

Pittsburgh EMS

2020 Operations Summary



Ronald V. Romano, EMT-P

Chief

Mark E. Pinchalk, MS, EMT-P

Assistant Chief

WILLIAM PEDUTO
MAYOR



RONALD ROMANO
CHIEF

CITY OF PITTSBURGH
BUREAU OF EMERGENCY MEDICAL SERVICES
EMERGENCY MEDICAL SERVICES HEADQUARTERS

The Bureau of Emergency Medical Services is comprised of 209 dedicated prehospital professionals. The information contained in this report for 2020 reflects the details of the Bureau's emergency responses, the extraordinary and heroic duties they perform every day and also highlights the extensive level of training the personnel maintains.

This has been a difficult year to work in emergency medical services. Our personnel attempted to provide the highest level of care possible while also having to take heightened precautions to protect ourselves from being infected during the pandemic. I am proud to say that EMS employees continue to do this every shift every day with no known end for this pandemic.

The Bureau is extremely appreciative of the support that it received from all levels of government, as well as from the City's medical community. The employees of the Bureau of Emergency Medical Services continue striving to deliver the highest level of patient care within our great city.

Thank you,

Ronald V. Romano
Chief

Mission

The Bureau of Emergency Medical Services (EMS) is dedicated to the reduction of morbidity and mortality of residents and visitors through the provision of Advanced and Basic Life Support pre-hospital care, medically directed rescue, and transportation of the ill and injured.

Departmental/Bureau Overview

The Bureau of EMS provides advanced life support, pre-hospital care, and transportation for the sick and injured through the deployment of thirteen advanced life support ambulances, each staffed by Pennsylvania Department of Health Certified Paramedics. In addition to the advanced life support units the bureau also staffs three basic life support ambulances staffed by Pennsylvania Department of Health Certified Emergency Medical Technicians.

With advanced training and technology, the Bureau of EMS is delivering cutting-edge care by providing new treatment modalities that allow for more effective recognition and treatment of heart attacks, strokes, cardiac arrest, and a number of other life threatening conditions. For patients experiencing ST Elevation Myocardial Infarction (STEMI), EMS has the ability to screen and directly transmit an EKG to the receiving hospital and activate the cardiac catheterization laboratory prior to arrival, greatly reducing the time to definitive treatment.

The Bureau of EMS also provides integrated medically-directed rescue for vehicle accidents, industrial accidents, high and low angle rope rescues, confined space emergencies, building collapse, elevator emergencies, and others. The base service is comprised of two specially equipped rescue trucks, each staffed by two paramedics, operating 24 hours a day. All Pittsburgh Paramedics are trained and certified for vehicle and basic rescue practices. Those paramedics assigned to the Rescue Division receive additional rescue training and certifications.

The Bureau of EMS is also an integral part of three joint public safety teams: River Rescue, SWAT, and the Hazardous Materials (Hazmat) Team. For each team, EMS provides an administrative and leadership role as well as a cadre of highly qualified personnel and instructors.

For River Rescue, EMS provides two Paramedic Public Safety SCUBA divers to staff the units. The Bureau of Police assigns an officer/helmsman who provides a law enforcement component to the units. This unit conducts port security and safety patrols on a routine basis.

For the SWAT Team, EMS provides trained Tactical EMS (TEMS) personnel who have undergone all of the required SWAT training in addition to specialized treatment under fire training. They respond as an integral element of the SWAT Team to multiple incidents such as barricaded persons, high risk warrants, and dignitary protection.

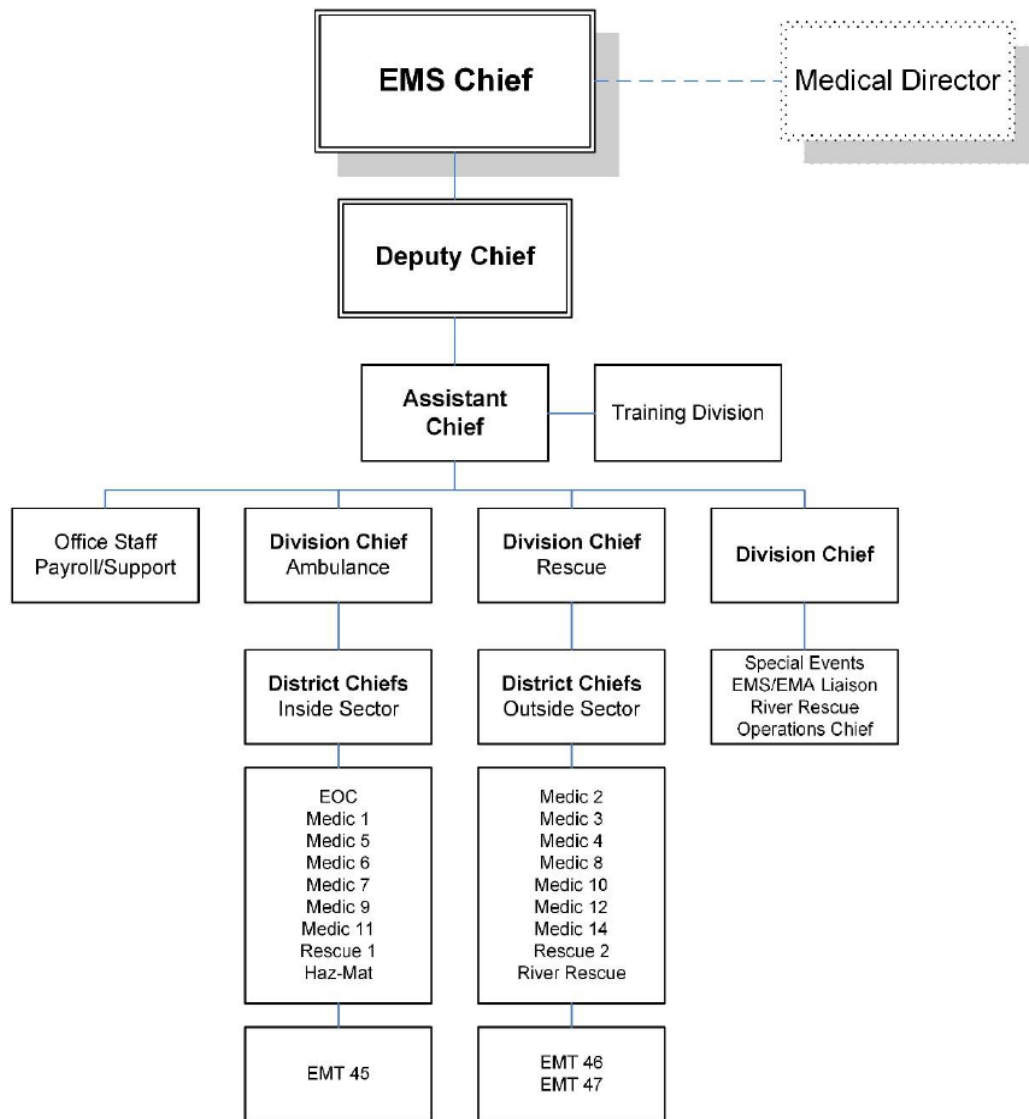
For the Hazmat Team, EMS participates with the Bureaus of Fire and Police, providing personnel trained and certified to the Hazardous Materials Technician level for entry, evaluation, mitigation, and decontamination. EMS also provides the required medical monitoring for pre-entry and post-entry for an incident.

The Bureau of Emergency Medical Services also provides the following services to the community:

- Special Event coverage (Heinz Field, PNC Park, PPG Paints Arena, etc.) average 90 events per month using ambulances, EMS motorcycles, bicycles, boats, and medical carts
- First aid and CPR/AED training
- Child car seat inspection and education program
- Envelope of life (EOL) program
- Stroke awareness
- Community and senior center visits for vital sign and glucose evaluations
- High school career days
- Middle school mentoring program
- Pittsburgh Public Schools Emergency Response Technology Education
- Diversity recruitment campaign
- Vaccination clinics (PODS) for influenza and pneumonia
- Clinical field education to paramedic students in the University of Pittsburgh Emergency Medicine Program
- Clinical field education to emergency medicine physician residents in the University of Pittsburgh Emergency Medicine Residency program
- Participation in the Resuscitation Outcomes Consortium

Bureau Organization:

Department of Public Safety Bureau of Emergency Medical Services



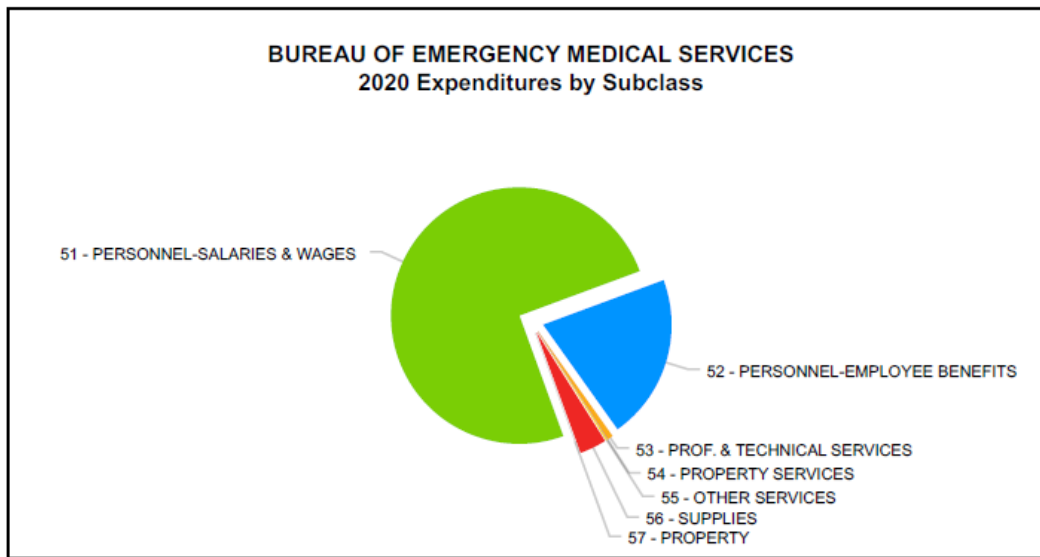
2020 Budget:

City of Pittsburgh Operating Budget
Fiscal Year 2020

Bureau of Emergency Medical Services
220000

Subclass Detail

	2019 Budget	2020 Budget	Change	% Change
Expenditures				
51 - PERSONNEL-SALARIES & WAGES	\$ 16,700,592	\$ 18,048,542	\$ 1,347,950	8.07 %
52 - PERSONNEL-EMPLOYEE BENEFITS	5,159,187	5,015,438	(143,749)	(2.79)%
53 - PROFESSIONAL & TECHNICAL SERVICES	169,642	170,695	1,053	0.62 %
54 - PROPERTY SERVICES	5,500	5,500	—	— %
55 - OTHER SERVICES	31,200	38,200	7,000	22.44 %
56 - SUPPLIES	800,650	812,500	11,850	1.48 %
57 - PROPERTY	43,500	4,500	(39,000)	(89.66)%
Total	\$ 22,910,271	\$ 24,095,375	\$ 1,185,104	5.17 %



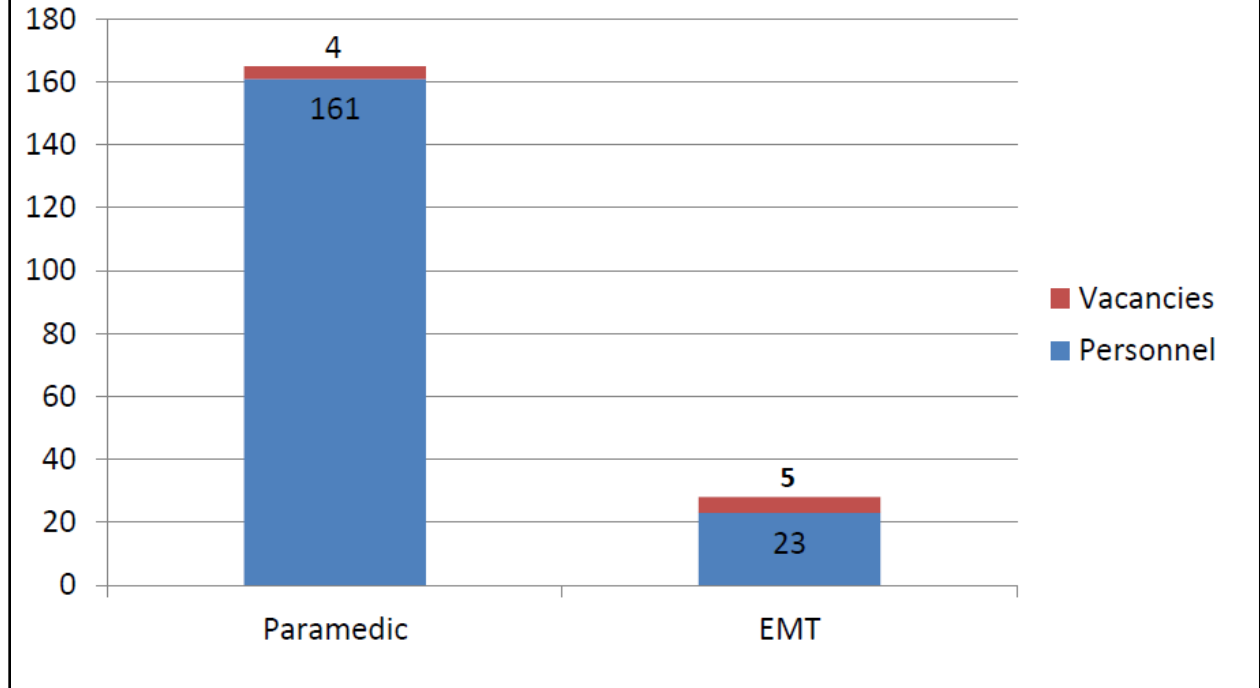
In 2020 Pittsburgh EMS recovered 11.28 million dollars (approximately 46.8% of its budget) through billing patients' health insurance for services.

City residents are not billed directly for services but their health insurance is third party billed.

Non-City residents are directly billed for services.

Venues requesting special event coverage are directly billed for this service.

End of 2020 Staffing

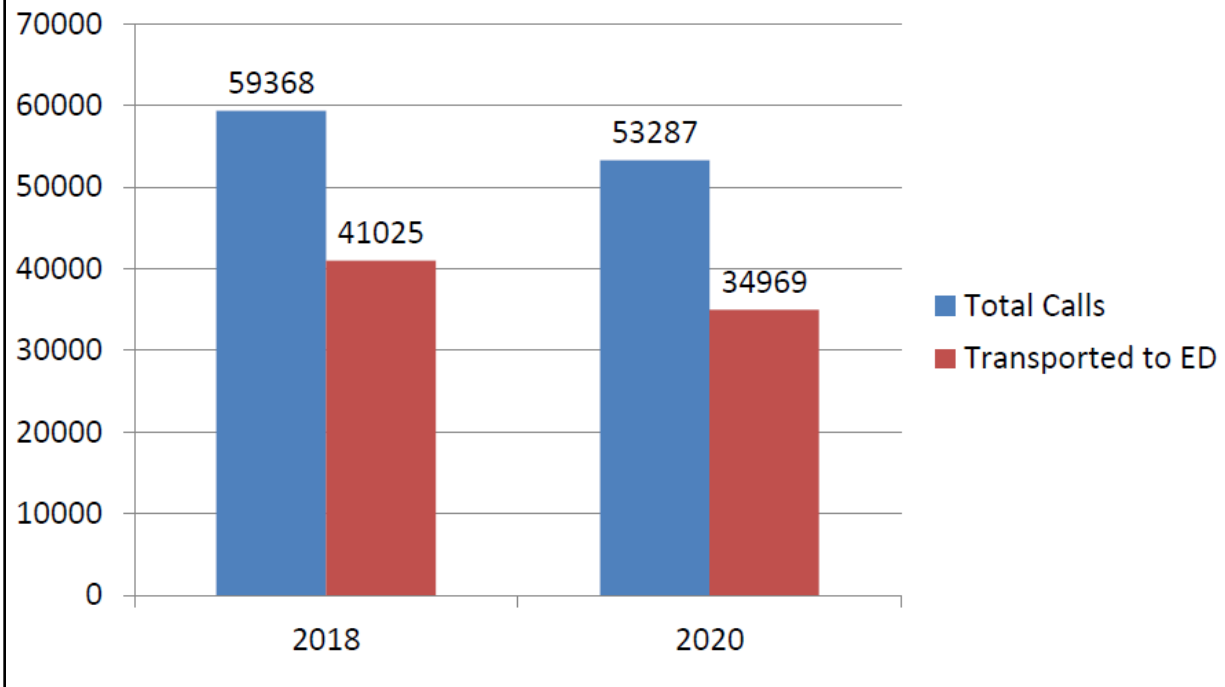


Despite a national shortage of Paramedics, aggressive recruiting efforts by Pittsburgh EMS resulted in having only a 2.5% vacancy rate for Paramedic Positions.

There was a 17.9% vacancy rate for Emergency Medical Technician (EMT) positions.

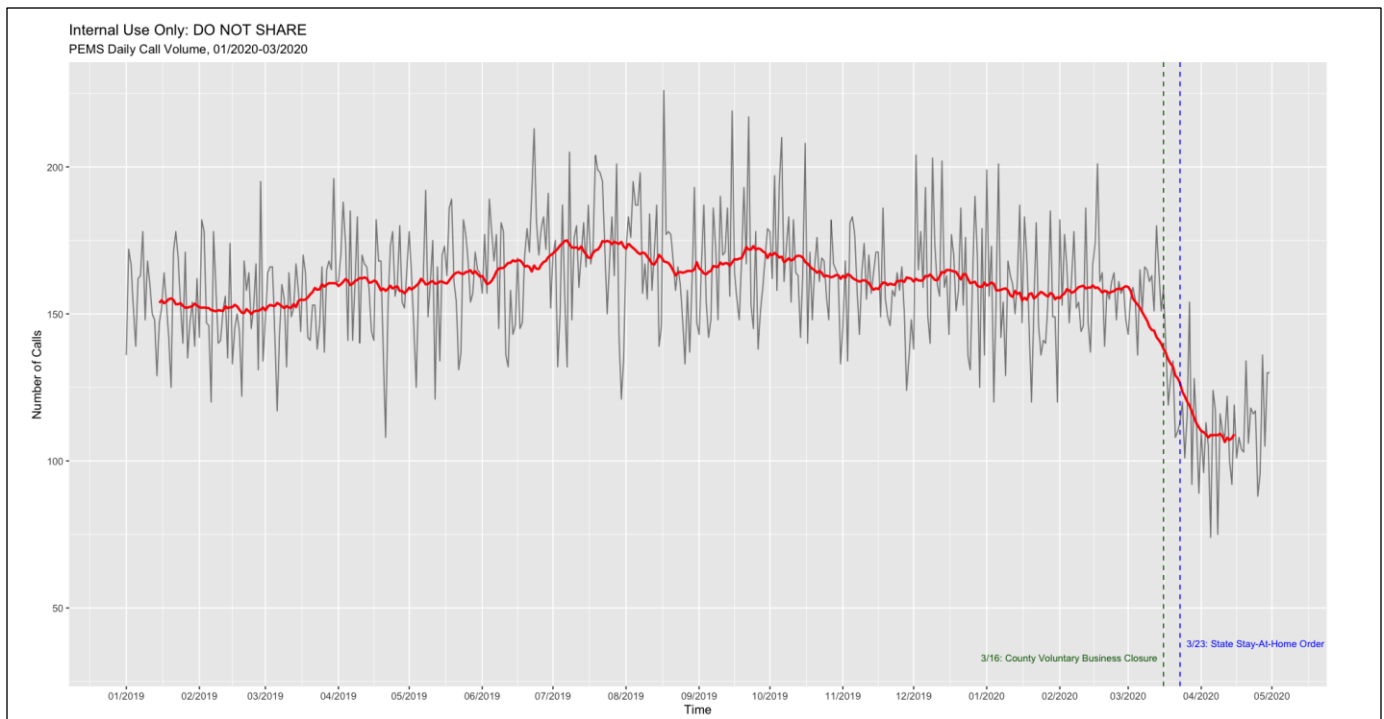
Two (2) additional Paramedics and four (4) EMTs were hired and started work in January 2021.

2020 Service Call Volume

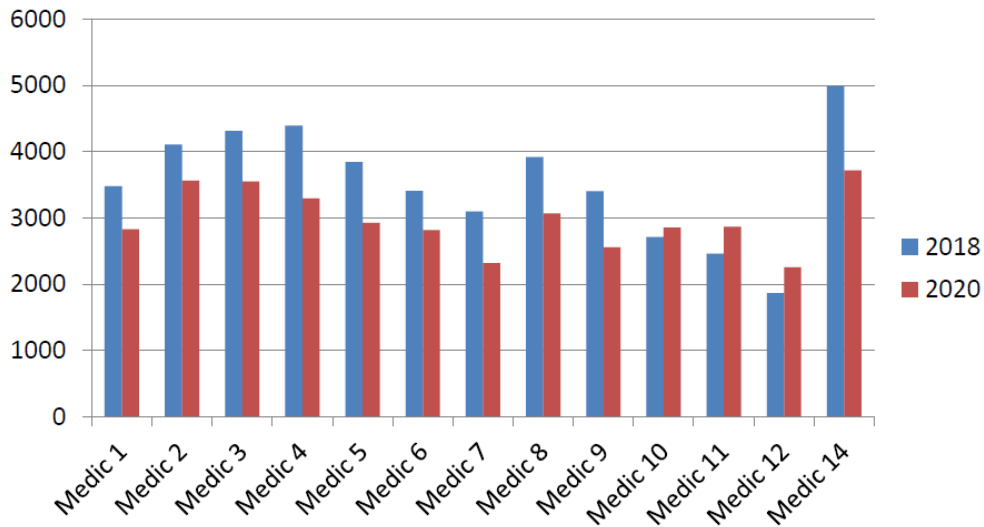


Pittsburgh EMS saw a 10.2% decrease in gross call volume in 2020 compared to the previous dataset and a decrease of patients transported to the hospital of 14.8%

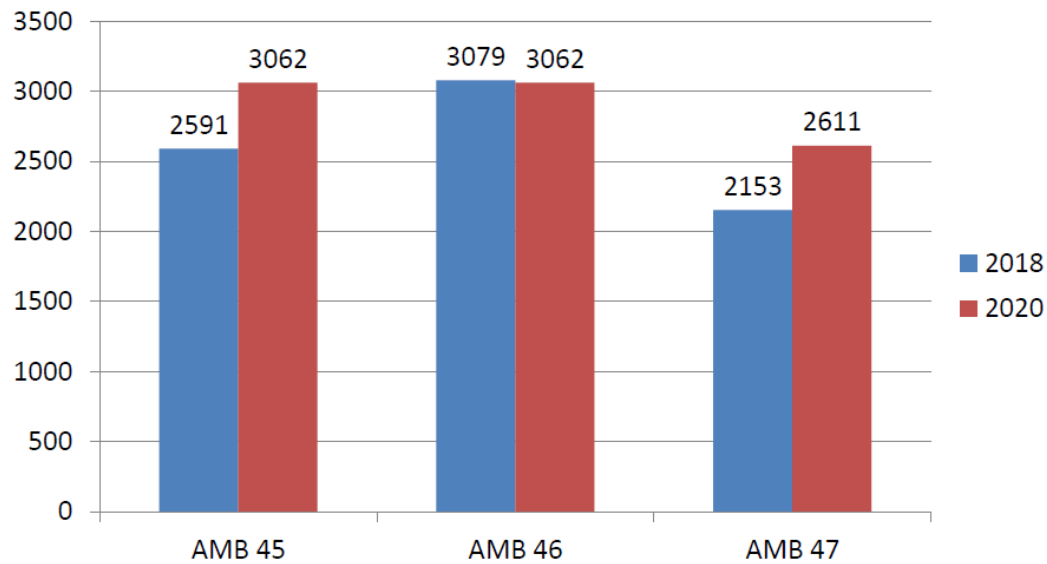
This mirrored the national trend seen during the COVID-19 Pandemic of decreased EMS and healthcare system utilization. This graph shows the decrease in 911 call requests for EMS at the onset of the pandemic:



2020 Medic Unit Call Volume

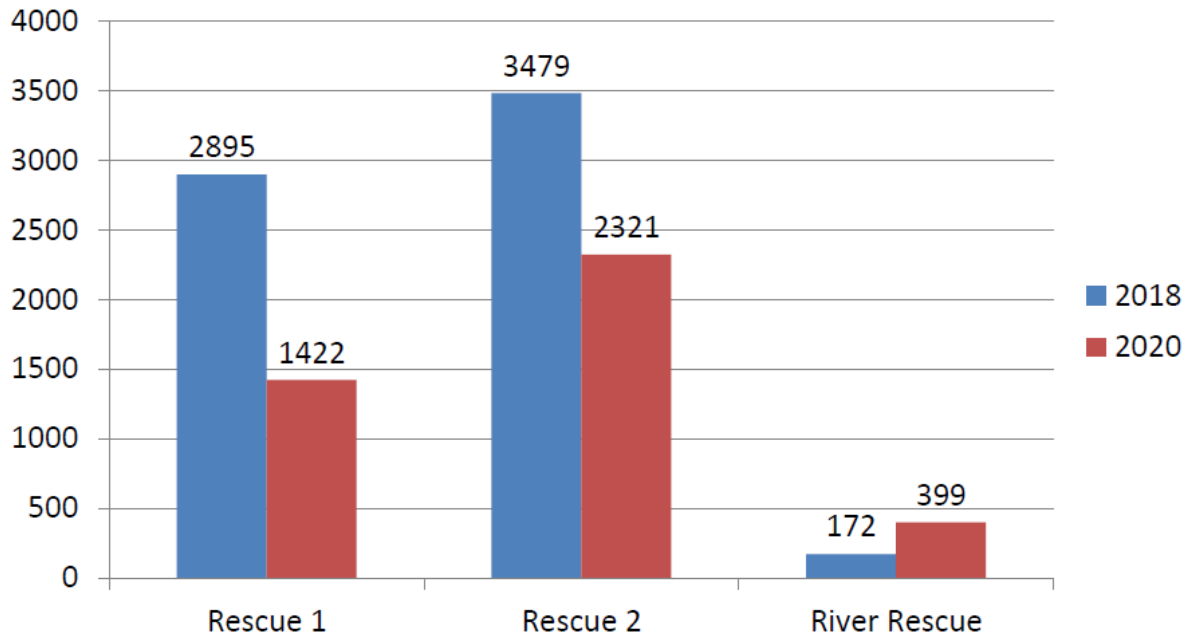


2020 EMT Unit Call Volume



The EMT units which provide basic life support continue to evolve and become a vital part of the system. The EMT program began in May 2017. EMT units saw a 11.7% increase in call volume in 2020 while the system in whole had a 10.2% decrease in call volume. The EMT units have been invaluable in decompressing the system and increasing ALS unit availability.

2020 Rescue Unit Call Volume

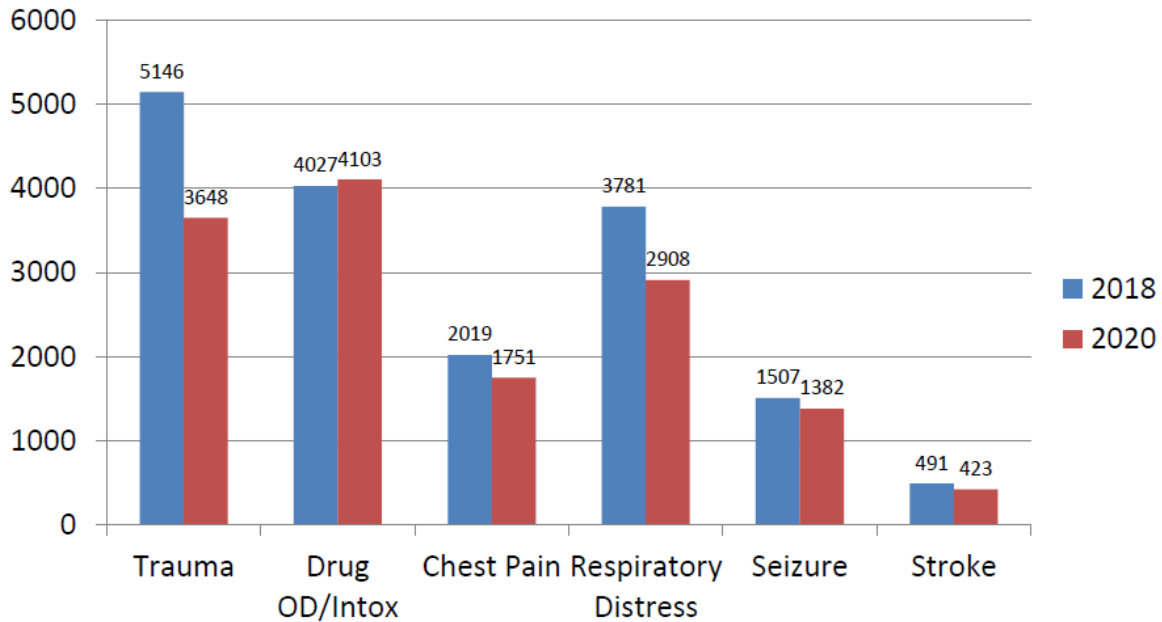


Pittsburgh EMS provides ALS Medically Directed Rescue Services via two heavy rescue units.

Pittsburgh EMS also provides River Rescue Services, in conjunction with the Pittsburgh Police.

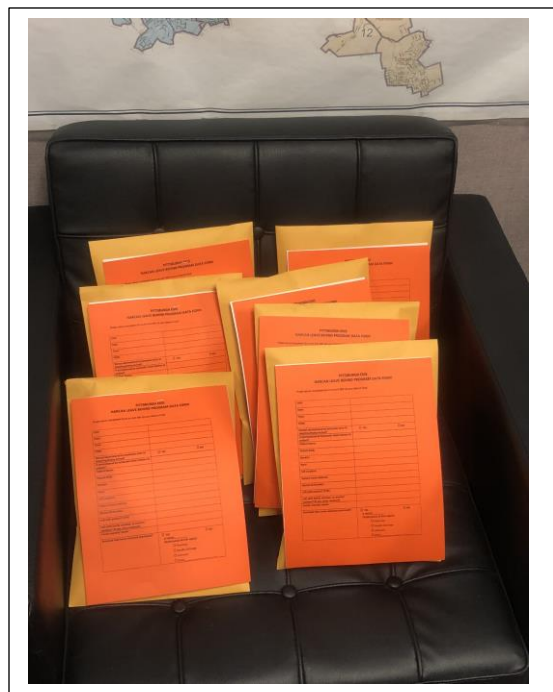


2020: General Patient Categories

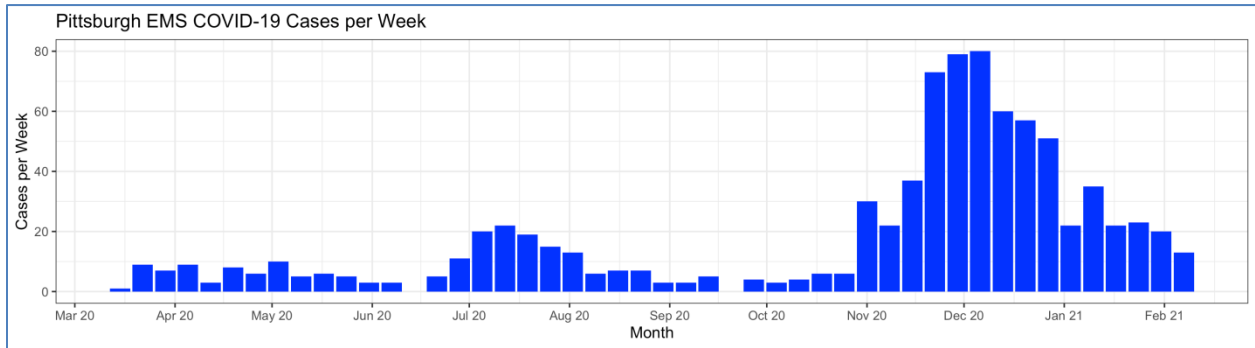


Outside of calls for drug overdoses, the pandemic resulted in a decrease in calls for all medical categories in 2020.

There was a significant increase in fatal and nonfatal drug overdose calls early into the pandemic. Pittsburgh EMS expanded the Leave Behind Narcan Program as a countermeasure:



COVID-19 Pandemic Operations:



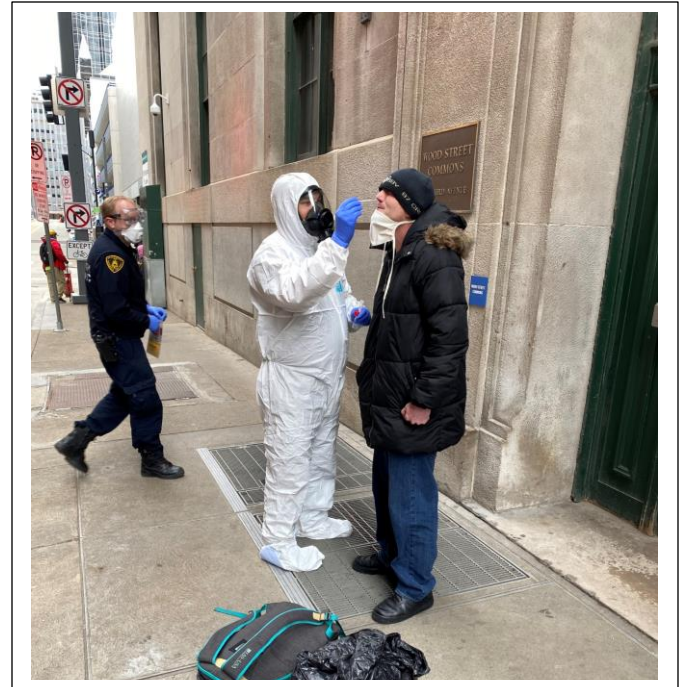
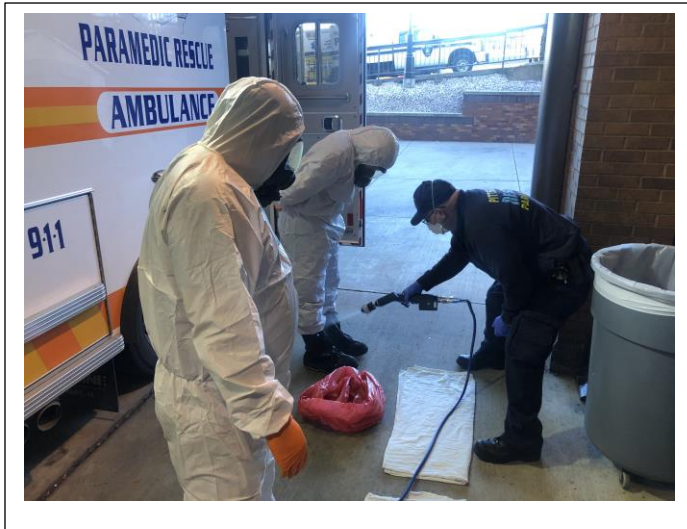
Pittsburgh EMS was a regional leader in planning and response operations for COVID-19 and assisted our local, county and regional public safety partners with planning and training for COVID-19 operations.

Thru the end of 2020, Pittsburgh EMS treated 725 test confirmed COVID-10 patients.

For the year, a total of 19 field providers tested COVID + (10.9% of the system) and no providers required hospitalization. Of the positives, most cases were believed to be community- or family-acquired and only a couple of cases could be linked to a patient care encounter. This is a testament to training and the Pittsburgh EMS Infection Control Plan developed for COVID-19.



ECHO Team Operations:



The Pittsburgh EMS Highly Infectious Disease Transport Team was re-tasked shortly before the onset of the pandemic with the following missions: to support bureau-wide operations and to support containment and mitigation measures with the Allegheny County Health Department and the Allegheny County Department of Human Services. Two (2) of these specialty support units were placed into operation 24/7:

- 1. Provide infection control training, advice and technical support to units in the field**
- 2. Provide additional personnel in Maximum Level PPE to assist with high risk patient care requiring resuscitation and airway procedures**
- 3. Assist field units with proper donning & doffing of PPE and personnel and vehicle decontamination**
- 4. Assist with containment strategies by collecting COVID-19 testing samples for the Allegheny County Health Department for persons under investigation in the community**
- 5. Facilitate transportation of vulnerable persons to isolation/quarantine facilities**
- 6. Resupply field units with PPE as needed**

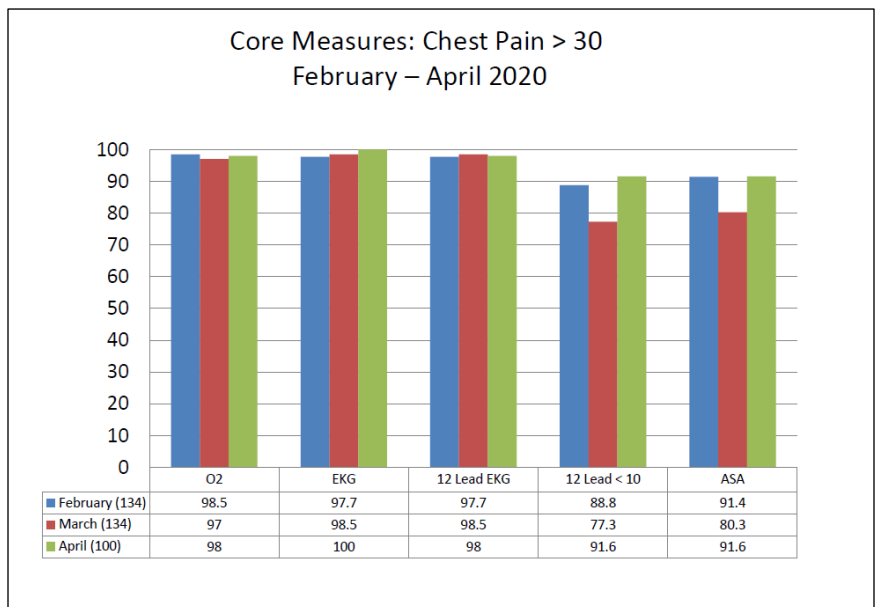
The units conducted 50 testing missions throughout Allegheny County for the Allegheny County Health Department and tested at total of 180 individuals.

ECHO units relocated 78 vulnerable/at risk individuals to a safe quarantine/isolation facility for the Allegheny County Department of Human Services.

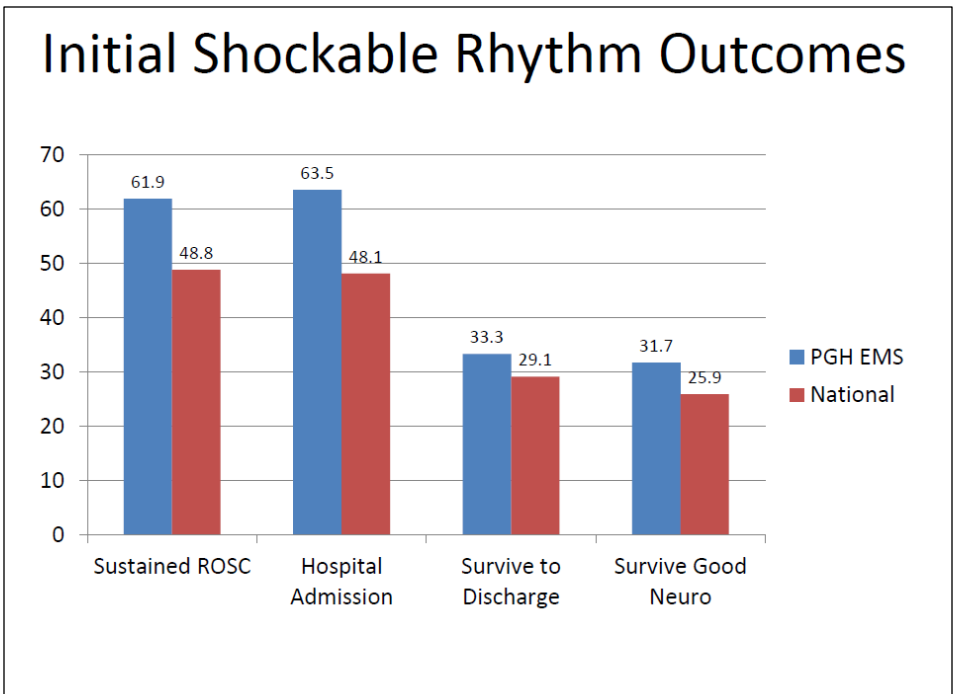
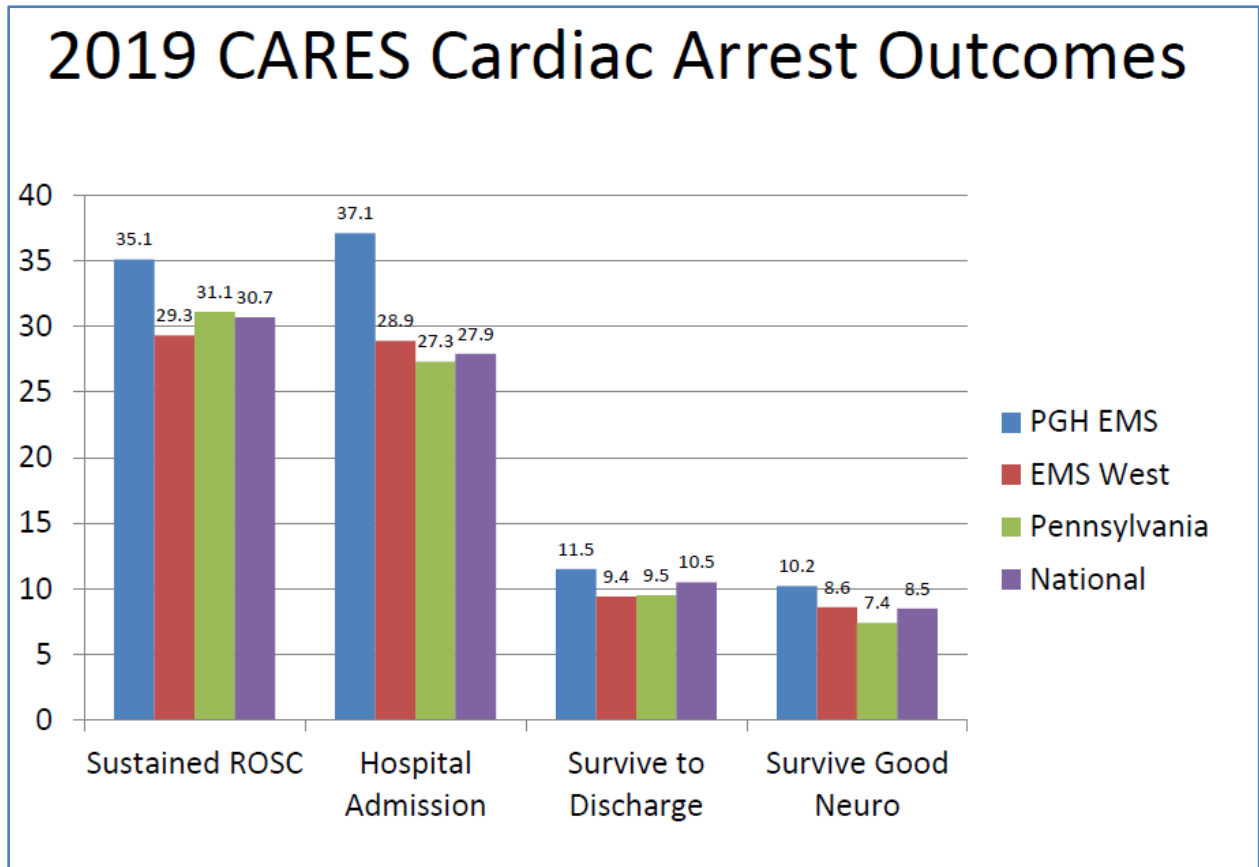
Core Clinical Programs – Acute Coronary Syndrome Management:



Pittsburgh EMS met American Heart Association (AHA) Mission Lifeline metrics by getting > 75% of our patients with ST Elevation Myocardial Infarction (STEMI) into the cardiac catheterization laboratory at the hospital and their lesion vessel reopened in < 90 minutes from EMS contact. Pittsburgh EMS was awarded the AHA Gold Plus Recognition Award for the Third Year in a row!



Core Clinical Programs – Cardiac Arrest Management:



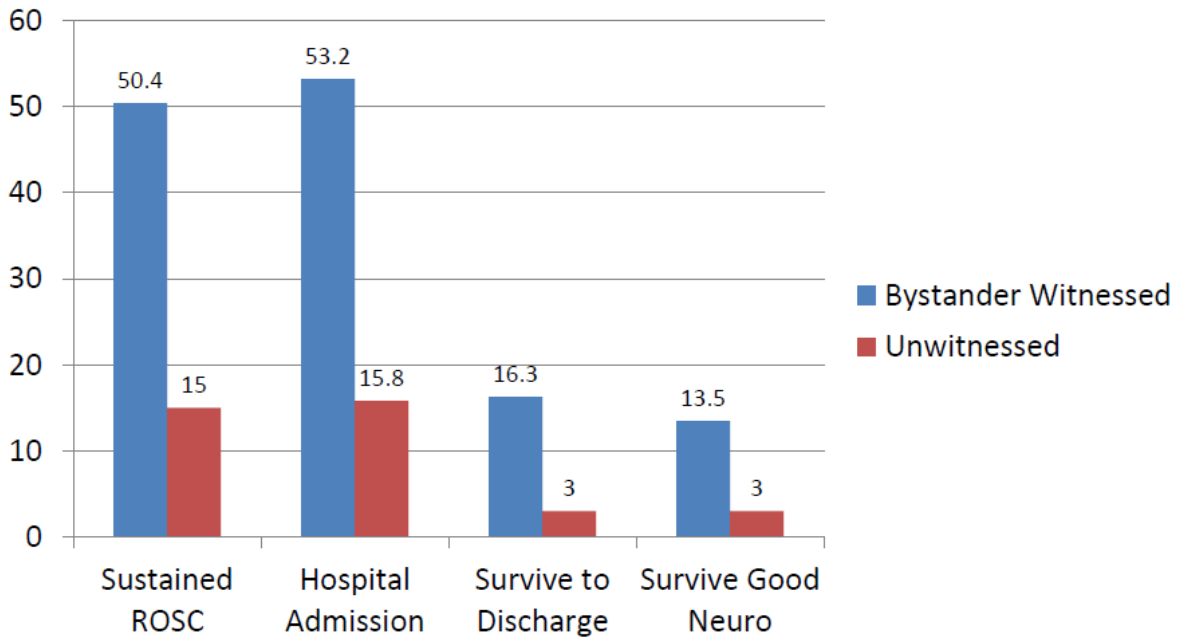
Pittsburgh EMS outperformed the Western Pennsylvania Region, Pennsylvania and National Benchmarks for cardiac arrest resuscitation outcomes.

37% of our cardiac arrest patients survived to hospital admission and 10.2% were discharged with good neurological function.

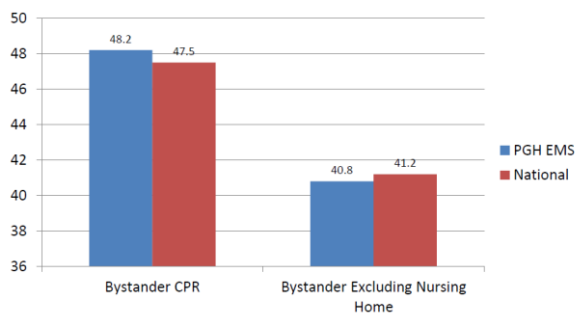
Nearly a third of our patients with shockable rhythms (Ventricular Fibrillation) were discharged with good neurological function

2019 CARES Report was published in 2020, the 2020 report will be published later this year.

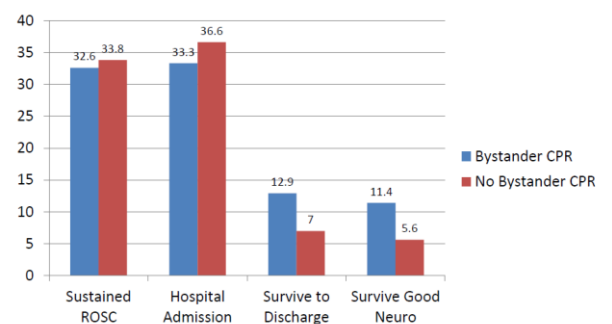
Witnessed vs. Unwitnessed Arrest



2019 Bystander CPR Rates



The Effect of Bystander CPR



Pittsburgh EMS executes high performance resuscitation measures and over half of persons with a bystander witnessed cardiac arrest survive to hospital admission; 13.5% survive to discharge with good neurologic outcome. Rates of bystander CPR in Pittsburgh match national means. Bystander CPR improves survival to discharge to survival with good neurologic function. Unfortunately the Community CPR program was suspended due to the pandemic.

Acute Stroke Care:

Pittsburgh EMS initiated a new Stroke Care Quality Improvement program to optimize stroke management and “prime the pump” to push patients through the stroke system to care to a reperfusion intervention. This program included the introduction of a Stroke Bundle of Care and time metrics to achieve a < 50 minutes from EMS contact to CT Scan time to maximize the opportunity for stroke intervention. Assistant Chief Pinchalk participated in the development of a national position paper on prehospital stroke systems of care.

Pittsburgh EMS: Clinical Bundle of Care: Acute Stroke		
Condition: <ul style="list-style-type: none"> New Neurologic Deficit constant with Stroke Onset < 24 hours Acute stroke Transient Ischemic Attack 	Goals: <ul style="list-style-type: none"> Identify Acute Stroke If Present Early Stroke Alert Notification Expedite transport to an appropriate receiving facility Minimize EMS Contact to CT Time 	
Intervention	Time Standard	Completed?
1. Supplemental O2 to maintain a SpO2 94-99%	< 5 minutes	
2. Establish Last Known to be Normal Time	< 10 minutes	
3. Complete Cincinnati Prehospital Stroke Screening (CPSS)	< 10 minutes	
4. Complete Modified RACE Scoring	< 10 minutes	
5. Obtain Blood Glucose	< 10 minutes	
6. Assess for Mimics/Exclusion criteria: <ul style="list-style-type: none"> Blood Glucose < 60 Typical seizure in a patient with known seizure disorder Isolated speech deficit in a patient with acute ETOH intoxication 	< 10 minutes	
7. Initiate Stroke Alert on Dispatch 2 if: <ul style="list-style-type: none"> Positive Cincinnati Prehospital Stroke Screen (CPSS) & < 24 hours from last known normal time & mimics excluded 	< 10 minutes	
8. Expedite transport to closest appropriate facility <ul style="list-style-type: none"> < 24 hours from last known normal: Closest PSC or CSC < 24 hours from last known normal & mRACE Score of 4 or greater: Closest Comprehensive Stroke Center /Consult MD as needed 	< 21 minutes	
9. Apply EKG/12 Lead if indicated	< 25 minutes	
10. Obtain IV access	< 25 minutes	
11. Field Time Interval to ED arrival no more than 30 minutes	< 31 minutes	

	Time	Interval	
Last Known Normal	2300 on 9/18		
First Medical Contact (EMS)	0943	0 min	
Hospital Notification	1002	0 min	(Time to Hospital Notification)
Arrival to ED	1013	30 min	(Time to ED)
CT of the Head	1023	40 min	(Time to CT)
IV tPA <input type="checkbox"/> Not applicable	N/A		(Time to tPA)
Arrival to Intervention Lab	1050	67 min	(Transport Time to Lab)
Initiation of Endovascular Treatment	1055	72 min	(Time to Procedure)

Patient Outcome: 87 year old male who was unable to move the L side of his body upon waking up this morning. He also had dysarthria. EMS was notified. EMS BGL 98. Oxygen given and IV initiated. Patient was taken to UPMC PUH ED as a level 1 stroke alert. CTA showed RML1 occlusion, so patient was taken to the angi suite.
 • Patient was discharged to inpatient rehab on 9/22.
 Admission NIHSS = 15
 24 hr NIHSS = 6

First Medical Contact to Endovascular Intervention Time: 72 mins
Door to Endovascular Intervention Time: 42 mins

Rapid reperfusion is a key to the management of patients with acute ischemic stroke. Keys to success are early recognition of potential stroke, Medical Command contact, and transport to an appropriate capable of delivering acute stroke care. For questions about the UPMC continuous quality improvement process for stroke patients, please call 1-888-647-9077.

PITTSBURGH REGIONAL STROKE CONVERSATION SERIES PART 1 - WHY?
 October 22nd | 2:00 - 3:30 PM

Why is stroke the fifth leading cause of death and number one cause of disability among Americans? We will discuss this in more in the first session of our three-part series.

Join our conversation and help shape the conversation as we move forward to effect change and shape the way we approach stroke in our region.

Register for free online:
tinyurl.com/PGHStrokeConvoPT1

Please direct questions to
 Debbie.Viola@heart.org

Panelists

Dr. Ashis Tayal
 Medical Director
 Comprehensive Stroke Center
 Allegheny General Hospital

Mark Pinchalk
 Asst. Chief
 City of Pittsburgh EMS

Erika Storch

Pennsylvania EMSC Recognition:



Pittsburgh EMS received Pennsylvania Emergency Medical Services for Children (EMSC) Recognition for Pediatric Care in 2020 at the Expert Level.

To receive Master Level Recognition the service had to meet the following metrics:

- Carry appropriate pediatric specific medical equipment
- Have child abuse background clearances for all EMS providers
- Provide a minimum for four (4) hours of pediatric specific continuing education annually
- Provide community outreach programs
- Have Child Passenger Safety Technicians trained and providing car seat safety checks to the public

District Chief Jeff Meyers lead the effort to achieve the accreditation. Unfortunately Jeff passed away in 2020. His loss was a devastating blow to the bureau.



Rescue Division Activity:



2020 Rescue Operations:

Elevator Rescue = 157

Forced Entry into a Structure = 94

Forced Entry into a Vehicle = 69

Vehicle Crash/Extrication = 537

Carbon Monoxide Emergency = 54

HazMat Response Operations = 47

Low Angle Rope Rescue = 11

High Angle Rope Rescue = 1

Confined Space Rescue = 5

Hazardous Materials Incident = 47

River Rescue Activity:



Pittsburgh River Rescue is staffed 24/7 by two Paramedic/Public Safety Divers and two Police Officers.

The unit is responsible for: safety patrols, law enforcement, surface rescue, subsurface rescue, evidence recovery and medical response in the Pittsburgh Pool on the three rivers.

2020 Activity:

Training Operations = 32

Routine Patrol = 102

Public Service Calls (disabled boat, etc.) = 64

Hazardous Materials Response = 2

Rescue Operation = 26

Calls for Jumpers/Possible Jumper = 125

Body Recovery = 7

Search Operation = 25

Law Enforcement Response = 14

Fire Response = 1

Tactical EMS Team:



The Pittsburgh EMS Tactical EMS Team (TEMS) consists of 16 paramedics who have completed an 80 hour complete SWAT course and additional training in Tactical Emergency Medicine to provide forward medical support to the Pittsburgh Police SWAT Team on police deployments.

Pittsburgh EMS TEMS also provides medical support to the Allegheny County Police SWAT Team and the Pittsburgh FBI SWAT Team

Pittsburgh EMS TEMS responded to 151 missions in 2020:

2020 Activity:

Callouts (barricaded subject, no notice high risk warrant, hostage situation, Active Shooter) = 99

Preplanned High Risk Search Warrant Service = 52

Motorcycle Unit:

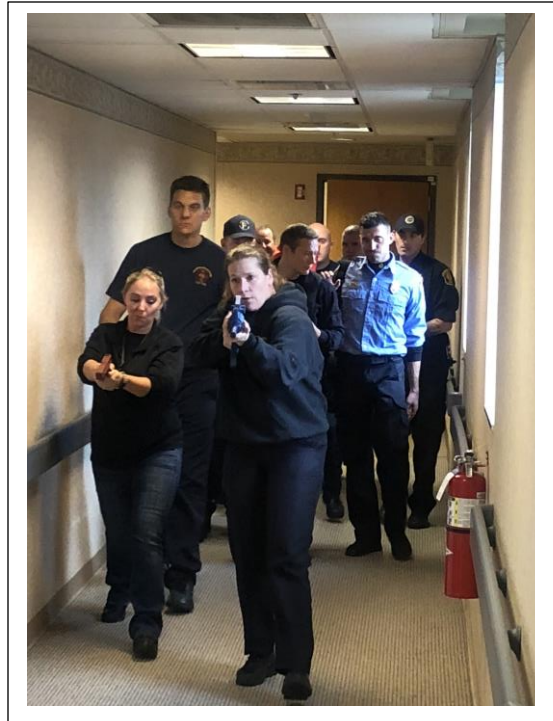
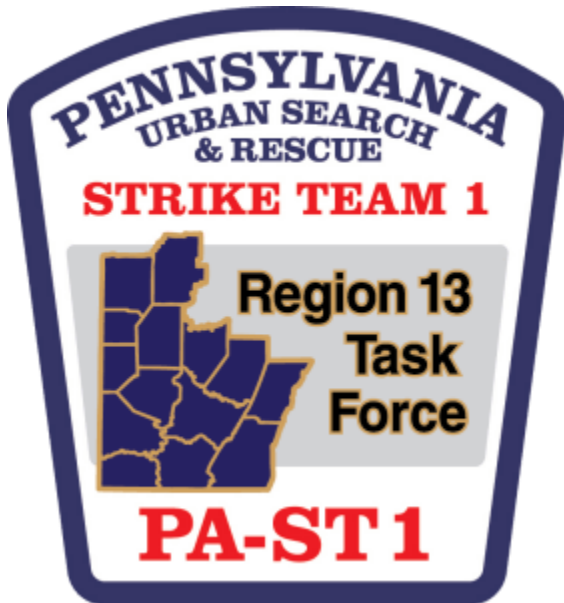


The Pittsburgh EMS Motorcycle Unit provides medical coverage at large special events, parades and races.

All members of this team have to successfully complete a 80 hour police motorcycle course and then a 40 hour annual refresher program yearly

2020 operations were limited due to pandemic related shutdowns of large events.

Other Joint Public Safety Teams:



Pittsburgh EMS contributes personnel to several joint specialty response teams:

Joint Public Safety Rescue Task Force Training:

Helped develop the Joint Public Safety Rescue Taskforce strategy for response to Active Threat Events with Police and Fire. This team has been conducting training for all EMS, Police and Fire personnel since May of 2017.

Pittsburgh Public Safety Flood Response:

Joint Pittsburgh Public Safety Team with Police and Fire that responds to flash flooding events.

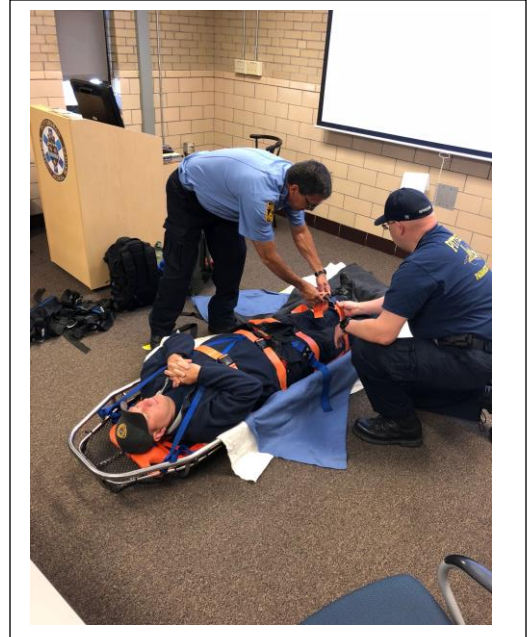
Allegheny County Hazardous Material Response Gold Team:

City of Pittsburgh Hazardous Materials Response Team and is part of the Allegheny County hazardous Materials Response Program. This team is staffed jointly by EMS and Fire.

Pennsylvania Urban Search and Rescue Strike Team-1:

This a regional (Region 13) Urban Search & Rescue Strike Team and functions under PEMA as part of the in state Urban Search & Rescue Program. Pittsburgh EMS has seventeen (17) paramedics that have been selected to be part of this team. This team trains five times a year in addition to exercises.

Training Division:



In 2020, the Pittsburgh EMS Training Division delivered in excess of 3,700 man hours of training that exceeded yearly state continuing education requirements for EMT & Paramedic Recertification.

Pittsburgh EMS Training delivers quality improvement focused training to improve the quality of care being provided to our patients.

2020 Training Sessions included:

- Core Resuscitation Competency Training
- Pediatric Advanced Life Support Recertification
- Pennsylvania Department of Health Online Con-Ed modules
- Infection Control Just in Time Training
- Police Recruit Medical Training
- New Hire Introduction Training

Special Events:



Pittsburgh EMS provides Paramedic and EMT staffing for special event venues in the City of Pittsburgh. There are over a thousand events that are staffed per year including:

- Major League Sports
- College Sports
- High School & Middle School Sports
- Races
- Holiday Events
- Community Events
- Pittsburgh Convention Center Events
- Concerts

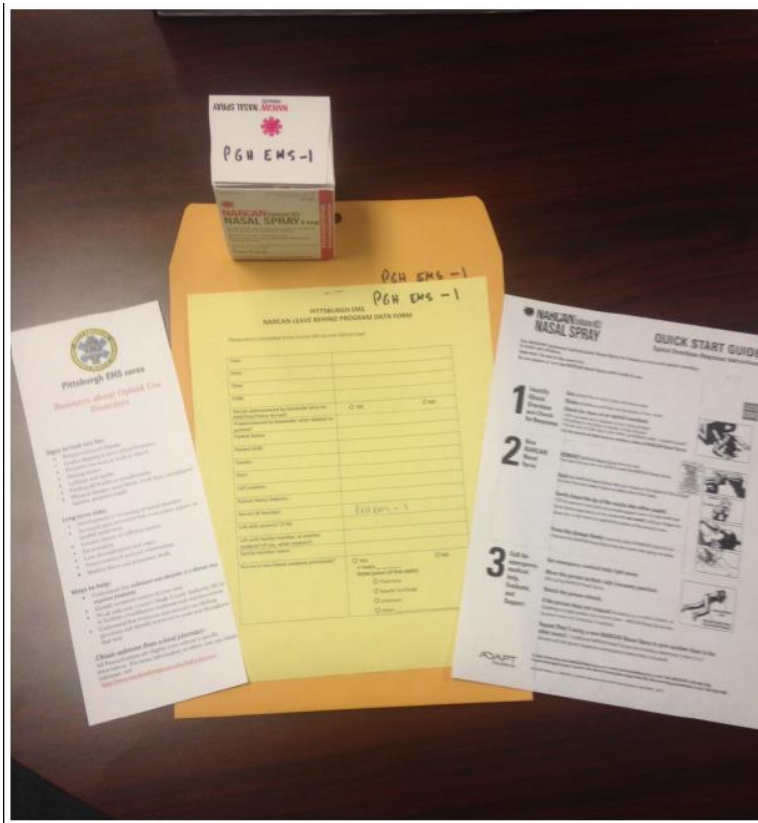
As with everything else in 2020, event coverage was very limited due to pandemic related shutdowns.

Public Health Programs:

Pittsburgh EMS works with our community partners to develop public health programs to develop a more medically resilient community and reduce morbidity and mortality. Agencies that we engage with on these programs include:

- Allegheny County Health Department
- Prevention Point of Pittsburgh
- Mercy Behavioral Health
- Operation Safety Net
- SafeCribs®
- Allegheny County Department of Human Services
- Pennsylvania Department of Health


Narcan Leave Behind Program:



In conjunction with the Pennsylvania Department of Health, Pittsburgh EMS developed the first EMS Narcan Leave Behind Protocol in the state. This protocol was subsequently adopted by local and regional EMS agencies and the State Bureau of EMS

Infant Safe Sleeping Initiative:

Pittsburgh EMS		
30 Second Safe Infant Sleeping Screen		
<i>Entry: Seeing an infant in a residence with a minor complaint not requiring acute interventions, scene safe with cooperative parents.</i>		
Ask if you can see where the infant sleeps at night:		
	YES	NO
Crib Present?		
Firm surface in crib?		
Any soft objects in the crib?		
Any loose bedding in the crib		
Crib in parent's room?		
ASK Parents: Does anyone smoke in the home?		
ASK Parents: Does baby sleep anywhere besides the crib (couch, car seat, swing, bed, etc.)		
If no Crib present, would parent(s) like to have a free one delivered?		
If any answers in orange, give the patients the safe sleep handout.		
Return this form to Unit 505, <i>if crib needed/requested notify your District Chief ASAP</i>		
Unit		
Date		
CCR		
Person completing		

CHILD DEATH REVIEW TEAM SUCCESSSES	2017 ANNUAL REPORT
Pittsburgh Emergency Medical Services Safe Infant Sleeping Screening*	
<p>This project, in partnership with the City of Pittsburgh Emergency Medical Services (EMS), Cribs for Kids and the Allegheny County Health Department, provides a 30-second Safe Infant Sleeping Screening and informational handouts for EMS personnel to provide to families with infants in cases of non-acute calls. The goal of this program is to reduce local infant mortality by promoting safe infant sleeping best practices.</p>	
	<p>All partners involved in this project participate on the local CDRT. As a result of reviewing several SUID-related deaths, the group was able to develop the safe sleep screening as one solution to what was known to be a growing problem in the community.</p> <p>All responders will receive infant safe sleep education and training to assess infant sleeping locations in the field. When responders are unable to identify a safe sleep environment, they will offer/deliver a Pack 'n Play and safe sleep materials provided by Cribs for Kids.</p> <p>Most 911 calls to which EMS responds for infants in residences are typically non-acute in nature. In these cases, unless there is a scene safety or other issue, EMS crews will utilize the 30-Second Safe Infant Screening to assess the infant's sleeping environment. To implement the screen, EMS asks to see where the infant sleeps and makes the following observations/inquiries:</p>
Observation Question	Relevance
Is there a crib present?	A crib is the safest place for an infant to sleep – we can provide a crib if one is needed.
Is there a firm surface in the crib?	A firm mattress reduces the risk of entrapment/suffocation.
Any soft objects in the crib?	Blankets, toys, pillows, etc. increase the risk of entrapment/suffocation.
Any loose bedding/blankets in the crib?	These increase the risk of entrapment/suffocation.
Is there a crib in the parent's room?	This can reduce risk of SIDS by 50%.
ASK: Does anyone smoke in the home?	Smoking increases the risk of SIDS.
ASK: Does the baby sleep anywhere besides the crib (couch, bed, car seat, swing, etc.)?	Sleeping in locations/devices other than a crib increases risk of suffocation/SIDS.
Also emphasize that infants should always sleep alone, on their back, in a crib	

Another public health program spearheaded by Pittsburgh EMS is the Infant Safe Sleeping Screening. On 911 calls for infants in residences crews do a “30 second safe sleeping assessment” to screen for unsafe infant sleeping practices. If unsafe conditions are noted, crews leave education materials behind. If the family does not have a crib we can deliver on within 24 hours. Cribs are provided to Pittsburgh EMS for this program by SafeCribs®.

The goal of this program is reduce the incidence of Sudden Unexplained Infant Death (SUID or “crib death”) in the city.

Car Seat Inspection & installation Program:



Pittsburgh EMS maintains a core of Certified Care Seat Technicians who perform care seat safety check and installations. These programs are generally offered once a week at our Training Division.

In 2020, this was another public program that was suspended due to the pandemic although some virtual care seat checks were conducted.

Community Education:

Community CPR/AED Training:

Pittsburgh EMS provides community chest compression only/AED training at no cost to Pittsburgh residents. We increasingly include the “stop the bleed” course as part of this program:



COPE program:

The Community Education Program provided EMS professions for community events, show & tells and community education in First Aid, Stroke Awareness, safety awareness, etc.

CPR and COPE programs were also suspended in 2020 due to the pandemic.