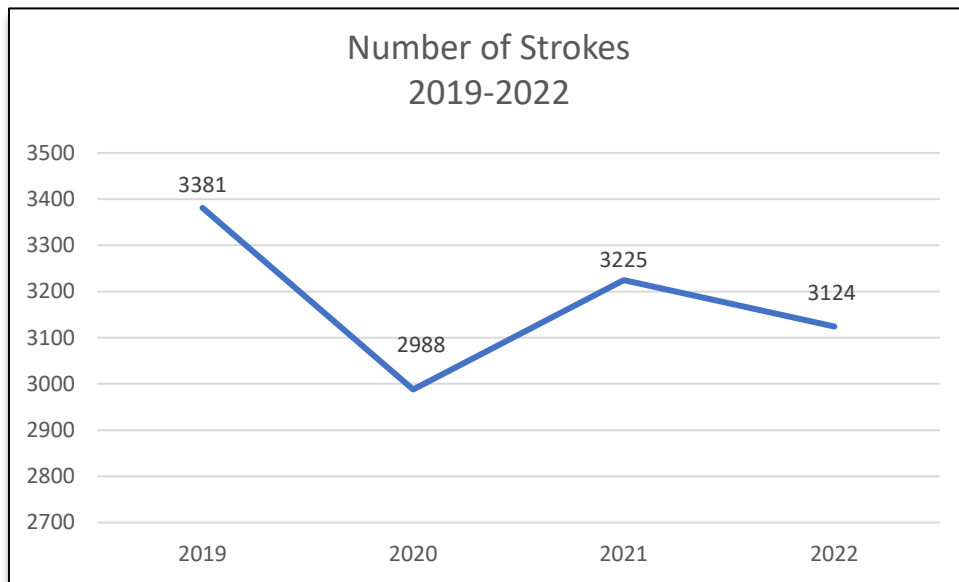
**Challenges**

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.

**Data:**

In 2022, there were 3124 patients entered into the Get with The Guidelines Delaware Stroke Patient Registry.

- Age: 63% > 66 years old
- Sex: 53% male, 47% female
- Race: 69.6% White, 24.8% Black, 3.4% Hispanic



*AHA Get With The Guidelines - Delaware Stroke Registry*



## Delaware Overdose System of Care

The following report for the Overdose System of Care (OSOC) is from a February 7, 2023, letter to the Delaware General Assembly, co-authored by the OSOC Co-Chairs DSAMH Director Joanna Champney and DPH Interim Director Dr. Rick Hong:

The Overdose System of Care (OSOC) was established in 2018 by Delaware Legislation to coordinate the treatment and care provided to individuals who have overdosed or require acute management of a substance use disorder, especially opioid use disorder. The legislation called for an OSOC Committee with specific representation to be established under the leadership of the Division of Public Health (DPH) and the Division of Substance Abuse and Mental Health (DSAMH). The OSOC Committee is supported by four Subcommittees: the Acute Opioid Use Disorder (OUD) Stabilization Subcommittee, the Naloxone Subcommittee, the Data and Quality Subcommittee, and the Rural Subcommittee.

2022 was a year of significant progress for the OSOC. At the end of 2021, the OSOC Leadership asked each of the four Subcommittees to develop their own goals for 2022. These goals were then turned into workplans that guided the work of the Subcommittees throughout the year.

### Acute OUD Stabilization Subcommittee

The Acute OUD Stabilization Subcommittee focuses its efforts on supporting individuals who have accessed an emergency department and/or emergency medical services (EMS) and have either experienced an overdose or are at high risk for overdose.

- The Subcommittee successfully piloted bridging of patients identified with opioid use disorder in the emergency department to appropriate community medication for opioid use disorder (MOUD) providers. As of December 2022, all five major hospital systems in Delaware – Saint Francis, Bayhealth, Beebe, ChristianaCare, and TidalHealth Nanticoke – have active referral pathways to multiple community-based MOUD providers.
- The Subcommittee engaged representatives from local and chain pharmacies to strengthen physician-pharmacist relationships and lower barriers to community MOUD access.
- Finally, the Subcommittee supported the revision of statewide EMS protocols to incorporate buprenorphine induction. The protocols were approved in November 2022 and the Subcommittee will continue to support EMS training and protocol implementation in 2023 which should be operational statewide by summer 2023.

### Data and Quality Subcommittee

The Data and Quality Subcommittee is charged with developing processes to evaluate the efforts of the OSOC holistically and transparently.

- The Subcommittee successfully defined four North Star metrics and additional priority metrics to be used for ongoing evaluation. They identified four North Star metrics to showcase the OSOC's progress toward supporting individuals who have overdosed or require acute management of an opioid use disorder:
  - Buprenorphine prescription at ED discharge

- Outpatient engagement in follow-up treatment following ED discharge
- MOUD initiation after ED discharge
- Sustained engagement in MOUD treatment
- Once the North Star metrics were identified, the Subcommittee developed benchmarks against which to measure the OSOC’s progress, aiming to use both historical benchmarks and those that can be compared to neighboring states and national statistics.

## **Naloxone Subcommittee**

- The Naloxone Subcommittee works to increase naloxone access throughout Delaware.
- The Subcommittee recruited and onboarded additional first responder agencies and providers to participate in naloxone leave behind efforts.
- The Subcommittee also worked to develop a small informational brochure with information on community-based treatment and MOUD to include in all naloxone kits distributed in Delaware.

Between August 2021 (when data collection began) and September 2022 (the most recent quarter for which data is available), 15,905 naloxone kits were distributed between emergency department (ED) take home, behavioral health provider take home, mail-order distribution, community response teams, DSAMH community trainings, industry-specific trainings, AtTack Addiction trainings, Department of Correction (DOC) take home, pharmacy distribution, and law enforcement leave behind. The state has transitioned from the 2 mg. naloxone atomizer to the 4 mg. Narcan nasal spray as a result of community feedback, research, and costs.

## **Rural Subcommittee**

The Rural Subcommittee is supported by a Health Resources and Services Administration (HRSA) Rural Communities Opioid Response (RCORP) implementation grant, and therefore conducts activities to decrease the impact of the opioid epidemic in Delaware’s HRSA-defined rural communities.

- Co-responder/diversion training for law enforcement: Diversion standards and guiding principles were developed to support law enforcement officers to help individuals with substance use disorder connect to treatment and other services.
- Compassion fatigue for first responders: A compassion fatigue curriculum was developed by Partners in Public Safety Solutions and was successfully presented to fire departments, police, Community Response Team members, and Code Purple Volunteers.
- Transportation supports: The Subcommittee developed a partnership with the Division of Social Services’ Community Partner Support Unit (CPSU) to support transportation to and from MOUD and related appointments in rural areas.
- To support increased MOUD access in rural areas, the Subcommittee collaborated with the Office of Emergency Medical Services (OEMS) to fund training for Sussex County EMS to support implementation of their buprenorphine induction protocols.



## 2023 Goals

- The Acute OUD Stabilization Subcommittee plans to increase accessibility of transportation supports for patients being bridged from acute settings to community based MOUD providers, develop and conduct a training on MOUD access and stigma for independent and chain pharmacists, strengthen the substance use navigator workforce in EDs, and continue to support implementation of the EMS buprenorphine pilot.
- The Data and Quality Subcommittee will continue their work on integrating data systems and create a dissemination plan for reporting out on North Star and other prioritized metrics. They will also implement a quarterly OSOC Quality Evaluation session, similar to those conducted in the other Systems of Care, to review cases, discuss barriers, and brainstorm improvements to the OSOC.
- The Naloxone Subcommittee will collaborate with DMMA to develop a sustainability plan for continued distribution of naloxone by treatment providers, ensure Delaware is focused on targeted naloxone distribution to the friends, family, and networks of individuals who have experienced a non-fatal overdose, train additional agencies in naloxone leave behind and accurately capture and report all leave behind efforts, and develop guides around best practice implementation of naloxone distribution in a variety of settings.
- The Rural Subcommittee plans to increase the capacity of community-based MOUD providers in Sussex County, expand awareness of the Delaware Libraries' teleservice booths to connect individuals to substance use disorder treatment and support services in Sussex County, expand the availability of naloxone and Detera bags in Delaware's rural areas, and increase community resiliency through trainings for community members (including rural residents, family/caregivers, and community-based organizations) and stigma reduction activities.



## 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.

## 2022 Accomplishments

### EMSC Metrics 02 & 03:

In 2022, 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 EMS agencies. There was a significant increase in the survey data for Metric EMSC 02: PECC representative increased 60% to 85.7% in 2023.

## **Pediatric Emergency Care Coordinator (PECC) Recognition Program**

In 2022 the EMSC program collected all level I-IV mid-way progress reports. The EMSC program has added virtual simulation Pediatric skills trainings to reach the whole state under pandemic conditions.

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, which transported the patient to the hospital. Thus, growing and including prehospital services to the quality meetings.

## **2023 Challenges and Goals**

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

We will continue implementing Metrics 1-3 per the National Pediatric Readiness Project this year, as well as have all agencies complete NEDARC's survey. Delaware has a new hospital that has applied for pediatric recognition and the site visit will be in late Spring 2023. The Delaware EMSC's goal is to start an EMS agency recognition start-up/pilot program.

## **Summary**

Delaware EMSC has had successes to be proud of in 2022. There has been a high turnover regarding the pediatric emergency care coordinators as the staff shortages at most of the facilities are impacting all areas. Nonetheless, this program has stayed in the forefront of the minds of leadership and has been supported. Although EMSC has made great progress over the years, much remains to be done to ensure children consistently receive optimal emergency care. Through its programs and projects, the EMSC program will continue to aid in reducing death and disability of children in Delaware.



## 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 January 2023, there are 428,323 (49.71%) Delawareans with organ donor designation currently registered through the DMV in Delaware. This is 5185 more Donor Designations than 2021.

County	Total	Donor Designations	Percentage (%)
New Castle	476,082	233,323	49.01
Sussex	234,362	128,004	54.62
Kent	151,149	72,181	47.75
Total DL/ID	861,593	428,323	49.71

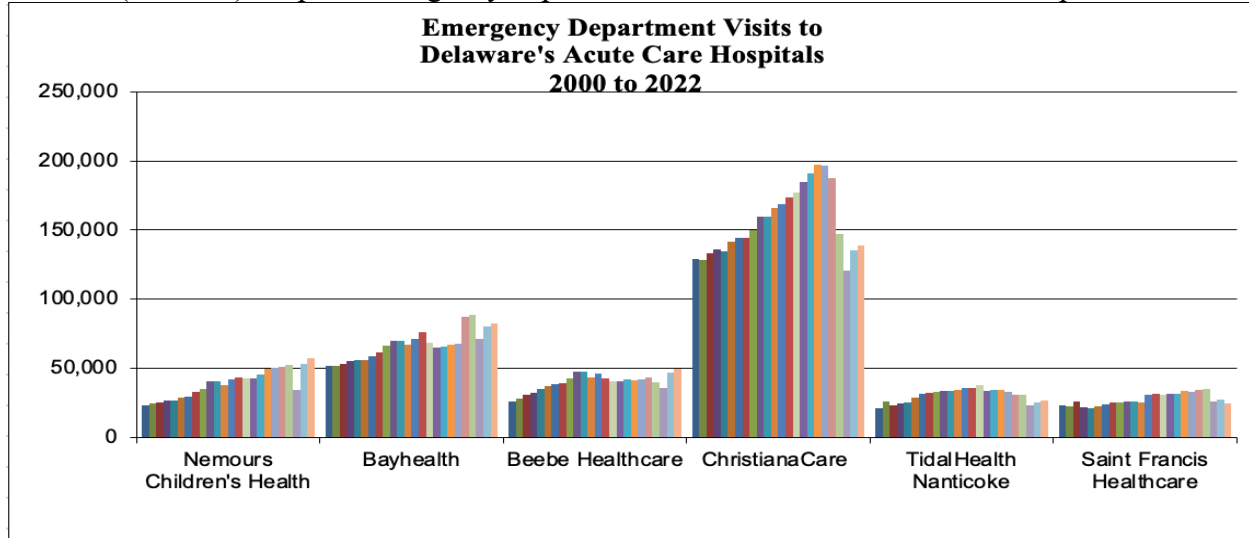
*Delaware Division of Motor Vehicles, Office of Driver and Vehicle Services*

**Delaware Healthcare Association  
Information Provided for Inclusion in the  
Delaware Emergency Management Oversight Committee  
(DEMSOC)**

**2022 Annual Report**

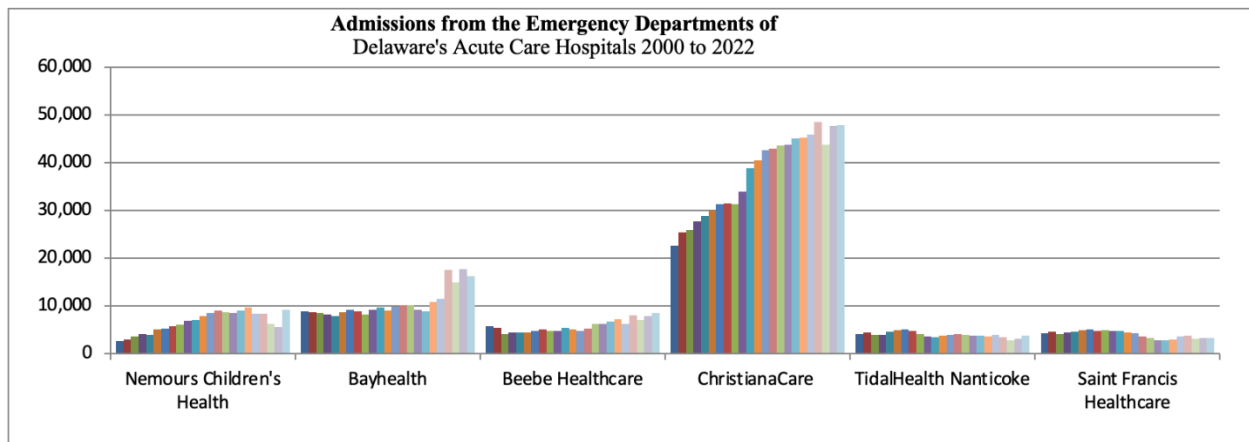
*As Submitted by Megan McNamara Williams*

Information provided by the Delaware Healthcare Association indicates there were 378,424 visits to the Delaware acute care hospital emergency departments in 2022, which is an increase of 103,893 (37.85 %) hospital emergency department visits statewide from the same period in 2000.



*Of note, there was an increase of 2.7% in visits to our Delaware hospital emergency departments from 2021 to 2022 (368,375 vs 378,424).*

In addition, there were 88,553 patient admissions from the emergency department for 2022, an increase of 40,541 (84.44%) from the same period in 2000.



*Of note, there was an increase of 3.75% in admissions from our Delaware hospital emergency departments from 2021 to 2022 (85,349 vs 88,553).*

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# Appendices

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# NEW CASTLE COUNTY EMERGENCY MEDICAL SERVICES 2022 ANNUAL REPORT



**2022 Data Submitted by Chief Mark R. Logemann**  
*"Our Mission is Your Life"*



## OVERVIEW

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 2022, New Castle County EMS deployed nine (9) full-time paramedic units during its high call volume period during the day and eight (8) full-time 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. No part-time personnel were utilized in 2022.

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](http://ems.newcastlede.gov), or follow us on [Facebook](https://www.facebook.com/NCC.Paramedics) (@NCC.Paramedics).



# ORGANIZATION

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.

## EMERGENCY MEDICAL SERVICES DIVISION STAFF



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



**Chief Mark R. Logemann**



**Captain Kelli A. Starr-Leach**  
*Acting Assistant Chief of Operations*



**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 Peter Small**  
*Commander, EMS Platoon 4*



**S/Lieutenant Michael R. Nichols**  
*Operations Support*



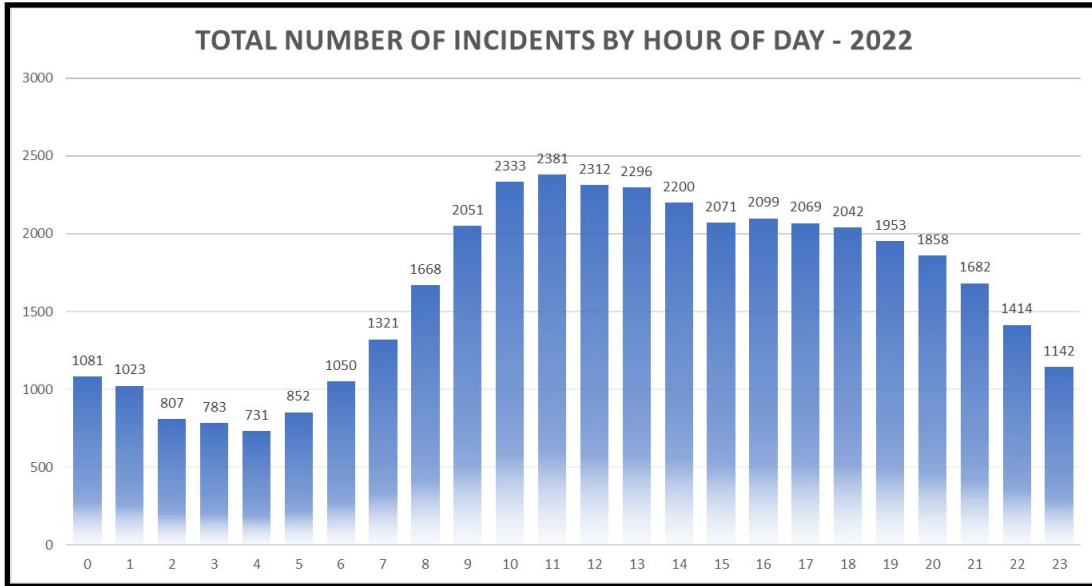
**Lieutenant David B. Aber**  
*Training/FTO Coordinator*



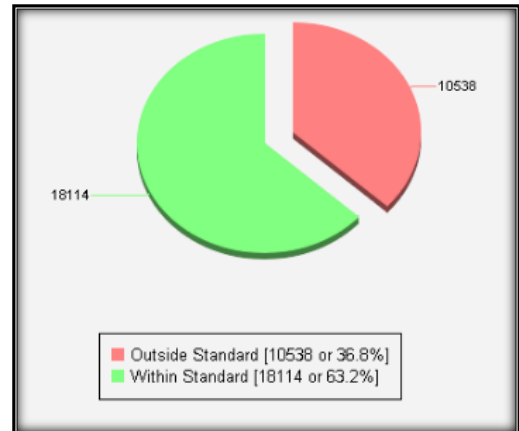
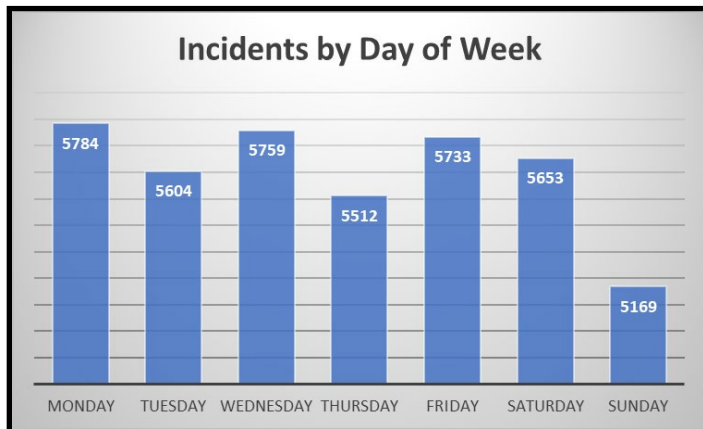
**S/Lieutenant Michael A. McColley**  
*Commander, Paramedic Academy,  
Recruitment and Applicant Processing*

## OPERATIONS

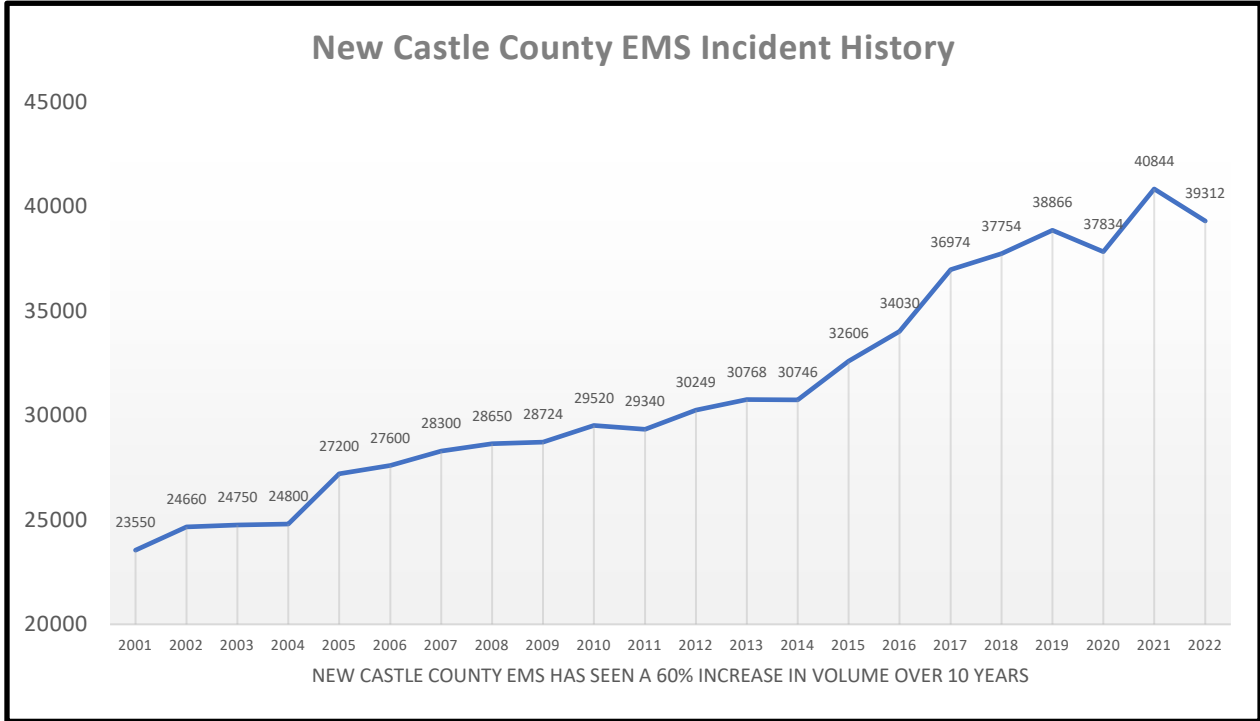
New Castle County EMS has a clearly defined call volume pattern that begins to increase at approximately 0700 hours each day, reaches a peak at approximately 1100 hours, then steadily declines until after midnight. Utilization of “power shift” units, such as Medic 9, provides an opportunity to increase 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.



The New Castle County Paramedics responded to 39,214 total incidents during calendar year 2022 with a paramedic unit arriving on scene 63.2% 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. A total of 55,175 paramedic unit responses were noted throughout the year. Paramedic “responses” are higher than incidents due to multiple paramedic units responding to one single incident at times of significant incidents.



## 2022 INCIDENTS

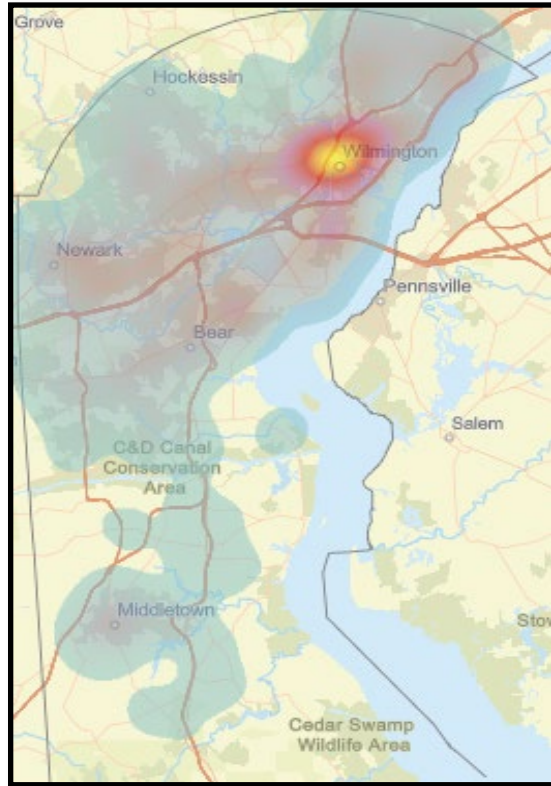


<u>2022 TOTALS:</u>	
Incidents	39,214
Responses	55,175
Transports	17,596

Over the past 10 years, New Castle County EMS has seen a **60% increase in call volume**. Recent decreases in volume have been attributed to the world-wide COVID pandemic (2020) and elimination of paramedic response to specific priority medical dispatch responses (2022).

New Castle County EMS continues to see increased number of incidents occurring within densely populated areas of the county to include the City of Wilmington, Newark, Bear and the Middletown areas.

Paramedic unit deployment and station location identification have been focused on these highly populated areas and locations of increased paramedic responses.



## 2022 PARAMEDIC UNIT RESPONSES

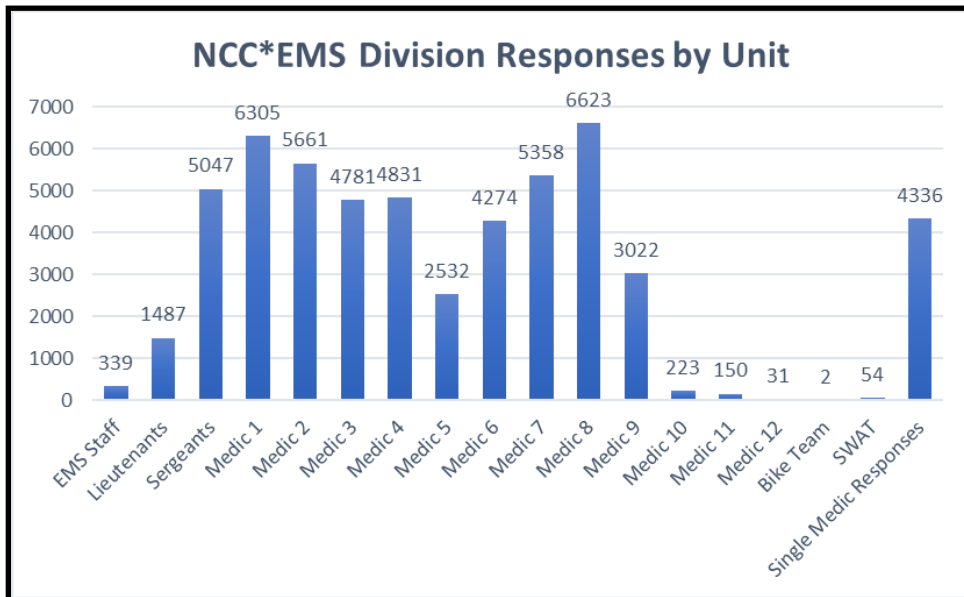
NCC*EMS Division Responses (January 1 to December 31, 2022)	
EMS Senior Staff	339
EMS Lieutenants	1487
EMS Sergeants	5047
Medic 1 (Wilmington)	6305
Medic 2 (New Castle)	5661
Medic 3 (Newark)	4781
Medic 4 (Brandywine 100)	4831
Medic 5 (Middletown)	2532
Medic 6 (Glasgow)	4274
Medic 7 (Prices Corner)	5358
Medic 8 (Wilmington)	6623
Medic 9 (12 hour/day unit)	3022
Medic 10 (Special Duty MOT area)	223
Medic 11 (Special Duty)	150
Medic 12 (Special Duty)	31
Medic 20 (TEMS)	54
MEDCOM	12
Bike Team	2
Single Paramedic Responses	4336
<b>TOTAL RESPONSES</b>	<b>55175</b>

A number of paramedic units may make a paramedic response to any incident, stand-by or special request for paramedic service.

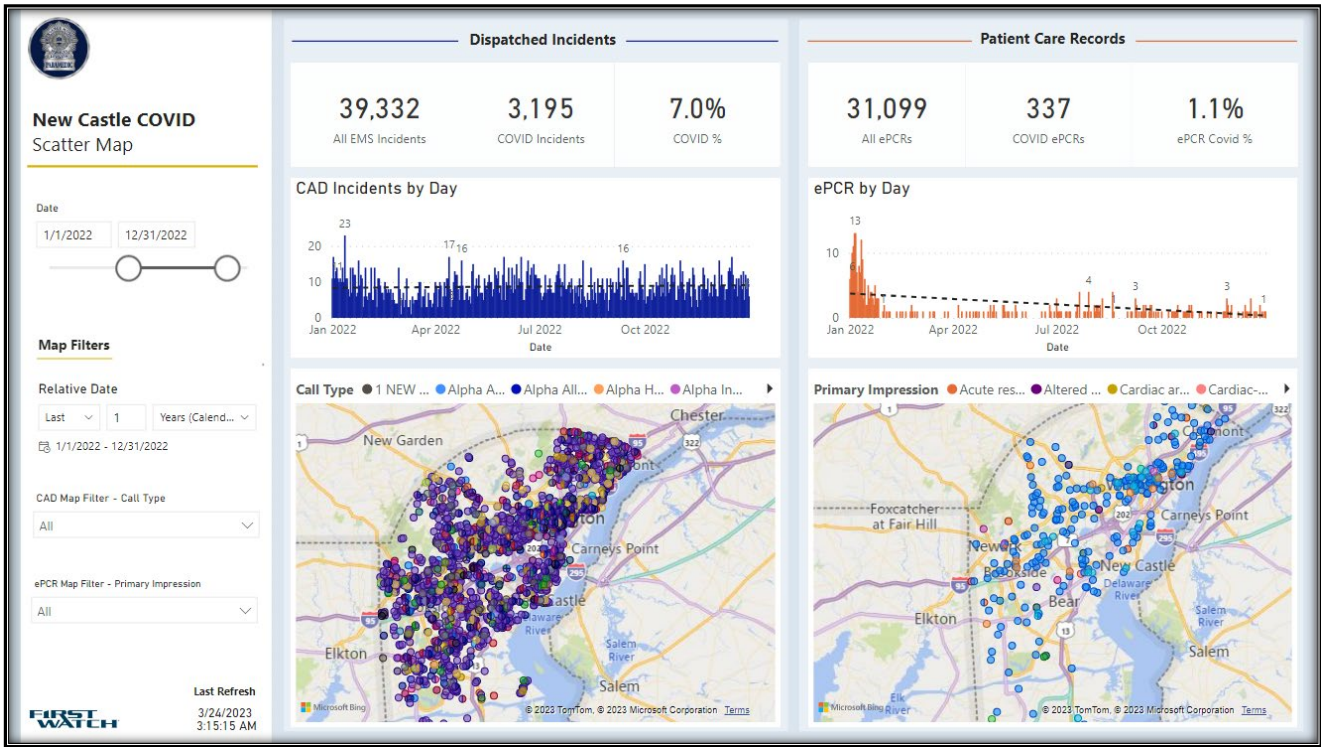
EMS Senior Staff consists of the senior leadership of the organization to include Chief, Assistant Chief and Captain. Sergeants and Lieutenants serve at the shift supervisors and oversee all field paramedic units in daily operations. Medic 10 is a supplemental operational unit that is placed in service when staffing permits.

Medics 11 & 12 include special events. Medic 10 is staffed with TEMS certified paramedics and supplements the New Castle County SWAT Team on missions. MEDCOM is a medical and communications unit that is staffed on large scale incidents or special events. The Bike Team also covers special events when necessary.

Single paramedic responders are used when the paramedic partner is transporting to a hospital or when additional staffing permits.



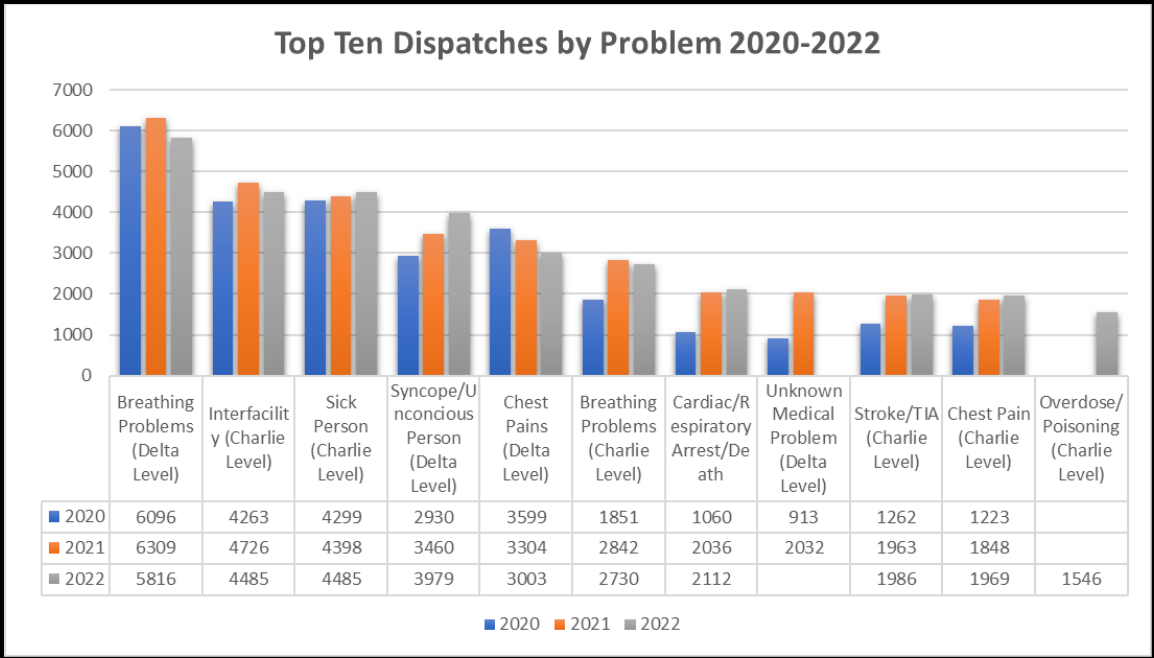
# 2022 COVID-19 REPSONSES IN NEW CASTLE COUNTY



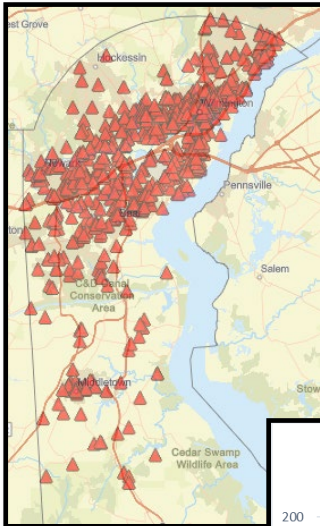
The above charts represent a comparison between number of incidents dispatched with COVID precautions, as compared to patient care records that the paramedic indicated signs and/or symptoms of suspected COVID or positive diagnosis. New Castle County Paramedics continue to maintain airborne droplet precautions during all patient contacts due to the continued potential of COVID-19 exposure to all employees. Of the 3,195 incidents for which suspected COVID-19 was a dispatch concern, only 337 of those incidents (1.1%) were found by paramedic responders to be related to a COVID-19 diagnosis.



# NEW CASTLE COUNTY CALL TYPE

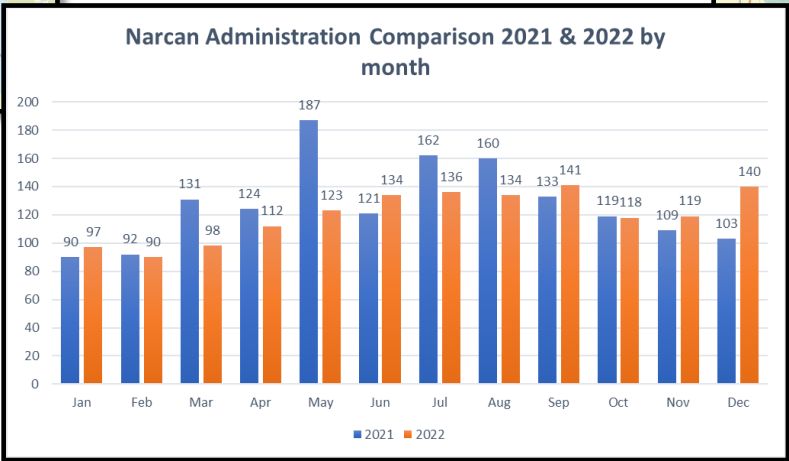
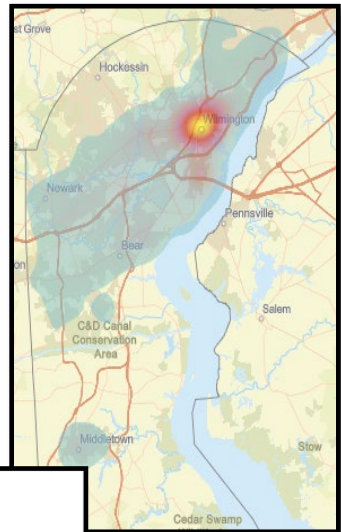


## 2022 USE OF NARCAN AND SUSPECTED OPIATE OVERDOSE



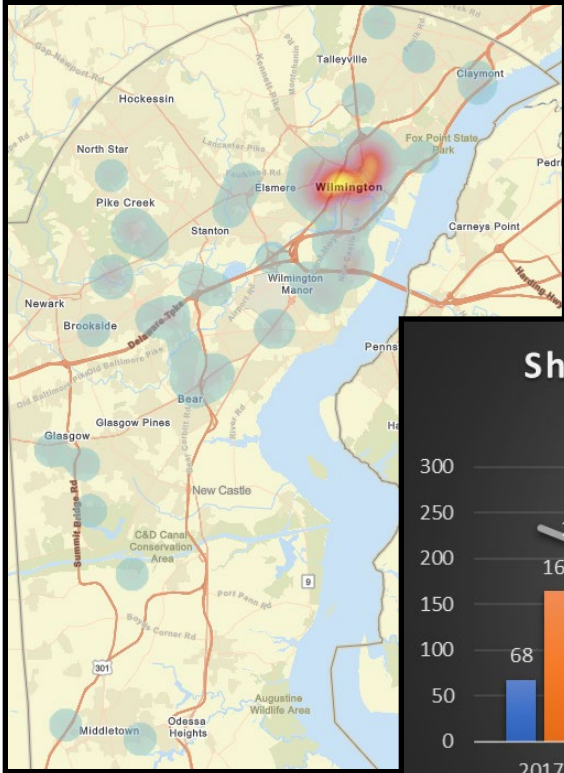
The administration of Naloxone (Narcan) is used as an indicator for possible opiate overdose call type.

New Castle County Paramedics responded to 1,442 incidents in 2022 of suspected opiate overdose compared to 1,531 incidents in 2021. There was a 6% decrease in Narcan administration in New Castle County in 2022.

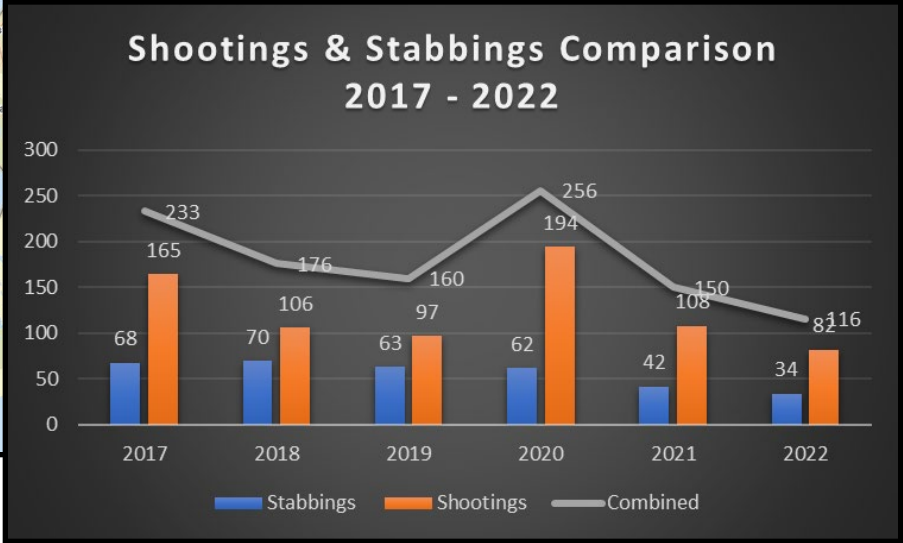




## 2022 PENETRATING TRAUMA INCIDENTS



New Castle County EMS saw a decrease of 34 penetrating trauma call types in 2022 as compared to the previous year. The number of shooting incidents decreased 26% and the number of stabbing incidents decreased 20% as compared to 2021. The number of penetrating trauma incidents continues to be on the decline since 2020.



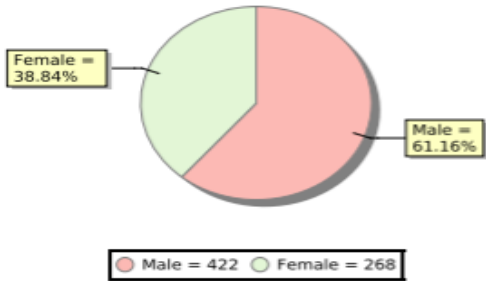
## CARDIAC ARREST DEMOGRAPHICS / 2022 CARES DATA

### Demographics

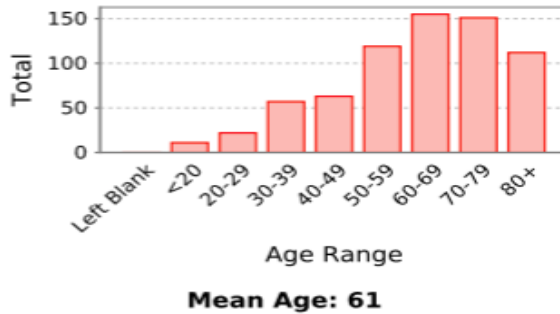
#### New Castle County EMS

Presumed Cardiac Arrest Etiology: Presumed Cardiac Etiology, Respiratory/Asphyxia, Drowning/Submersion, Electrocuton, Other, Drug Overdose, Exsanguination/Hemorrhage | Date of Arrest: 01/01/22-12/31/22 | Resuscitation Attempted by 911 Responder: Yes | End of the Event: Pronounced in the Field, Pronounced in the ED, Ongoing Resuscitation in ED

#### Gender



#### Age

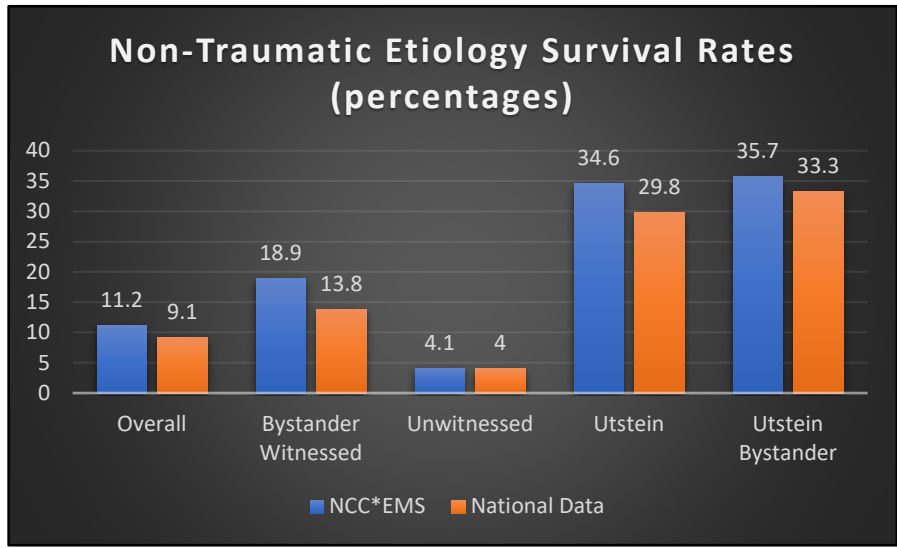


#### Location Type

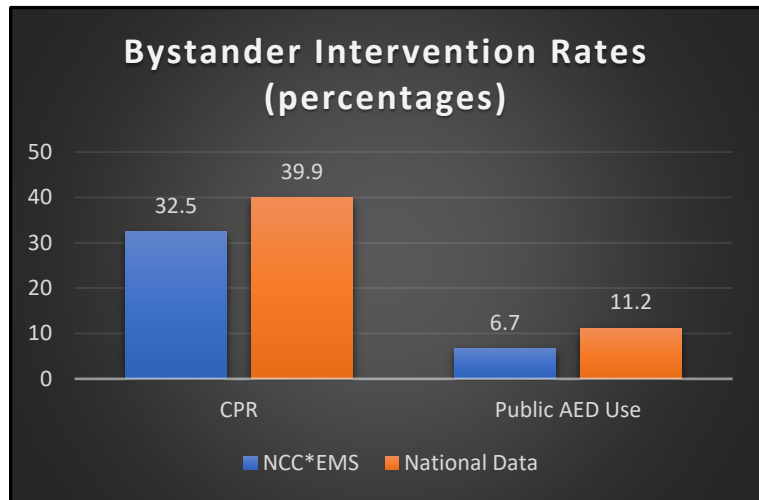
Location Type	Count
Home/Residence	433 - 73.1%
Nursing Home	62 - 10.5%
Public/Commercial Building	41 - 6.9%
Street/Hwy	28 - 4.7%
Healthcare Facility	17 - 2.9%
Place of Recreation	5 - .8%
Industrial Place	4 - .7%
Transport Center	2 - .3%

## SUDDEN CARDIAC ARREST SURVIVABILITY

**High Sudden Cardiac Arrest Survivability:** New Castle County EMS continues to see a high percentage of sudden cardiac arrest survival. Success in positive outcomes continues to be above the national average in all areas. Overall survivability from sudden cardiac arrest is 2% higher than the national average. If a bystander witnesses the sudden cardiac arrest, New Castle County sees a 5% higher survivability rate than the national average. Higher numbers when a bystander witnesses the arrest can be attributed to the robust community outreach CPR program of the New Castle County EMS Division.



**Bystander Intervention Rates:** The rate at which a bystander chooses to act and provide life-saving chest compressions continues to be below the national average. This problem was named one of the goals of the New Castle County EMS Division for 2023. The EMS Division has hired a part-time community outreach coordinator to increase the awareness, number of programs, outreach, and public participation with hands-only CPR programs and public AED use. The increased awareness of the PulsePoint app and dispatcher assisted CPR are additional areas identified to assist with improving the bystander intervention rates in New Castle County.



**Hands-Only CPR Programs:** New Castle County has a part-time community outreach coordinator who oversees community outreach initiatives which include Hands-Only CPR programs. This individual works with an internal core workgroup of hands-only CPR instructors who travel throughout the county teaching non-certification programs to those in our communities to increase awareness and knowledge of this life-saving skill.



**Sudden Cardiac Arrest Survivor Reunion:** New Castle County EMS held its 10<sup>th</sup> annual Sudden Cardiac Arrest Survivor Reunion on May 17, 2022, at the Cab Calloway School of the Arts in Wilmington. This annual event brings together sudden cardiac arrest survivors with the bystanders, 911 call takers and all first responders who assisted in their care and successful resuscitation. 42 cases where a patient received a cerebral perfusion score of “1” (no neurologic deficit and no rehab required) after suffering a sudden cardiac arrest were recognized.



**Mission Lifeline:** New Castle County EMS received the 2022 Mission Lifeline Gold Plus Recognition. This achievement is presented through the American Heart Association. This award is given to agencies that demonstrate strict adherence to clinical guidelines to support better outcomes for all cardiac patients. Only 1% of EMS agencies in the country are awarded with this recognition.



**Cardiac Arrest Survivor Meet and Greets:** Paramedics continue to meet with patients and their families following successful cases. In March of 2022 paramedics met and spent time with Mr. Michael Comegy’s a cardiac arrest survivor. Mr. Comegy’s initiated 911 after suffering chest discomfort. His condition deteriorated and he went into sudden cardiac arrest. He was resuscitated by these providers and walked out of the hospital with no neurologic deficit. Mr. Comegy’s reached out to reunite and thank our providers.



**The Delaware Resuscitation Academy:** New Castle County EMS has committed to host and coordinate the Delaware Resuscitation Academy held three times a year. One held in New Castle County, as second held during the annual Delaware Volunteer Fireman’s Association Conference, and a third as part of the academy. The Resuscitation Academy’s mission is to improve survival from cardiac arrest through a fellowship program designed specifically for EMS Providers, Managers, Directors, and EMS Medical Directors. The Delaware Resuscitation Academy models itself after the Seattle Resuscitation Academy. Lecture modules and hands-on skill stations with feedback mannequins make for a stimulating learning environment. Participants will gain an understanding of the science behind high-performance CPR, performance measures, and the knowledge, skills, and abilities to increase survival.



**PulsePoint App:** New Castle County EMS continues to provide funding for the PulsePoint app in an effort to increase bystander intervention rates to those in sudden cardiac arrest. New Castle County has the PulsePoint Foundation app that is available for free. Pulse Point will alert those nearby in the event of a sudden cardiac arrest in a public setting. The Pulse Point app will also direct bystanders to the nearest AED. There are currently 9722 users of the PulsePoint app in New Castle County. Download the app today and help save a life!

## RECRUITMENT INITIATIVES

**4<sup>th</sup> New Castle County Paramedic Academy:** The 4<sup>th</sup> New Castle County Paramedic Academy was hired in January of 2022 and underwent a 13-month paramedic program. The academy was supervised by two New Castle County paramedics: Paramedic Supervisor Sergeant Allen C. Short and Paramedic Academy Coordinator Corporal Laura E. Hill. 336 applicants applied for the position of “entry-level” paramedic academy applicant and 18 were selected for the program. All 18 successfully completed the paramedic program and obtained National Registry Paramedic certification. The paramedic program is held at the Good Fellow EMS and Training Institute in West Chester, Pennsylvania.

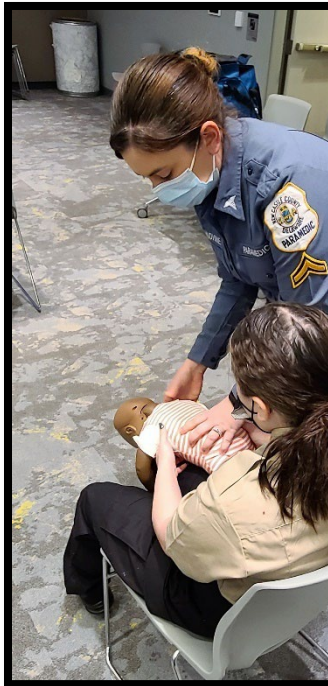


**Recruitment Events:** The EMS Division’s Assistant Recruiters remained busy throughout the year recruiting for academies and those pre-certified as paramedics. Recruitment initiatives include a partnership with Saint George’s Technical High School, Wilmington Police Community Outreach programs, visits to local high school medical technology programs, National Night Out, NCC Public Safety Christiana Mall recruitment event, Delaware State Fair, CODE EMS Conference, multiple First Responder Appreciation events and multiple paramedic program visits throughout the east coast.



# COMMUNITY OUTREACH

In 2022, New Castle County EMS participated in multiple community outreach events to educate the community and promote programs such as Vial of L.I.F.E., Hands Only Community CPR, PulsePoint, Smart 911, youth education, and many more. These programs included NCC Police Youth Academy, Hands Only CPR programs, BLS Education Outreach Programs, BLS Paramedic Assist Programs, Community Resource Fairs, Elementary School Book Readings, National Night Out Events, and Thanksgiving food basket assemblies.



- 2022 Programs
- 32 Hands Only CPR Programs
  - 12 Vial of L.I.F.E. / Pulse Point Programs
  - 4 BLS Education Outreach Programs
  - 4 BLS Paramedic Assist Programs
  - 4 Elementary School or Book Reading Events
  - 4 School Career Day Presentations
  - 3 Summer Camp/Youth Academies
  - 3 Resuscitation Academies



DELTA SIGMA THETA | MIDDLETOWN (DE) ALPHA CHAPTER  
NEW CASTLE COUNTY EMERGENCY MEDICAL SERVICES

## COMMUNITY WELLNESS EXPO

INFORMATION SESSIONS  
BYSTANDER CPR

FITNESS AND YOGA DEMONSTRATIONS

FREE HEALTH SCREENINGS

- BLOOD PRESSURE CHECKS
- BLOOD SUGAR SCREENINGS
- VISION SCREENINGS
- DENTAL SCREENING
- CHAIR MASSAGES

SATURDAY  
MAY 21, 2022  
10:00 AM - 2:00 PM

605 N. BROAD STREET  
MIDDLETOWN, DE 19709

ΔΣΘ NCC

FOR MORE INFORMATION, PLEASE CONTACT:  
INFO.DSTMIDDLETOWNDE@GMAIL.COM



New Castle County Paramedics Invite You For a Day of Fun and Health!

### HEALTH FAIR BLOCK PARTY

June 4, 2022 12 – 4 pm

**FAMILY AND COMMUNITY**

- Live Entertainment
  - DJ DOC & DJZ
  - Richard Raw and Word Warrior Band
  - Best Kept Soul

**A DAY TO GET HEALTH SERVICES**

NCC PARAMEDICS WANT TO HELP CONNECT YOU TO THE RESOURCES YOU NEED FOR HEALTHIER LIVING.

ALL ONSITE SERVICES WILL BE PROVIDED FOR FREE!! WITH LONG TERM RESOURCES OFFERED AT LITTLE TO NO COST.

SPONSORED BY

- PROJECT SEED
- NEMOURS Health Services
- Christiana Care

**ONSITE SCREENINGS**

- FOOD TRUCKS
- GIVE AWAYS
- FUN ACTIVITIES

Health Fair Block Party  
Burton Winchester (PRICELESS) Park  
East 24th & Pine Streets  
Wilmington, DE  
12 – 4 pm

## CLINICAL INITIATIVES

**Narcan Leave-Behind Kits:** Throughout 2022 New Castle County EMS continues to carry opioid rescue kits on each paramedic response vehicle. The State of Delaware Office of Emergency Medical Services provided the kits as part of an outreach program to target those at risk of death secondary to opioid overdose. The goal is to leave a rescue kit in the hands of a patient, friends, or family members who may be with a person at their time of crisis. A total of **128 Narcan Leave-Behind kits** have been left behind with a patient, family, or friends in 2022. In addition, 2022 saw **193 New Castle County citizens trained** in their use. NCC\*EMS continues to identify incidents in which kits met the criteria but were not left behind.



**Butterfly Point-Of-Care Ultrasound (POCUS):** New Castle County EMS has introduced Point of Care Ultrasound (POCUS) into pre-hospital practice. The technology was rolled out for use in early August and is currently only utilized by approximately 4% of EMS systems in the country. Currently POCUS is only being utilized to confirm the absence or presence of heart muscle movement, during cardiac arrest situations, when electrical activity is noted, but no pulse can be felt. All New Castle County Paramedics were trained to utilize POCUS throughout the spring and the machines are currently carried on each of the field supervisors' vehicles. With POCUS, Paramedics will be able to also visualize the mechanical component of the heart, enabling them to make faster, more sound judgements in patient treatment plans. On the very first case the technology was utilized, cardiac wall activity was in fact detected, changing the course of treatment, and ultimately leading to the patient having a return of pulses. Treatment with POCUS is a massive step forward for the pre-hospital service and one that will prove to greatly enhance critical decisions made, leading to improved patient outcomes. The division continues to seek funding to place POCUS devices on all paramedic response vehicles.



**Infusion Pumps:** NCC\*EMS took possession of 4 Sapphire IV infusion pumps in early fall 2022. Infusion pumps are being added to the equipment carried by paramedics to ensure a safer and more effective delivery of intravenous or interosseous medications. Patient safety and decreasing medication errors remains a top priority in the delivery of patient care in New Castle County. In 2023, all paramedics will receive training and education to ensure a safe and effective roll out of the new devices that will be carried on supervisor vehicles.



**Whole Blood:** New Castle County has initiated a pre-hospital whole blood initiative to bring the delivery of whole blood to the prehospital environment. The initial planning and basic framework for this project has been established, the pilot project has received support from the Blood Bank of Delmarva, Office of EMS, the State of Delaware EMS Medical Director, New Castle County Medical Directors, New Castle County Executive’s Office, and the Board of Medical licensure and Discipline. The implementation timeline for this initiative continues to be summer of 2023. Continuing education for all paramedics will take place in the Spring of 2023 and logistical trials are underway.



## SPECIAL EVENTS

Throughout 2022, New Castle County Paramedics provided medical support and stand-by coverage to multiple New Castle County events, community programs and mass gatherings. In a count of over 591,000 citizens with even more visitors to our county, the need for advanced life support coverage remains a need. **A total of 189 special events** saw paramedic coverage from New Castle County EMS.

**Presidential Motorcade Details:** The President of the United State of America (POTUS) has primary residence in New Castle County. The United States Secret Service works hand-in-hand with New Castle County EMS to assure paramedic and EMS coverage is provided with all presidential motorcade movements when the president travels to and from his primary residence. In addition, there are multiple off the record movements in which New Castle County EMS provides Presidential detail protection. **A total of 82** presidential motorcades saw



New Castle County Paramedic coverage in 2022.



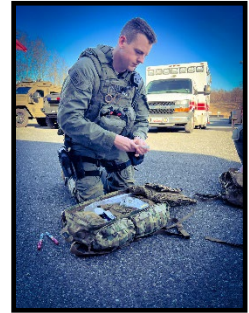
**BMW Championship:** In August of 2022, the Western Golf Association hosted the BMW Championship PGA event in Greenville, Delaware at the Wilmington Country Club. Paramedics worked with our partner EMS agencies to provide planning and medical operations during the event. Tens of thousands of visitors to the Greenville area were cared for by paramedics, EMTs and staff from Christian Care throughout the county. Medical Direction from the State Office of EMS was also on hand throughout the event to assist with the medical coverage.

**Delaware Marathon:** The Delaware Marathon is an annual event held in New Castle County in the City of Wilmington. The medical coverage for this event is coordinated by the New Castle County EMS Division. Medical support is a combined effort with local fire departments, Saint Francis EMS and the Wilmington Fire Department.

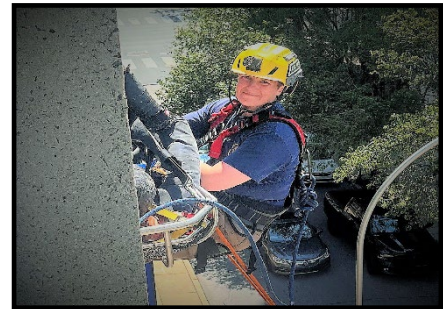


## SPECIAL OPERATIONS

**Tactical EMS Team (TEMS):** The New Castle County EMS Tactical EMS Team (TEMS) is comprised of eight tactical paramedics who provide tactical medical support primarily to the New Castle County Police Special Weapons and Tactics (SWAT) team. In 2022, this team also provided support to the Delaware State Police, Federal Bureau of Investigation (FBI), Drug Enforcement Agency (DEA), Wilmington Police Department, and United States Secret Service. The TEMS team trains twice a month and has 2023 goals of adding two additional paramedics who are currently scheduled to attend COTOMS training in Arlington, Virginia.



**Technical Rescue Team:** In 2022, New Castle County EMS partnered with the New Castle County Fire Service Collapse and Trench Rescue Team to name five paramedics to the Tech Rescue Team. The Tech Rescue Paramedics trained monthly with the Wilmington Fire Department in Special Operations. One supervisor and one paramedic from each operational platoon is currently assigned to the team. In 2022, these five tech rescue paramedics became Pro Board certified in collapse rescue, high angle rescue, ropes and confined space rescue. In 2023 the tech rescue team looks to expand its scope to become more integrated with the New Castle County Fire Service special operations teams.



**Bike Team:** The New Castle County EMS Bike Team participated in 8 events in 2022 and multiple training days. Two members become International Police Mountain Bike Association (IPMBA) instructor certified and two IPMBA classes were held in conjunction with the New Castle County Police Department. The two programs held were opened to all ALS agencies and fire service throughout Delaware. The team looks to continue holding two

IPMBA certification classes a year taught by the three New Castle County EMS IPMBA instructors.

**Honor Guard:** The New Castle County EMS Honor Guard participated in eleven events throughout the year including the National EMS Memorial held in Arlington, Virginia. These specially trained men and women present colors at all special events and dignified details throughout the year. The team also trains and practices on a regular basis and is constantly adding additional team members.





## ADMINISTRATIVE & TRAINING ACTIVITY

**Awards and Recognition:** New Castle County paramedics were honored by the Kiwanis Club of Wilmington as Paramedics of the Quarter for the first, second, third and fourth quarters of 2022 including one being named “Paramedic of the Year”. Paramedic Nicole Capello was named “Paramedic of the Year” by the Kiwanis Club of Wilmington for her dedication to the citizens of the county and overwhelming dedication to the Emergency Medical Services Division by having the most self-initiated paramedic responses and being a member of multiple special operations teams.



**Command & Leadership Academy:**

Two paramedics graduated from the New Jersey State Association of Chiefs of Police Command and Leadership Academy modeled after West Point. The program is a five-month leadership program that is held primarily as a law enforcement senior staff development class. New Castle County EMS continues to be proud of all supervisory level staff are graduates from this program.

**Full Scale Exercise:** On April 23, New Castle County EMS participated in a full-scale exercise in which paramedics partnered with the New Castle County Airport, the Delaware Air National Guard, the Delaware Emergency Management Agency and the New Castle County Emergency Management Agency to conduct this training exercise. Multiple fire departments throughout New Castle County also participated in this event. Real life aircraft emergency situations were used to train all personnel.



**International Police Mountain Bike Association:** New Castle County EMS continues to be one



of the only agencies in Delaware to offer International Police Mountain Bike Association training opportunities to all EMS and Fire agencies in Delaware. Partnered with the New Castle County Police Department, the three NCC\*EMS IPMBA instructors hosted training events throughout the year. BLS agencies from Good Will, Aetna, and University of Delaware continue to have interest and paramedics from throughout the state are trained through the NCC\*EMS IPMBA programs.

## ACCOMPLISHMENTS FOR 2022

- The EMS Division was evaluated by representatives from the American Heart Association and Mission Lifeline Gold Plus Recognition was received.
- Implementation of pre-hospital Point of Care Ultrasound (POCUS)
- Hired a diverse group of 18 paramedic recruits and held a rigorous training academy resulting in the graduation and National Registry Paramedic certification of all 18 of those that were hired.
- Retrospective review at efficiency in responses on certain call types resulting in changing eleven PMD call types to a BLS response only. Resulted in decreasing call volume by 3.75%.
- Completion of a capitol project to renovate Paramedic Station No. 6 in the Glasgow area. This station was built 25 years ago and needed upgrades and structural enhancements.
- 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 fill vacancies.
- Placement of pre-hospital Point of Care Ultrasound (POCUS) on paramedic supervisor vehicles and implementation of its use into daily practice.
- Establishing relationships with Blood Bank of Delmarva, the Office of EMS, Sussex County EMS, and San Antonio Fire/EMS (Texas) to begin the process of the whole blood initiative.
- Creation of a part-time community outreach coordinator position to coordinate community outreach initiatives (hands-only CPR, Vial of L.I.F.E., PulsePoint, Smart 911, etc.)
- Established a “Hands-Only” CPR Workgroup
- Health Fair Block Party was held in the City of Wilmington and Community Wellness Expo was held in Middletown, both in conjunction with many of our partners.
- Established a Technical Rescue Paramedic Team of five members who successfully completed certification in Collapse Rescue, Ropes, High Angle and Confined Space Rescue.
- Held first annual New Castle County Police and Paramedic Youth Summer Camp.
- Capital replacement project of all 65 LifePak 15 cardiac monitors to the newest version.



## 2023 GOALS

- Completion of the 5<sup>th</sup> New Castle County Paramedic Academy to allow the EMS Division to deploy a diverse cohort of paramedics in order to increase staffing to achieve more efficient response to critically ill or injured patients.
- Recruit and hire the 6<sup>th</sup> New Castle County Paramedic Academy to allow the EMS Division to continue deploying diverse cohorts of paramedics in order to increase staffing to achieve more efficient response to critically ill or injured patients.
- 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 2023 will mark the 13<sup>th</sup> consecutive year of accreditation for the New Castle County EMS Division.
- Implement a program to evaluate the use of pre-hospital whole blood in the pre-hospital setting and begin to roll out the whole blood product on supervisor units.
- Expand the use of pre-hospital Point of Care Ultrasound (POCUS) and deploy ultrasound devices on all paramedic trucks in New Castle County. Currently these devices are only used on supervisor vehicles.
- Expand the reach of the Technical Rescue Paramedic Team from collapse and trench rescue to include high angle and confined space rescue situations.
- Evaluate and implement the use of intravenous pumps in the pre-hospital setting to decrease the potential for error during medication administration.
- Increase the sudden cardiac arrest survivability rates by increasing community outreach programs and increasing the percentage of incidents where bystanders performed chest compressions.
- Expand the use of PulsePoint to permit first responders to have access to the “verified responder” side of the app.
- Train all paramedics in ALERRT awareness and operations level for active shooter incidents.



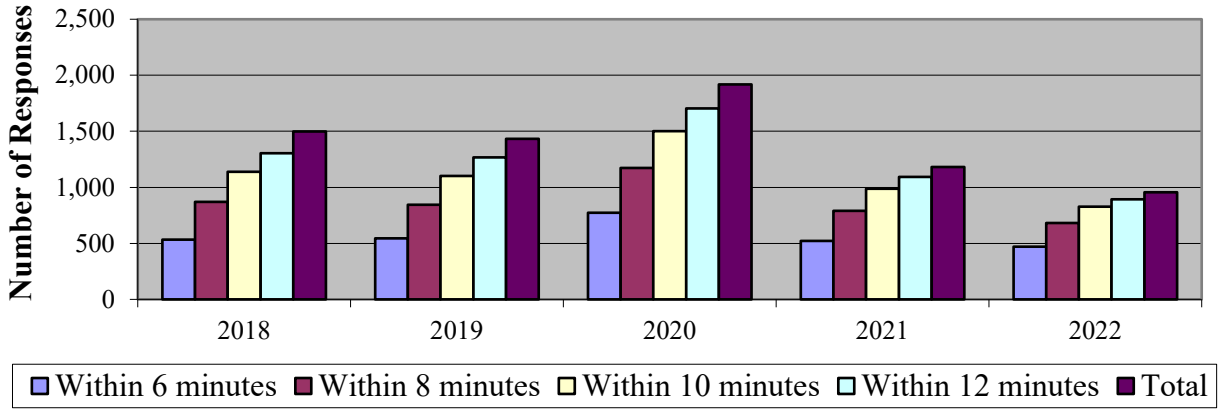
In Summary, The New Castle County Emergency Medical Services Division is dedicated to living up to our motto of “Excellence in Service” The New Castle County Emergency Medical Services Division continues move forward in providing the best medical care to the sick and injued residents and visitors of 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.

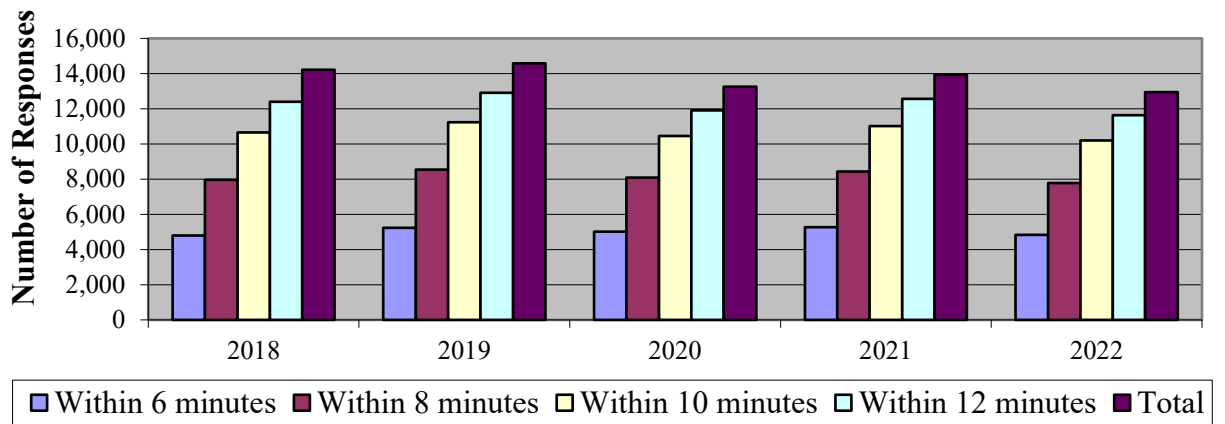
*All photos and data submitted by New Castle County EMS*



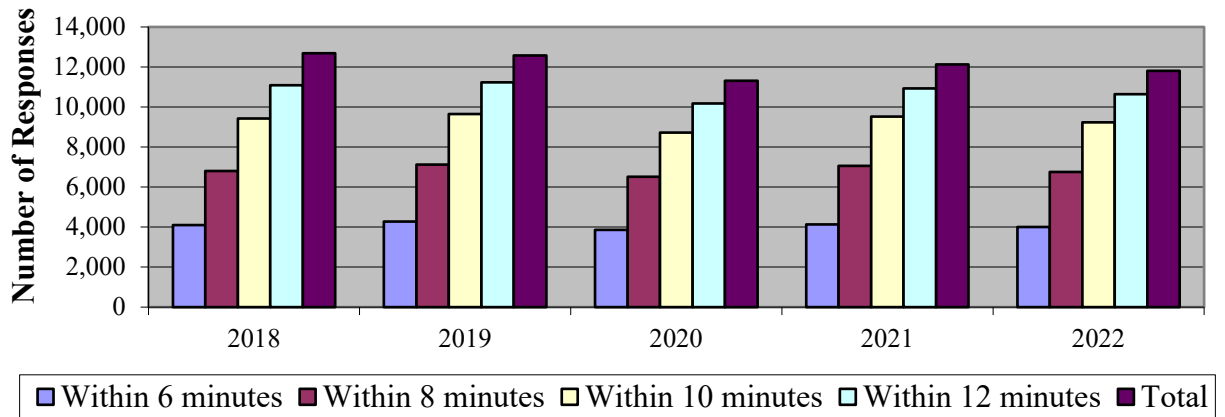
### Echo Level Response, NCC EMS



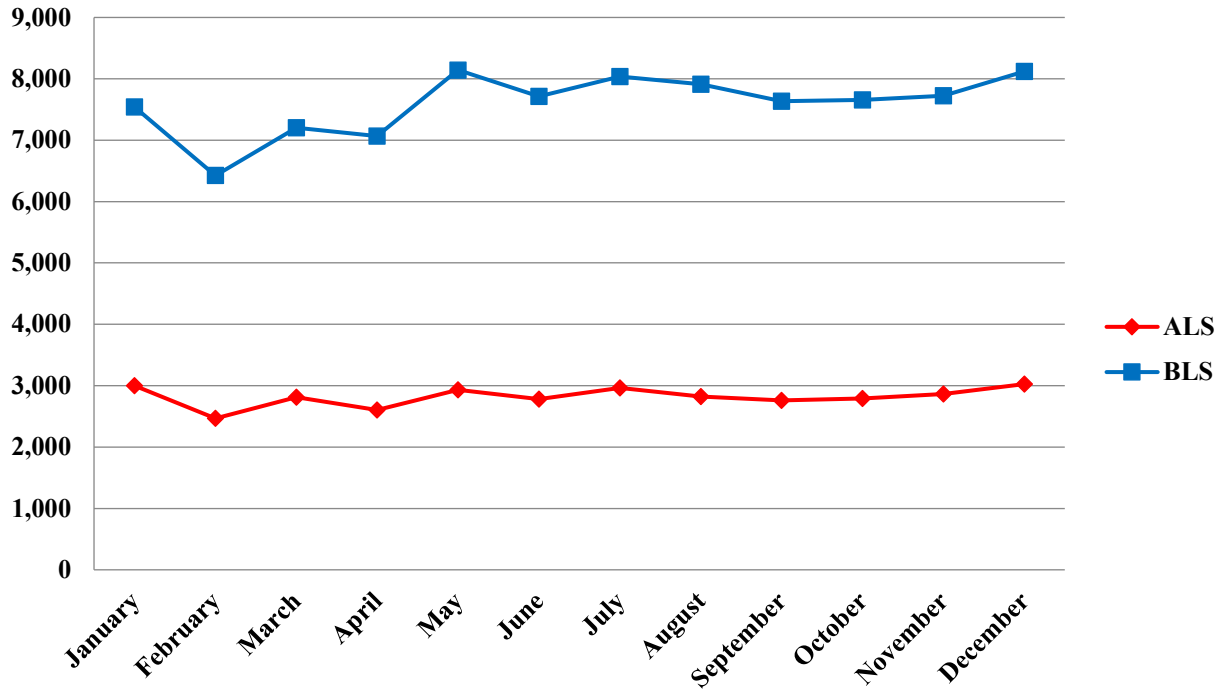
### Delta Level Response, NCC EMS



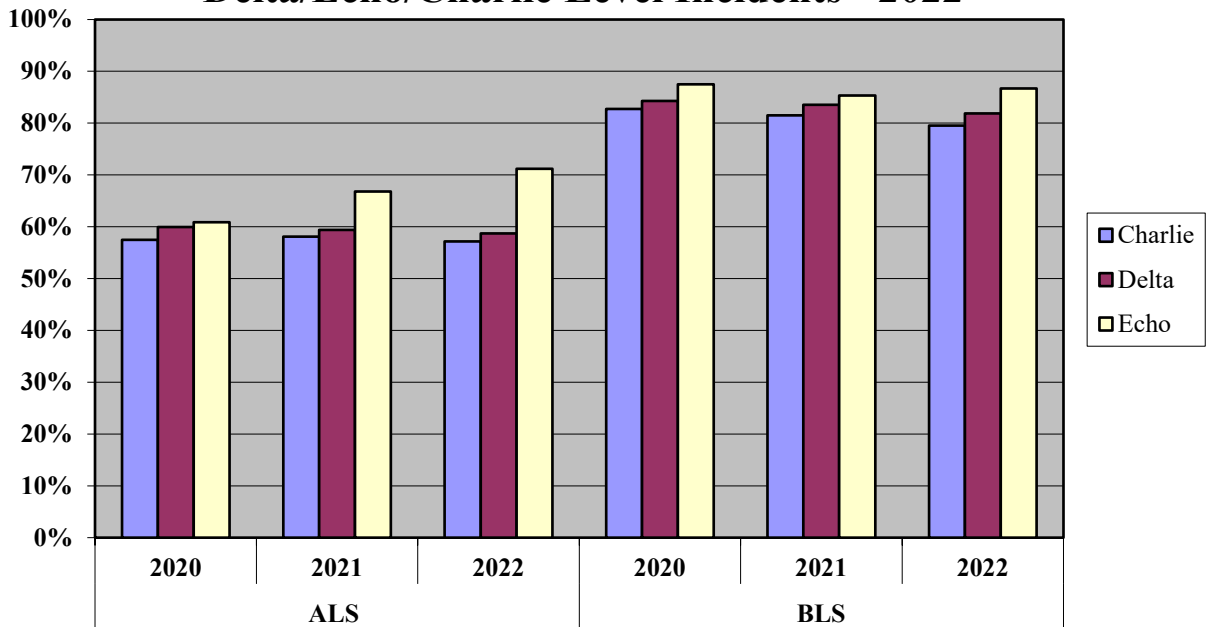
### Charlie Level Response, NCC EMS



### ALS/BLS Incidents by Month - 2022 New Castle County



### Percentage When New Castle County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents - 2022



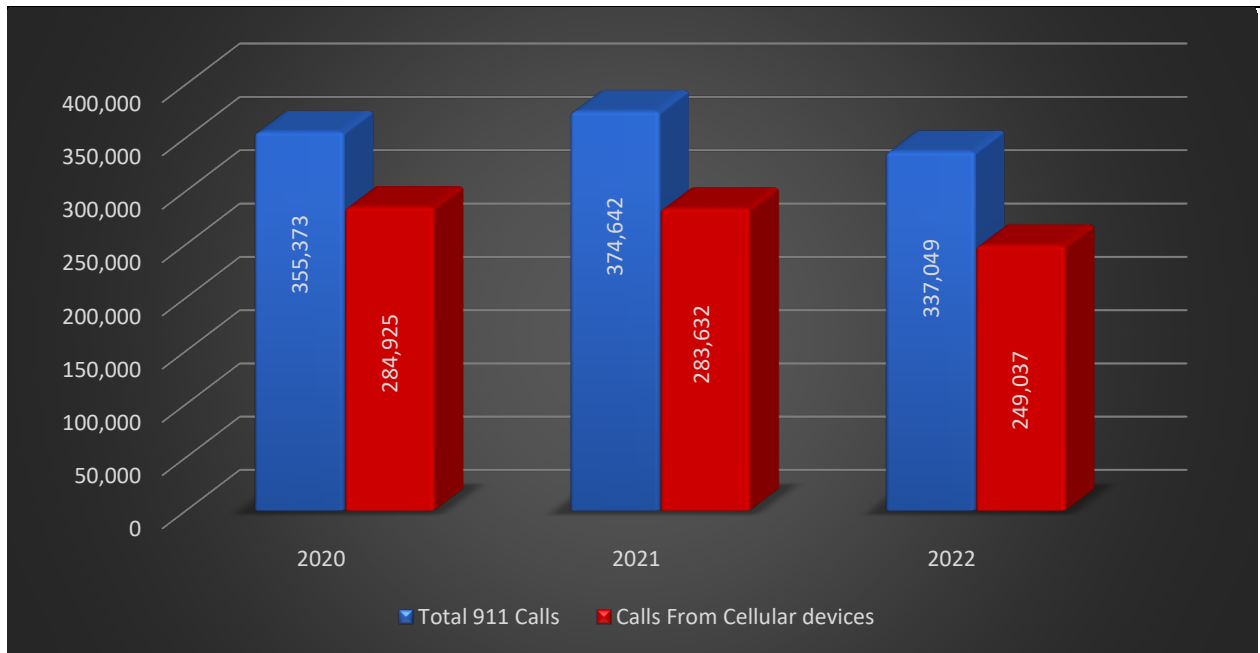
# Communication Center New Castle County

*Submitted by Chief Jeffrey P. Miller*



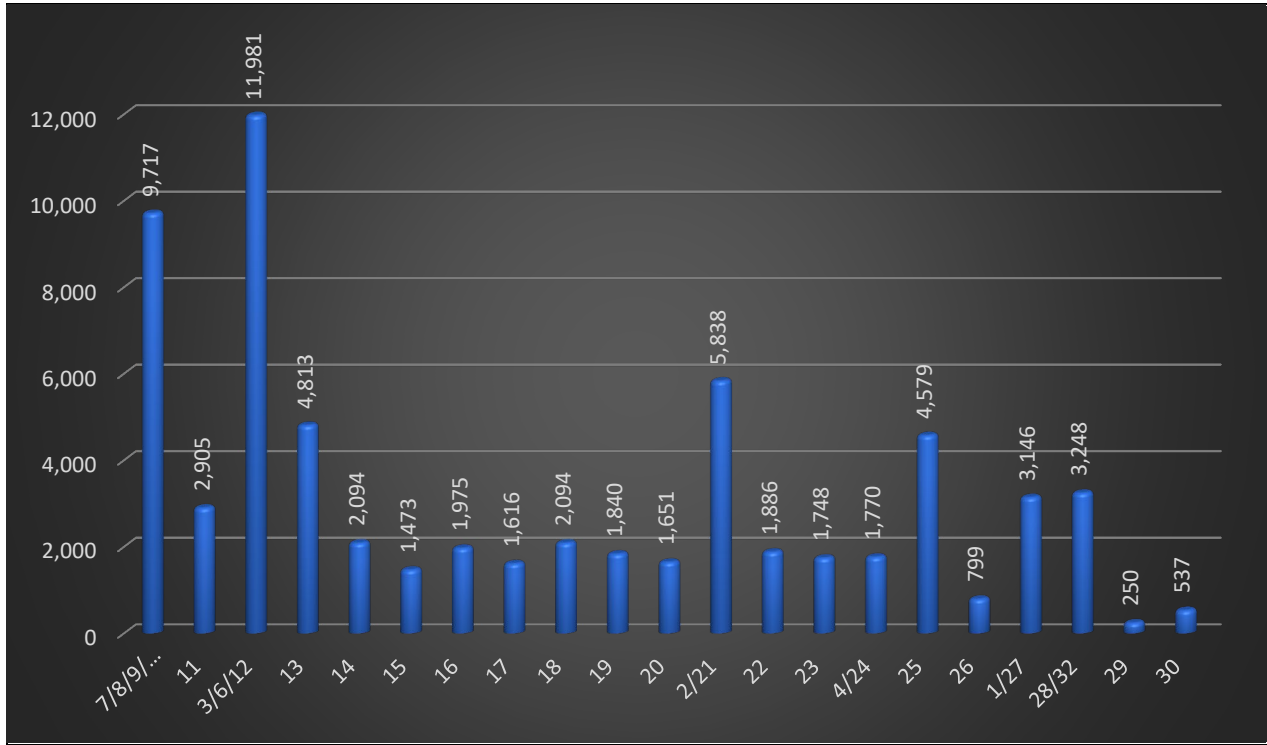
The New Castle County 9-1-1 Emergency Communications Center receives 911 calls through a variety of phone exchanges and numerous cell towers throughout New Castle County. The total number of 911 calls processed in year 2022 was 337,049. Another 103,147 non-emergency calls were also processed by our Public Safety Operators. The Center dispatched or processed a total of 159,972 fire/medical incidents and 239,216 police incidents in year 2022. The New Castle County Emergency Communications Center handled over 45.9% of the 734,426 total 911 calls in the State of Delaware for 2022.

## Total 911 Calls:



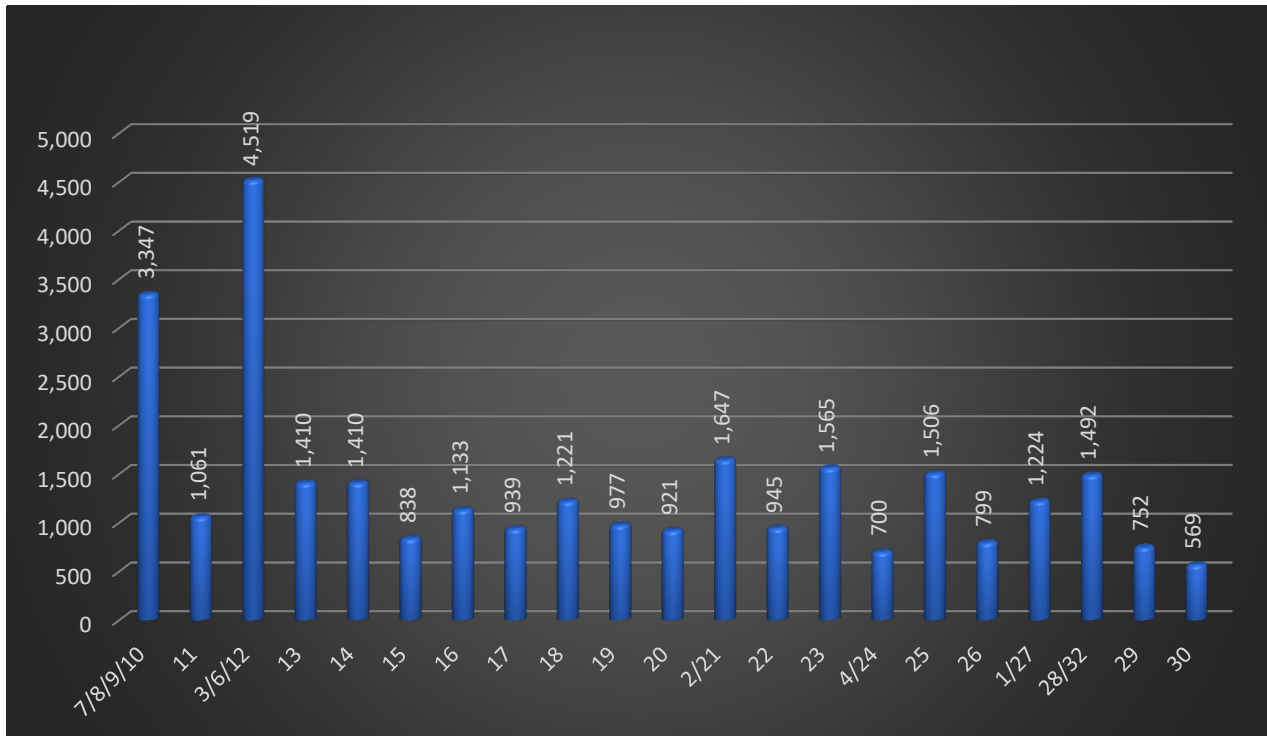
**\*This information provided by Intrado.**

Medical Responses by Fire Company for 2022: 65,960



\*This information provided by Tyler Technologies

Fire Responses by Fire Company for 2022: 28,975



\*This information provided by Tyler Technologies



## **Accomplishments**

- Retained our ACE (Accredited Center of Excellence) certification with the Academy of Emergency Medical Dispatch.
- Held our sixth and seventh Emergency Telecommunicator Courses for prospective new hires.
- Held multiple job fairs and open houses for recruitment of potential new hires in the 911 Center.
- Provided assistance to special population groups in obtaining data for our Smart 9-1-1 program.
- Completed the required upgrades to our Medical & Police Priority Dispatch Protocols.

## **2023 Challenges and Goals**

- Continue to maintain staffing levels to allow us to continue to exceed NENA and NFPA standards of all 911 calls being answered in ten (10) seconds or less.
- Continue to provide the best service to our customers with a timely response to their calls for service.
- Start the process to become an Accredited Center of Excellence for Fire Protocols.
- Research third-party software to integrate our Quality Assurance process along with our Daily Observation reports of trainees.
- Create a training program for each discipline (Police, Fire & EMS) to educate our first responders on the use of protocol.
- Maintain our current CAD System with the most updated software and next generation technology.
- Continue the installation process of CradlePoints in the Volunteer Fire Service.

## **Summary**

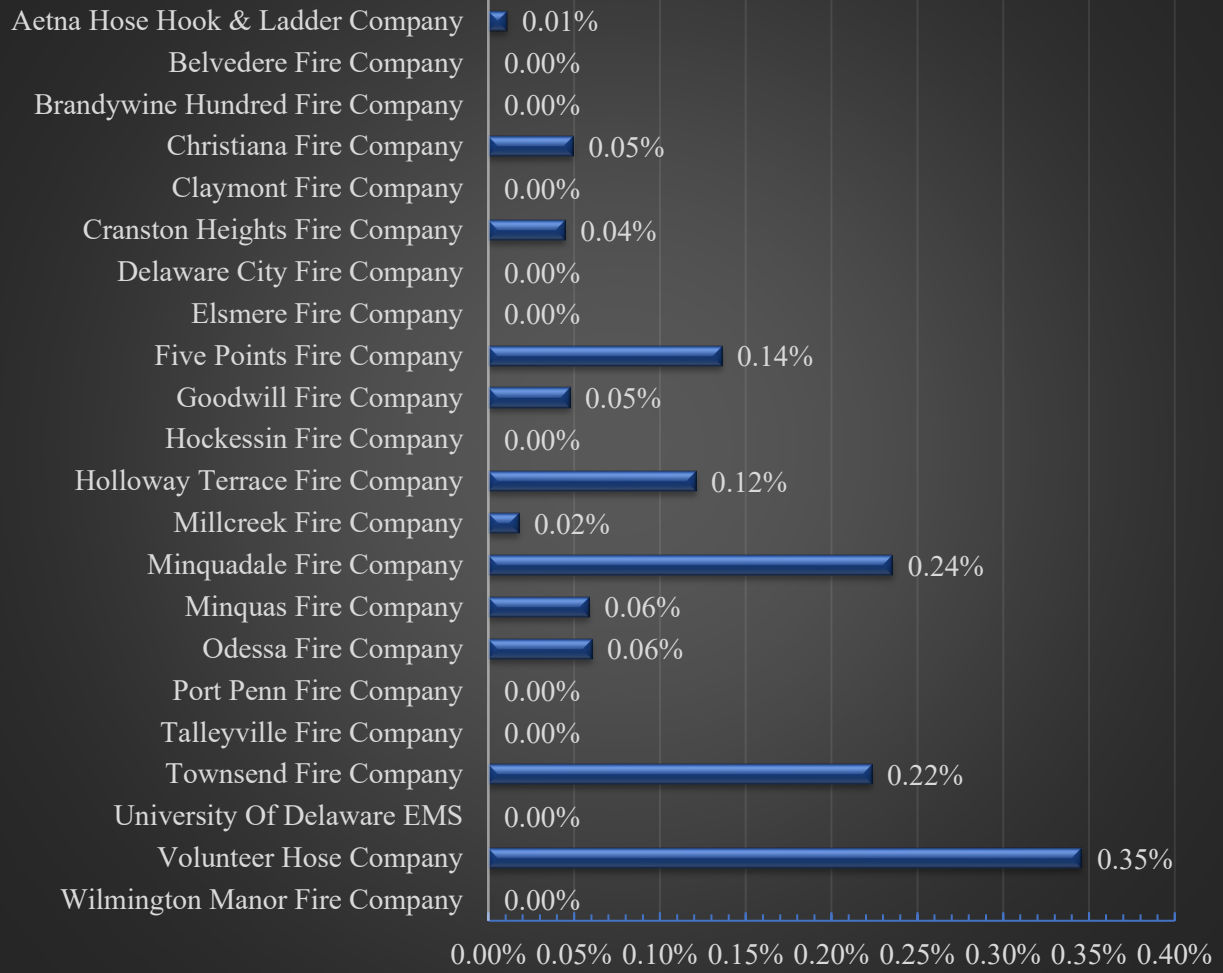
The New Castle County Emergency Communications Center is staffed by twenty-seven full and part-time Public Safety Operators, twenty-four Police Communications personnel, twenty-seven full-time Fire/Medical Communications personnel, and an administrative staff of seven personnel.



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 continue to participate in continuing education training to maintain their proficiency and certifications in each protocol.

## 2022 BLS Scratch Rate



Chief Colin T. Faulkner  
Director  
Department of Public Safety

Bryan Choi, MD  
Medical Director  
Division of Emergency Medical  
Services

**Kent**



**County**

## **Department of Public Safety**

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

John Tinger, Deputy  
Asst. Director of Public Safety  
Division of Emergency Medical Services  
Kevin Sipple  
Asst. Director of Public Safety  
Division of Emergency Communications  
Brandon Olenik  
Asst. Director of Public Safety  
Division of Emergency Management

## **EXECUTIVE SUMMARY**

### **Kent County Department of Public Safety 2022 DEMSOC REPORT**

The Kent County Department of Public Safety is pleased to present this Executive Summary for the 2023 Annual DEMSOC Report. Our department is 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. The combined synergy of these three Divisions enhances our ability to respond to the full range of emergencies which challenge our First Responders every year. Additionally, our partnership extends broadly into the emergency response community and at all levels of government and private entities as well. This enables us to provide the highest level of preparedness, response and mitigation services to our citizens and visitors which they have become accustomed to.

Our 911 Center is a state-of-the-art operation with highly trained professionals managing a myriad of calls and 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 911 Center. 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 technologies. Kent County 911 also supports Pulse Point, Smart 911 and the Rave Panic Button, all public programs to improve emergency response. The addition of four workstations over the next year will provide expansion of staff capabilities as our obligations grow. The Department of Public Safety launched a drone program which is now 24/7 deployable. This program supports all three Divisions plus remains available for deployment to all of our public safety partners. Our drone program is led by our Emergency Communications Division with pilots from all three Divisions.

Finally, our dispatchers were recognized as first responders following national trends of correct recognition. The sum 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 from several strategic locations. 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 preemptive 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, which will only have beneficial consequences.

This past year revealed the launch of our new paramedic sub-station in western Kent County. This now allows our paramedics to meet response time goals and demand for service that is emerging in this region. We will see five new paramedic positions to complete our staffing of this station during this current year. 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 lines 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’.

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 (Advance Law Enforcement Rapid Response Training). We have instructed our entire county workforce as well as others in the ALERRT’s CRASE (Civilian Response to Active Shooter Events) program. It is increasingly obvious that these efforts are no longer for an ‘if’ event but regretfully, a ‘when’ event; regardless of where.

Our response obligations continue to grow and next year will see a 4-6 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. This past year saw the graduation of three students Kent County sent to Good Fellowship Paramedic Program and this current year we will have five candidates in this same school. These candidates are paid a salary and school costs are covered by the County. We have also initiated a sign-on bonus as well. We also continue our excellent relationship and support of Delaware Technical and Community College in their goal of providing Delaware with a field of qualified paramedic candidates. We continue to welcome DTC students into our department 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.

Respectfully,

Chief Colin T. Faulkner  
Director of Public Safety

# Kent County Department of Public Safety Division of Emergency Medical Services 2022 Overview

2022 marked the 31<sup>st</sup> year of Operations for Kent County Department of Public Safety, Division of EMS. Our coverage area is approximately 798 Square miles. We proudly serve the citizens and visitors to Kent County with units in Dover, Frederica, Harrington, 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 helping 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.

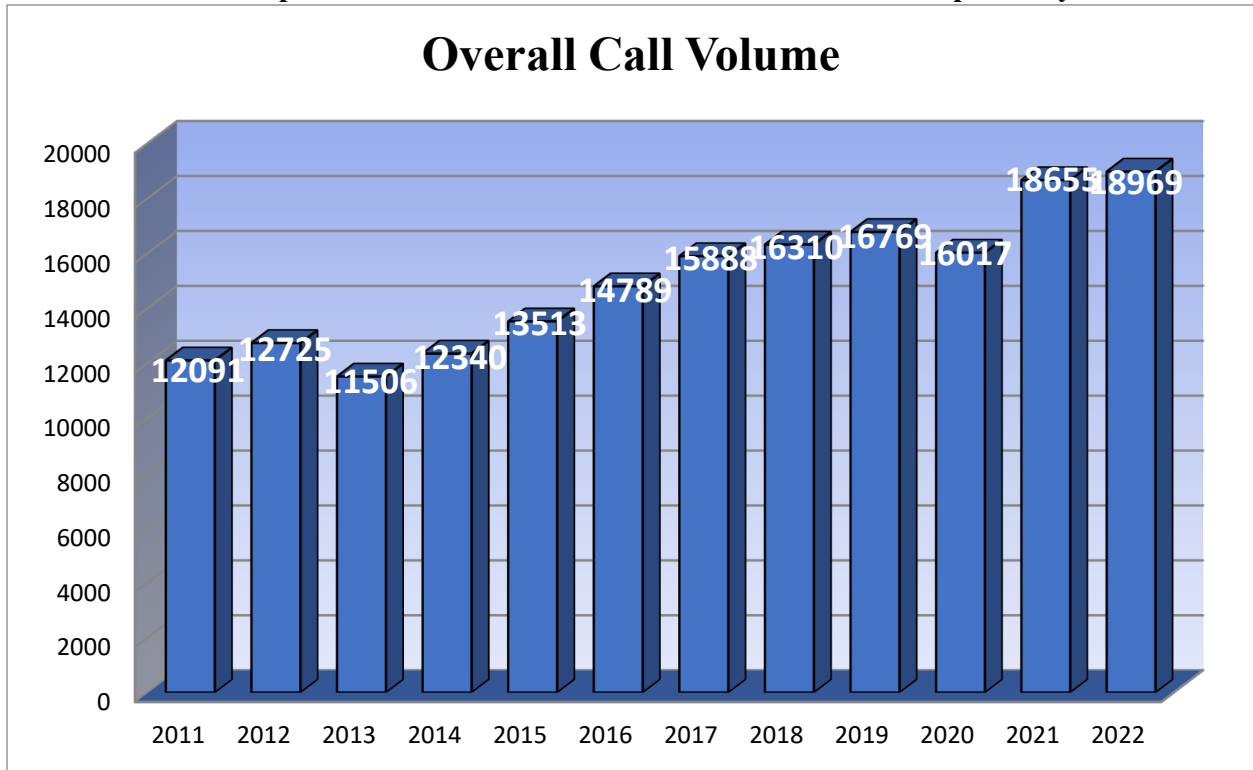
**Stewardship:** Fulfilling our mission requires that we use our resources wisely and with accountability to our public.

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

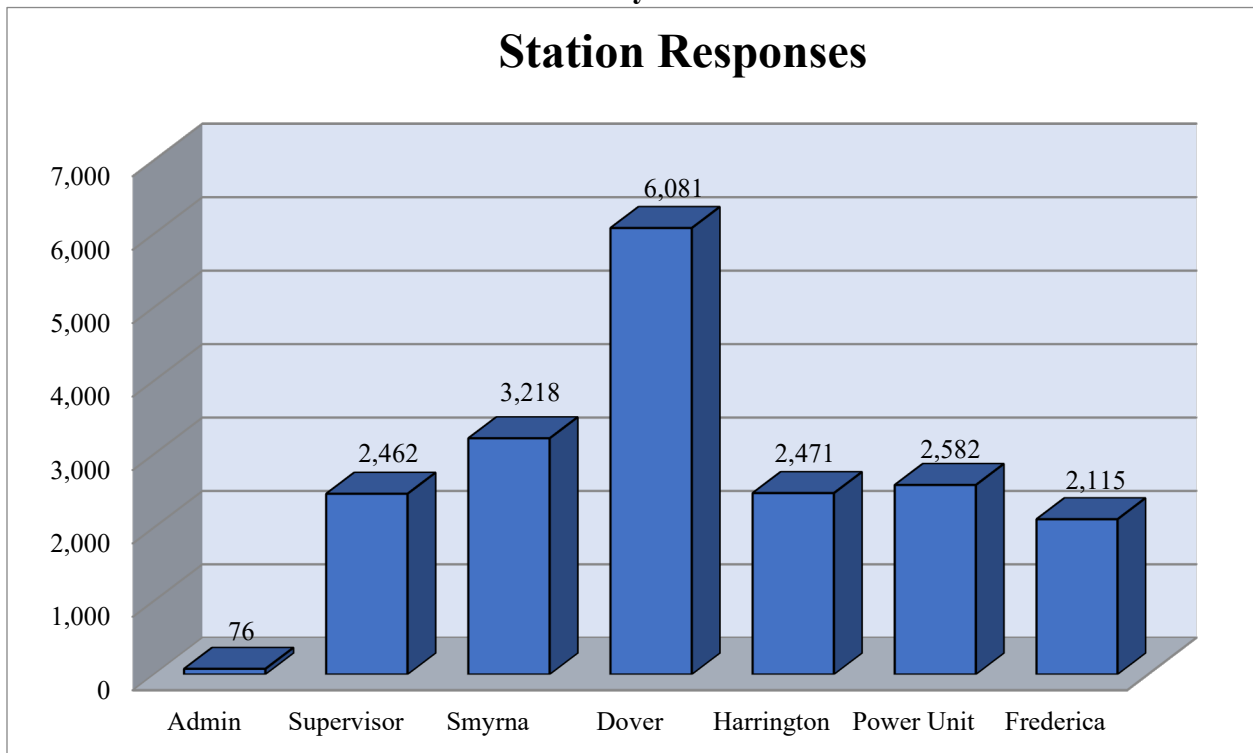


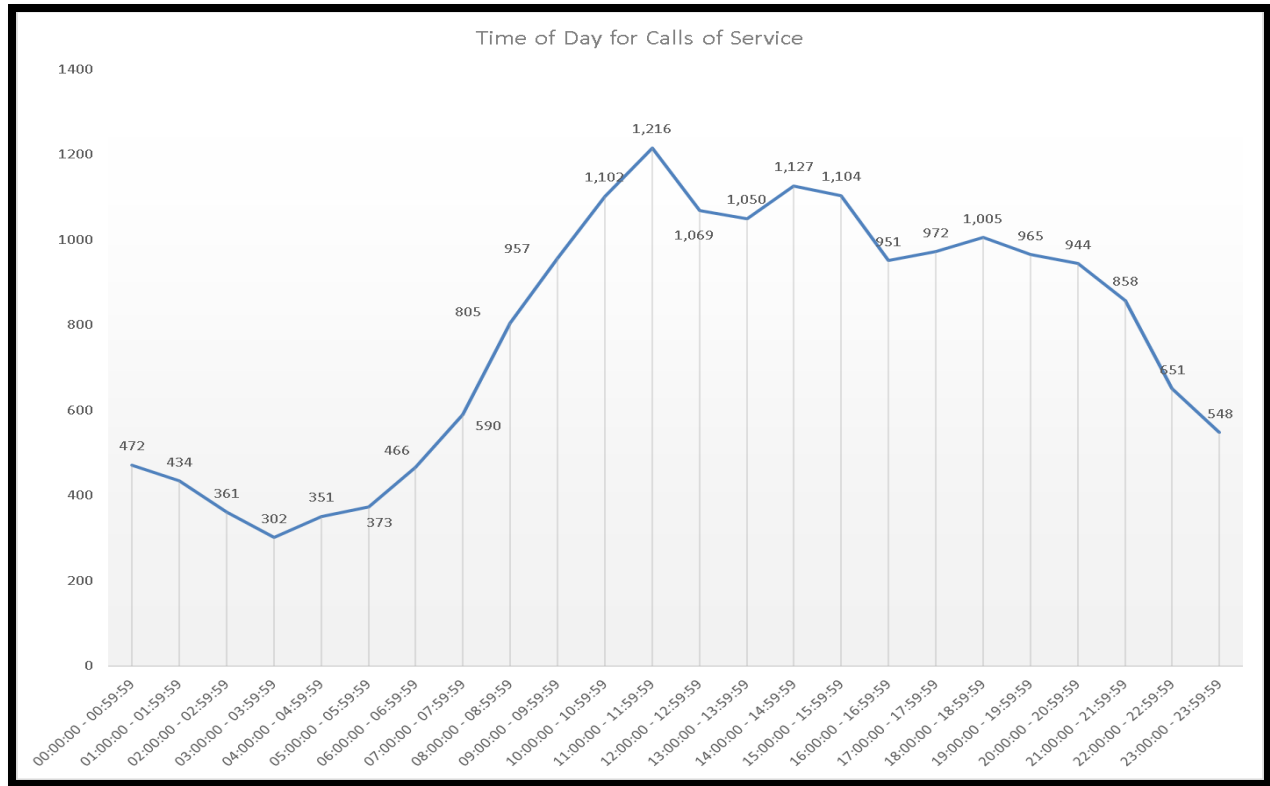
## Operational Overview

We have experienced a 56% increase in call volume over the past 12 years.

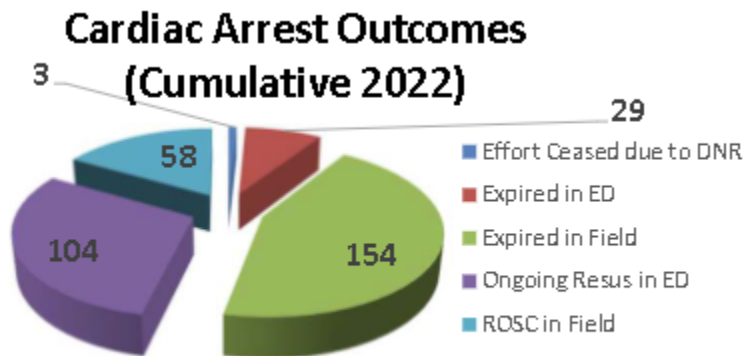


Dover continues to be this County's busiest unit in 2022





We continue to report to the CARES registry in Kent County. Return of spontaneous Circulation after CPR was average 16.67 % in 2022.



Kent County Levy Court Department of Public Safety - Division of Emergency Medical Services has achieved the 2022 Mission: Lifeline® EMS Gold Plus Level Recognition Award. The American Heart Association recognizes that Pre-hospital personnel are

the first providers of care to patients suffering from a STEMI heart attack and are an integral part of the STEMI system of care impacting the overall care and outcome of the patient. This achievement illustrates a commitment to providing guidelines-based care while meeting high standards of performance.

**2022 Mission: Lifeline® EMS Recognition**

The American Heart Association proudly recognizes

**Kent County Department of Public Safety Division of  
Emergency Medical Services  
Dover, DE**

Mission: Lifeline® - EMS - GOLD PLUS

Achievement Award - EMS Agency

The American Heart Association/American Stroke Association recognizes this EMS provider organization for demonstrating continued success in using the Mission: Lifeline® program. Thank you for applying the most up-to-date evidence-based resuscitation guidelines to improve patient care and outcomes in the community you serve.\*

  
Nancy Brown  
Chief Executive Officer  
American Heart Association

  
Donald M. Lloyd-Jones, MD, ScM, FAHA  
President  
American Heart Association

\*For more information, please visit [Heart.org/MissionLifeline](http://Heart.org/MissionLifeline)



**2022  
Mission:  
Lifeline®**

**GOLD PLUS**

**EMS**





## Mass Gatherings

The Department prepares for several Mass Gathering activities each year. Notably, the NASCAR races at Dover Downs, the Firefly Music Festival, the Delaware State Fair, the Bike-to-the-Bay, and the Amish Country Bike Tour present the venues for the largest populations. There are occasionally other events (VIP appearances, DAFB Air Show, Chicken Festival, etc.) which also require Mass Gathering preparations. Response may be limited to assigning a Bike Team to the

venue or expanded to establishing an entire communications center with dozens of support units on site.



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



## SWAT Paramedics

We have supported Smyrna SWAT Team, Milford Police SOG Team, and Dover Police SORT Team on 26 missions.

- Training 248 hours
- We sent three people to the ALERRT (Advanced Law Enforcement Rapid Response Training) conference.
- We also sent two operators to the NTOA (National Tactical Officers Association) Academy for training.
- We trained 152 police and correctional officers in Narcan administration. We also trained all County Personnel in attack training at the Kent County Complex.

## All-Terrain Medical Response

The Bike Medic Team once again supported Dover International speedway at the annual NASCAR race. The Specialized bikes and Medic-Gator are pre-deployed to many events each year. While the units are capable of emergency response, the application of these assets remains as support to in-progress incidents. The units are housed in the ATMR trailers which require transport to the scene.



Our specially outfitted UTV's covered both the Spring and Fall NASCAR races, FireFly music festival. The Gator was used at multiple events including Safe Summer Day, the Governor's Fall Festival, the Amish Country Bike Tour, and the Peach festival.

## CISM

2021 marked the rebirth of our Critical Incident Stress Management (CISM) team. Kent Medics CISM team provides mental support to our first responder community. Our medics go through specialized training to assist with critical stress management to those affected by a traumatic event. Each shift staffs a CISM certified paramedic, so we are ready to respond at any time. Our team also has an emotional support K9 named Lucy who patrols our HQ and responds to activations.



## Community Involvement

With restrictions lessening from COVID19, KCDPS Paramedics were able to participate in a number of community training events in 2022:

### AHA Heartsaver CPR/AED

15 classes - 87 students

### AHA BLS Provider

3 classes - 18 students

A CPR initiative we have started in 2019 has two areas of concentration. The first is *Hands Only CPR* to increase bystander knowledge and involvement in cardiac arrest survival. We have done various special events including local festivals, events, and school programs. Since its inception at the end of summer 2019, we have reached over 1,000 people. The second element is emphasizing high performance CPR with local fire departments and EMS agencies. We began in October of 2019 and so far, have spoken to almost 100 first responders.



- We also conducted a Food drive for the Foodbank of Delaware and donated almost over a ton of food.

## Accomplishments

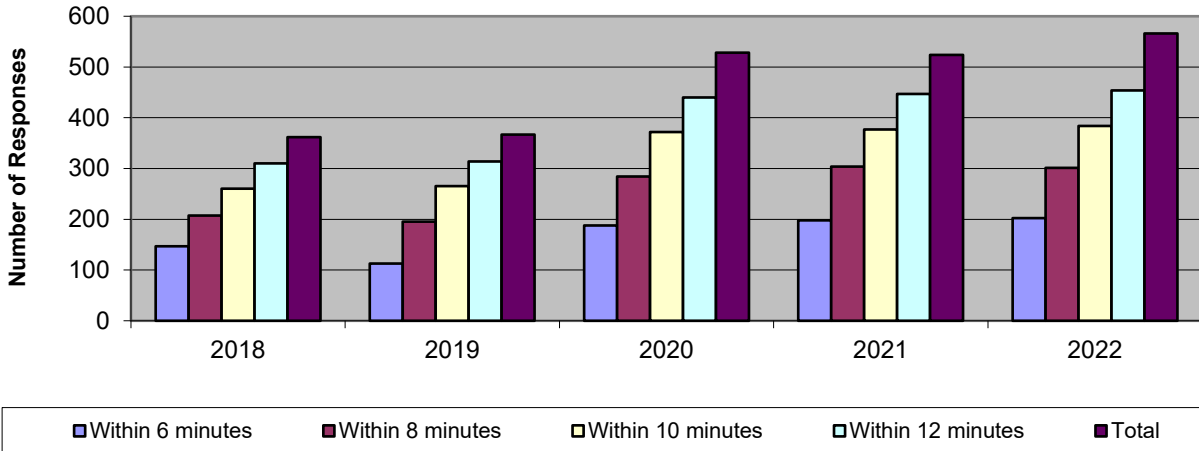
- Ensured compliance with several Federal guidelines regarding equipment PM and testing of both medical and non-medical equipment.
- Opening and staffing a Sub-Station in Western Kent County
- Successfully provided medical coverage to the Firefly music festival. Where we saw 3766 patients in aid tents and were dispatched to 553 patients onsite in 4 days.
- CPR classes for the public.
- Continued to provide high quality refresher and Con Ed to our Paramedics.
- Achieved Gold Plus recognition from the American Heart Association for 2019, 2020, 2021, and 2022 in the Mission Lifeline EMS STEMI Quality Achievement Award.
- Established an Academy for Paramedic Students

## 2023 Challenges

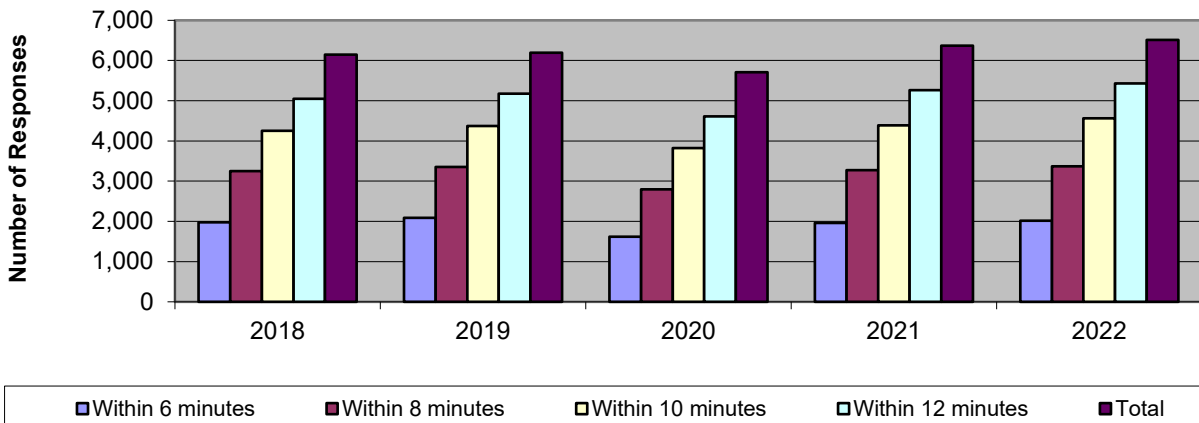
- Staffing remains a challenge. Finding qualified applicants of certified Paramedics is still difficult. We have risen to the challenge by implementing an academy program to train paramedics.
- Vehicle acquisition, due to industry unavailability, has impacted on our ability to update our fleet.
- Maintaining operational tempo to sustain and support the increased call volume.

*All photos and data submitted by Kent County EMS*

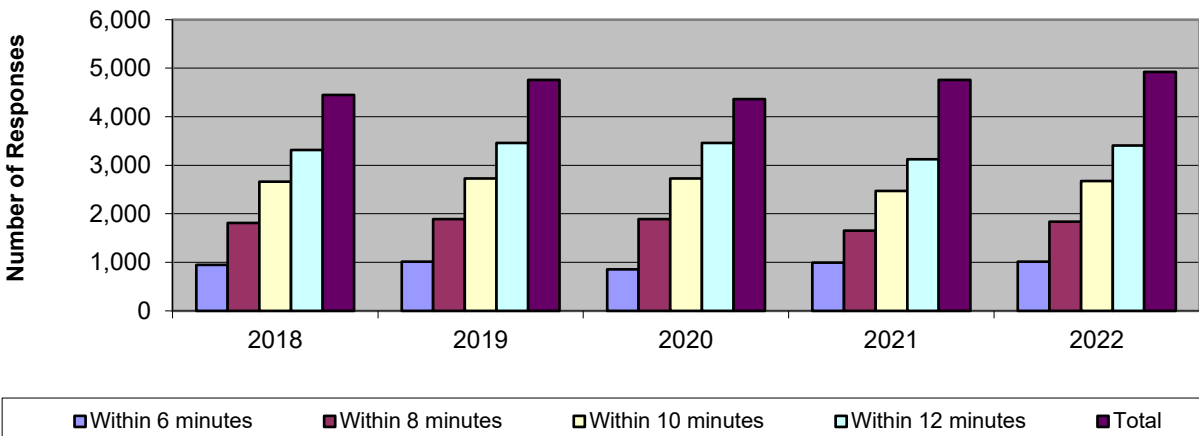
### Echo Level Response, Kent County EMS



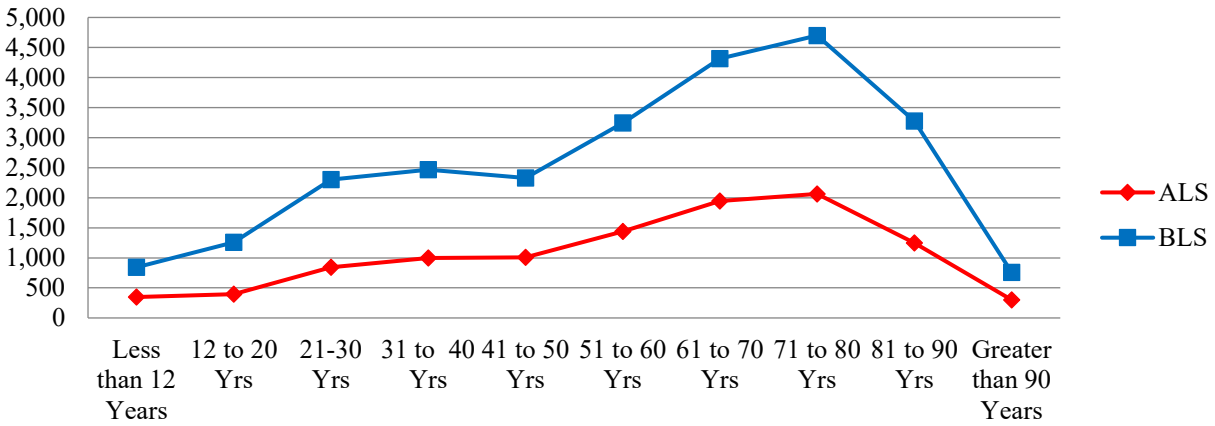
### Delta Level Response, Kent County EMS



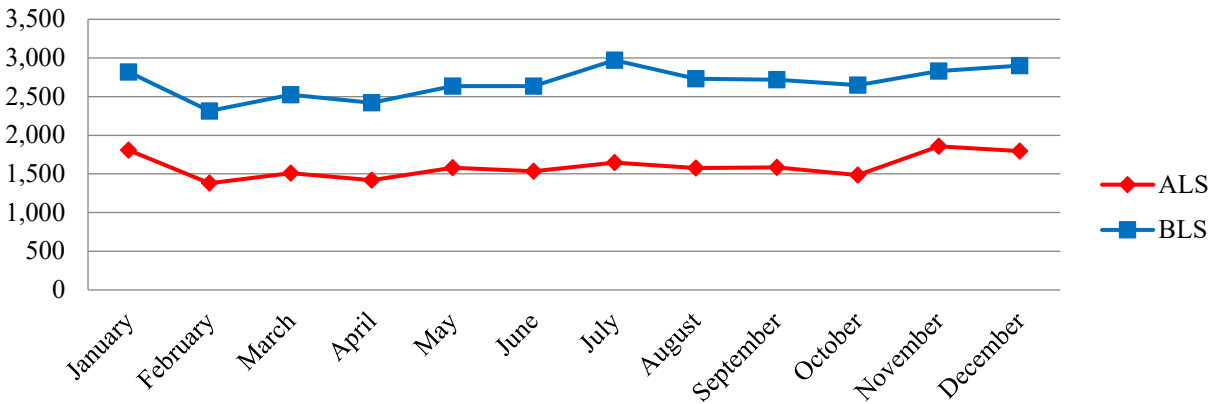
### Charlie Level Response, Kent County EMS



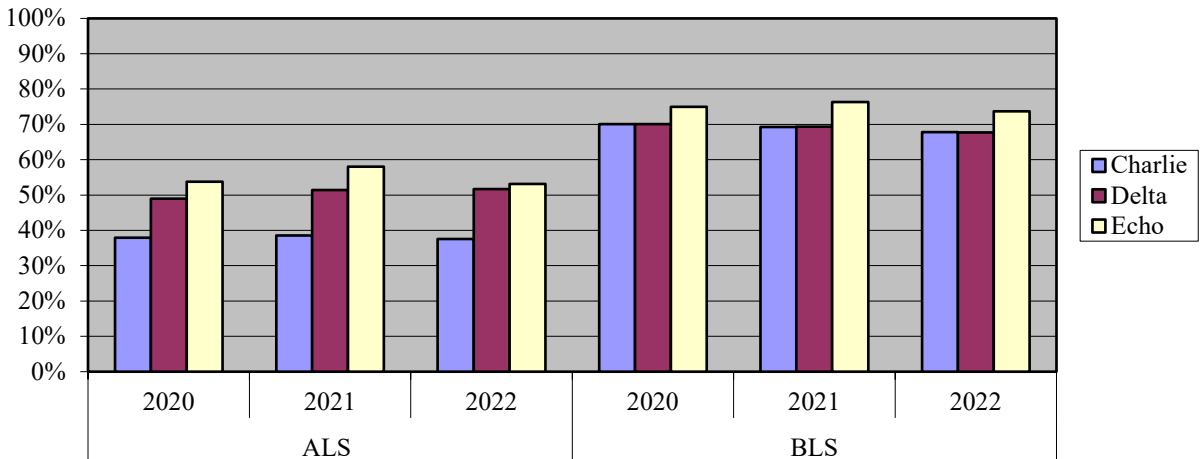
### ALS and BLS Patient Age Comparison - 2022 Kent County



### ALS/BLS Incidents by Month - 2022 Kent County



### Percentage When Kent County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents - 2022



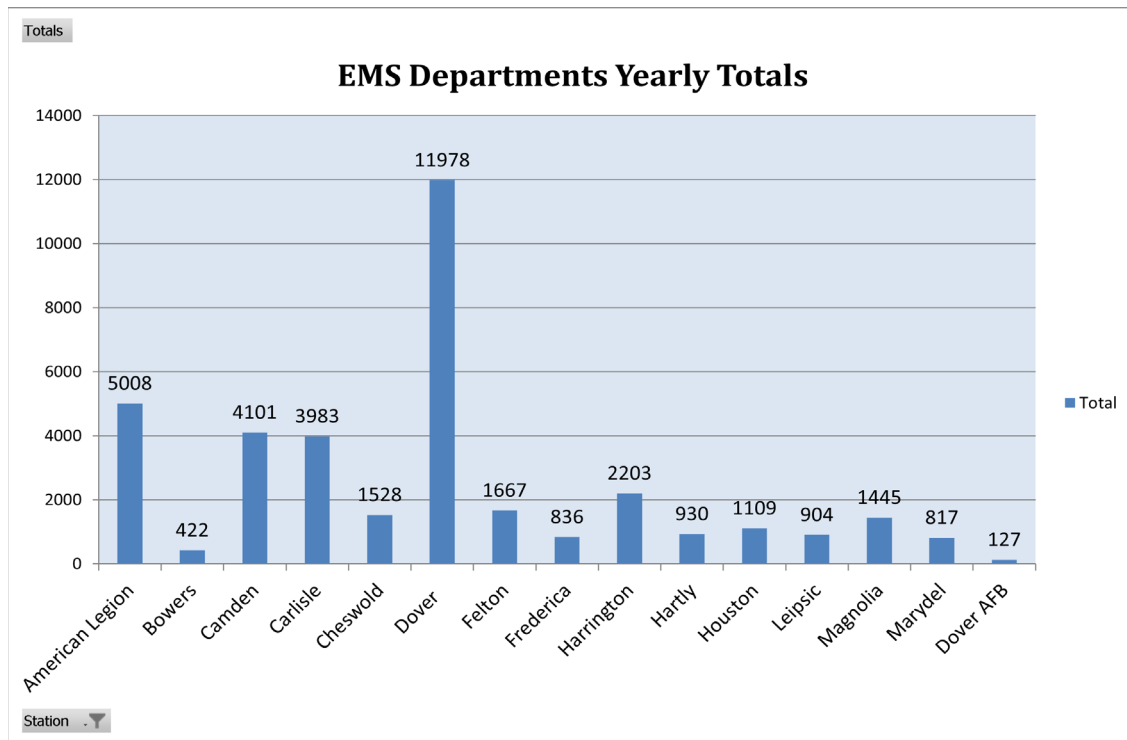
# Kent County Department of Public Safety Emergency Communications Division 2022 Overview

*Submitted by Assistant Director Kevin Sipple*



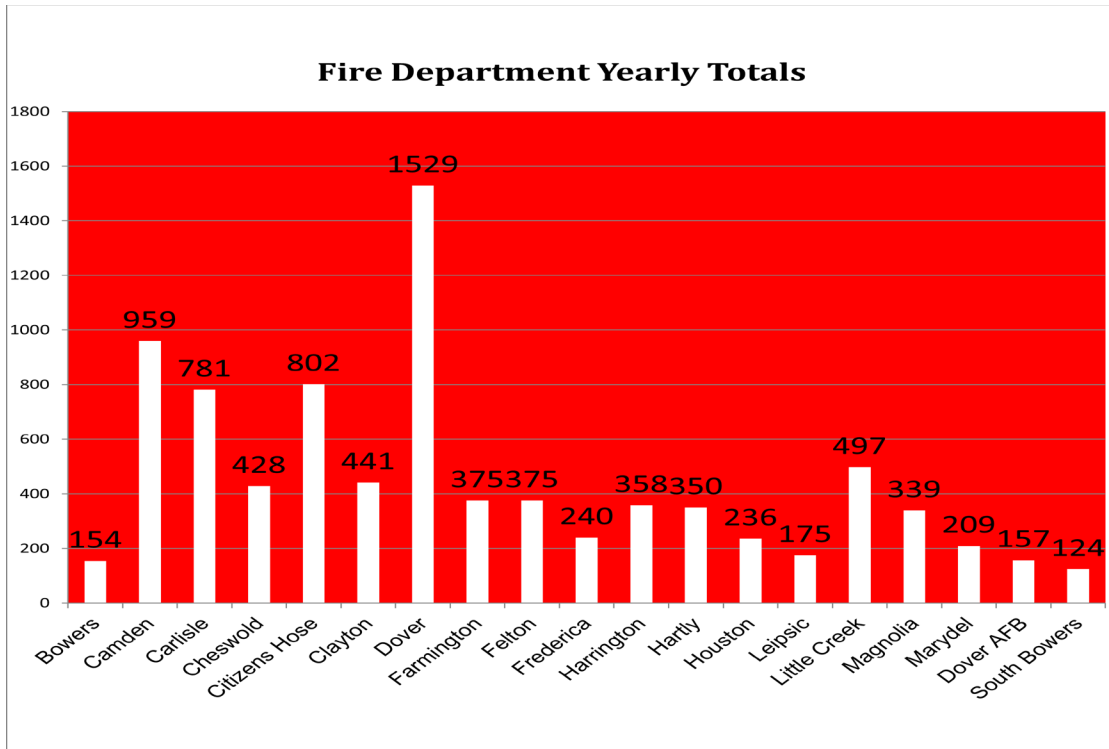
The Kent County Emergency Communications Division receives 911 calls through a variety of phone exchanges throughout Kent County, Northern Sussex County and Southern New Castle County. The total number of 911 calls processed in year 2022 was 95,692. Another 54,676 non-emergency administrative calls were also processed by our dispatchers. The Center dispatched or processed 37,964 medical incidents, 8,529 fire incidents and 109,430 police incidents in year 2022.

## Operational Overview



*This chart represents the total B.L.S. responses by Emergency Medical Services in 2022: 37,964.*

*\* This information is provided by Tyler Technologies*



*This chart represents the total fire related responses by Fire Companies in 2022: 8,529*

*\* This information is provided by Tyler Technologies*



**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 continues to support PulsePoint. 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 100,000 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.

## 2022 Accomplishments

- Continued to upgrade our Computer Aided Dispatch/Mobile Data systems through funds from the State 911 Board.
- Maintain a Drone Team consisting of Public Safety personnel from multiple divisions within our organization.
- Increased our staff to maintain minimal staffing levels of five (5) Fire/EMS Dispatchers 24/7. This initiative will better serve our citizens of Kent County during shift change and peak hours.
- Answered all 911 calls 98.60% of the time in ten (10) seconds or less, once again exceeding the NENA and NFPA standard of all 911 calls being answered in (10) seconds or less 90% of the time.
- Created a GIS Analysis position to assist with maintaining GIS data for our Public Safety agencies and mapping updates for our computer aided dispatch system.
- 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 11,374 subscribers as of the end of 2022.

## 2023 Challenges and Goals

- Continued to maintain our Medical and Fire Dispatch Accreditation through the International Academy of Emergency Dispatch.
- Start the process to become an Accredited Center of Excellence for Police Protocols.
- Provide additional training on National trends in Public Safety.
- Continue upgrading our current computer aided dispatch system with next generation technology and software.
- Expand the footprint of the Communications Center to include 22 Dispatch Consoles.



- Dispatch Center Wall Fabric/Carpet Replacement, the 911 Center was built in 1998 and has had 24/7-foot traffic ever since.
- Improve technology in our Mobile Command Vehicle.

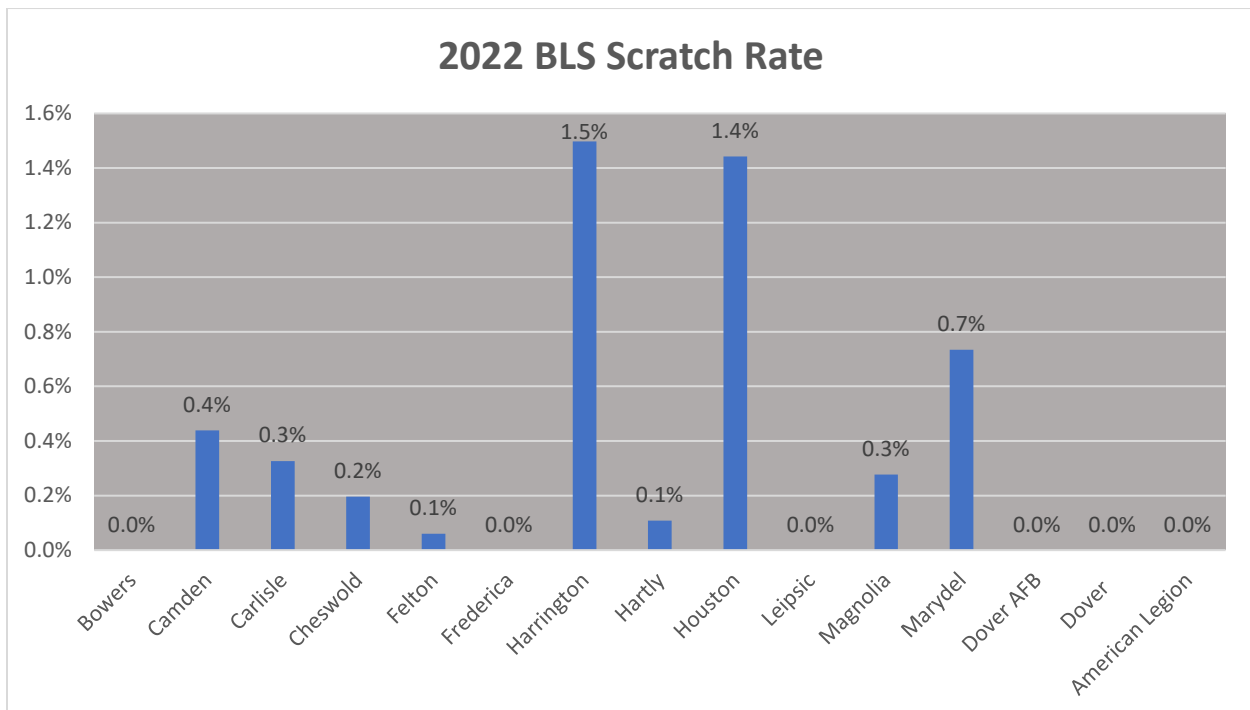
## Summary



The Kent County Emergency Communications Division provides Fire/EMS Communications to eighteen (18) Volunteer Fire Companies, two (2) EMS Companies and the Kent County Paramedics. The Center is staffed with twenty-five (25) Fire/EMS personnel and an administrative staff of four (4) personnel. The Delaware State Police Communications “KentCom” is also located in the Center with staffing of twenty-four (24) Police personnel.

All dispatchers are certified in the use of Emergency Medical/Fire/Police Protocols and cross-trained to assist with any activity in the Center. Each of the personnel participate in numerous hours of continuing education training to maintain their certification in each protocol.

The Kent County Emergency Communications Division 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 49<sup>th</sup> 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 6<sup>th</sup> agency in the world to become accredited in the use of Fire Protocols and have met the requirements every year since.



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# Sussex County Emergency Medical Services



## 2022 ANNUAL REPORT

*"Caring People. Quality Service"*



## Introduction

### 2022 Sussex County EMS Goals & Accomplishments

- Construction started and substantial progress towards the new EMS Administration and Education Complex.
- Property acquired for future construction of Medic 101, 103, and 111
- Station design approved for Medic 103 with construction to begin in 2023
- Maintaining a response ready fleet of vehicles
- Transition to Protean, LLC, a cloud-based application for Continuous Quality Improvement, certification management, and vehicle/equipment tracking
- Deployment of Medic 114 in Dewey Beach for the summer season
- Achieve agency reaccreditation by the Commission on the Accreditation of Ambulance Services (CAAS)
- To develop and implement a prehospital whole blood administration program

As challenging as the past several years have been, 2022 was approached as a year that we returned to the new normal. Sussex County Emergency Medical Services (SCEMS) continued its tradition of excellence in pre-hospital care while embracing the protective practices learned during the pandemic. The SCEMS competition team took the stage once again during the annual JEMS Games. The Sussex County Phoenix Club resumed the annual ceremony to honor prehospital cardiac arrest survivors and recognize their responders. The American Heart Association once again presented the GOLD Plus award to SCEMS for excellence in the care of cardiac and stroke patients.

SCEMS continued to welcome students from the Delaware Technical & Community College (DTCC) nursing program to experience a day of observation with our paramedics. This day of observation was also

expanded to include students in the respiratory therapy program. Medic 114 made its debut during the busy summer season. This unit was based in Dewey Beach to support EMS responses along the Route One corridor. Along with Medic 109's continued summer deployment, the daytime summer units available to respond to calls increased to twelve. 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. Construction of a new EMS headquarters and state of the art education complex began early in 2022. Occupancy of the new complex is anticipated in the spring of 2023.

## Emergency Operations Complex & Education Center

Construction was started on the new paramedic administrative office complex and state of the art education center. This new facility is nearly 20,000 square feet and will house the SCEMS administrative staff, the logistics warehouse, and the simulation and education center. All administrative offices will now be under one roof and will allow for improved communication and collaboration.



The new simulation and education center, which is the primary focus of the building, will allow for more paramedics to attend training together. The simulation lab will house the ambulance simulator that SCEMS currently utilizes to allow for realistic scenario progression. Multiple breakout rooms will allow for multiple training sessions to occur simultaneously.

Fitness equipment has been incorporated into the complex as part of the employee wellness program.

All staff are encouraged to utilize the equipment with a goal of improved wellness and injury reduction. A circuit course that is currently utilized for pre-employment evaluations, bi-annual employee wellness assessments, and return to work assessments will be revalidated in the new complex.

The new headquarters will share a common entrance with the current Emergency Operations Center. Moving closer to our partners in emergency services will provide ample opportunities to work together and collaborate on common projects. It is anticipated that occupancy will occur in the Spring of 2023.



## Clinical Excellence

**Whole Blood:** The initiative to bring the delivery of whole blood to the pre-hospital environment in Sussex County has been quite the journey. Working through the logistics of ensuring proper environmental controls for the blood products has been ongoing. Coolers have been received, tested, and validated to maintain the necessary temperature range for blood product storage. Remote temperature monitoring has been tested and found to be accurate and reliable. The coolers have been stressed to ensure that they allow adequate temperature regulation of a unit of whole blood. With many of these logistical concerns addressed, the challenge now turns to the acquisition of the blood products. Knowing that whole blood is a valuable resource, this initiative has been designed with a goal of zero waste. Before taking possession of blood products, it is imperative we have a plan for use after removal from EMS circulation. This is the focus moving forward into 2023.



**Cardiac Monitor Evaluation:** In December 2022, a work group convened to begin reviewing and evaluating cardiac monitors. SCEMS currently utilizes the Stryker LifePak 15. While these monitors continue to meet our needs, they are nearing the end of their serviceable life. The committee will work into the first quarter of 2023 to learn about the various options, receive in-service training on available new monitors, and conduct field trials. At the conclusion of the field trials, the committee will make a recommendation to the senior leadership. The leadership will take that recommendation into consideration when making a final decision.



**Cardiac Arrest Improvement:** Sussex County EMS has continued efforts to 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 and annotated for HPCPR criteria. This includes our chest compression fraction (CCF), ventilation rate, placement time of a mechanical CPR device, and other ACLS interventions. CCF varied within



the department initially in 2019 when we started tracking it. 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

Return of Spontaneous Circulation (ROSC) improved greatly. For 2022, we achieved our CCF goal on 91% of our cardiac arrests and on 86% of our shockable initial rhythm cardiac arrests. This correlates with our noted success in the national CARES (Cardiac Arrest Registry to Enhance Survival) database. In 2021, our CARES Utstein (sub-group of patients most likely to survive sudden cardiac arrest) Survival Report reflected an Utstein and Utstein Bystander survival rate of 31.2% (32) and 28.6% (21) respectively. This was close to the national average for the year. For 2022 with the noted successful HPCPR goal, our survival report showed an Utstein and Utstein Bystander survival rate of 52.8% (36) and 61.5% (26) respectively. This is approximately a two-fold increase in survival compared to the national average in 2021.

## 2022 Phoenix Ceremony

On November 4<sup>th</sup>, 2022, SCEMS hosted the first Phoenix Club ceremony since the onset of the pandemic. During this event, 46 survivors of prehospital cardiac arrest in 2019 and 2020 were recognized. Along with these survivors, 197 first responders were recognized. These responders included paramedics, EMTs and fire department first responders, law enforcement officers, and emergency medical dispatchers. In all, there were 260 guests in attendance at this ceremony.

Another Phoenix ceremony is scheduled for April 2023 to recognize survivors and responders for incidents occurring in 2021 and 2022. Future ceremonies will be held on an annual basis in April of each year.

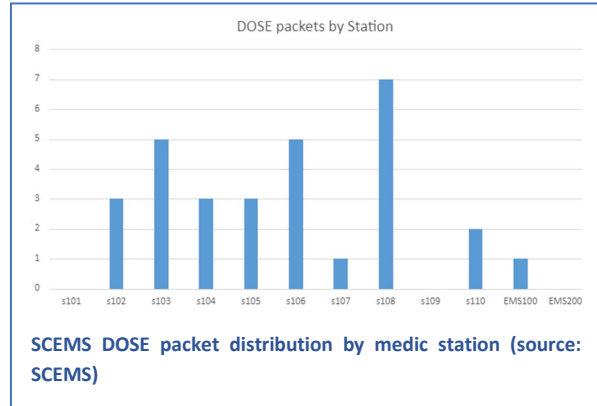


Sussex County Phoenix Ceremony November 2022 (source: SCEMS)

## Community Programs

**DOSE Program:** Sussex County EMS continues to support and believe in the state sponsored "DOSE" program that was established 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. SCEMS paramedics find themselves in a unique situation where they have earned the trust of a patient, have been allowed inside their home, and where they can offer

real time education in the hopes of preventing tragedy by reducing the incidence of infant sleep related deaths. Throughout 2022, SCEMS paramedics handed out 30 DOSE packets. Each one of these with the potential to save a life! In addition to sharing educational material, if an urgent need is identified, SCEMS paramedics can request a crib to be delivered to the residence and will assist in setting it up. In 2022, two (2) cribs were distributed to allow for an immediate safe sleeping space for an infant in need.



**Narcan Leave Behind Program:** In 2022, Sussex County Emergency Medical Services completed its first full year of participation in Delaware’s Naloxone Leave Behind program. All response vehicles carry opioid rescue kits provided by the Office of Emergency Medical Services. This is part of an outreach program to target vulnerable populations at risk of repeated overdoses. Patients who are revived with naloxone often refuse further treatment or transport to a hospital. Subsequent opioid use presents the risk of repeated overdose and possibly death. Equipping friends and family members with naloxone allows them to provide resuscitative care before the arrival of trained rescuers. An important component of these rescue kits is information on available drug counseling and rehabilitation services for those wishing to manage their addictions.

During 2022, Sussex paramedics distributed 134 opioid rescue kits and trained 185 citizens in how to save someone who has overdosed. As part of our program, an audit is conducted through ImageTrend to identify any potential missed opportunities. These are cases in which a patient was administered naloxone and refused transport; however, no opioid rescue kit was supplied. In many of these situations, patients were released to law enforcement and kit distribution was not appropriate. Another common occurrence was that no one on scene wished to receive a rescue kit. Despite a few potential missed opportunities, the program was quite successful in distributing these kits to our patients.

## Personnel

SCEMS entered 2022 with only one vacancy. In July 2022, four (4) new full time paramedic positions were added creating additional vacancies. These new positions allowed for staffing of the new Medic 114 Dewey Beach power unit and to backfill vacation and other leave slots. Twelve (12) new paramedics were hired throughout the year and came to us from several regional paramedic programs as well as other out of state EMS systems. SCEMS ended the year with five vacancies. Nine employees separated from the department throughout the year. One of which was an employee retirement with more than 25 years of service. At the conclusion of 2022, five paramedics have more than 25 years of service and are eligible for retirement. SCEMS appreciated an annual attrition rate of 10% while the EMS industry often sees an annual rate of 20-30%.

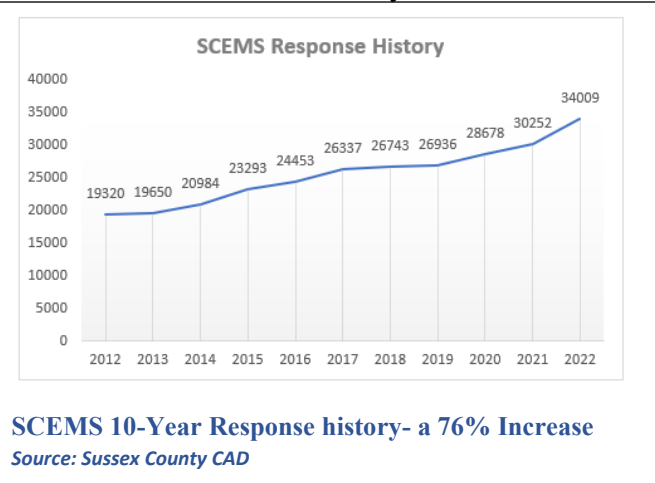
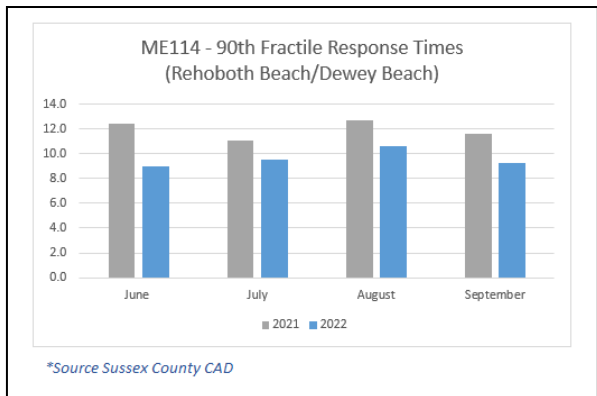
Building on previous success, SCEMS hired two students who started their paramedic education in January 2022. Attending classes at Delaware Technical and Community College, these SCEMS employees are on track to graduate in the spring of 2023. With their education complete, these new paramedics will be ready to serve the community for the busy 2023 summer season.

## 2022 Incidents

2022 Incident Responses		Δ Last Year
EMS 100 (Eastern Supervisor)	1,157	-4%
EMS 200 (Western Supervisor)	1,068	-4%
Medic 101 (Lincoln)	3,105	5%
Medic 102 (Laurel)	2,778	3%
Medic 103 (Dagsboro)	3,640	12%
Medic 104 (Lewes)	4,640	8%
Medic 105 (Millville)	2,620	7%
Medic 106 (Long Neck)	3,537	7%
Medic 107 (Bridgeville)	1,533	8%
Medic 108 (Georgetown)	3,083	11%
Medic 109 (Summer "Power Unit")	382	18%
Medic 110 (Seaford)	4,113	9%
Medic 111 (Milton "Power Unit")	1,332	26%
Medic 114 (Dewey "Power Unit")	550	N/A
Special Operations	233	-10%
Other (Administration)	189	-22%
<b>Total</b>	<b>33,960</b>	<b>9%</b>

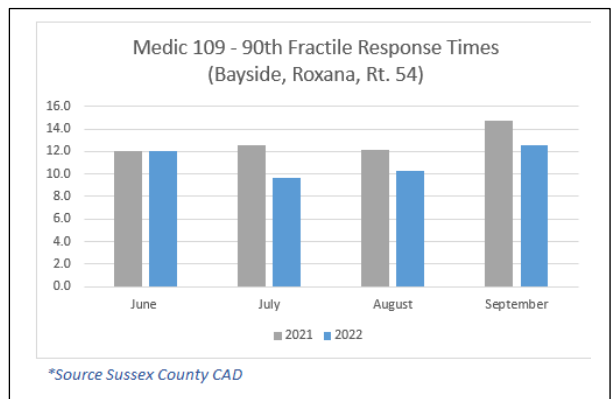
*Incident Responses by Unit (Source: Sussex County CAD)*

For the year 2022, SCEMS experienced an 8% increase in response volume when compared to 2021. Over the past ten years, a 76% increase in unit responses has been appreciated. This demand has continued to be met with ten paramedic units (including the daytime Milton “Power Unit”) and two district supervisors. During the summer season, the Route 1 corridor and the Southeastern corner of the county were supported with daytime “power units”. This was the first season utilizing Medic 114 stationed in Dewey Beach.

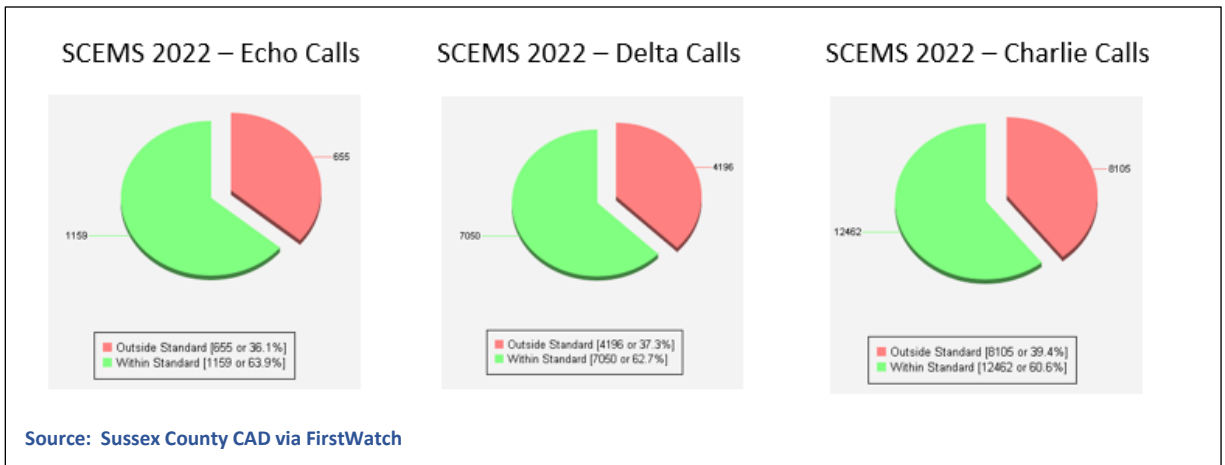


**Medic 114:** In response to increasing calls for service along the Route One corridor, SCEMS partnered with the Town of Dewey Beach to place Medic 114 into service. This power unit for the 2022 summer season was staffed by a SCEMS paramedic beginning Memorial Day weekend and running through Labor Day Weekend. This unit provided a quicker response into the surrounding areas. Additionally, it allowed for responses into the neighboring communities when needed. This proved to be a valuable resource and one that is anticipated to continue during the 2023 summer season.

**Medic 109:** This traditional summer power unit once again was placed in service over the busy summer months. Stationed in the lower Southeastern portion of Sussex County, Medic 109 provided a valuable resource to an area that continues to grow and expand. Following the review of response data from 2022, it is anticipated that following the deployment of Medic 109 in the summer of 2023, it will remain in service year-round as a daytime power unit staffed with one paramedic. Medic 109’s response volume in 2022 did increase by 9% and reduced the 90<sup>th</sup> fractal response time to the area by 13% when compared to 2021’s response data.



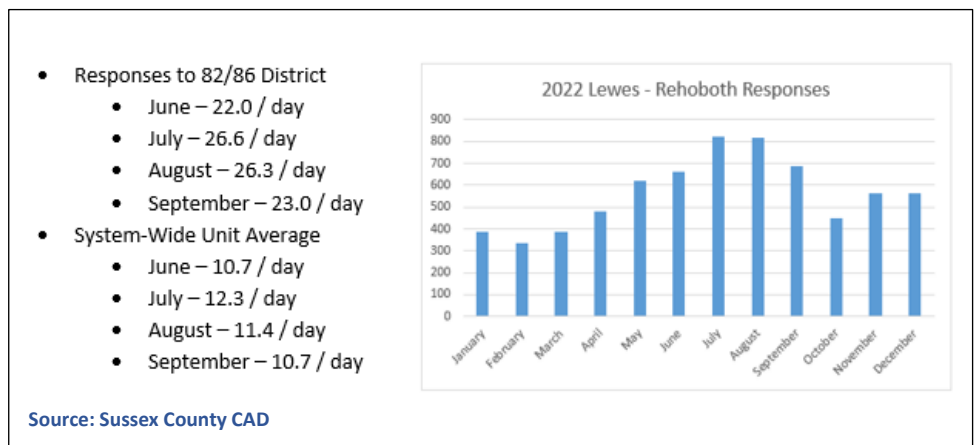




Meeting the goal of an 8-minute response time continues to be a challenge in Sussex County. Our geography continues to be the greatest barrier. While response times are evaluated based on EMD code, compliance with an 8-minute standard is consistent between Charlie, Delta, and Echo responses.

While Sussex County continued to welcome visitors throughout the year, approximately 8.9% of our patients for 2022 resided outside of Sussex County. This represents a decrease of 3.1% from 2021. Considering the increased response volume, the decrease in out of county residents seemed surprising. Perhaps the 2021 visitors are now Sussex County residents.

Almost all SCEMS paramedic units faced an increase in response volume when compared to 2021. Responses into the Lewes and Rehoboth Beach areas were well above the system average with the month of July



seeing an unprecedented average of 26.3 responses per day. The addition of Medic 114 contributed to an overall reduction of response times by 20% into the Rehoboth and Dewey Beach communities.

## Awards

**CAAS Accreditation:** SCEMS has enjoyed the recognition afforded by the Commission on the Accreditation of Ambulance Services for three years. Throughout the year, SCEMS operations, policies, and procedures were reviewed and updated to ensure compliance with the current CAAS guidelines. The application for reaccreditation was submitted in July 2022



with a site visit held in late October. SCEMS hosted two evaluators for a two-day visit. At the conclusion of their visit, SCEMS received positive comments from the evaluators. In December of 2022, SCEMS received the formal notice of reaccreditation for an additional three years.

**Mission LifeLine:** Sussex County EMS continues to provide the highest level of cardiac care. For the fifth consecutive year, SCEMS received 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. The American Heart Association has announced plans to expand the focus of the EMS recognition program by including measures that evaluate stroke care. This recognition by the American Heart Association serves as a third-party evaluator of our cardiac and stroke care data. Once again, the AHA has confirmed that SCEMS paramedics are among the best in the country.



**JEMS Games:** Following the cancellation of the 2021 JEMS Games EMS competition, the SCEMS team returned to the stage during the 2022 FDIC JEMS Games in Indianapolis, IN. After successfully navigating the preliminary round of the competition, the SCEMS team advanced to the final round of the competition. The final scenario presented a real-life situation based on current events that challenged the teams with multiple patients in a variety of settings and conditions. SCEMS paramedics finished in third place. With the 2023 competition on the horizon, the team continues to practice to take center stage once again.

**2022 Joshua M. Freeman Valor Award:** Paramedic Maria Berdan was nominated for the 2022 Joshua M. Freeman Valor Award. In August of 2015, Maria was the victim of an on-duty assault causing multiple spinal discs to rupture. The injuries were debilitating and prevented Maria from working as a field paramedic during her treatment and recovery process. Maria returned to full duty as a field paramedic in January of 2017. Fifteen months later, in April of 2018, Maria was diagnosed with a rare and aggressive form of breast cancer. Maria was unwilling to accept the fate of her diagnosis and began the fight of her life. A double mastectomy and multiple other surgeries were performed. Maria also participated in a trial treatment that included radiation and chemotherapy which required constant travel to Baltimore. Maria's determination and positive attitude never wavered, and the treatment plan was successful. When this second opportunity for long-term disability presented itself, Maria chose to return to work, without restriction, in April of 2019 all while still receiving cancer treatments.



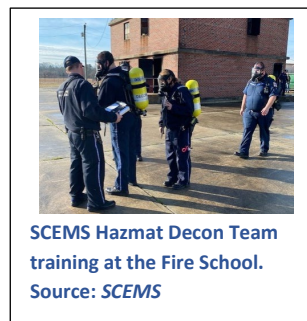
Less than one year later we faced a highly contagious pandemic that preyed on the most vulnerable populations. While all paramedics faced uncertain risk in dealing with COVID, Maria had an even higher risk. Despite her doctors begging her to stop working, her desire to work in the field providing exceptional care never wavered and she did so with a smile on her face, compassion for her patients and an unyielding work ethic.

Maria Berdan demonstrates valor every day she comes to work and does so with an inspiring positive attitude where failure or quitting is not an option. When asked what information she was comfortable sharing, she replied that she was willing to share all the details. Maria wants her peers and colleagues to know that despite the most terrifying diagnosis, they can choose to fight, use every resource, and expend all their energy to win the battle, and to simply never quit. Maria was chosen as the recipient of the 2022 Joshua M. Freeman Valor Award.

## Operations

**Staffing:** 2022 staffing level returned to what has traditionally been considered “normal”. With fewer vacancies and without the need for extended quarantine, SCEMS was not faced with the staffing challenges that existed in 2021. During the pandemic, a modified new employee orientation and evaluation process was instituted to ensure adequate staffing levels were maintained. This process was not necessary in 2022 but did lead to positive modifications in how new employees are onboarded.

**Special Operations:** 2022 SCEMS special events and public education endeavors began to return to pre-pandemic numbers. SCEMS provided coverage for over 90 special events with 187 medics and over 1,500 personnel hours. Educational efforts included forty events covered by 71 medics with 370 personnel hours. SCEMS provide ALS coverage during motorcades and at landing zones during Presidential visits to Rehoboth. We have established a strong working relationship with the Secret Service who have provided system-wide training with future training opportunities forecasted. The hazmat team continues to work with the Sussex County Technical Rescue Team during training and presentations with the goal of achieving dual dispatch.



## Education and Quality Management

**Continuous Quality Improvement (CQI):** The SCEMS CQI program continues to be a robust process and remains a contributing factor to our clinical success. The process is demanding and transition into the Protean system continues.



An integration with the EMS reporting system is in the works to enhance the CQI workflow. Traditionally, all paramedics in the department have participated in the CQI review process. As response volume continues to increase, the time available to dedicate to a thorough and uninterrupted review is diminishing. The implementation of a logic-based review process conducted by a smaller group of providers is in development.



SCEMS Paramedics practicing airway management (Source: SCEMS).

**Continuing Education-** As a result of our commitment to education, we did not cancel Con Ed when we could not meet in person rather virtual sessions were held in January and February of 2022.

Opportunity for online learning did present itself with a unique chance to learn from the United States Secret Service who provided leadership from their elite HAMMER team to provide 4 lectures to our paramedics on their abilities and how our staff would integrate with their team during an operation.

During October's continuing education sessions, all 911 paramedics from across the state, from all 3 counties, Delaware State Police Aviation, and Christiana Care LifeNet attended the first Delaware State Con Ed in over 15 years. This training was planned a year in advance by the educators from New Castle, Kent, Sussex, and DSP and focused on covering: the new 2022 protocols with the state medical director, and an advanced 12 Lead EKG review presented by international EKG expert Tim Phalen. It is our hope that this state-wide training, once again, becomes an annual event.

In 2018, SCEMS hosted a multi-jurisdictional Con Ed with a focus on aviation. In 2021, a similar training covered the basics of water rescue. This year with the support of DEMA funding, our most in depth multi-jurisdictional training took place in Rehoboth at the county's wastewater treatment site on the topic of farm emergencies and rescue operations. This class was taught by the experts at Rescue Tech's who are the nation's leading expert on the topic. While SCEMS was the host, our teammates at: DSP, the Sussex County Technical Rescue Team, and several local fire departments (71, 72, 77, 78, 82, 87) participated with our paramedics in the five separate rescue operations and awareness classes.



SCEMS paramedics, local fire service, and the county technical rescue team participating in farm rescue training (Source: SCEMS)



ALS & BLS Simulation training

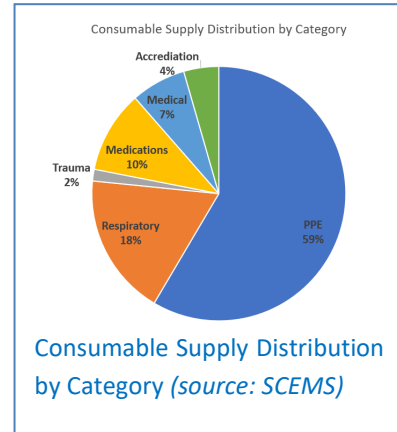
**Simulation Program:** 2022 was a busy year for the team as the program returned to an active schedule. Nine separate sim sessions were held that involved BLS providers learning alongside the SCEMS paramedics. These scenarios were designed to include educational points for all providers. Most of these simulation events were held outside of the classroom and in a realistic environment.

As the simulation program continued to evolve, a desire grew to seek validation that the program was operating following best practices. This led us to seek accreditation with the Society for Simulation in Healthcare (SSIH). Throughout the year, the SSIH accreditation standards were reviewed, compared to current SCEMS simulation practice, and policies and procedures were revised to ensure compliance with the established best practices. A team operational plan was developed that identified roles and responsibilities, scenario development and approval process, and overall program management. The application for accreditation was submitted in early 2023 with a site visit likely occurring after moving into the new education complex. Following the successful

completion of the site visit in mid-2023, SCEMS may well be the first and only EMS agency in the world to hold this accreditation.

## Logistics and Capital Improvement

**Logistics:** SCEMS has a five-person Logistics Division that oversees and coordinates station, equipment, vehicle purchase and maintenance, and employee uniforms. In 2022, they handled 2618 requests for service and repairs. Additionally, our Logistics Division purchased, processed, and distributed 83,680 requests for consumable medical supplies. This represents an 8% decrease compared to 2021 utilization. This has been attributed to the modified PPE guidelines surrounding the COVID response.



**Response Ready Fleet:** Six new vehicles were placed in service that included two ALS response Suburbans, one pickup truck for the Health & Safety Officer, one administrator vehicle, a 12-passenger van, an information technology pickup truck, and one special operation medical transport UTV. Our fleet drove 537,000 miles using 44,751 gallons of fuel for an average of 12.91 miles per gallon.

**Paramedic Station Updates:** No new paramedic stations were built in 2022. As previously noted, the focus of 2022 was on the new administrative and education complex. Land was acquired in the Millsboro area for construction of a new Medic 103 station. Planning continues for the future construction of two additional stations for Medic 101 in Lincoln and Medic 111 in the Milton area.

## Summary and a Look at 2023 Goals

This past year was a return to the new normal. We continued to observe appropriate PPE guidance based on the CDC guidelines. While ensuring provider safety, we were able to welcome observers back into our stations with fewer restrictions. We participated in more special events with frequency similar to pre-pandemic. We experienced a busy summer vacation season as visitors returned to the beautiful Delaware beaches. The year ended on a high note as SCEMS received reaccreditation for a three-year period by CAAS.

Paramedic education remains at the heart of our operations. The SCEMS continuing education schedule was back to normal with in person training and education. As the staff continues to grow, the classroom became quite full at times. As the new education center begins to take shape within the new administrative complex, we are excited to begin planning the next year of education with a larger classroom, more breakout rooms, and an expanded simulation lab.

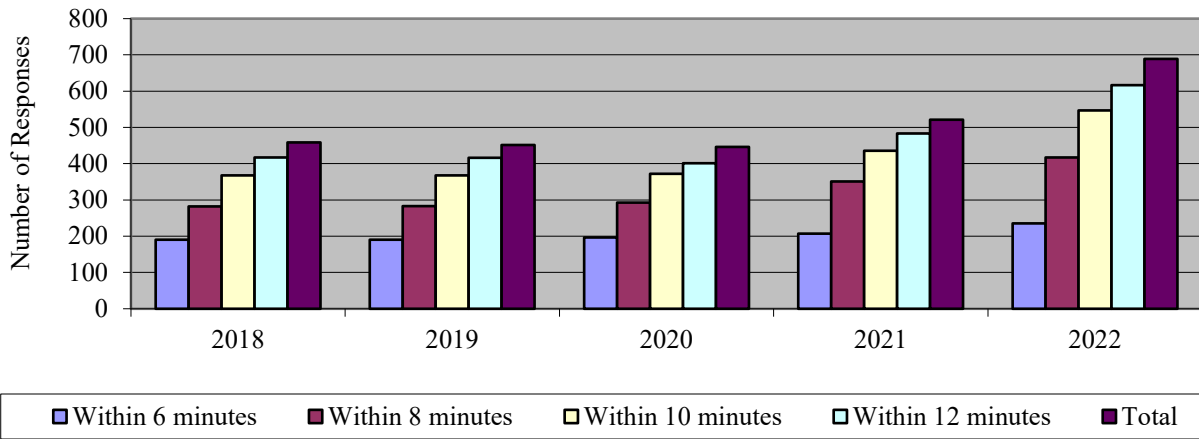
All SCEMS activities are completed with our motto of “Caring People, Quality Service” in mind. As we look towards 2023, SCEMS will be moving into the new Emergency Operations Complex in Georgetown. Plans are underway for new Medic 101, 103, and 111 stations. SCEMS has an application for accreditation of the simulation program with the Society for Simulation in Healthcare (SSIH).

### **2023 Goals and Initiatives**

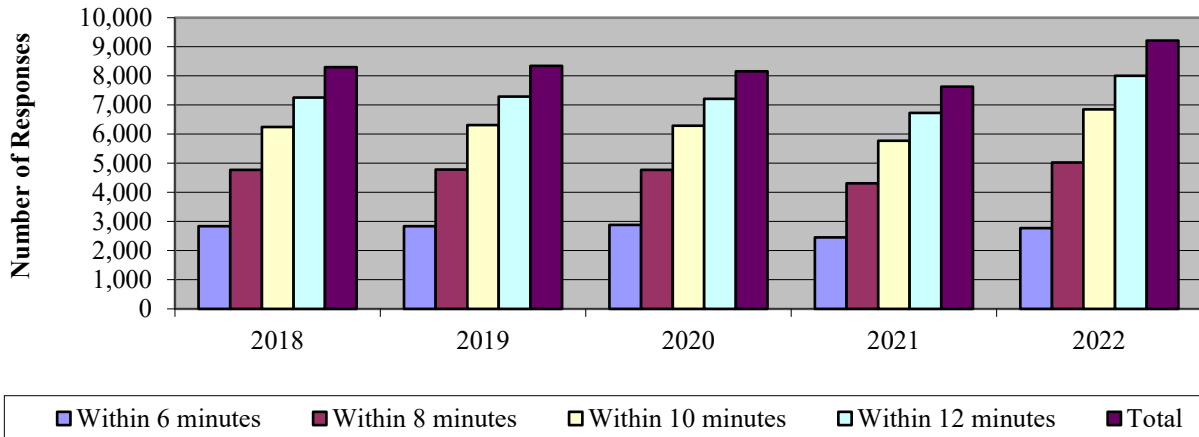
- Enjoy completion of the new EMS Administrative and Education Complex
- Continue progress towards a new Medic 103 station with construction anticipated to begin in 2023
- Achieve SSH Accreditation of the SCEMS Simulation program
- Maintain a response ready fleet
- Implementation of the new SCEMS CQI system with ImageTrend integration
- Implement a prehospital blood product administration program
- Continuation of the paramedic student program
- Expansion of Employee Mental Health awareness and resources
- Implement the State of Delaware’s Buprenorphine program

*All photos and data submitted by Sussex County EMS*

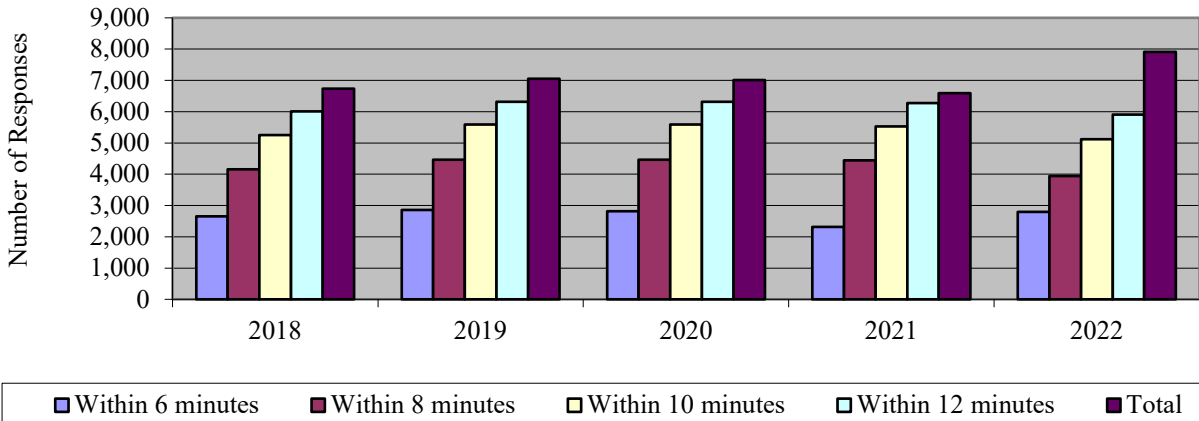
### Echo Level Response, Sussex County EMS



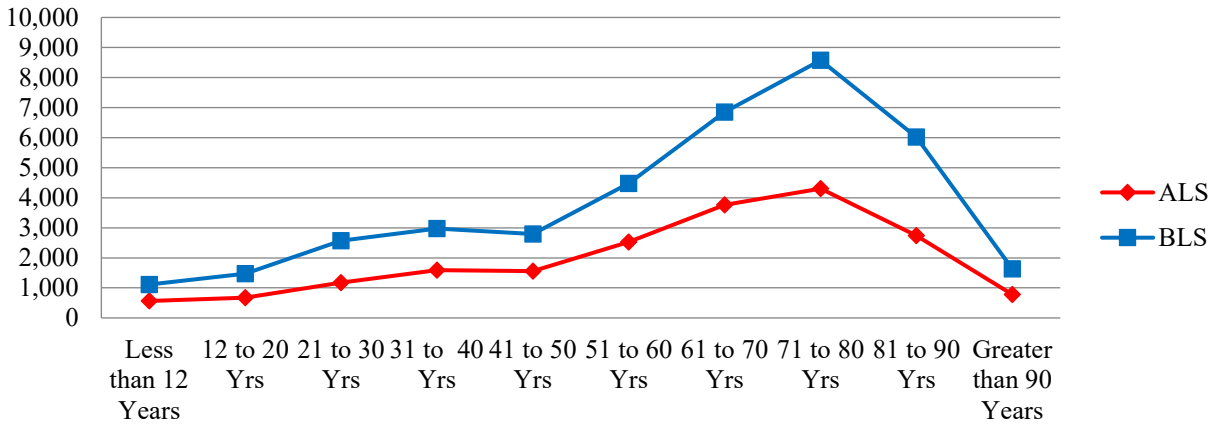
### Delta Level Response, Sussex County EMS



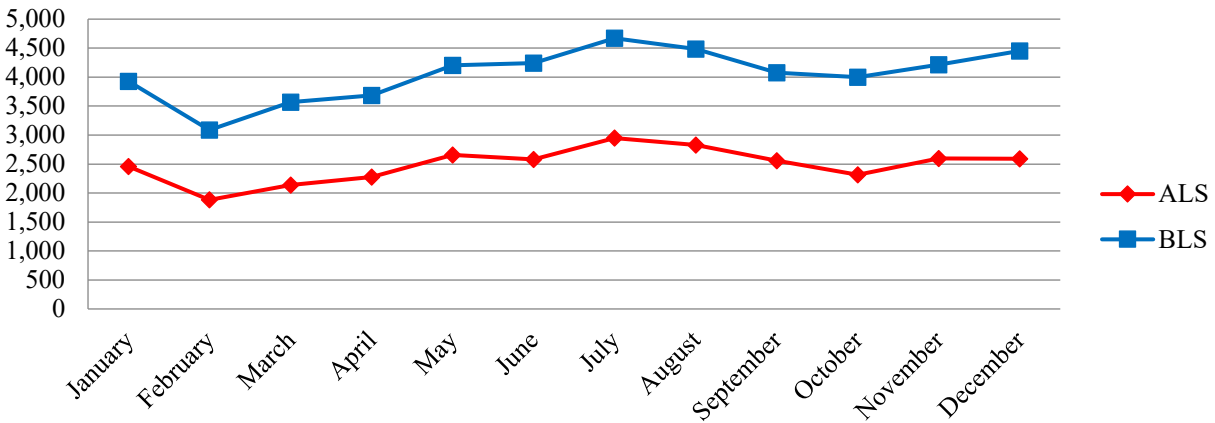
### Charlie Level Response, Sussex County EMS



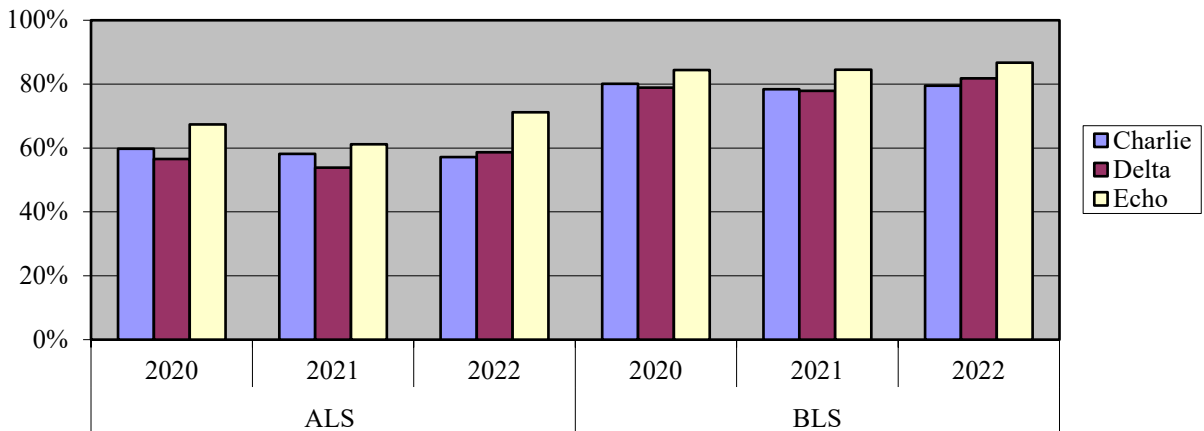
### ALS and BLS Patient Age Comparison - 2022 Sussex County



### ALS/BLS Incidents by Month - 2022 Sussex County



### Percentage When Sussex County ALS/BLS Arrived On-Scene in 8 Minutes or Less on Delta/Echo/Charlie Level Incidents - 2022





# Sussex County Emergency Operations

## *Submitted by Joseph Thomas*

### Introduction:

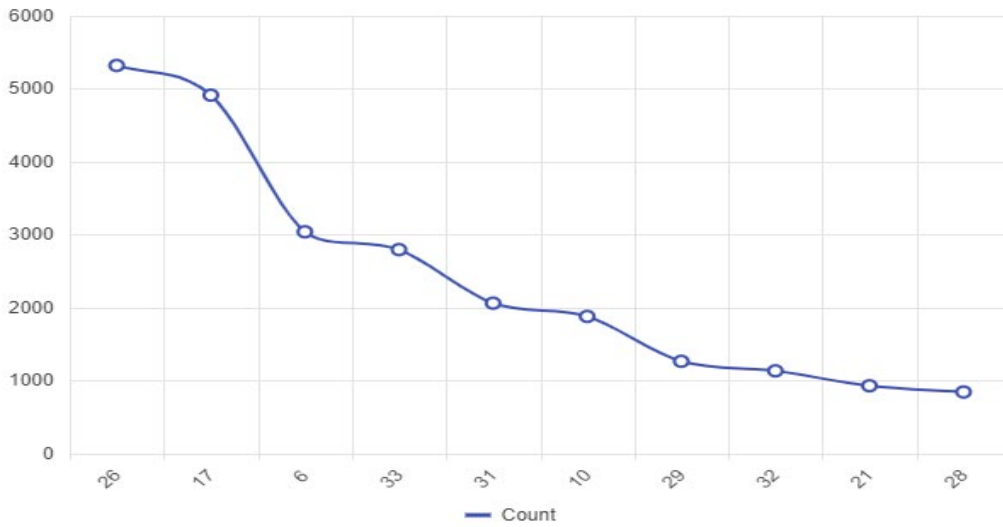
Sussex County Emergency Operations provides the citizens and visitors of Sussex County with quality and timely emergency services, which includes 9-1-1 law enforcement call taking, Fire and EMS dispatching as well as Emergency Management to prevent, prepare, respond, and recover from natural and man-made 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.



## Operational Overview and Yearly Totals for EMS-FIRE-Police Incidents

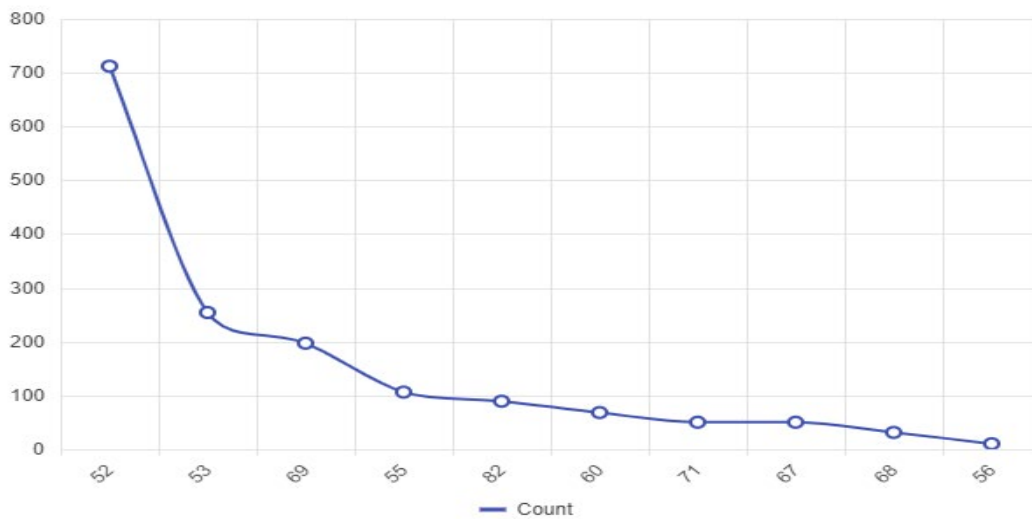
### EMS

Top 10 Final Protocols



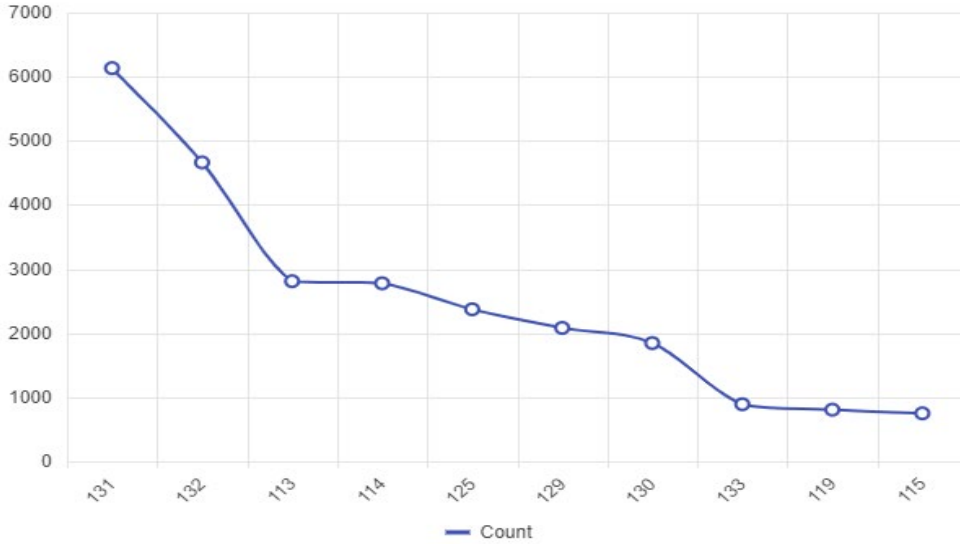
### FIRE

Top 10 Final Protocols



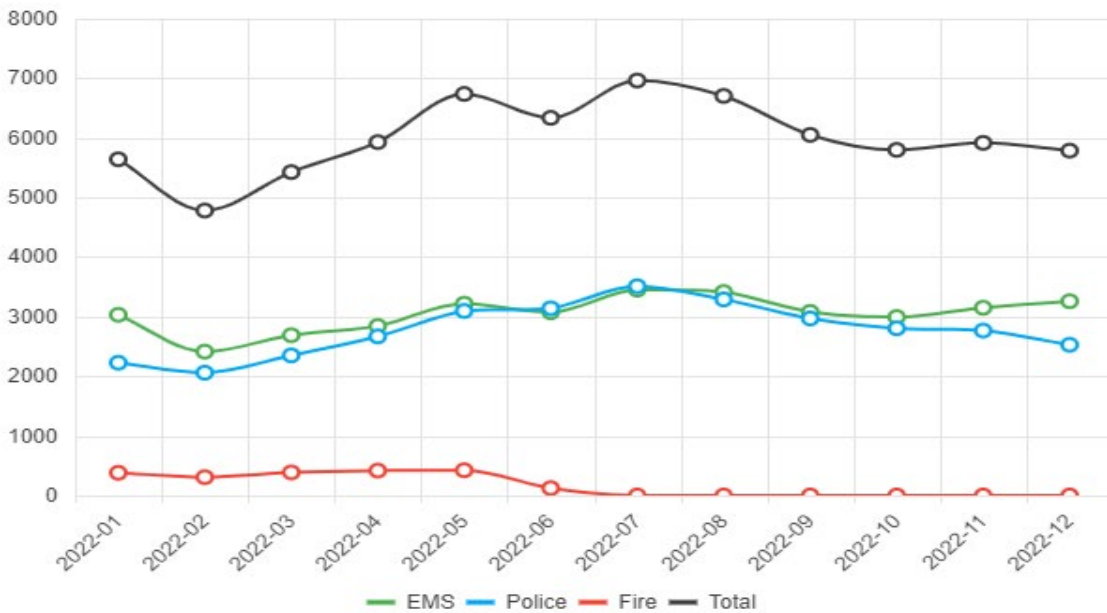
# POLICE

### Top 10 Final Protocols



## Total Combined Call Volume

### Call Volume by Discipline by Month



## 2022 Initiatives



### Sussex County Emergency Operations Events and Community Programs

- 18 Command Post Events and Exercises
- 8 Smart 911 Displays and Community Outreach
- 7 Fire Department Trainings at their Respective Stations
- 4 Command Post Callouts for Emergency Incidents

### 2022 Accomplishments

- Staffing Levels Increasing to 90% of the 40 dispatchers needed
- Submitting Re-Accreditation for Fire with Priority Dispatch
- Submitting Accreditation for Police with Priority Dispatch
- Putting 6 Communication Specialist 2's through the APCO Trainers Program
- 100% completion for all Emergency Dispatchers obtaining the IAED's Dispatch Directed CPR Class

### 2023 Goals/Challenges

- Implementation of the Sussex County Emergency Operation Center's first Telecommunicators Incident Stress Management (T.I.S.M) Team
- Receiving the TRI-ACE Accreditation for MEDICAL-FIRE-POLICE
- Sustaining 100% Staffing Levels
- ASAP to PSAP: Future this allows the alarm company to transfer alarm data directly into the CAD. This minimizes the phone calls into the 911 center and update to that alarms are real time.
- 911 Information sharing (resource request/ incident details and unit status) with the Rave Aware between Sussex County and Caroline County

10 Total
0 Unanswered Panic Calls
0 Not Mapped
16 CALLS
14 CAD
0 New Chats
VIEWING-TICKET 03072023-337580-48
Vineyard
Hi Steve
Log out
OPTIONS

**Tickets** Create New

**CAD TICKETS (14)**

- CAD EVENT**  
 Start: 3/07/2023 15:24:15  
 Ticket: 1754541  
 Event Type: Alarm Company  
 Agency: Sussex  
 Lat/Lng: 38.72257 / -75.68687
- CAD EVENT**  
 Start: 3/07/2023 15:20:47  
 Ticket: 1754540  
 Event Type: Breathing Problems-ALS  
 Agency: Sussex  
 Lat/Lng: 38.863314 / -75.40489
- CAD EVENT**  
 Start: 3/07/2023 15:09:01  
 Ticket: 8225  
 Event Type: PARAMEDIC TRANSFER  
 Agency: Caroline  
 Lat/Lng: 38.863314 / -75.822495
- CAD EVENT**  
 Start: 3/07/2023 15:03:37  
 Ticket: 1754538  
 Event Type: Unconscious/Fainting(Near)-ALS  
 Agency: Sussex  
 Lat/Lng: 38.78036 / -75.13934
- CAD EVENT**  
 Start: 3/07/2023 14:57:45  
 Ticket: 1754534  
 Event Type: Breathing Problems-ALS  
 Agency: Sussex  
 Lat/Lng: 38.74689 / -75.42935
- CAD EVENT**  
 Start: 3/07/2023 14:53:29  
 Ticket: 8229  
 Event Type: TRAFFIC STOP  
 Agency: Caroline  
 Lat/Lng: 38.707043 / -75.91323
- CAD EVENT**  
 Start: 3/07/2023 14:36:02  
 Ticket: 1754526  
 Event Type: Intubation/Palliative-ALS  
 Agency: Sussex  
 Lat/Lng: 38.586784 / -75.29515
- CAD EVENT**  
 Start: 3/07/2023 14:26:22  
 Ticket: 1754522  
 Event Type: Residential Structure Fire  
 Agency: Sussex  
 Lat/Lng: 38.376713 / -75.5802
- CAD EVENT**  
 Start: 3/07/2023 14:23:17  
 Ticket: 8224  
 Event Type: HEART PROBLEMS / A.I.C.D.  
 Agency: Caroline  
 Lat/Lng: 38.958565 / -75.8006
- CAD EVENT**  
 Start: 3/07/2023 13:47:57  
 Ticket: 8222  
 Event Type: PARAMEDIC TRANSFER  
 Agency: Caroline  
 Lat/Lng: 38.97444 / -75.80471
- CAD EVENT**  
 Start: 3/07/2023 13:42:55  
 Ticket: 8220  
 Event Type: SICK PERSON  
 Agency: Caroline  
 Lat/Lng: 38.976917 / -75.80727
- CAD EVENT**  
 Start: 3/07/2023 13:37:52  
 Ticket: 8213  
 Event Type: SUICIDAL PERSON  
 Agency: Caroline  
 Lat/Lng: 38.87813 / -75.82558

CALLER TOOLS

## **Rehoboth Beach 9-1-1 Communications Center**

The Rehoboth Beach 9-1-1 Communications Center provides 24/7 9-1-1 and emergency communications services to the City of Rehoboth Beach Police and the surrounding area encompassing the 21 square mile Rehoboth Beach Volunteer Fire Company jurisdiction. Serving a total population of 21,700 residents and over 10,000,000 visitors each year.

To accomplish this the Rehoboth Beach 9-1-1 Communications Center operates within the Rehoboth Beach Police Department building under the direction of the Chief of the Rehoboth Beach Police Department and a Communications Supervisor. Utilizing the INTRADO 9-1-1 phone system, Verint recording software, Ring Central VOIP administrative lines, Motorola Centracom Elite Radio System, and Tyler Technologies Enterprise MSP CAD.

The 9-1-1 center is currently approved for 11 full-time employees and 2 part-time employees consisting of 6 Communications Specialist/ Communications Specialist I, 4 Communications Specialist IIs which act as shift supervisors, and 1 Communications Supervisor that oversees all 9-1-1 center operations. There are currently 2 Communication Specialist vacancies.

The Rehoboth Beach 9-1-1 Communications Center was recognized by the International Academy of Emergency Dispatch as the 79<sup>th</sup> Emergency Medical Accredited Center of Excellence in the world on April 1, 2003. In 2019 the communication center received accreditation in both Emergency Police and Fire Dispatch and was recognized as the 17<sup>th</sup> Tri-ACE in the world, and the first in the State of Delaware.

In 2022 the Rehoboth Beach 9-1-1 Communications Center processed 9,009 incoming 911 calls, 36 incoming text-to-911 calls, and 13,251 non-emergency incoming calls. The communications center processed and/or dispatched 3,089 police incidents, 2,230 traffic stops, and 2,085 9-1-1 Disconnects for a total of 7,404 police type complaints. The communications center processed and/or dispatched 4,068 EMS incidents of which 51 were ECHO level cardiac arrests. The communications center also processed and/or dispatched 813 fire incidents during the year.

### **2022 Accomplishments**

In 2022 the Rehoboth Beach 9-1-1 Communications Center accomplished several major goals. The communications center received approval to re-structure the job classification and pay grades of dispatchers. The communications center went from only having two designated levels of positions, Dispatcher and Dispatch supervisor. To four positions Communications Specialist, Communications Specialist I, Communications Specialist II, and Communications Supervisor. With that job reclassification four Communications Specialists met the requirements and were promoted to Communications Specialist II and assumed shift supervisory roles.

The Communications Specialist IIs worked together to review and bring necessary updates to the Rehoboth Beach Communications Center policy and procedures manual completely reviewing and updating the half of the manual.

The Rehoboth Beach 9-1-1 Communications Center completed the re-accreditation process for Emergency Medical, Police, and Fire Dispatch and was successfully recognized as being re-accredited as the world's 17<sup>th</sup> Tri-ACE by the International Academy of Emergency Dispatch.

The Communications Center achieved its goal of providing sufficient opportunities for continuing education to meet certification requirements. As well as provide additional opportunities for Communications Specialists to expand their knowledge of Emergency Communications.

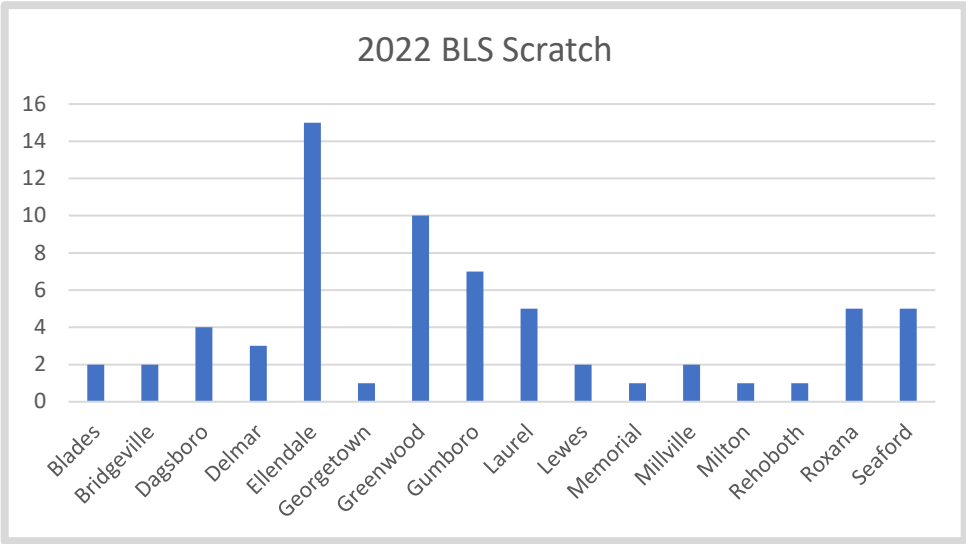
## **2023 Goals**

In 2023 the Rehoboth Beach 9-1-1 Communications Center has set goals to further the efficiency and effectiveness of the communications center. These goals include completing the process for updating and reviewing remaining policies and procedures by the Communications Specialist IIs. Upgrading all the 9-1-1 consoles with 49" Ultrawide monitors, updated keyboards, and mice. Finalizing a formal field training program to standardize and increase the effectiveness of training new Communications Specialists. Lastly the communications center will continue to provide continuing education and advanced training opportunities to the Communications Specialist to meet the needs of certification and recertification as well as the expansion of their individual knowledge of emergency communications.

## **Summary**

The Rehoboth Beach 9-1-1 Communications Center seeks to provide the most effective access to the 9-1-1 system and emergency communications possible to the citizens, visitors, and emergency agencies in Rehoboth Beach. To achieve this the communications center continually invests in the Communications Specialists and equipment operating in the 9-1-1 Communications Center. As well as setting and achieving goals based on the operational needs of the center and the agencies we support to protect lives and safety, stabilize emergency and non-emergency incidents, and conserve property.

SUSSEX COUNTY EMERGENCY OPERATION CENTER													
911 DISPATCH CENTER													
CALL STATISTICS													
2022													
	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APRIL</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEPT</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>TOTAL</u>
<b>9-1-1 Calls Received</b>	8,803	7,545	8,612	7,773	10,235	10,281	12,060	11,007	9,871	9,196	9,538	9,706	114,627
<b>Wireless Percentage of 9-1-1 Calls</b>	83%	82%	83%	84%	84%	84%	87%	85%	84%	81%	83%	83%	84%
	7,294	6,220	7,123	6,500	8,560	8,686	10,451	9,375	8,278	7,451	7,882	8,063	95,883
<b>Administrative Calls Received (7-Digit)</b>	2,912	2,187	2,615	4,270	4,179	4,352	4,512	4,084	4,009	4,466	4,229	4,092	45,907
<b>Administrative Calls Generated (7-Digit)</b>	1,438	976	1,087	1,203	1,486	1,375	1,489	1,138	1,071	1,155	1,228	1,250	14,896
<b>Total Calls Handled</b>	13,153	10,708	12,314	13,246	15,900	16,008	18,061	16,229	14,951	14,817	14,995	15,048	175,430
<b>Fire Incidents Dispatched</b>	471	380	486	517	566	580	667	631	599	570	577	625	6,669
<b>ALS Incidents Dispatched</b>	1,646	1,294	1,439	1,493	1,706	1,627	1,837	1,763	1,645	1,583	1,681	1,660	19,374
<b>BLS Incidents Dispatched</b>	1,439	1,154	1,311	1,397	1,576	1,536	1,646	1,695	1,476	1,468	1,540	1,650	17,888
<b>Police Incidents Handled</b>	3,655	3,263	3,806	4,033	4,797	5,038	5,808	5,308	4,619	4,253	4,305	4,238	53,123
<b>Total Incidents Handled</b>	7,211	6,091	7,042	7,440	8,645	8,781	9,958	9,397	8,339	7,874	8,103	8,173	97,054
<b>Advised Incidents (Non-Dispatched Incidents)</b>	449	495	692	856	462	462	418	410	440	709	590	556	6,539





## **Air Medical Transport Certification**

The Systems of Care Office oversees Delaware's Air Medical Transport Certification Program. Air medical transportation plays a key part in the Trauma and Stroke Systems of Care, to get the right patient to the right facility in the quickest amount of time.

Delaware's Division of Public Health first promulgated regulations for Air Medical Ambulance Services in 1993. The purpose of these regulations is to provide minimum standards for the operation of Air Medical Ambulance Services in the State of Delaware. It is the further intent of these regulations to ensure that patients are served quickly and safely with a high standard of care.

Air medical services may apply for any of three levels of State of Delaware interfacility transport certification and/or prehospital certification. The initial certification period is three years, with recertification required every three years subsequently.

### **911 Scene Response Certification:**

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

- Delaware State Police, Middletown & Georgetown, DE
- ChristianaCare LifeNET, Newark & Georgetown, DE

### **Full Interfacility Certification:**

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

- ChristianaCare LifeNET, Newark & Georgetown, DE
- JeffSTAT, Media, PA
- MedSTAR, Baltimore, MD
- PHI ExpressCare, Baltimore, MD
- STAT Medevac, Baltimore, MD

### **Limited Interfacility Certification:**

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

- Cooper Air Medical, Millville, NJ
- PennSTAR, Philadelphia
- Temple MedFlight, Doylestown, PA

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**Delaware State Police Aviation Section**  
**2022 DEMSOC Report**  
Submitted by Sgt. Ted Stipa



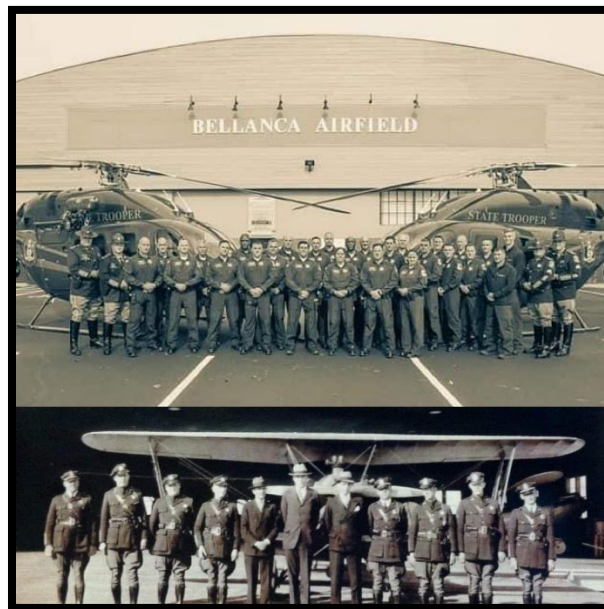
**Mission Statement**

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, Attituded, Discipline, and Service

**DSP Aviation Section**



## 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 24 pilots and medics providing 24-hour coverage from two locations, Georgetown, and Middletown. Additionally, there are 2 medics and 1 pilot in training. The aircraft fleet consists of three (3) Bell 429 helicopters and one (1) fixed wing Cessna 182 aircraft.



## 2022 Accomplishments

### Law Enforcement Profile

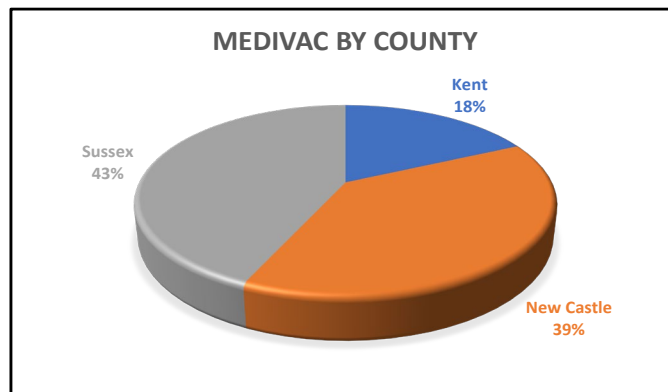
The Aviation Section supports State, Federal and Local law enforcement by providing aerial and ground assistance in several areas:

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

2022, the Aviation Section continued to support the community accumulating 1,408 flight hours.

	2021	2022
<b>Total Tactical or Medical Calls</b>	2310	2246
<b>Total Support Calls</b>	350	390
<b>Total Flight Hours</b>	1407	1408

The Aviation Section provides air medical transport and advanced life support backup for ground transport of the seriously injured and/or ill persons. In 2022, the Aviation Section had 2,246 requests for medical or tactical service.

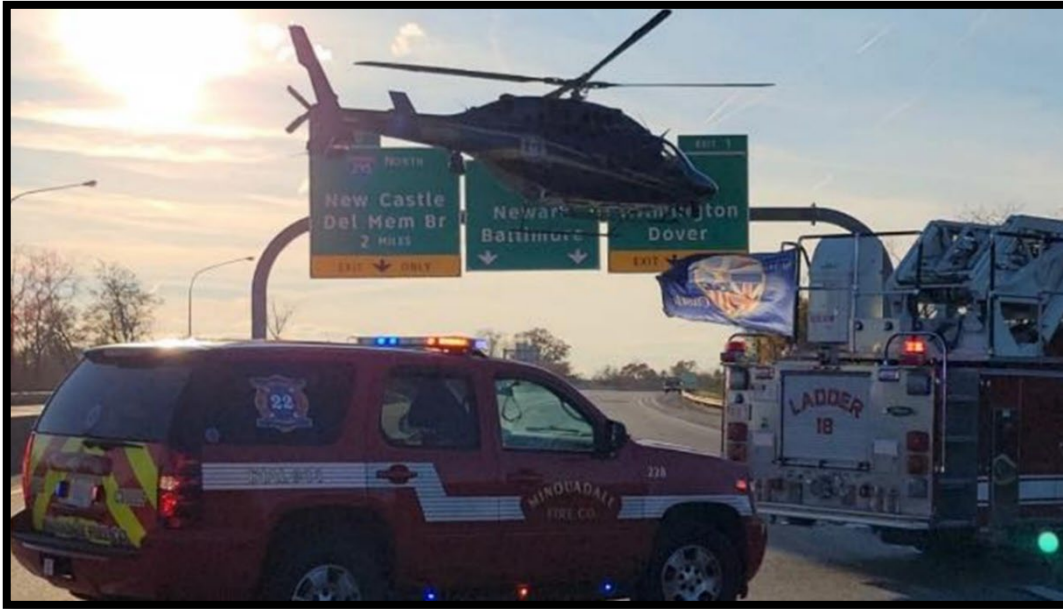


In 2022 the Aviation Section conducted 437 Criminal Searches resulting in 61 apprehensions. There were 59 Pursuits in 2022 resulting in 11 apprehensions. Additionally, there were 149 non-criminal searches concluding with 39 locations of persons on land or a boat.

	2021	2022
<b>Criminal Searches</b>	411	437
<b>Apprehensions (Criminal)</b>	47	61
<b>Pursuits</b>	49	59
<b>Apprehension (Pursuit)</b>	18	11
<b>Non-Criminal Searches</b>	141	149
<b>Located (Non-Criminal)</b>	32	39

## **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 2022, the DSP Tactical Medics had a total of 125 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 2021 the Aviation Unit has been engaged in 110 missions supporting this effort.

## **Medic Training**

In 2022, 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 that was available to be deployed in the field for 2022. In 2022 Troopers deployed their Automated External Defibrillator (AED) 26 times and Narcan 51 times.

### **Infectious Disease Exposures:**

During the 2022 calendar year the Delaware State Police had a total of 11 confirmed infectious disease exposures. While, in 2021 there were a total of 46 confirmed infectious disease exposures compared to a total of 113 confirmed infectious disease exposures in 2020.

## **2022 Challenges and Goals**

### **Staffing**

In 2021 oral board interviews were conducted for potential Trooper Medic candidates. Through that process one (1) Troopers were selected and are currently enrolled at Delaware Technical College. The goals for 2023 is to support our new Trooper Medic as they attend the Delaware Technical Paramedic Training program. In 2022, two (2) Trooper Medics retired from the Delaware State Police.

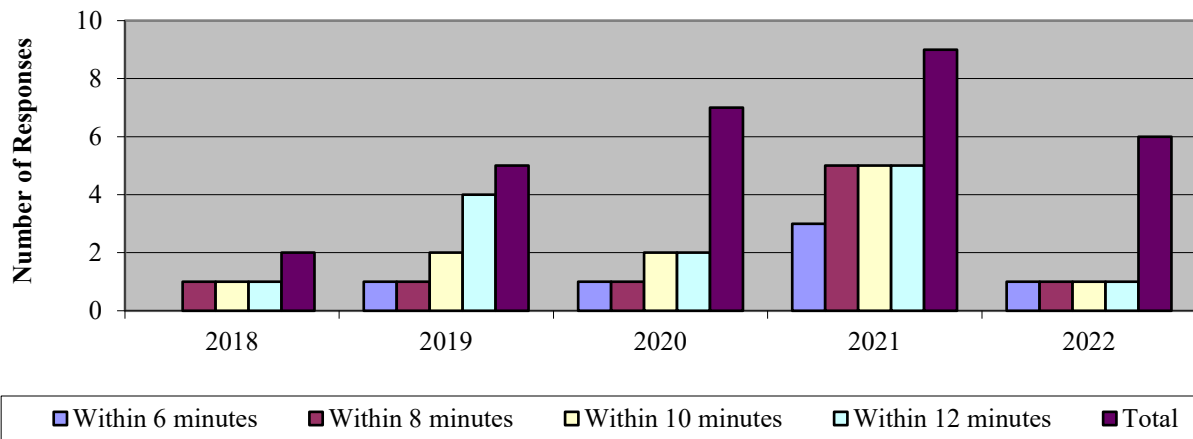
### **Training**

The goal for 2023 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.

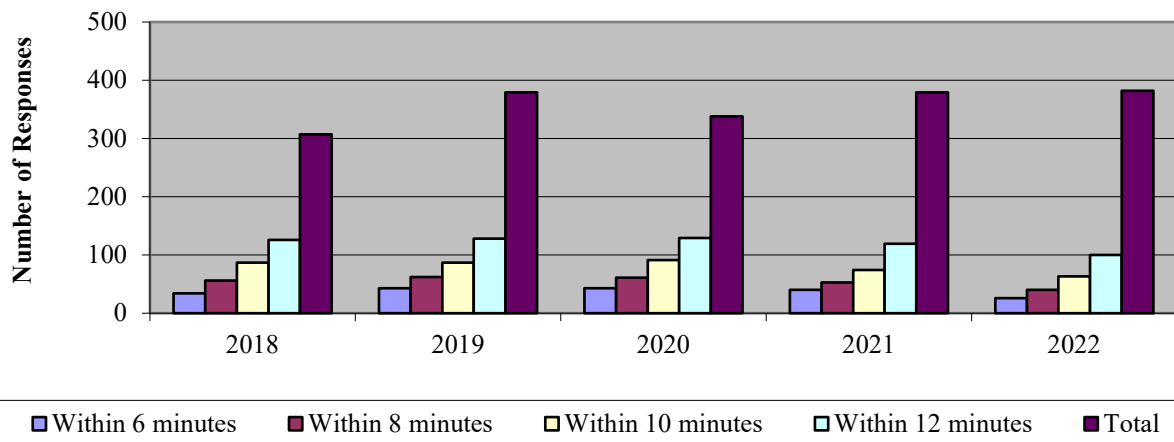


Training with Wilmington Fire Department  
Photo courtesy of Bell Helicopter

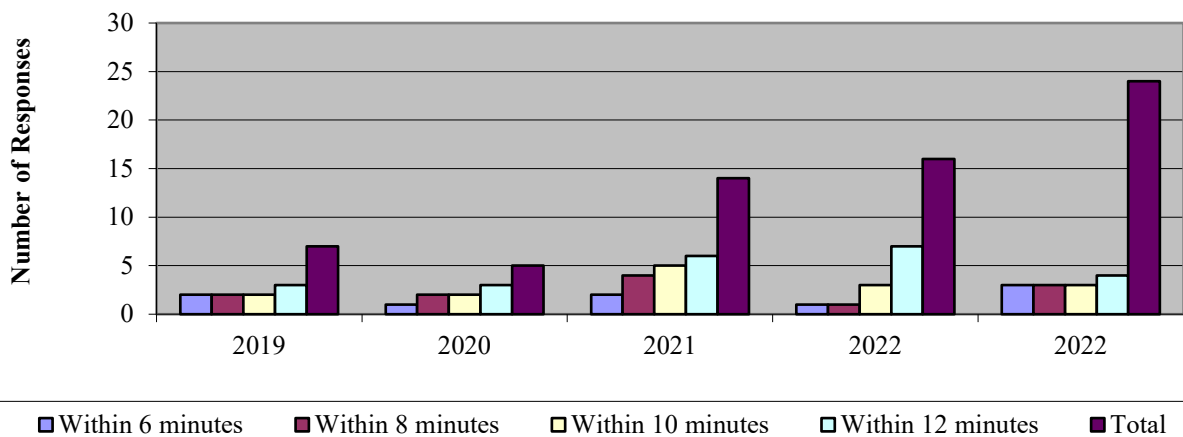
### Echo Level Response, DSP



### Delta Level Response, DSP



### Charlie Level Response, DSP EMS







**ChristianaCare LifeNet  
DEMSOC Report 2022**

**Submitted by Jeffrey Cox BS, CEMSO, FP-C  
Clinical Base Lead/Critical Care Flight Paramedic**



## INTRODUCTION



LifeNet 6-1 on a scene in New Castle County

ChristianaCare LifeNet has been an integral part of pre-hospital and critical care interfacility transport since the spring of 2001. With bases in New Castle and Sussex counties, the LifeNet aircrafts are available to support not only the hospital and EMS agencies in Delaware, but also Pennsylvania, New Jersey, Maryland, and Virginia.

Our highly skilled and critical care trained flight team is equipped to

maintain or adjust life sustaining treatments initiated on scene or at referring hospitals. Our staff are not only Registered Nurses and Paramedics, they also hold specialty critical care certifications demonstrating competence and advanced skillsets well beyond standard certifications. Most of our staff have over twenty years of experience as health care providers. Extensive protocols with liberal standing orders, expanded scope medications, and advanced invasive monitoring capabilities allow the crew to deliver uninterrupted quality critical care during transport.

### Critical Care Capabilities

BLOOD PRODUCTS

EXPANDED  
MEDICATION  
FORMULARY

CRITICAL CARE  
VENTILATORS

EXTRA CORPORAL  
MEMBRANE  
OXYGENATION (ECMO)

HIGH-FLOW NASAL  
CANNULA  
OXYGENTATION

CARDIAC BALLOON  
PUMP

IMPELLA AND LEFT  
VENTRICULAR ASSIST  
DEVICE (LVAD)  
MANAGEMENT

CARDIAC AND  
CEREBRAL INVASIVE  
PRESSURE  
MONITORING

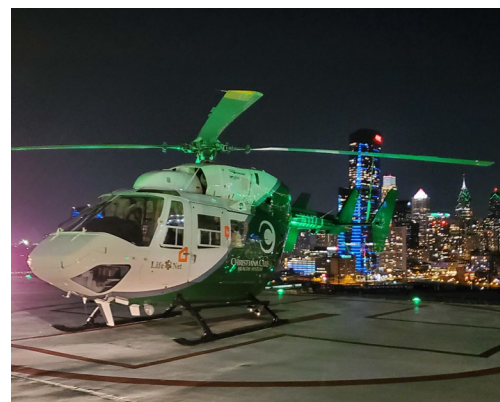
CHEST TUBE  
MANAGEMENT

### **CAMTS**

#### **Accreditation:**

ChristianaCare LifeNet is proud to have been awarded and maintained accreditation by the Commission on Accreditation of Medical Transport Systems (CAMTS) since

April of 2006. This certification indicates that our aviation and patient care systems have completed multiple rigorous site surveys and have been found to meet or exceed the nationally established standards for critical care transport programs.



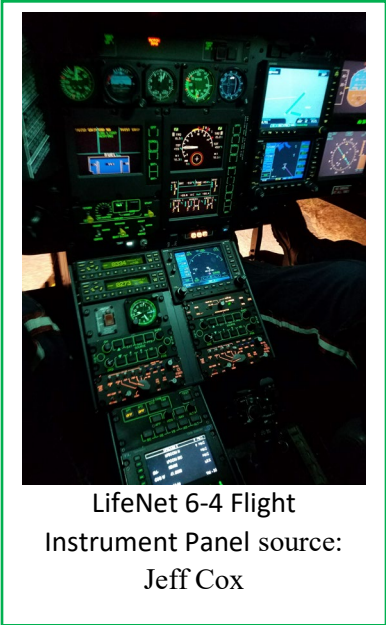
LifeNet 6-1 at Hospital University of Pennsylvania source: Jeff Cox

## 2022 ACCOMPLISHMENTS

1,962 flight requests resulted in 930 missions being completed in 2022 with referrals from 34 area

hospitals across 6 states and received by 40 major specialty centers in Delaware, Pennsylvania, Maryland, the District of Columbia, New Jersey and Virginia. In comparison, the reduction in flight volume due to the Covid pandemic was dramatic, appreciating a decrease in volume to 385 patients transported by our flight team in 2020. 2021 and 2022 saw a resurgence of volume. This can be attributed to increased use of the EZ-Button and autolaunch and increased utilization by our sending facilities. LifeNet also provided support to EMS agencies in New Castle, Kent and Sussex counties and transported 23 scene patients to area trauma centers. All graphs are sourced from ChristianaCare EMSCharts and Transfer Center data.

LifeNet Referring Hospital	2021	2022	Amount Increase
Beebe	170	250	80
Nanticoke	99	120	21
Kent General	60	90	30
Wilmington	84	85	1
Bayhealth Sussex	50	82	32
Peninsula Regional	43	48	5
Union	35	38	3
Christiana	32	37	5
Middletown ED	30	30	0
Easton	19	29	10
Beebe South Coastal	28	28	0

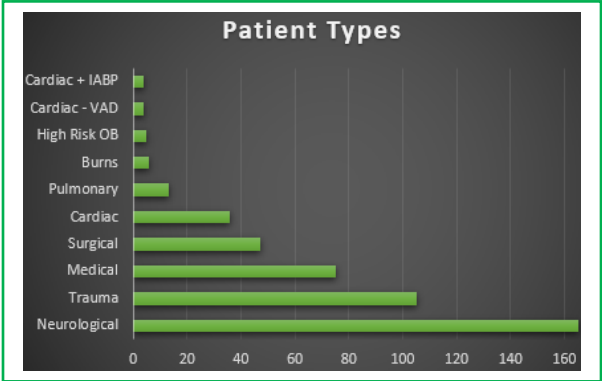


**Instrument Flight Rules (IFR):** After many team and administrative discussions, AirMethods Corporation invested substantial training time and financial investment in our Georgetown base becoming IFR capable. This allows our pilots to fly in weather conditions we would have declined prior. Although we cannot fly in lightning, icing and completely fogged situations, it has expanded our capabilities greatly. We completed 19 IFR missions in 2022 on patients that would have been transported by an already stressed ground transport system.

**High-flow Nasal Cannula Implementation:** 2020 brought the implementation of high-flow nasal cannula technology to our team. In 2022 we upgraded to Hamilton ventilator high flow oxygenation capabilities. This device provides pressurized, high flow air and oxygen to a patient in respiratory distress. This device has been proven to reduce the need for CPAP, BiPAP and intubation. The majority of our

applications so far have been in our infant and pediatric population.

**Hamilton T1 Ventilators:** LifeNet implemented the Hamilton T1 ventilators in 2020. This ICU level comprehensive ventilator is a vast improvement over our prior ventilator. After extensive training and testing we are now utilizing this advanced ventilator on our patients



and can implement many new ventilator modes and match the demands of complex patients. We continue to have additional critical-care ventilation strategy courses taught by pediatric transport experts, further expanding our staff's critical care ventilation capabilities.

**New Leadership:** 2021 saw the arrival of our new Director of Prehospital Services. He brings years of Helicopter and Ground EMS leadership experience and has initiated many new programs that can be attributed to our over 200% increase in flight volume. ChristianaCare is increasing the



LifeNet 6-4 post-flight at ChristianaCare Hospital source: Jeff Cox

services provided by ground and air and streamlining the acceptance flow through our transfer center. We are working on implementing TraumaSoft patient coordination/dispatch software to further streamline and improve the ease of acceptance of patients into the ChristianaCare system.

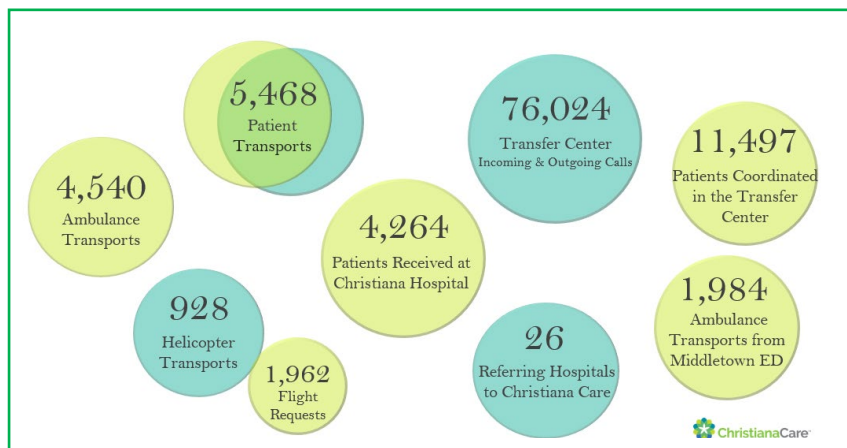


LifeNet EZ-Button source: Jeff Cox

**EZ-Button and Autolaunch:** LifeNet has implemented a system of EZ-Buttons throughout our referring hospitals. All the requestor has to do is hit the button and the autolaunch process is started. The crews are immediately dispatched and start the process of launching to the requested location while the AirCom dispatchers gather further information about the patient. This has dramatically reduced our time to reach the patient bedside and reducing the overall time it takes to move the patient to definitive care.

## 2023-2024 CHALLENGES

LifeNet has experienced similar challenges to those experienced by the county 911 services such as staffing, funding and increased volume. It has become increasingly difficult to attract and hire new staff to keep up with the increased demand. A large portion of our increased demand is downstate hospitals are unable to obtain timely



ground transport for their non-flight patients and they are utilizing the helicopter to transport these patients due to 6-12 hour or longer ETAs from the private ambulance services. During inclement

weather, our flight crews are routinely staffing both ChristianaCare and private interfacility ambulances and completing flight-requested transports by ground ambulances. It is also well documented that many tertiary and community hospitals are at capacity, causing a backlog of transports and patients waiting for beds to become available. We have experienced transports to very distant and non-common destinations as sending facilities attempt to find an open bed anywhere possible. This also causes numerous extra phone calls into the ChristianaCare Transfer Center attempting to see if beds are available. Our Transfer Center handled 76,024 phone calls in 2022, resulting in 11,497 patients coordinated by our Transfer Center. Our Critical Care Ground Transport Team completed 4,540 patient transports in 2022. We continue to show rapid linear growth in our requests for transfers and our patient volume that we do transfer by ground and air. Another challenge we are facing is that ambulances ordered over a year ago still have no build date determined.

## LOOKING FORWARD

Our first-quarter helicopter transports are already up 14% over the prior year. Current flight volume is dramatically increasing, and we intend to increase staffing to meet the increased demand. We eagerly anticipate the arrival of a new, state-of-the-art helicopter for LifeNet 6-1, and new critical care ground ambulances. LifeNet will continue to provide high-caliber educational opportunities to our ALS/BLS pre-hospital, and our in-hospital partners. AirMethods and ChristianaCare LifeNet’s medical crew, pilots, mechanics, medical leadership, and program director will continue to provide aeromedical services to our community by being prepared to deliver high quality critical care when our patients need it most.



LifeNet 6-4 stands ready for dispatch source: Jeff Cox

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*Delaware Coalition  
for Injury Prevention*

## **Delaware Coalition for Injury Prevention**

A key component of the Trauma System is the Delaware Coalition for Injury Prevention. This coalition is overseen by the Office of EMS. Injury prevention is vital work. Prevention has been proven to save lives and healthcare dollars.

The concept of the injury prevention program was introduced in 2000 with a vision that Delaware's culturally diverse population would be empowered to reduce their risks for injuries by making safe choices. Since 2004, the Coalition has been meeting on a quarterly basis.

The first and most obvious challenge to injury prevention efforts is to be successful - to get the message to the public, especially under-represented groups, in such a way that injuries and injury-related deaths actually decrease.

The Delaware Coalition for Injury Prevention began and continues to develop and support public education injury prevention programs. Through these efforts, the Coalition's goal of safe communities throughout Delaware will be realized, as measured by fewer injuries, fewer risk-taking behaviors, safer environments, and reduced incidence of injury-related disabilities.

Approximately 40 agencies from all areas of the state are currently Coalition members. Through effective surveillance, partnerships, interventions, training, and evaluation the Coalition's individual members and their agencies strive to teach all Delawareans that injuries are preventable.

Members of this coalition form focus teams in the areas of:

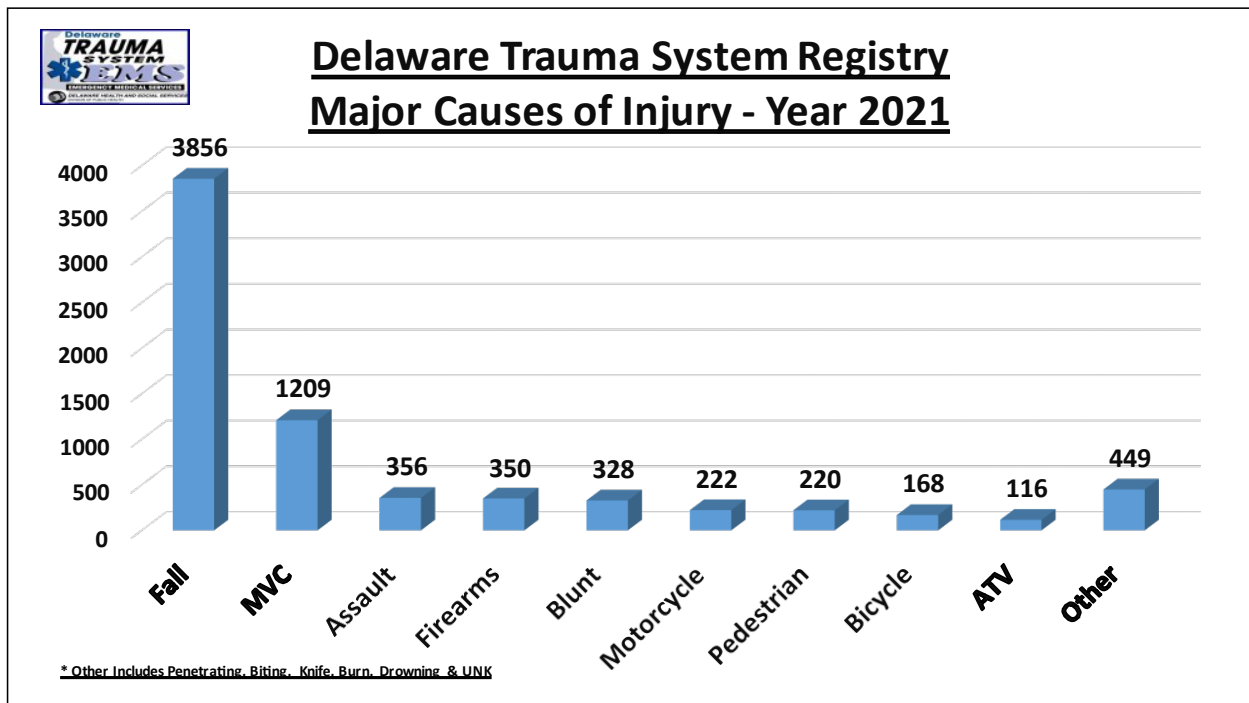
- Dog/Animal bites
- Drowning/Submersion injuries
- Falls
- Fires/Burns/Smoke Inhalation
- Motor Vehicle/Motorcycle
- Poisoning/Prescription Drugs
- Traumatic Brain Injury
- Violent Injuries
- Pedestrian
- Sexual Assault/Gender-Based violence

Per the Delaware Trauma Registry, falls make up over 50% of all preventable injuries, with 69% of those occurring in patients over 60. The Falls Prevention Team/Focus Group of the Coalition is concentrating heavily on reaching out to Delaware's senior citizen agencies to lower these numbers through public education and awareness.

The Delaware Vital Statistics Annual Report 2020 (page 166) lists accidents (unintentional injury) as the fourth leading cause of death overall in the state.

- Of the 720 deaths due to unintentional injury in 2020 (6.7% of all deaths), 15 percent were due to motor vehicle accidents and 84 percent were due to non-transport accidents. More than two thirds (71%) of the 431 non-transport accidents were caused by unintentional poisonings; the majority (98%) of unintentional poisonings were drug-induced poisonings.
- Unintentional poisonings surpassed motor vehicle injuries as the leading cause of unintentional injury death in 2020.

- Poisonings caused the most unintentional injuries for non-Hispanic white and non-Hispanic black decedents. Motor vehicle traffic accidents were the second highest unintentional injuries for both non-Hispanic black males and females whereas falls were the second highest unintentional injuries for both non-Hispanic white males and females.
- In 2016-2020, accidents were the number one cause of deaths for people 1-44 years of age, and they were responsible for 45 percent of all deaths of people 15-24 years of age. For decedents ages 15-24, accidents, homicides, and suicides were the three most frequent causes of death and accounted for 82% of total deaths for that age group.



*Delaware Trauma Registry*





## 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 Kids at Home, Kids in Cars and On the Road, Kids in Sports and Play, Consumer Product Safety, and Child Passenger 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
2022	346	33252	38

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. In 2022, 38 car seats were provided at a discounted rate to persons in need through a voucher program.

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

## ***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 and Rehoboth Dispatch.*