2022 Annual Report: Envisioning the EMS System of the Future

Division of Healthcare Quality and Safety

Center for Emergency Medical Services

JULY 6, 2023



Table of Contents

Executive Summary1
EMS Licensing
EMS Licensing Statistics
EMS Ambulance Service License and Inspection
EMS Ambulance Deficiencies
Opportunities for Improvement
EMS Compliance and Investigations7
EMS Education and Training
Rhode Island Continued Competency Program
EMS Learning Management System (LMS)
Licensing of EMS Training Institutions
Challenges and Opportunities for Improvement
EMS Data Management
Rhode Island EMS Information System
Ground-Level Falls in EMS
EMS Response to the COVID-19 Pandemic
EMS Response to the Opioid Epidemic
Behavioral Health EMS Runs
Motor Vehicle Crashes
Challenges and Opportunities for Improvement
CEMS Programs
Rhode Island EMS for Children
Rhode Island Mental Health Awareness Training Project
Rhode Island First Responders Project
Health Equity Mobile Integrated Health-Community Paramedicine Programs (Sub-Recipient)
EMS Partnerships and Collaborations
References
Appendix A
Acknowledgements

Executive Summary

In accordance with the *Emergency Medical Services Transportation Act*, Rhode Island General Law §23-4.1-3(e), the Rhode Island Department of Health's (RIDOH) Center for Emergency Medical Services (CEMS) is pleased to submit its 2022 Annual Report to Governor Daniel J. McKee, Senate President Dominic J. Ruggiero, and House Speaker K. Joseph Shekarchi.

CEMS was a part of RIDOH's Division of Preparedness, Response, Infectious Disease, and Emergency Medical Services (PRIDEMS) in 2022, but due to reorganization, it became a part of the Division of Healthcare Quality and Safety as of January 1, 2023. The core functions of CEMS include:

- Licensure of emergency medical services (EMS) practitioners;
- Vehicles and ambulance services;
- < Inspection of ambulances;
- Development of protocols and standing orders for emergency medical treatment in the prehospital setting;
- Management and analysis of statewide EMS data;
- Establishment of educational requirements;
- Investigation and resolution of complaints; and
- Implementation and maintenance of several programs utilizing federal grant funding, such as EMS for Children, First Responders program for naloxone administration and distribution (including law enforcement), mental health awareness training and the health disparity mobile integrated health/community paramedicine program (MIH-CP).

In 2022, CEMS leadership and staff continued to think strategically about the Rhode Island EMS future practitioner. The conversations were mainly driven by the *EMS Agenda 2050*,¹ which envisions a people-centered EMS system . "The people-centered EMS system serves as the front line of a region's healthcare system and plays a core role in supporting the well-being of community residents and visitors through data-driven, evidence-based and safe approaches to prevention, response and clinical care." Accordingly, CEMS funded several EMS agencies to implement new MIH-CP programs.

In 2022, CEMS worked with internal and external partners to shape healthcare policy and improve the delivery of emergency care to all Rhode Islanders. CEMS collaborated with multiple partners to achieve many successes:

- Maintained four internal programs that focus on hospital and pre-hospital readiness, overdose death prevention, mental health awareness training, and established MIH-CP programs across the state;
- Continuously supported staff on the ongoing initiative of the Governor's Overdose Prevention and Intervention Task Force;
- Received funding for the First Responder's Project to Combat Opioid Overdoses in Rhode Island, a grant under the *Comprehensive Addiction and Recovery Act (CARA)*;
- Actively participated on the Rhode Island Stroke Task Force, the HeartSafe Communities Project, the Drug Overdose Prevention and Rescue Coalition, the Rhode Island Children's Cabinet, and the Child Death Review Team;
- Regularly attended meetings of the Department of Transportation's (RIDOT) Traffic Records Coordinating Committee, in its role of providing data for the Fatality Analysis Reporting System (FARS); and
- (CEMS Chief Jason M. Rhodes) served as the secretary of the National Association of State EMS Officials (NASEMSO) and on the organization's Executive Committee and Board of Directors, while also representing NASEMSO on the FirstNet Public Safety Advisory Committee and the Next Generation 911 Coalition.



EMS Licensing

CEMS plans for, and oversees, licensing of emergency medical services in the state. Licensing is authorized by rules and regulations <u>216-RICR-20-10-2</u> which are promulgated pursuant to the authority conferred under R.I. Gen. Laws s § 23-4.1-10(b), for the purpose of establishing minimum standards for EMS.

Per regulations, EMS practitioners are licensed at the following levels:

- 1. Emergency Medical Responder (EMR)
- 2. Emergency Medical Technician (EMT)
- 3. Advanced Emergency Medical Technician (AEMT)
- 4. Advanced Emergency Medical Technician-Cardiac (AEMT-C)
- 5. Paramedic

Ambulance services are licensed at the following levels:

- Class A: Advanced life support (ALS)
- Class B: Basic life support only (BLS)
- Class C: Emergency Medical Responder (EMR)

Ambulance vehicles are licensed at the following classifications:

- Class A-1C: Advanced Life Support transporting ambulance
- Class A-1P: Advanced Life Support transporting ambulance, paramedic level
- Class A-2C: Advanced Life Support non-transporting ambulance
- Class A-2P: Advanced Life Support non-transporting ambulance, paramedic level
- Class A-2A: Advanced Life Support non-transporting ambulance, advanced EMT level
- Class B-1: Basic Life Support transporting ambulance
- Class B-2: Basic Life Support non-transporting ambulance
- Class C: Advanced Life Support: Air Medical Service

EMS Licensing Statistics

In 2022, CEMS staff licensed one Emergency Medical Responder (EMR), 306 Emergency Medical Technicians (EMTs), one Advanced EMT, 111 Advanced EMT- Cardiacs, and 43 Paramedics (Figure 1). Therefore, there are now a total of 17 EMRs, 1,465 EMTs, 12 Advanced EMTs, 2,205 Advanced EMT-Cardiacs, and 539 Paramedics (Figure 2).

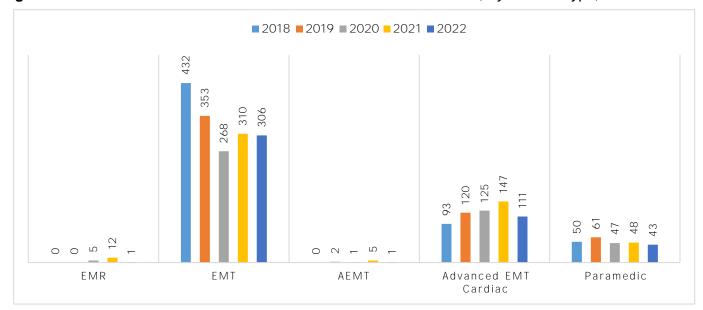
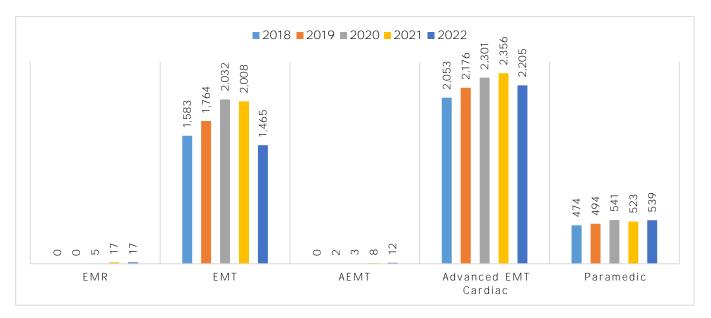


Figure 1: Number of New Rhode Island EMS Practitioner Licenses Issued, By License Type, 2018. 2022

Figure 2: Cumulative Number of Rhode Island EMS Practitioner Active Licenses, By License Type, 2018. 2022



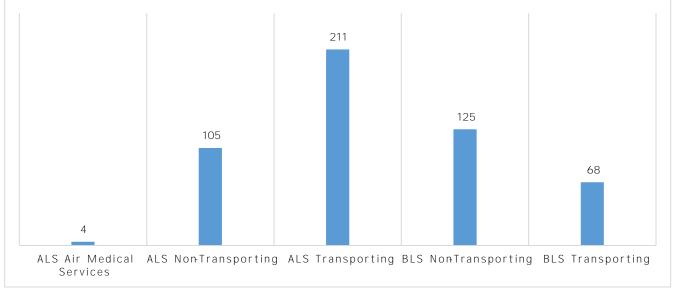
EMS Ambulance Service License and Inspection

In 2022, 83 ambulance services were licensed by CEMS (Table 1). Additionally, ambulance services operate licensed vehicles, which must comply with equipment and supplies requirements, per the EMS regulations, and correct any deficiencies cited during an inspection. Each year, the EMS field technician is tasked with licensing and inspecting all ambulance vehicles licensed by the state. In 2022, 513 vehicles were active and licensed (Figure 3), and 428 ambulance vehicles were inspected (Figure 4).

 Table 1: Rhode Island Licensed Ambulance Services, By Category, 2022

Category	Number
Municipal (total)	62
Fire department based	52
Independent EMS	10
Private service	11
College/University	7
Hospital-based	1
State assets, non-transporting	1
Industrial, private, non-transporting	1
Total licensed ambulance services	83

Figure 3: Rhode Island Licensed Ambulance Vehicles, By Category, 2022



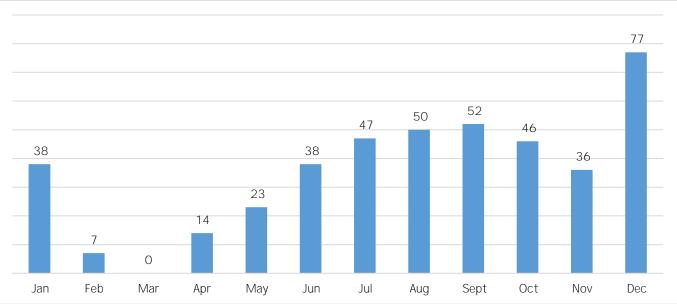


Figure 4: Inspection of Rhode Island Licensed Ambulance Vehicles, By Month, 2022

EMS Ambulance Deficiencies

Deficiencies occur when CEMS minimum requirements or standards are not fully satisfied. Equipment and supplies are not considered acceptable if they are damaged, expired, or the original packaging is compromised.

Categories of Deficiencies

Deficiencies fall into one of two categories:

- < Immediate failure: those that preclude the vehicle's use as an ambulance until corrected (e.g., lack of cardiac defibrillator or oxygen).
- Correctable failure: those for which a corrective action period is allowed; depending upon the failure, it may be corrected within 24 hours, two days, or 10 days following the inspection.

Note: If a vehicle is found to be deficient in three or more items from the Immediate (24-hour correction list), a complete re-inspection of the vehicle will be required, unless waived by the Chief of EMS.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
10 days or more deficiency	0	5	0	4	45	6	32	29	74	128	25	97
24 hour deficiencies	0	0	0	0	0	0	0	0	0	0	0	0
Immediate deficiencies	0	0	0	2	0	1	0	5	5	3	1	0

Table 2: Rhode Island Licensed Ambulance Deficiencies, By Month, 2022

Opportunities for Improvement

- Challenge: The inspection process is limited in that it is not online or automated. The inspection process of vehicles and services is very manual and can be improved. The EMS field technician has standardized processes and has worked to enhance the current deficiency management process.
 - o Recommendations:
 - š Implement a comprehensive license management solution that includes an inspection module. An inspection module allows the field technician to:
 - Create a library of checklists;
 - < Schedule inspections;
 - Record deficiencies; and
 - Configure automated inspection workflow to add notes and alerts, update statuses, send correspondence, or set associated dates.

EMS Compliance and Investigations

A responsibility of CEMS is to investigate complaints which may result in disciplinary action. **In 2022**, **EMS investigated 22 complaints** against licensed EMS practitioners, EMS services, or ambulances. The overall goal of complaint investigations is to improve the patient care experience and can be accomplished through disciplinary action or, more frequently, through remediation of the EMS practitioner.

Complaints originated from the public, patients and/or patients' families, other licensed healthcare providers, CEMS, and the Office of State Medical Examiners. CEMS investigated each complaint filed and any public actions that were taken against an EMS practitioner, an EMS vehicle, or an EMS service agency as a result of a complaint investigation posted on RIDOH's <u>disciplinary actions website</u>.



EMS Education and Training

"In order to deliver optimal patient care, EMS continuing education needs to ensure that our EMS professionals are actually being taught the latest and most up-to-date evidence." --EMS Agenda 2050

Throughout the years, CEMS has made continuing education a priority. In 2019, a grant allowed CEMS to hire an EMS Training Coordinator. The EMS training coordinator oversees training in all CEMS programs. In addition, the EMS training coordinator oversees:

- Rhode Island EMS Continued Competency Program;
- TRAIN learning management system (LMS); and
- < Licensing of educational institutions.

By 2030, CEMS aims to ensure that:

- EMS educational programs are led by qualified teams of EMS physicians and educators who have been carefully selected and educated to prepare future EMS practitioners to deliver people-centered care.
- National standards and certifications are used to form consistent baseline education and competency of all EMS personnel to assure communities, employers, and the public that every certified EMS professional is qualified and capable.
- Initial and ongoing education is tailored to the needs of patients, communities, and EMS professionals and leverages technology, evidence, and data to deliver education that supplements previous education and promotes continued competency and further growth.
- EMS professionals are prepared to collect, share, analyze, and use available data.
- Education of advanced EMS clinicians includes a comprehensive orientation to public health, social services, mental health, and social determinants of health in a way that empowers them to provide integrated care.

Rhode Island Continued Competency Program

From 2019 – 2022, EMS practitioners completed the Rhode Island Continued Competency Program as part of the re-licensure process.

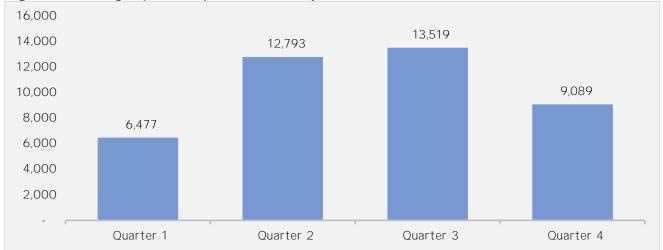


Figure 5: Training Topics Completion in 2022, By Quarter

EMS Learning Management System (LMS)

In 2022, an additional 382 EMS users registered for TRAIN, bringing the total number of users to 5,333 by December 31, 2022 (Figure 7). In 2022, 52 courses were approved, resulting in a total of 358 approvals by December 31, 2022 (Figure 8). TRAIN Rhode Island

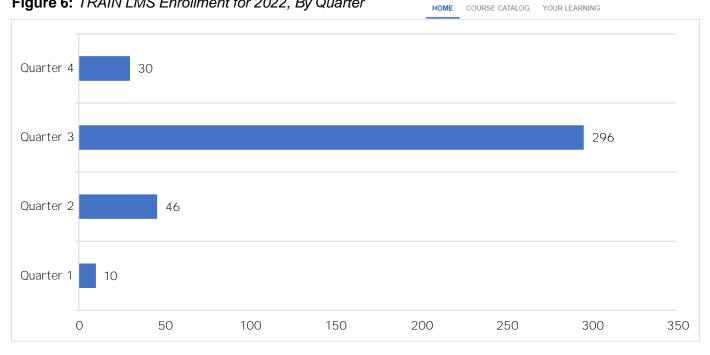


Figure 6: TRAIN LMS Enrollment for 2022, By Quarter

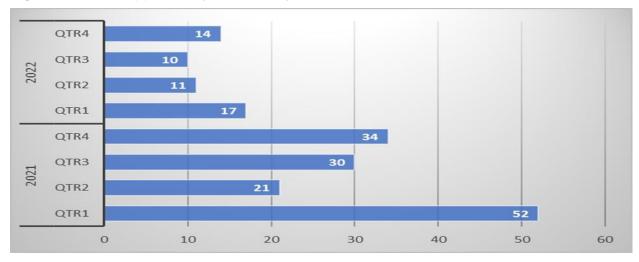


Figure 7: Course Approvals by Year and by Quarter, 2021 and 2022

Licensing of EMS Training Institutions

Per the EMS regulations, EMS training institutions are licensed at one of five levels and can conduct training courses at the level of licensure or below:

- < Paramedic
- Advanced Emergency Medical Technician-Cardiac (AEMT-C)
- Advanced Emergency Medical Technician (AEMT)
- Emergency Medical Technician (EMT)
- Emergency Medical Responder (EMR)

As of December 31, 2022, there were 18 licensed educational institutions in Rhode Island, of which seven were licensed to teach at the EMT level or below, six licensed to teach at the AEMT-C level or below, and five are licensed to teach at the paramedic level (Figure 9). Furthermore, EMS training institutions must perform annual self-evaluation and submit their corresponding National Registry of Emergency Medical Technicians (NREMT) pass rates to CEMS (Figure 10).

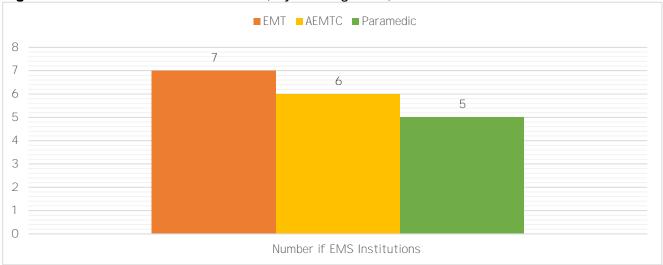


Figure 8: Number of Licensed Institutions, By Training Level, 2022

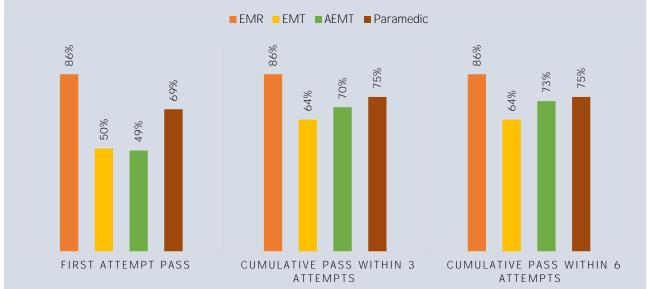


Figure 9: NREMT Cognitive Exam Pass Rate, By License Type, 2022

Challenges and Opportunities for Improvement

- **Challenge:** The current TRAIN LMS system is not EMS specific. It is a product of the Centers for Disease Control and Prevention that is used by a variety of public health professionals. Navigating the system can be challenging for EMS practitioners when completing their continuing education. To achieve the EMS education goals of the future, CEMS would benefit from developing an LMS system that fits the needs of Rhode Island EMS practitioners.
 - Recommendation: Explore funding options for an EMS-specific LMS system. The ideal EMS system would allow CEMS and instructors to:
 - š Document the details of conducted training courses, including covered subjects, test specifics, and course approvals.
 - š Create a course from templates, or just-in-time, according to agency needs which can be built either by administrators or through the public portal.
 - š Track continuing education credits and trainings to ensure EMS practitioners are meeting the requirements to renew their license and to foster a life-long learning model of education.
- Challenge: For many years, the Rhode Island EMS culture has been to teach EMS practitioners in-house, at their affiliated ambulance service. Excellent leaders and instructors have identified the needs of their EMS practitioners and have developed plans to teach these classes. However, recent changes in license renewal policies require EMS practitioners to document and track their training. Furthermore, EMS training officers and EMS instructor-coordinators are required to work together to submit approval for all continuing education courses.
 - Recommendation: The CEMS training coordinator is working to develop resources that allow EMS practitioners, training coordinators, and instructor-coordinators the ability to participate in a streamlined continuing education experience. The process can be improved with the implementation of a new LMS system that includes the requirements presented above.



EMS Data Management

"Information collected and shared in EMS data systems informs decisions made related to healthcare operations, public health and interventions related to social determinants of health and injury and illness prevention. EMS and public health data are integrated in ways that aid in the monitoring and identification of emerging outbreaks or demographic trends in injury and illness patterns."

--EMS Agenda 2050

In 2022, the data management goals of CEMS were to streamline processes for data extrapolation and cleaning, expand analytical capabilities, and disseminate findings to the EMS community and other stakeholders.

Rhode Island EMS Information System

The Rhode Island Emergency Medical Services Information System (RI-EMSIS) is the pre-hospital electronic patient care reporting (ePCR) system for CEMS, managed via the ImageTrend Elite platform. It is available at no cost to Rhode Island EMS agencies, allowing for submission of a patient care report for each patient encounter. Upon accepting a report into the State repository, data is exported via live feeds to the National EMS Information System (NEMSIS), Biospatial, Inc., and CurrentCare, the Rhode Island Health Information Exchange (HIE).

In this annual report, we present data analysis, challenges, and success stories in the following categories:

- Ground-level falls in EMS
- EMS response to the opioid epidemic
- < EMS response to the COVID-19 pandemic
- < Behavioral health EMS runs
- Motor vehicle crashes

Ground-Level Falls in EMS

According to the World Health Organization (WHO), falls are the second most common cause of accidental-injury fatalities worldwide, contributing to an estimated 680,000 deaths.² Falls, particularly ground-level falls, are most common for people older than 60 and can result in increased morbidity and mortality.^{2,3} These falls frequently require hospitalization and can lead to health complications, both physical and psychological.⁴ Ground-level falls continue to be a major cause of injury in Rhode Island and generate a substantial number of EMS calls throughout the state.

In 2022, a total of 35,410 EMS runs met the criteria for a fall from ground level. An additional 3,202 EMS runs met the criteria for a fall from height. However, falls from ground level accounted for nine out of every 10 (92%) falls.

Frequency and Time Trends

In 2022, falls from ground level were more likely to happen during the first half of the year and peaked in July, with 3,198 incidents. Most calls for ground-level falls occurred during the day, and peaked from 11 a.m. to 6 p.m.

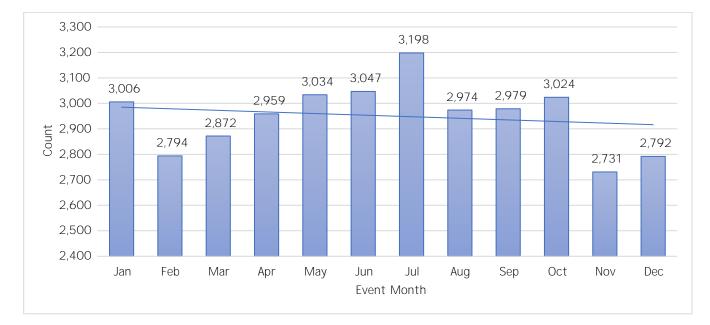


Figure 10: Number of EMS Runs for Ground-Level Falls in Rhode Island, By Month, 2022

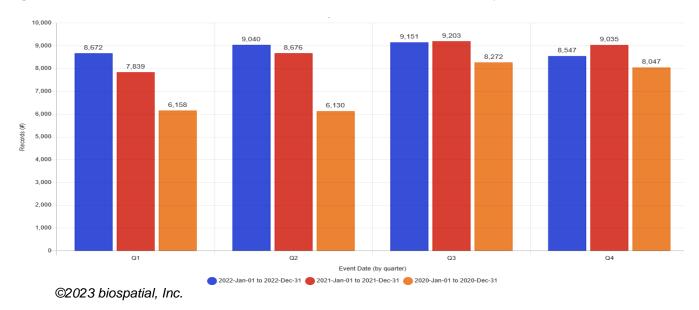
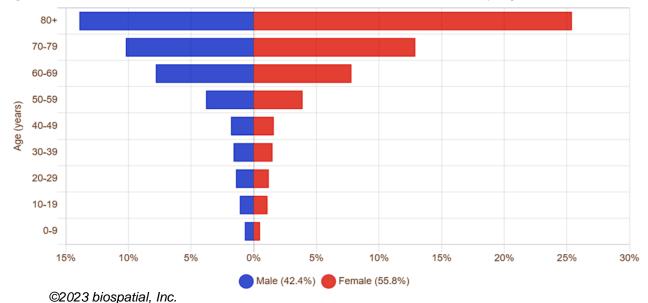


Figure 11: Number of EMS Runs for Ground-Level Falls in Rhode Island, By Quarter, 2020-2022

Gender/Age

As previously stated, adults older than 60 have a higher risk of ground-level falls. In 2022, individuals aged 60 or older accounted for nearly 79% of EMS calls. Women were more likely to experience ground-level falls, with approximately 56% of calls coming from females.

Figure 12: Number of EMS Runs for Ground-Level Falls in Rhode Island, By Age, 2022



NEMSIS v3: Labeled as a fall from height if **one or more** of the following are true:

- Narrative (eNarrative.01) or chief/secondary complaint (eSituation.04) contains "fall from height", "fall(ing) off", "fall(ing) from", and variants. Certain phrases are excluded, for example: "fall from standing", "fall from sitting", "leads fell off", "leads fell from", "heard fall from", "almost falls off", "risk of falling from", "danger of falling off", "recently fell from".
- Provider primary/secondary impression (eSituation.11/eSituation.12) or cause of injury (eInjury.01) indicate any of the following ICD-10-CM codes (sub-codes included): V80.0, W00.1, W00.2, W06, W08- W15, W16.0, W16.1, W16.3-W16.9, W17, X00.3, Y30.
- Height of fall (elnjury.09) indicates a height greater than ground-level AND any of the criteria for a ground-level fall are met.

EMS Response to the COVID-19 Pandemic

COVID-19 continued to burden emergency medical services in Rhode Island throughout 2022. However, owing to advances in vaccines that bolstered both population and individual immunity, COVID-19 symptoms were generally less acute and resulted in fewer fatalities compared to cases in the previous years.⁵ Despite enormous public health interventions, experts believe that COVID-19 will persist in an endemic state.

In 2022, there were 5,170 EMS runs related to COVID-19, a decline from the 7,134 runs recorded in 2021. As shown below, there was a peak in EMS runs in early 2022, corresponding to the emergence of the Omicron variant.

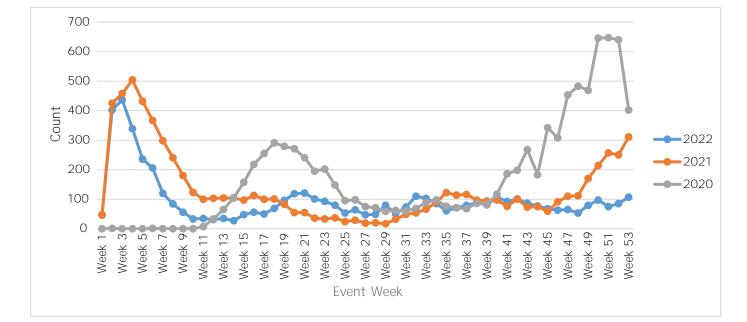


Figure 13: Number of EMS Runs for COVID-19 Syndrome in Rhode Island, By Week, 2020-2022

Age

COVID-19 continued to disproportionally impact the older population throughout 2022. As shown below, 64% of COVID-19 related emergency medical service requests were made by individuals 50 or older.

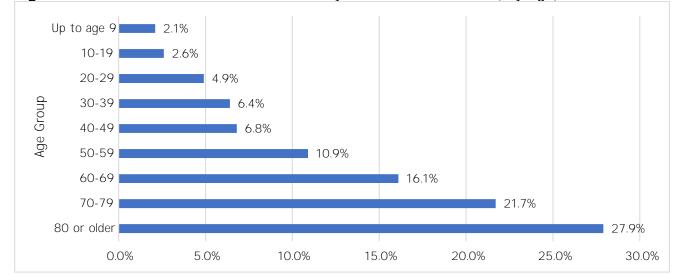


Figure 14: Number of EMS Runs for COVID-19 Syndrome in Rhode Island, By Age, 2022

Primary Impressions and Symptoms

The most common provider primary impression amongst COVID-19 calls was "coronavirus." However, other common primary impressions from EMS practitioners included:

- < Weakness
- < Respiratory disorder
- Angina pectoris (chest pain)
- < Altered mental status
- < Acute abdominal pain
- < Shortness of breath
- < Fever

Symptoms reported by individuals during these runs included weakness, dyspnea, apnea, fever, chest pain and nausea, and dizziness.

EMS Response to Opioid Epidemic

Drug overdose, both fatal and non-fatal, continued to impact the nation in 2022. Opioids contributed to a large proportion of drug-related deaths.⁶ In 2022, 13 Rhode Island Overdose Action Area Response (ROAAR) notifications were issued, each indicating that a community was above the threshold for the expected number of overdose-related emergency department visits or suspected non-fatal opioid overdose-related EMS runs during the previous week.

In 2022, EMS responded to a total of 2,196 non-fatal opioid overdose-related runs and 26 individuals were found dead on arrival from a drug overdose. As of April 2023, the Office of State Medical Examiners (OSME) has identified 336 opioid overdose fatalities in 2022. Opioid overdose-related EMS runs occurred every hour of the day, with slightly more in the evening (5 p.m.–7:59 p.m.). EMS responded to opioid overdoses every day of the week, with more runs taking place on Thursdays and Saturdays.

An estimated of 97% of opioid overdoses were treated and transported to a hospital. More than 69% of calls occurred in Providence County. Kent County had the second highest number of calls.

County	Total Number of Runs	Population*	Rate per 10,000 people
Providence	1,523	657,288	23.17
Kent	304	171,275	17.98
Washington	165	130,330	12.66
Newport	152	84,481	17.99
Bristol	52	50,360	10.33

 Table 3: Number and Rate of EMS Runs for an Opioid Overdose in Rhode Island, By County, 2022

*Population estimates from US Census Ó * / ^ æmæriean Community Survey. Since 2022 population estimates have not been released, 2021 population counts are used as a proxy. Data is current as of 4/1/2022 and is subject to change.

The highest percentage of fatalities were in people aged 25-34 (25.6%), and the second highest was in people aged 35-44 (25.3%). Males were more likely to overdose than females, constituting about 67% of all opioid-related calls.

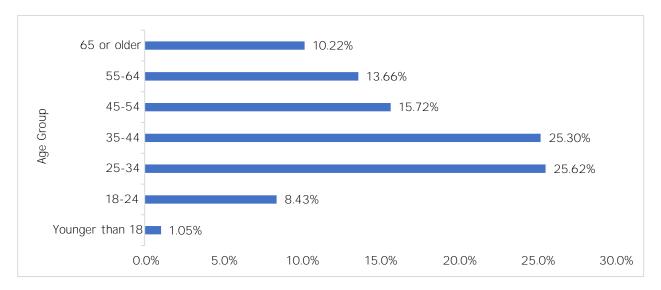
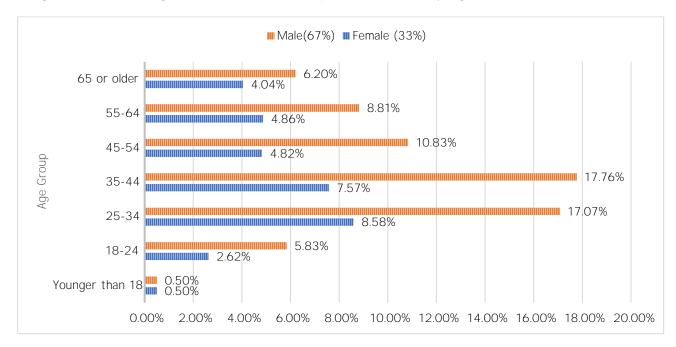


Figure 15: Percentage of EMS Runs for an Opioid Overdose, By Age, 2022

Figure 16: Percentage of EMS Runs for an Opioid Overdose, By Age and Sex, Rhode Island, 2022



Naloxone was administered frequently during EMS runs. One four milligrams (mg) dose is equivalent to a single intranasal naloxone spray. Approximately 2,170 mg of naloxone was used by EMS providers in 2022, about 49% of which was administered intranasally. An estimated 710 mg was used prior to EMS arrival. In 2022, there were three instances where more than 300 mg of naloxone was administered in a month. Generally, there were fewer opioid-related EMS runs in 2022 compared to 2021 (when 2,353 non-fatal opioid overdose-related EMS runs were identified).



Figure 17: Total Milligrams of Naloxone Administered in Rhode Island, By Month, 2022

The most cited **provider primary impression was "opioid-related disorder."** Other primary provider impressions included:

- < Overdose/Drug ingestion
- < Unconscious
- Altered mental status
- < Cardiac arrest

Behavioral Health EMS Runs

Behavioral health includes mental health and substance use conditions. In 2022, behavioral health conditions had a significant impact on both individuals and emergency medical responders, accounting for approximately 19% of all EMS runs and resulting in more than 42,000 incidents. May had the greatest number of calls, with 3,954 (an average of 128 calls per day).

Most patients who needed a behavioral health-related EMS run were in their 30s, and individuals in their 50s had the second highest need for behavioral health-related EMS runs. Males were slightly more likely to experience behavioral health emergencies, making up about 54.9% of calls. Approximately 93.4% of callers were treated and transported to a hospital. Provider primary impressions include alcohol use, mental disorder, homicidal/suicidal ideation, altered mental status, panic disorder, and anxiety disorder. The majority of calls (more than 60%) related to behavioral health occurred in Providence County.



Figure 18: Number of Behavioral Health-Related EMS Runs in Rhode Island, By Month, 2022

Table 4: Number of Behavioral Health-Related EMS Runs in Rhode Island, By Age Group, 2022

Age	Count
0-9	478
10-19	4,342
20-29	5,483
30-39	6,693
40-49	5,370
50-59	6,490
60-69	5,899
70-79	3,706
80 or older	3,875
Missing	189

The majority of the calls, approximately 65%, originated from Providence County. When looking at adjusted rates, Providence County still had the highest rate, with 437 runs per 10,000 people.

 Table 5: Number of Behavioral Health-Related Runs in Rhode Island, By County, 2022

County	Total Runs	Population	Rate per 10,000 people
Providence	27,771	636,547	436.28
Kent	6,444	164,646	391.39
Washington	4,316	125,746	343.23
Newport	2,551	81,836	311.72
Bristol	1,428	48,350	295.35

Pediatric Behavioral Health

While pediatric calls represent a relatively small proportion of all EMS runs in Rhode Island, they hold significant importance in reporting and addressing mental health crises among children. In 2022, EMS providers responded to 4,234 calls for behavioral health-related emergencies among children and adolescents up to age 18. These calls pertained mostly to suicidal ideation or attempt, depression, self-harm, alcohol or drug use, and general psychiatric issues.

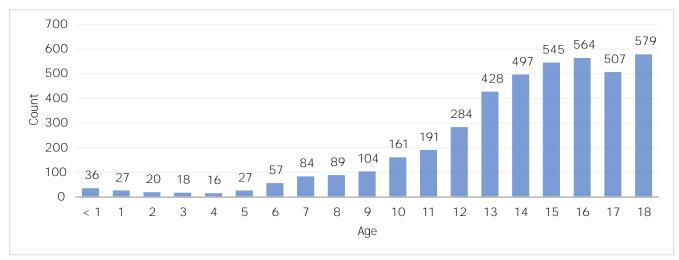
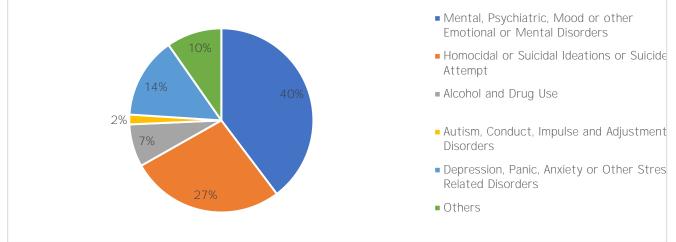


Figure 19: Count of Pediatric Behavioral Health Runs by age, Rhode Island, 2022

Data note: Primary impressions for behavioral health runs for children younger than age two include seizures, falls, and excessive crying.

The most frequently listed provider primary impression was an unspecified mental disorder, accounting for about 29% of all impressions. Homicidal ideations and suicidal ideations and attempts accounted for more than 25% of all impressions (more than 1,000 cases of this impression found). These impressions are summarized into broader categories presented below.





Motor Vehicle Crashes

According to United States government data, Americans have increased roadway travel by an estimated 1.6% in the past year. Data released by the National Highway Traffic Safety Administration (NHTSA) for January – September 2022 shows a 5% increase in estimated traffic fatalities in the northeast region, and a decrease of 0.2% nationally. Rhode Island experienced a 23.5% decrease in traffic fatalities (N=39) for the first nine months of 2022 compared to the same time period in 2021 (N=59).⁷

EMS responded to approximately 6,630 motor vehicle crashes (MVCs) in 2022. Approximately 94% of the injuries associated with these MVCs were considered non-severe.

Did you know?



Frequency of Calls

The number of MVCs increased throughout the year, peaking in September (637 accidents). January through April had the lowest number of MVCs for the year.

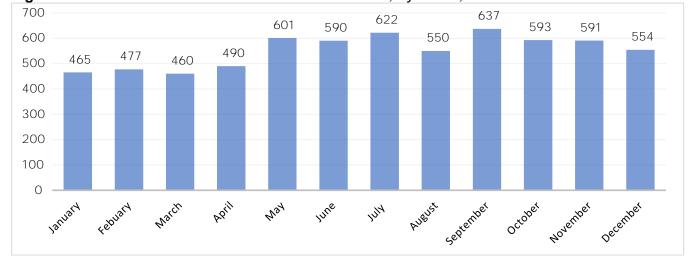


Figure 21: Number of EMS Calls for MVC in Rhode Island, By Month, 2022

Most MVC runs occurred on Fridays and Saturdays. The day of the week with the least number of reports was Wednesday. Most fatalities happened on a Saturday.

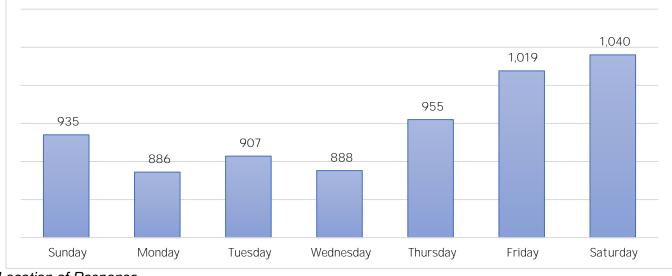
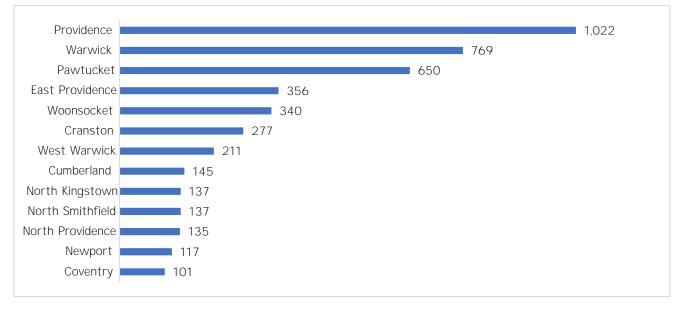


Figure 22: Number of EMS Calls for MVC in Rhode Island, By Day of Week, 2022

Location of Response

The city of Providence had the most MVC responses (1,022 runs). Warwick had 769 runs. Other prominent cities included Pawtucket (650 runs), East Providence (356 runs), Woonsocket (340 runs), and Cranston (227 runs).

Figure 23: Numbers of MVCs by Location of Incident, By Municipality with More Than 100 MVCs, 2022



A total of 46 MVCs had a documented fatal outcome. More than half (52%) of these incidents occurred in Providence County. However, when examining fatality rates based on the number of reports, Washington County had the highest rate of fatal incidents, with more than 2% of MVCs reported as fatal.

County	Fatal MVC Runs	Non-Fatal MVC Runs	Fatality Percentage		
Bristol	0	196	0.00%		
Kent	5	1,293	0.39%		
Newport	3	451	0.66%		
Providence	24	4,090	0.58%		
Washington	14	600	2.28%		

Table 6: Number of Fatal and Non-Fatal MVC EMS Runs by County, 2022, Rhode Island

Challenges and Opportunities for Improvement

EMS systems invest in the equipment and expertise necessary to maintain and adequately secure data systems which use the most advanced methods of protecting patient privacy.

Quality of Data

Complete and accurate data is crucial to obtaining the full picture of pre-hospital patient care. CEMS uses data directly from EMS run reports to inform policy and report to the community on patient pre-hospital outcomes. EMS touches all areas – from mental health to motor vehicle crashes – and thus these data inform many internal and external partners. CEMS recognizes that EMS professionals are acting under pressure and in unpredictable, life-or-death circumstances and therefore are often unable to complete all data variables requested. This can be due to limited time, complications at the scene, or a lack of available data due to the nature of the call (e.g., a patient being unconscious). However, CEMS continues to encourage EMS professionals to prioritize data completeness and accuracy in their reports, as this data is utilized and analyzed to inform improvements to protocols, procedures, patient care, and data systems. Often crucial elements such as patient home city, race, ethnicity, and gender may not be completed, which hinder informed analysis.

Additionally, there are many optional fields that are not often completed but could greatly enhance the quality of data – for example, seatbelt usage or road conditions during a motor vehicle crash. CEMS plans to launch educational resources for EMTs that demonstrate the value of complete data and ensure that entry of information into RIEMSIS is as easy as possible for first responders while in the field.

Limited Funding

CEMS currently relies on federal funding to support data initiatives related to emergency medical services. As such, continued and uninterrupted funding for data initiatives is not guaranteed for the long term. CEMS has worked tirelessly to obtain new and diversified sources of funding to continue to support data efforts. CEMS will continue to seek out new federal funding sources but reaffirm the need for other sources of funding to ensure longevity of these surveillance mechanisms.

CEMS Programs



"A people-centered EMS system includes processes, protocols, technology, policies and practices designed to provide the best possible outcome for individuals and communities— every day and during major disasters."

– EMS Agenda 2050

The goal is that by 2050, EMS is a versatile and mobile community healthcare resource, integral to regional systems of care that prevent and treat acute illness, injury, and chronic ailments. However, CEMS started transitioning to the 2050 vision in 2020.

The goal of CEMS programs is to help EMS practitioners serve as the front-line of Rhode Island's healthcare system and play a core role in supporting the well-being of community residents and visitors through data-driven, evidence-based, and safe approaches to prevention, response, and clinical care. CEMS aims to support EMS agencies as they collaborate with their community partners and assure that agencies have access to the resources they need, including up-to-date technology and a highly trained, healthy workforce. To achieve this, CEMS oversees the following Programs:

- Rhode Island Emergency Medical Services for Children Program
- Rhode Island Mental Health Awareness Training Project
- C Rhode Island First Responders Project
- Health Equity Mobile Integrated Healthcare / Community Paramedicine (MIH-CP) programs

In addition, CEMS provides guidance and staffing support to multiple internal and external partners.



Social Equity

The Rhode Island EMS practitioner of the future will ensure children in Rhode Island receive consistent, high-quality care by participating in continuing education and having access to specialists and other resources that ensure their comfort in treating a population they encounter less frequently in the field.

Rhode Island EMS for Children

Grantor: Health Resources and Services Administration (HRSA) Funding Amount: \$130,000 per year Budget Period: 04/01/2021 – 03/31/2021 Project Period: 04/01/2021 – 03/31/2024 Staff: Carolina Roberts-Santana (FTE); Darren Danaie (CDC Associate)

Summary

The purpose of the Rhode Island EMS for Children (EMSC) program is to coordinate, extend, and improve upon the integration and focus of pediatric needs within the state EMS system. This involves building upon and strengthening relationships between mutually supportive pediatric-oriented programs and activities, such as those found in maternal and childcare, trauma system development, disaster preparedness, and highway safety. EMSC also seeks to support continued pediatric education for EMTs, paramedics, and school and emergency department nurses. Furthermore, EMSC works with hospitals to encourage participation in the National Pediatric Readiness Project.

Target Population

All children in Rhode Island who may require transport by EMS due to illness or injury.

Partners

- Internal: Maternal and Child Health Program, Office of Rural Health, Office of Special Needs, Center for Emergency Preparedness and Response, Office of State Medical Examiners, Violence and Injury Prevention Program
- **External:** EMS agencies, hospitals, Hasbro Children's Hospital, Ambulance Service Coordinating Advisory Board, Lifespan Simulation Center, Autism Project, Family Voices

2022 Program Successes / Challenges

- 100% participation in the annual EMS Readiness Survey;
- 100% participation in the triennial hospital National Pediatric Readiness Survey;
- Collaborated with northeastern states to develop a cohesive hospital emergency department recognition program; and
- Carolina Roberts-Santana, the long-time EMSC program director, left CEMS in September 2022.
 A new program director was hired in 2023.



Rhode Island EMS practitioners of the future will participate in EMS education that includes extensive discussions of behavioral health issues, making clinicians capable of and comfortable treating people who suffer from both acute behavioral health episodes and chronic mental illness. - *Socially Equitable*

Rhode Island Mental Health Awareness Training Project

Grantor: Substance Abuse and Mental Health Service Resource Funding Amount: \$125,000 per year Budget Period: 09/30/2022 – 09/29/2023 Project Period: 09/30/2021 – 09/29/2026 Staff: Jason Rhodes (FTE); Carolina Roberts-Santana (FTE); Eric Rossmeisl (FTE); Heather Seger (0.5 FTE)

Summary

The Rhode Island Emergency Medical Services Mental Health Awareness Training (RI EMS MHAT) project will provide mental health awareness training to Rhode Island licensed EMS practitioners. At the end of 2022, there were 4,238 licensed EMS practitioners in 83 EMS agencies. In 2022, EMS practitioners played a vital role in responding to and assessing more than 42,000 people with behavioral health emergencies (BHE).

Target Population

The program targets the State of Rhode Island, focusing on responding to those who access 9-1-1 with a BHE and caring for EMS practitioners' mental health.

Partners

- < Internal: Violence and Injury Prevention Program
- < **External:** EMS agencies, fire departments, the Mental Health Leadership Council, Rhode Island Critical Incident Stress Management (CIMS)

2022 Program Successes/Challenges

- An estimated 2,000 EMS practitioners successfully completed Mental Health First Aid training.
- EMS practitioners received training from the Substance Abuse and Mental Health Services Administration (SAMHSA) on recognizing behavioral health conditions, safe crisis de-escalation, mental health, substance use conditions prevalent among EMS professionals, and healthy coping and stress management techniques.
 - Creating Safe Scenes: 490
 - o Service to Self: 431
 - First Response: Working on the Front Lines of the Opioid Crisis: 426
- CEMS strives to address workforce challenges in both the career and volunteer sectors of EMS in the state, recognizing the potential negative impact on work-life balance. Efforts include engaging and encouraging leaders to support their crews during these challenging times.

Seamless Integration



Rhode Island EMS practitioners of the future will go beyond sharing data and communicating during or after a specific incident or episode of patient care to be truly integrated. A people-centered EMS system takes advantages of the strengths and resources brought by each organization and clinician to protect the health and wellness of individuals and communities.

Rhode Island First Responders Project

Grantor: Substance Abuse and Mental Health Services Administration (SAMHSA) Funding Amount: \$800,000 per year Budget Period: 09/30/2022 – 09/29/2023 Project Period: 09/30/2022 – 09/29/2026 Staff: Carolina Roberts-Santana (FTE); Eric Rossmeisl (FTE); Anna Civitarese (FTE); Heather Seger (.25 FTE)

<u>Summary</u>

The first responder's project to combat opioid overdoses in Rhode Island (First Responders – CARA grant or CARA grant) was a proposal submitted to SAMHSA in 2017 and was awarded in 2018. The project aims to make naloxone available to all law enforcement officers by 2026, train all first responders (approximately 1,800 law enforcement officers, 4,500 EMS providers, and 2,000 firefighters) so that they can effectively respond to Rhode Island residents that overdose; establish processes, protocols, and mechanisms for first responders to refer consumers to appropriate treatment and recovery services; and enhance the EMS opioid surveillance system.

Target Population

First responders (law enforcement, EMS, and fire personnel) and Rhode Islanders that overdose.

Partners

- Internal: Drug Overdose Prevention Program (expert partner), Violence and Injury Prevention Program (training partner – MHFA grant), Center for Health Data and Analysis, and Public Health Informatics (data partner - ESOOS grant)
- External: Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (BHDDH), Rhode Island State Police Heroin Opioid Prevention Effort (HOPE) Initiative

2022 Program Successes/Challenges

- LEO administered naloxone in 246 suspected overdose events and discharged 247 4 mg intranasal (IN) doses of naloxone during the 2021-2022 grant period.
- EMS responded to more than 2,000 overdose events and administered more than 2,000 mg of naloxone.
- The University of Rhode Island College of Pharmacy is collaborating on a new virtual training program for law enforcement that is focused on opioid overdose and naloxone administration.
- CEMS supplied 957 naloxone kits to nine EMS agencies, police departments, and community outreach programs for leave-behind programs during the 2021-2022 grant period.
- 33 law enforcement agencies received naloxone kits from CEMS.
- C Despite these efforts, fatal and non-fatal opioid overdoses continue to occur in high numbers.



Socially Equitable

Local EMS leadership, educators and clinicians reflect the diversity of their communities. EMS professionals often take pride in responding to, treating, and transporting anyone who needs help, regardless of socioeconomic or insurance status, race or ethnicity, or any other factors. –

Health Equity Mobile Integrated Health-Community Paramedicine (MIH-CP) Programs (Sub-Recipient)

Grantor: Centers for Disease Control and Prevention Funding Amount: \$995,000 over three years Budget Period: 09/30/2020 – 09/29/2021 Project Period: 05/01/2021 – 05/31/2024 Staff: Carolina Roberts-Santana (FTE), Constance Ball

Summary

This grant supports an 18-month pilot program that provides technical assistance, outreach, education, and subject matter expertise to help select municipalities implement a multidisciplinary model of care aimed at allowing paramedics and EMTs to operate in expanded roles by assisting with bringing primary healthcare and preventive services to underserved populations, with the goal of improving access to care.

Target Population

Rhode Islanders who access the 9-1-1 systems and are at risk of being exposed to COVID-19 regardless of their health status, race, ethnicity, gender, socioeconomic status, or other social factors.

Partners

- < Internal: RIDOH Health Equity Institute
- **External:** Participating EMS agencies
 - Providence Fire Department
 - East Providence Fire Department
 - West Warwick Fire Department
 - Northwest collaboration: Smithfield, Harmony, Chepachet, West Glocester, Pascoag and Oakland-Mapleville Fire Departments
 - Southern collaborative: Narragansett Fire Department, South Kingstown EMS and Charlestown Ambulance and Rescue Service

2022 Program Successes / Challenges

- Community partners have started purchasing equipment and performing community health visits.
- C Delays in hiring and funding have stalled the start-up of this grant program.
- Supply shortages and back order of equipment have been a challenge for participating agencies.

EMS Partnerships and Collaborations

CEMS supports the overall mission of RIDOH by working with other Centers and Programs. In addition, CEMS has developed external partnerships that intersect with emergency medical services.

Internal Partnerships

In 2022, CEMS worked with the following Centers and Offices and their respective programs:

- <u>Center for Chronic Care and Disease Management</u>: CEMS collaborated with the Diabetes, Heart Disease, and Stroke Prevention Program to support the State's Stroke Task Force and the HeartSafe Community Program.
- <u>Center for Emergency Preparedness and Response</u>: CEMS collaborated with the Hospital Preparedness Program by participating in their preparedness conference and on the Rhode Island Healthcare Coalition. CEMS staff was available to fulfill staffing and emergency response needs. Center Chief Rhodes also serves as RIDOH's tactical communications coordinator.
- <u>Center for Health Data and Analysis and Public Health Informatics</u>: CEMS provided EMS data to enhance surveillance of opioid overdoses in Rhode Island.
- <u>Center for Health Promotion</u>: CEMS helped with the implementation of the SAMHSA Mental Health First Aid grant that aimed to train 1,000 EMS practitioners across the state. Also, CEMS staff, certified as instructors, provided mental health first aid training throughout Rhode Island.
- Office of State Medical Examiners: CEMS provided EMS patient care reports and participates in Child Death Review Team (CDRT).
- Office of Primary Care and Rural Health: CEMS provided funding for equipment for MIH-CP programs and utilizes EMS data for decision-making processes.
- (<u>Health Equity Institute</u>: CEMS provided grant funding for local MIH-CP programs.

External Partnerships

- <u>Ambulance Service Coordinating Advisory Board</u>: CEMS worked with the Ambulance Service Coordinating Advisory Board (ASCAB) to provide recommendations to the Director of Health regarding EMS-related issues. Members of the board are listed in Appendix A.
- <u>Rhode Island Department of Transportation (RIDOT)</u>: CEMS assisted RIDOT by providing data to help minimize traffic-related injuries and the Fatality Analysis Reporting System.
- <u>Rhode Island Emergency Management Agency (RIEMA)</u>: Center Chief Rhodes served on the Rhode Island Interoperable Communication Committee, as a designee of the Director of Health.
- < <u>Rhode Island E-911</u>: Center Chief Rhodes served on the executive steering committee and the advisory commission, representing the director of health.
- < <u>Rhode Island Quality Institute:</u> CurrentCare health information exchange.
- Hospital Association of Rhode Island.
- Rhode Island Association of Fire Chiefs.
- Rhode Island State Association of Fire Fighters.
- Rhode Island State Firefighter's League.
- Other external partners include EMS agencies, hospitals, and educational institutions.

National Partners

- Antional Association of EMS Officials (NASEMSO)
 - Chief Jason M. Rhodes
 - š NASEMSO Secretary, Board of Directors and Executive Committee
 - š FirstNet Public Safety Advisory Committee
 - š NASEMSO Program Committee for the annual meeting
 - Kenneth Williams, MD; Medical Directors Council (past chair)
 - Eric Rossmeisl; EMS Training Coordinator, Education Council
 - Carolina Roberts-Santana; Pediatric Emergency Care Council (past chair)
 - Michelle Calouro; Trauma Managers Council
 - Christine Moniz; Personnel Licensure Council and Agency and Vehicle Licensure Committee
 - o Anna Civitarese; Data Managers Council
- National EMS Information System (NEMSIS)
- < biospatial, Inc.
- National Registry of Emergency Medical Technicians
- US Department of Transportation, National Highway Traffic Safety Administration Office of Emergency Medical Services

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Appendix A: Rhode Island Ambulance Service Coordinating Advisory Board Members, 2022

As defined in R.I. General Laws §23-4.1-2

John Potvin, NRP, EMS-IC, Chairperson, EMS Director, East Providence Fire Department, RISAFF* Michael DeMello, NRP, EMS-IC, Vice Chairperson, Chief, Bristol Fire Department, Bristol County Raymond Medeiros, AEMT-C, EMS-IC, Secretary, RISAFF Heather Rybasack-Smith, MD, Rhode Island Medical Society Ryan Carter, MD, RI Chapter of the American College of Emergency Physicians Lynne Palmisciano, MD, RI Chapter of the American Academy of Pediatrics Michael Connolly, MD, RI Chapter of the American College of Surgeons, Committee on Trauma Scott Partington, AEMT-C, Chief, Narragansett Fire Department, RI Association of Fire Chiefs James Richard, NRP, EMS-IC, Captain, Cumberland Emergency Medical Services, RISAFF Lori Poirier, NRP, EMS-IC, Lieutenant, Oakland-Mapleville Fire Department, RI State Firemen's League Richard Greene, AEMT-C, Deputy Chief, Cranston Fire Department, Kent County Randall Watt, AEMT-C, Captain, Little Compton Fire Department, Newport County Virginia Colwell, AEMT-C, EMS-IC, Commander, Foster Ambulance Corps, Providence County, volunteer Gillian Cardarelli, NRP, Lieutenant, Providence Fire Department, Providence County, career department Bethany Gingerella, RN, NRP, EMS-IC, Charlestown Ambulance-Rescue Service, Washington County Lynn Blais, RN, RI Emergency Nurses Association Dawn Lewis, PhD, RN, EMT, Hospital Association of Rhode Island Adam Reis, RN, Chief, Access Ambulance, professional ambulance service Joseph Baginski, EMT, Chief, Professional Ambulance, professional ambulance service Joseph M. Polisena, RN, MEd., AEMT-C, EMS-IC, Town of Johnston Mayor, RI Senate President appointee Zachariah Kenyon, AEMT-C, EMS Chief, Providence Fire Department, RI Senate President appointee Michael Carreiro, AEMT-C, Lieutenant, Warwick Fire Department, RI Speaker of the House appointee Keith Calci, AEMT-C, Captain, Johnston Fire Department, RI Speaker of the House appointee Kathleen Barton, Public Member Danielle Green, RN, Public Member *RISAFF: Rhode Island State Association of Fire Fighter

Acknowledgments

<u>RIDOH Directors</u> Nicole Alexander-Scott, MD, MPH; Director of Health (2021) James McDonald, MD, MPH; Interim Director of Health (2022) Utpala Bandy, MD, MPH; Interim Director of Health (2022-2023)

<u>RIDOH Division of Preparedness, Response, Infectious Disease, and Emergency Medical Services</u> (PRIDEMS) 2022

Utpala Bandy, MD, MPH; Medical and Division Director, Rhode Island State Epidemiologist Christine Goulette, MAT; Associate Director of Health Jason M. Rhodes, MPA, AEMT-C; Chief, CEMS Kenneth Williams, MD; EMS Physician Medical Consultant, CEMS Carolina Roberts-Santana, MHA, DHS; Deputy Chief, CEMS Eric Rossmeisl, AEMT-C; Training Coordinator, CEMS Todd Manni, Program Planner, CEMS Anna Civitarese, MPH; Public Health Epidemiologist, CEMS Christine Moniz, AS, EMT; Field Technician, CEMS Michelle Calouro, BS, NRP; Compliance Officer and Trauma Manager, CEMS Constance Ball, MPA; EMS Data Manager/Mobile Integrated Healthcare Coordinator, CEMS Heather Seger, MSW, LICSW, QMHP; Behavioral Health Clinician, CEMS Darren Danaie, CDC Public Health Associate, CEMS Jodie Lavoie, Licensing Aide, Division of Customer Service Reanel Cassell, Licensing Aide, Division of Customer Service

RIDOH Division of Healthcare Quality and Safety (HQS) 2023

Jennifer Sternick, JD; Associate Director of Health Joseph Catalano, MS; Assistant Director of Health Jason M. Rhodes, MPA, AEMT-C; Chief, CEMS Kenneth Williams, MD; EMS Physician Medical Consultant, CEMS Megan Umbriano, BS, AEMT-C; Deputy Chief and Program Director, CEMS Eric Rossmeisl, AEMT-C; Training Coordinator, CEMS Christine Moniz, AS, EMT; Field Technician, CEMS Michelle Calouro, BS, NRP; Compliance Officer and Trauma Manager, CEMS Feven Alemu, MPH; Public Health Epidemiologist, CEMS Heather Seger, MSW, LICSW, QMHP; Behavioral Health Clinician, CEMS Reanel Cassell, Licensing Aide, Division of Customer Service

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