

# Hamilton Paramedic Service 2017 Annual Report



Michael Sanderson  
Chief, Hamilton Paramedic Service  
4/23/2018



Dedicated to the memory of

**~Deputy Chief Doug Waugh~**

*“Thank you for your dedicated service to the residents of the City of Hamilton and the men and women of the Hamilton Paramedic Service”*



Hamilton



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# Message from the General Manager, Healthy & Safe Communities

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As General Manager of the Healthy and Safe Communities Department, I am very grateful for the contributions of our paramedics, and the administrative staff who support them, as they continue to deliver the kind of paramedic service Hamiltonians can depend on.

As Hamilton's senior population continues to grow and calls to 911 rise, our paramedic service continues to be challenged by offload delays at provincially funded hospitals. Despite these challenges, under the leadership of Chief Michael Sanderson, our paramedics continue to meet or exceed response time guidelines set by Hamilton City Council while protecting and improving the quality of life of residents in Hamilton.

In the following pages, you will learn more about the accomplishments of our Hamilton Paramedic Service over the past year, and how they are using data and evidence based decision making to provide excellent pre-hospital and out-of-hospital health care. As well, through close alignment with our local health sector, our paramedics actively pursue opportunities for innovation and improved patient care, such as the Paramedic Service Community Paramedic Program. I would like to extend my sincerest thanks to the Hamilton-Niagara-Haldimand Local Health Integration Network. Through this important partnership, we are able to provide residents at risk of calling 911 for low acuity health issues better access to more appropriate health care alternatives.

As we head into 2018, we are thankful to Hamilton's City Council for their ongoing support and investment in our paramedic services. Working closely with Mayor, Council, and our City Manager Chris Murray, our Paramedic Chief has been advocating to our local health institutions and the Ministry of Health and Long Term Care to find better ways to work together to reduce the off-load delays in Emergency Departments. These efforts are showing promise in March and April of this year following a significant increase in our incidents of code zeros in January and February. We look forward to continuing to work with our health and provincial partners to ensure that this trend continues and we will be able to regain some of the 26,000 hours lost to off-load delays in 2017, increasing our capacity to respond to all our 911 calls in a timely fashion.

We stand committed to providing the best possible care to help Hamiltonians to be healthy and safe. Please join me in thanking Chief Sanderson, his management team, both OPSEU and CUPE union representatives and all the paramedics and staff of the Hamilton Paramedic Service for their dedication and the high quality of medical assistance they provide.

Respectfully,

A handwritten signature in black ink, appearing to read 'P. Johnson', written in a cursive style.

Paul Johnson, General Manager  
Healthy & Safe Community Services Department

# Message from the Chief, Hamilton Paramedic Service

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On behalf of our management team, supervisors, paramedics, and support staff I am very pleased to submit the 2017 Annual Report for Hamilton Paramedic Service. While it was once again a record year in terms of the number of 911 calls, responses, and patients transported to hospital, these records seem to get broken every year.

Thank you to Mayor Eisenberger, to members of Council, and to the City senior leadership team, for your active support – both budgetary and through actions – of our Paramedic Service. Special thanks to Joe-Anne Priel and to Vicki Woodcox for their leadership and their friendship as we have moved through many challenges.

Over the past year there have been babies delivered, countless accidents responded to, thousands of patients assisted, and tens of thousands of hands held by our paramedics. Our support staff, schedulers, administrative, and logistics – have all helped to make sure the resources and equipment were available for our paramedics to do their work in a timely, effective, and efficient manner.

To me the real 2017 story has to be the excellent work performed by our front line staff, day in and day out, demonstrating compassion, caring, and skill in their response to those in need. The story is about the unfortunate and tragic incidents attended to by our paramedics where, despite best efforts, the outcomes were not what we all want. These situations are images, smells, sounds, and thoughts that will often live on in the minds of our paramedics who have witnessed them.

Last year we took steps to address this in training all of our staff in the Canadian Mental Health Association Road 2 Mental Readiness (R2MR) program. This year I am very proud to advise that with the support of our unions (OPSEU Local 256 and CUPE Local 1041), and mental health support professionals, we have trained and activated 16 peer volunteers as part of the new Hamilton Paramedic Service Critical Incident Support Team.

Over the next year we will be continuing to work with our hospitals, with our partner response agencies, and of course with our staff, to deal with the increasing pressures from hospital offload delays. We will continue to focus on the concepts and challenges of Provincial dispatch governance as relates to provision of municipally delivered ambulance service. And we will continue to improve our ability to utilize current information and data to inform our performance, to inform the public, and to improve service delivery.

Thank you to the entire Hamilton Paramedic Service team for your service, skills, and compassion.

Respectfully

A handwritten signature in black ink, appearing to read "Michael Sanderson". The signature is fluid and cursive.

Michael Sanderson, Chief  
Hamilton Paramedic Service

# Service Overview

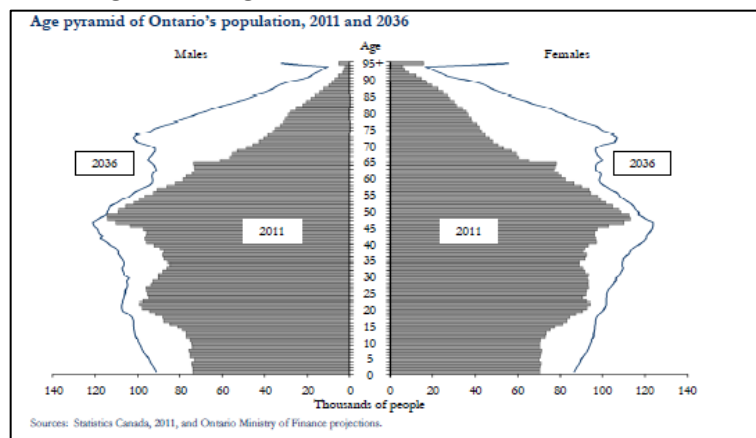
Formerly known as the Regional Municipality of Hamilton-Wentworth, the City of Hamilton (COH) is a single tier municipality that was amalgamated in 2000 from the existing lower tier municipalities of:

- City of Hamilton
- City of Stoney Creek
- Town of Ancaster
- Town of Flamborough
- Town of Dundas
- Township of Glanbrook

The 2016 Statistics Canada census estimated the population of the COH to be approximately 536,917, which is a 3.2% (16,968) increase from the census conducted in 2011. With a land area 1,117.29 square kilometres, population density is estimated to be 480.6 people per square kilometre (Statistics Canada, 2016) and is divided by the Niagara Escarpment.

Diagram 1 outlines the anticipated age group distribution in Ontario over the 2011 through 2036 period.

**Diagram 1 – Age Distribution**



In comparing the 2016 to the 2011 census it was identified that the COH had an increase of 13.8% (11,335) of residents greater than or equal to the age of 65 years. In reviewing Electronic Patient Call Reports (ePCR) for this age demographic during the 2015 through 2017 years, it was noted that 42.5% of patient interactions by paramedics was for this age group alone (Hamilton Paramedic Service, 2018). The “grey tsunami” projected by the Ontario Ministry of Finance can be expected to impact service demand significantly over the next 20 years.



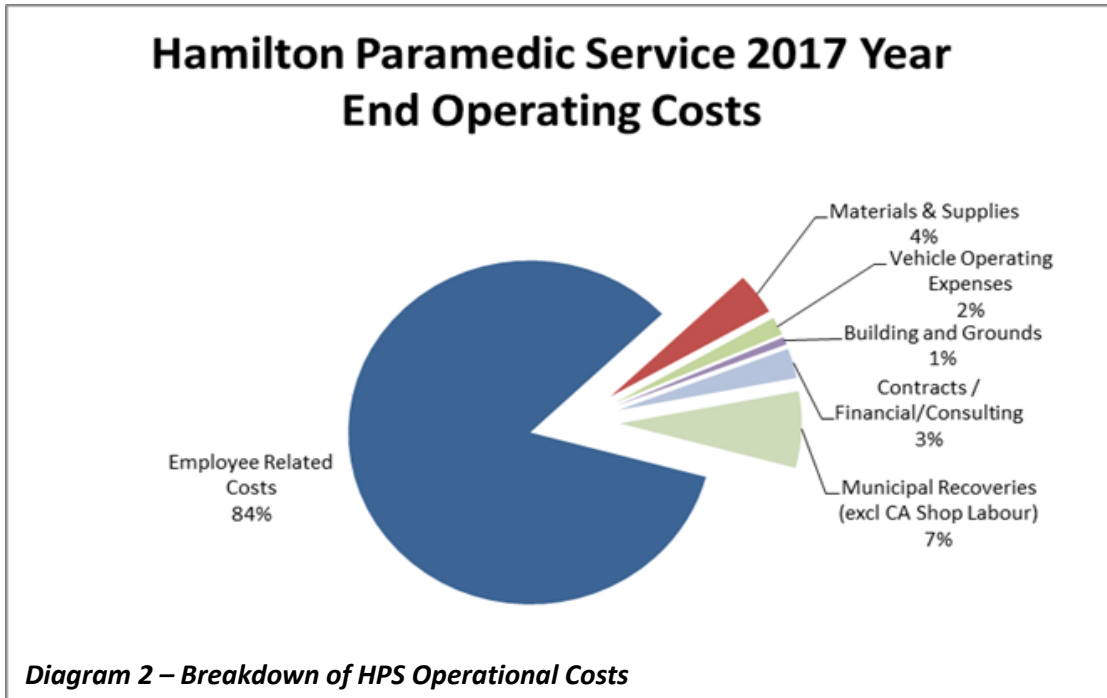
**42.5% of patients attended to by paramedics are for residents over the age of 65 years**

In accordance with the Services Improvement Act (1997) the City of Hamilton is the “designated delivery agent” for all land ambulance services in a manner compliant with the Ambulance Act. As the designated delivery agent the City has sole responsibility for the operation of ambulance services within the City. To fulfil this responsibility the City operates the Hamilton Paramedic Service (HPS). Under various Regulations and directives pursuant to the Ambulance Act all functions and elements of the HPS are highly regulated including vehicles, facilities, staffing, qualifications, procedures, reporting, and interactions.



## Finances

Service demand levels continue to increase for the Hamilton Paramedic Service (HPS) which noted a 5% increase between the 2016 and 2017 years (Hamilton Paramedic Service, 2018). To assist in meeting these demands, COH Council has approved 4 additional ambulances to respond to 911 calls. The operating costs associated with running HPS can be found in *diagram 2*.



With 83,928 unit responses travelling 1,793,219 kilometres to patients, a total of 66 vehicles are responsible for paramedic operations. The benefits achieved through corporate fuel purchasing arrangements and utilization of the Hamilton Fire Department vehicle maintenance capacity combined effectively to keep running costs below expectations while maintaining high reliability.

### DID YOU KNOW?

Materials & Supplies  
/Response

**\$20.68**

Total Cost/Response

**\$530.97**

Vehicle Cost/Kilometre

**\$00.54**

## Organizational Structure

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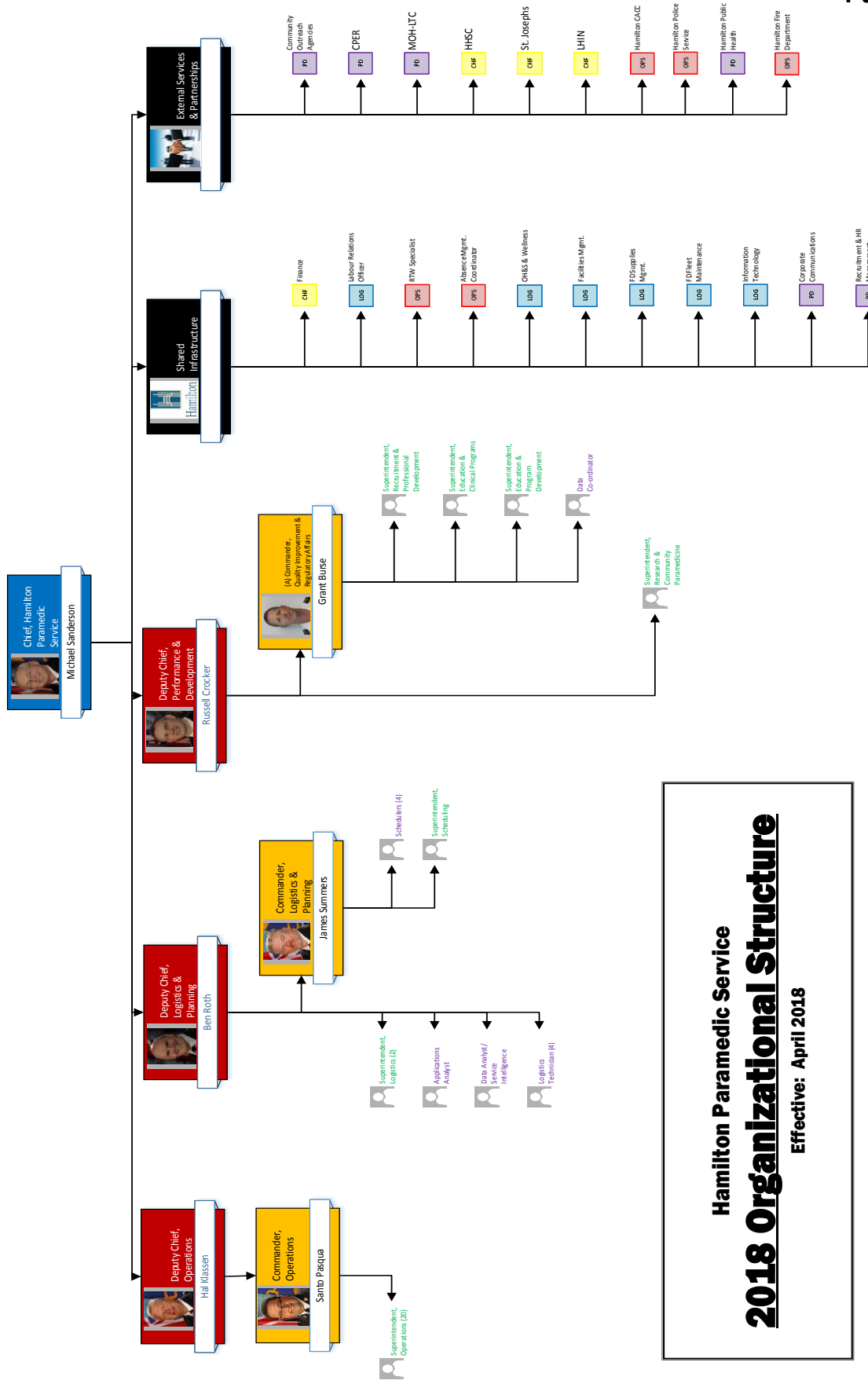
As a hybrid service, HPS combines the responsibilities of public safety and the health care system, to assist in the prevention, safety and wellness of COH residents/visitors.

To assist with the planning and operationalization of this complex model, HPS is comprised of the following sections:

- Office of the Chief
  - Strategic vision, direction, and planning
- Operations Section
  - Provides oversight on matters of deployment and resource utilization
- Logistics Section
  - Provides support to all sections through procurement and asset management
- Performance and Development Section
  - Ensures regulatory compliance and quality improvement

*Diagram 3* provides an overview of the organizational structure currently being utilized by Hamilton Paramedic Service.

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Paramedics (330)

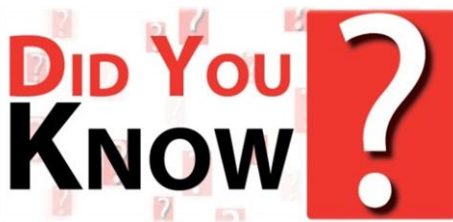
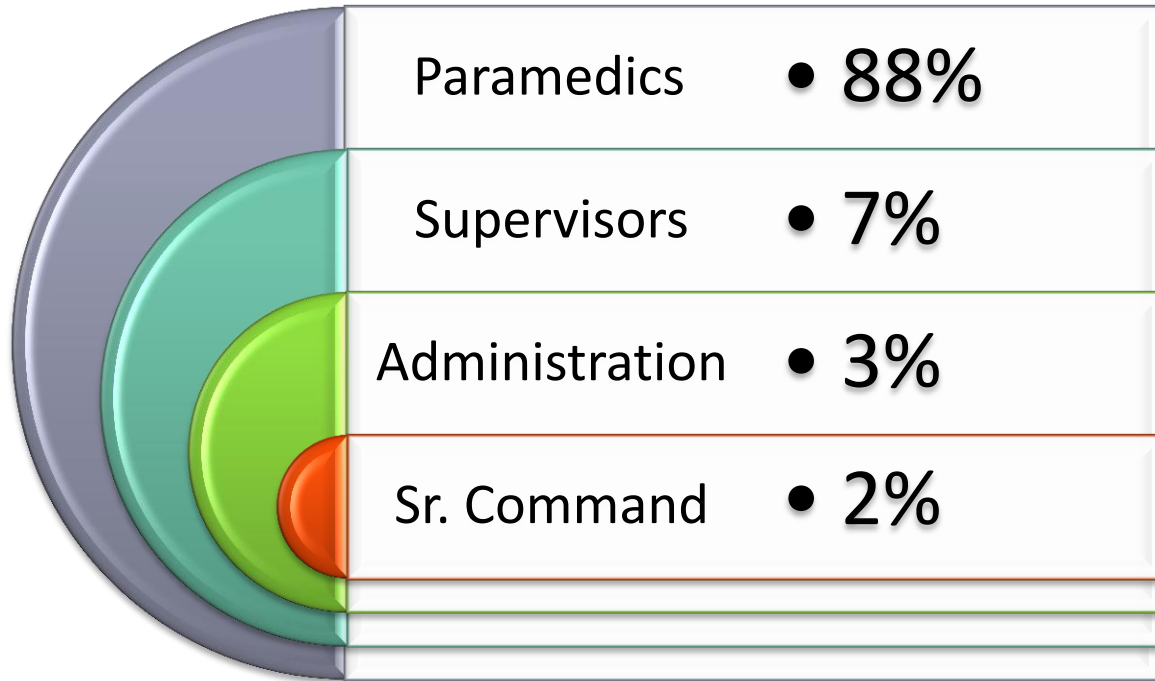


## Employee Overview

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HPS employs a total of 369 staff including senior management, administrative support, supervisors and paramedics as seen in *diagram 4*. While paramedics provide direct frontline services to residents/visitors, supervisors, administration staff and senior command provide a variety of supportive and regulatory functions to meet Ministry of Health and Long Term Care (MOHLTC) mandates.

**Diagram 4 – Employee Breakdown**



**In the Province of Ontario, paramedics are not a regulated health care profession under the Regulated Health Professions Act. As a result, they receive authorization by a physician otherwise known as a Medical Director to perform controlled medical acts classified under the College of Physicians and Surgeons of Ontario (CPSO).**

## Scopes of Practice

As a partnership between HPS and Hamilton Health Sciences Centre (HHSC), both primary and advance care paramedics are provided the necessary training and certification to render patient care to the residents/visitors within the City of Hamilton. Primary care paramedics (PCP's) are authorized by a physician to complete controlled medical acts that when combined with other medical assessments are able to effectively treat majority of patients' illnesses or injuries. An outline of their scope of practice can be seen in *diagram 5*.



**Diagram 5 - Scope of Practice, PCP**

### MEDICATIONS

- Acetaminophen (↓ mild pain)
- Aspirin (↓ mortality during heart attack)
- Epinephrine (↓ histamine in severe allergic reaction)
- Glucagon (↑ blood sugar levels)
- Ibuprofen (↓ mild pain)
- Ketorolac (↓ moderate pain)
- Naloxone (reverse opioid overdose)
- Nitroglycerine (↑ blood flow during angina)
- Oxygen
- Salbutamol (relax muscles in lungs)

### PROCEDURES

- 12 Lead Electrocardiogram (diagnose heart attack)
- Supraglottic Airway (↑ ventilation/oxygenation)
- Airway Suctioning (↓ mucous/foreign bodies)
- Capnometry (evaluation of respiratory system)
- Continuous Positive Airway Pressure (↓ severe respiratory distress)
- Defibrillation (eliminate lethal irregular heartbeat)
- Peripheral Capillary Oxygen Saturation (evaluation of oxygen in blood)
- Glucometer (evaluate of blood sugar in blood)
- Emergency Dialysis Disconnect (removal of at home dialysis unit if transport required)
- Termination of Resuscitation (discontinue resuscitation if determined futile)
- On-Line Medical Direction (physician consult via phone)

Based on call information provided to the MOHLTC dispatch centre or at the request of a primary care paramedic, advance care paramedics (ACP's) are able to perform additional skills to treat more complex medical or traumatic injuries. An outline of these additional skills is seen in *diagram 6*.



**Diagram 6 - Scope of Practice, ACP**

### MEDICATIONS

- Adenosine (↓ heart rate)
- Atropine (↑ heart rate)
- Calcium Gluconate (↓ blood potassium levels)
- Dextrose 50% (↑ blood sugar levels)
- Dimenhydrinate (↓ nausea/vomiting)
- Diphenhydramine (↓ moderate allergic reaction)
- Dopamine (↑ heart rate and blood pressure)
- Epinephrine (↑ blood flow during sudden cardiac arrest)
- Lidocaine (↓ irregular heartbeats & "numbing" of tissues)
- Midazolam (sedation & ↓ seizure activity)
- Morphine (↓ severe pain)
- Normal Saline Bolus (↑ blood pressure)
- Sodium Bicarbonate (↓ acidosis in blood)
- Phenylephrine (↓ blood flow to tissue)

### PROCEDURES

- Endotracheal Intubation (↑ ventilation/oxygenation)
- Tracheal Tube Introducer Device (assist with Endotracheal intubation)
- Foreign Body Airway Removal (remove object from airway)
- Central Venous Access Device (fluid or medication administration via arterial line)
- Intraosseous Therapy (fluid or medication administration via bone marrow)
- Intravenous Therapy (fluid or medication administration via vein)
- Needle Thoracotomy (↓ excessive air in lungs)
- Synchronized Cardioversion (↓ heart rate)
- Transcutaneous Pacing (↑ heart rate)

With the introduction of the “Patients First: Action Plan for Health Care” (Ontario Ministry of Health and Long Term Care, 2015) being introduced in 2015 by the Government of Ontario, the entire health care system including paramedic services were required to follow this strategy. As a result, HPS in collaboration with a variety of community and health partners introduced Community Paramedics (CP’s), to assist in providing the “right care, at the right place, at the right time”. In addition to being a certified PCP or ACP, these Community Paramedics possess additional training focused on more chronic health and social determinants of health (*diagram 7 & 8*), that may contribute to a resident having to use 911 on multiple occasions.



**Diagram 7 - Scope of Practice,  
Community Paramedic**

#### **Additional Training**

- Enhanced primary care assessment skills
- Chronic disease education and coaching
- Clinical rotations with local partners
- Senior citizen neglect and abuse assessment
- Falls risk and prevention techniques
- Community Health Assessment Program (CHAP)
- Aboriginal persons awareness and transition from acute care facilities
- Health Links awareness and orientation of CHF and COPD transitioning from acute care facilities



**Diagram 8 - Scope of Practice,  
Social Navigator Paramedic**

#### **Additional Training**

- Enhanced mental health and addictions assessment skills
- Forensic Research
- Acceptance and Commitment Therapy
- Professional Boundaries
- Give, Take, Care Learning
- FASD and the Law
- Mental Health First Aid



**Two Community Paramedics are 100% funded by the Hamilton-Niagara-Haldimand-Brant Local Health Integration Network (HNHB-LHIN) and does not affect the COH tax levy.**

# Response Overview



Events in 2017  
**67,712**

Responses in 2017  
**83,928**



Transports in 2017  
**49,763**

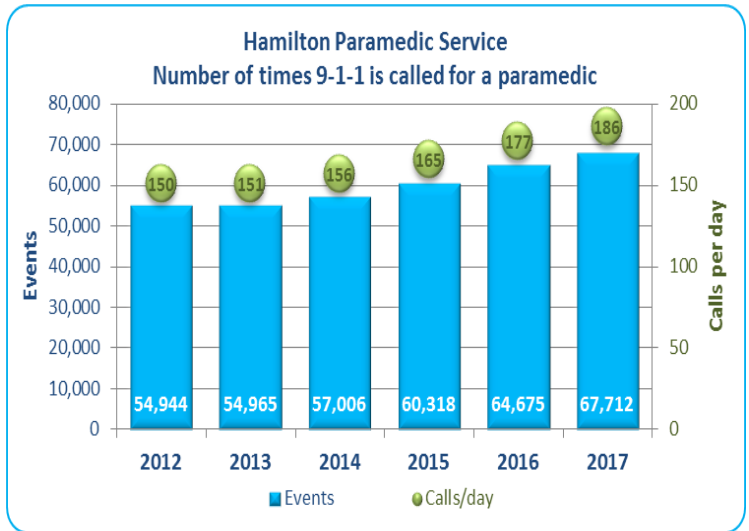
1	7	9	3	2	1	9
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Kilometres travelled

(Hamilton Paramedic Service, 2018)

## Events

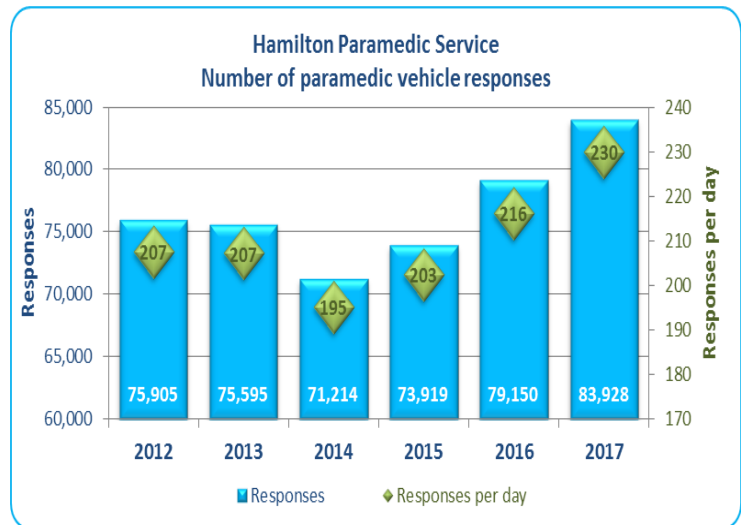
An event is generated every time a person calls 911 and requests the assistance of a paramedic through our Central Ambulance Communications Centre (CACC). Hamilton Paramedic Service (HPS) has seen an average event increase of 5% per year since 2013 as seen in *diagram 9* (Hamilton Paramedic Service, 2018). As mentioned above, with a population growth of 3.2% and an increase of 13.8% of residents ≥65 years between the 2011 and 2016 (Canada, Statistics, 2016), it is anticipated that increases in paramedic events will continue to rise as a result of these factors.



**Diagram 9 – Events by year & average events per day**  
(Hamilton Paramedic Service, 2018)

## Responses

Responses account for the number of paramedic vehicles that are sent to an event. This number is typically higher than the number of events (*diagram 10*), as sometimes there is more than one vehicle sent to a unique event. Once an event is received by or dispatch centre, a paramedic vehicle is immediately dispatched to the call to render assistance. In instances such as motor vehicle collisions and complex medical/traumatic emergencies, multiple paramedic vehicles may be assigned to the event.



**Diagram 10 – Responses by year & average by day**  
(Hamilton Paramedic Service, 2018)

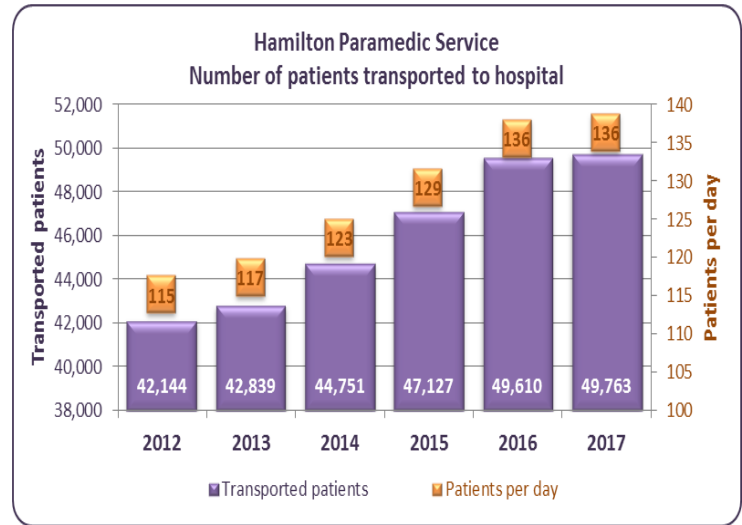


**As a result of changes to the Ambulance Act of Ontario, HPS will be collaborating with the MOHLTC to allow paramedics to treat and refer a patient to another health care practitioner or treat and transport to an alternate destination facility for less acute illnesses/injuries**



## Transports

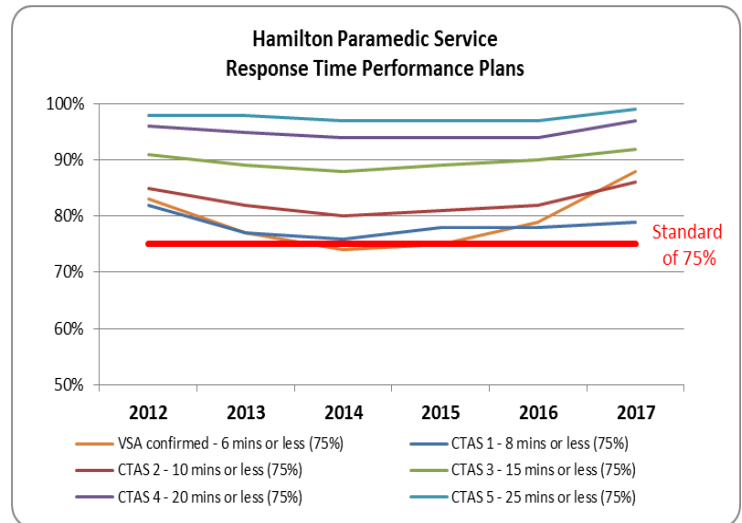
Transports are the total number of patients that are transported to hospitals by paramedics (diagram 11). This number is typically lower than the number of events, as some patients refuse transport to hospital once assessed by a paramedic. It is suggested that a heavy burden is being placed on the health care system as a result of an increase in residents not having access to primary health care providers (i.e. family physician). With 911 being a readily available service, people are now utilizing paramedic’s expertise to seek attention/advise for minor illnesses and injuries. This results in a paramedic response to a patient, but not having to transport them to a medical facility.



**Diagram 11 – Transports by year & average by day**  
(Hamilton Paramedic Service, 2018)

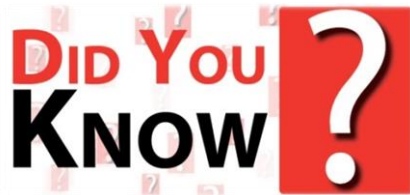
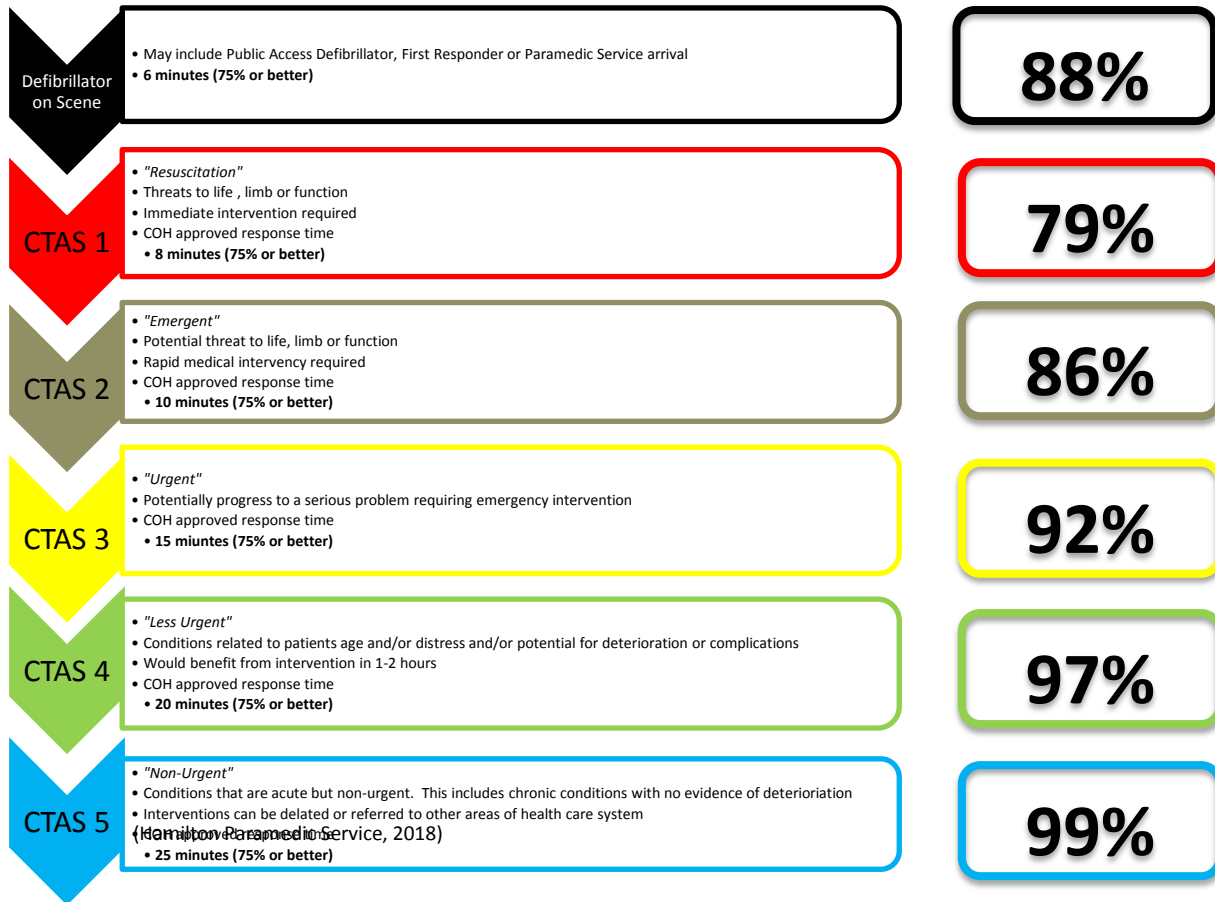
## Response Time Compliance

Under the Ambulance Act of Ontario, Standard 257/00, every paramedic operator in Ontario is responsible to establish and publically report on response time performance. In addition to this, the response time performance plan allows HPS to evaluate and make quality improvement changes to improve response times year over year. In 2017, HPS continued to meet the response time performance plan approved by COH Council and the MOHLTC (diagrams 12, 13 & 13A). These numbers reflect the patient’s condition after paramedics arrive the scene regardless of the priority they were dispatched by the call centre. Variance in the response time number can be affected by a variety of factors including event volumes and resource availability. In addition to this, how the events get coded by the dispatch centre, potentially over prioritizes the call, leaving reduced resources for higher acuity calls.



**Diagram 12 – Transports by year & average by day**  
(Hamilton Paramedic Service, 2018)

Diagram 13 – 2017 COH Target Response Times



**HPS uses both ambulances and Paramedic Response Units (single paramedics on an SUV) to ensure that a trained paramedic arrives to a patients side in the most expedient time to initiate care**

## Off-Load Delay at Hospitals

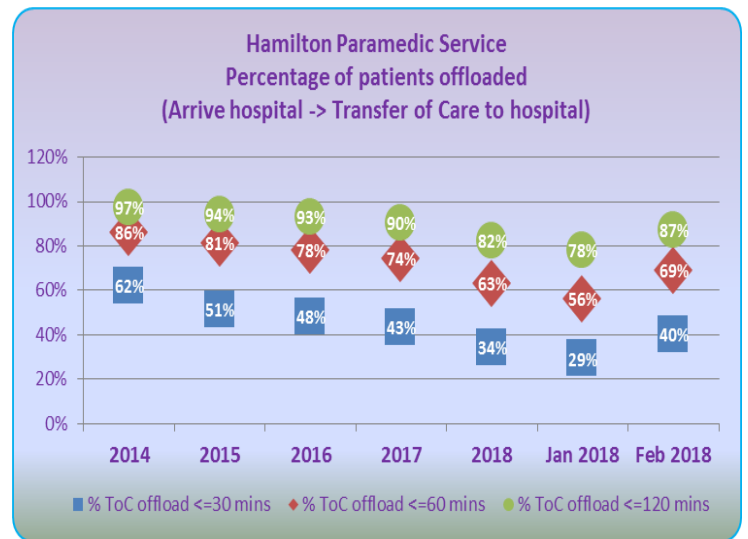
Individual paramedics, and the Paramedic Service, are required to comply with certain standards and directives issued by the MOHLTC in accordance with O. Reg. 257/00 and pursuant to the Ambulance Act. The MOHLTC issued patient care standards definitively require that our paramedics remain with the patient, and continue care for the patient, until the hospital accepts responsibility for the patients care.

An Off-Load Delay (OLD) occurs when the hospital does not accept responsibility for the care of a patient within 30 minutes of arrival at hospital. In a report submitted to the MOHLTC in 2005 titled “Improving Access to Emergency Services: A System Commitment” (Schwartz, 2005), it was recommended that:

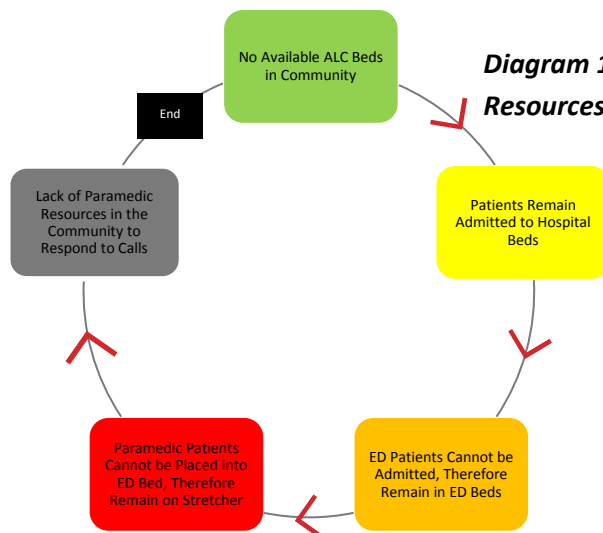
*“time from ambulance arrival to patient placed on an ED stretcher (Ambulance Offload Time – AOT) be 30 minutes, 90% percent of the time”*

As a result of a variety of system pressures, hospitals in the City of Hamilton continue to struggle to meet this target recommendation as seen in *diagram 14*. One on the main obstacles for hospitals continues to be the lack of Alternative Living Care (ALC) spaces in the community.

This results in a back log throughout the entire health care system, which in the end limits the paramedic resources in the community (*diagram 15*). These system issues have resulted in 26,942 hours of paramedics being unavailable to in the community, which is a loss in productivity of 6 million dollars.



**Diagram 14 – Transfer of Care Compliance**  
(Hamilton Paramedic Service, 2018)



**Diagram 15 – How OLD Affects Paramedic Resources**



**In 2017, HPS lost a total of 26,942 hours in productivity to off-load delay at hospitals**

All hospitals in Ontario report their own measure of ambulance offload time on a monthly basis to an organized MOHLTC “Access to Care” analytics process. In addition to this, HPS provides an annual summary of each hospitals performance using their Transfer of Care Data System. A summary of for 2017 can be seen in *diagram 16*.



St. Joseph's = 108 Minutes



HHSC - General = 114 Minutes



HHSC - Juravinski = 120 Minutes

**Diagram 16 – Comparison of Hospital OLD Times (90<sup>th</sup> Percentile of Ambulanced Off Load Time in Minutes)**

(Hamilton Paramedic Service, 2018)



**During periods in 2017, COH Hospitals reported operating over capacity for what they were funded for by the Province of Ontario to assist with off-load delays**

The HPS leadership team continues to collaborate with our hospital partners and COH officials, with the understanding we must collectively make improvements to the system to assist all parties in meeting their objectives.

When considering quality improvement solutions in one of these areas, the following areas must be factored into the plausibility of the improvement:

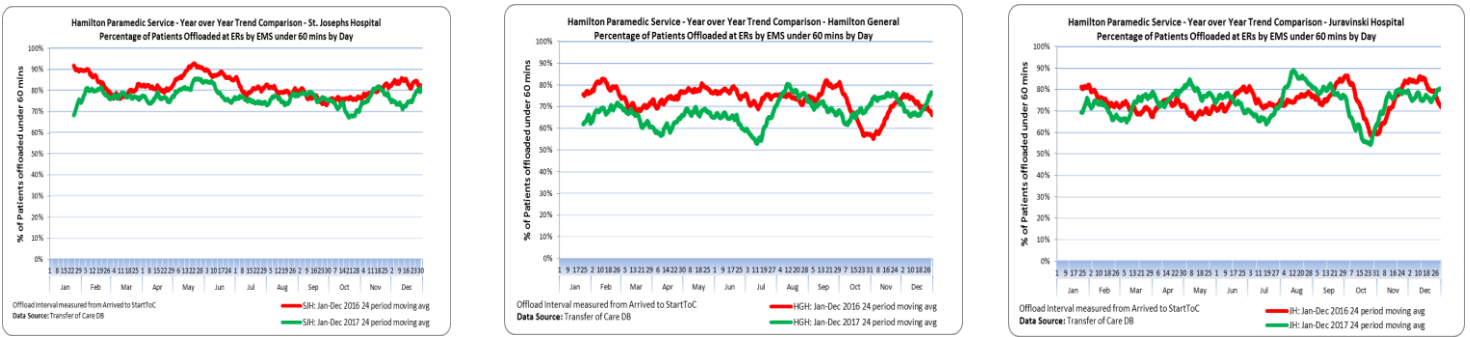
1. Cost of implementing the initiative
2. How long will it take to implement the initiative
3. Risk to the patient

HPS, COH officials, hospital administration and the LHIN continue to review, update and trial new ideas of alleviating OLD pressures to return paramedic resources back into the community. As a result the following quality improvement measure have already been implemented

1. Dedicated Off-Load Delay Nurse (DON)
  - a. The MOHLTC has continued the Dedicated Offload Nurse (DON) program where flow through funding is provided to the ambulance service to purchase additional nursing hours at significantly impacted hospital sites which will then allow for ambulances to be offloaded more quickly. One offload nurse with four available temporary holding spaces can quickly free four ambulances for return to availability. In 2017 the MOHLTC provided sufficient funding, just over \$1.3 M, to cover more than 22 hours per day of dedicated offload nurse staffing, and four stretcher locations, at the Hamilton General, St. Joseph's, and the Juravinski
2. Escalation Process for OLD
  - a. Should an off-load delay continue past MOHLTC determined guidelines, HPS staff will notify appropriate hospital officials to assist front-line hospital staff in making decisions on how to process patients in a timely manner. This elevation may include but is not limited to the Chief of HPS and Vice Presidents at the respective hospitals.
3. Hospital Destination Guidelines
  - a. These are established and agreed to guidelines agreed to by HPS and COH hospitals as to where patients will be taken to by paramedics based on their condition. These guidelines are continually being updated to reflect the demands being placed on the three hospitals
4. Monitoring and Reporting
  - a. Status 4 Tones
    - i. When only 4 ambulances are available to respond within the COH, the dispatch centre will send out a tone to alert all hospitals and paramedic staff of the limited resources. This heightens the urgency for hospitals and paramedic supervisors to process ambulances in the hospitals and return them to the community
  - b. Code 0 Tones
    - i. When there are 1 or 0 ambulances left in the community, the dispatch centre will send out a second alert tone to hospital and paramedic staff again. This results in an even higher urgency to return paramedics to the community

c. TOC Monitor

- i. When a paramedic arrives at the hospital, they are required to input both their arrival time and time the patient was placed in a hospital bed. This software provides real time awareness of HPS arrivals at hospital based on manual information inputs. Daily reports are provided to each hospital ED manager, and weekly run charts are provided at the Director level. A sample trend chart for each of the respective COH hospitals can be found in *diagram 17*, using forward averaging processes to smooth out the daily variation, and comparing 2015 and 2016 for all Hamilton hospitals combined is provided below



**Diagram 17 – Comparison of Hospital OLD Times by Site (90<sup>th</sup> percentile within 60 minutes)**  
(Hamilton Paramedic Service, 2018)

5. Lean Initiatives

- a. Lean initiatives have long been of use in other industries to utilize resources most effectively for the least amount of cost. HPS and hospitals continued in 2017 to review, update and/or implement processes in which ambulances are processed through the emergency department

6. Supervisory Oversight

- a. HPS has dedicated one supervisor during peak hours of paramedic events to liaison with hospital officials, and ensure the most expeditious return of paramedics to the community

7. Doubling up of Patients by Paramedic Staff

- a. When resources are limited, a paramedic supervisor may have one paramedic crew monitor another ambulances patient, which allows the paramedics on this ambulance to return to the community.

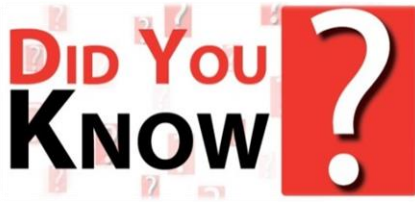
8. Alternate Destination Guidelines

- a. As a result of changes made to legislation in late 2017, HPS is currently investigating opportunities to transport patients with minor illnesses or injuries to other facilities other than hospitals. This will allow patients to not only be off-load in a timely fashion but also seen quicker by a physician

9. Community Paramedic's

- a. As mentioned earlier, Community Paramedics assist patients that have utilized 911 and hospital service on multiple occasions due to chronic medical and/or social issues. CP's in collaboration with community agencies, work to alleviate these issues while the

patient is at home, thereby decreasing the amount of times the patient is taken to hospital by paramedics.

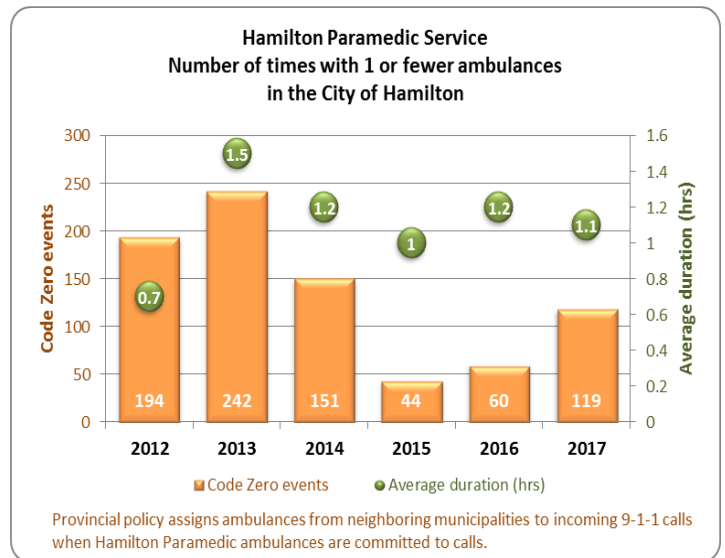


**HPS is involved in 9 quality improvement initiatives with COH hospitals and community organizations to reduce the time paramedics spend with patients in off-load delay**

### Code Zero Events

Code Zero events are when the available ambulance resources are narrowed to the point where **one or less Hamilton ambulances are available to respond to calls.** In 2017 these events continue to be a significant challenge for our community and for our paramedics who live through very challenging shifts.

With a 5% increase in events and 3% increase in patients being in OLD for greater than 2 hours at hospitals, the number of code 0 events increased from 60 to 119 or 98% in 2017 (*Diagram 18*).



**Diagram 18 – Code 0 Events by Year**

(Hamilton Paramedic Service, 2018)



**The number of Code 0 events increased from 60 to 119 between 2016 and 2017. This is a 98% increase!**

As mentioned above there are a variety of processes in place to return paramedics to the community when a Code 0 occurs. In addition to this, the MOHLTC dispatch centre will assign calls to other agencies in the following ways:

- Ambulances from other communities that are transient within the Hamilton area
- Request coverage and/or response of ambulances from other communities directly

- The use of Paramedic Response Unit's (PRU) that are staffed with one qualified paramedic that can initiate advance assessment and treatment prior to ambulance arrival

Despite a 5% increase in responses between 2016 and 2017, continued offload delay pressures and a significant increase in hospital offload delays longer than 2 hours, our frontline paramedics through their continued efforts and despite significant workloads, achieved our response time guidelines for all patient acuties.



Hamilton Paramedic Service analysis continues to show that there is a direct correlation between Code 0 events greater than 2 hours and the frequency of Code 0's (Hamilton Paramedic Service, 2018). With a rise in Code 0's during the fourth quarter of 2017, COH Council

**Off-load delays greater than 2 hours, can be directly related to a rise in Code 0 events for that day**

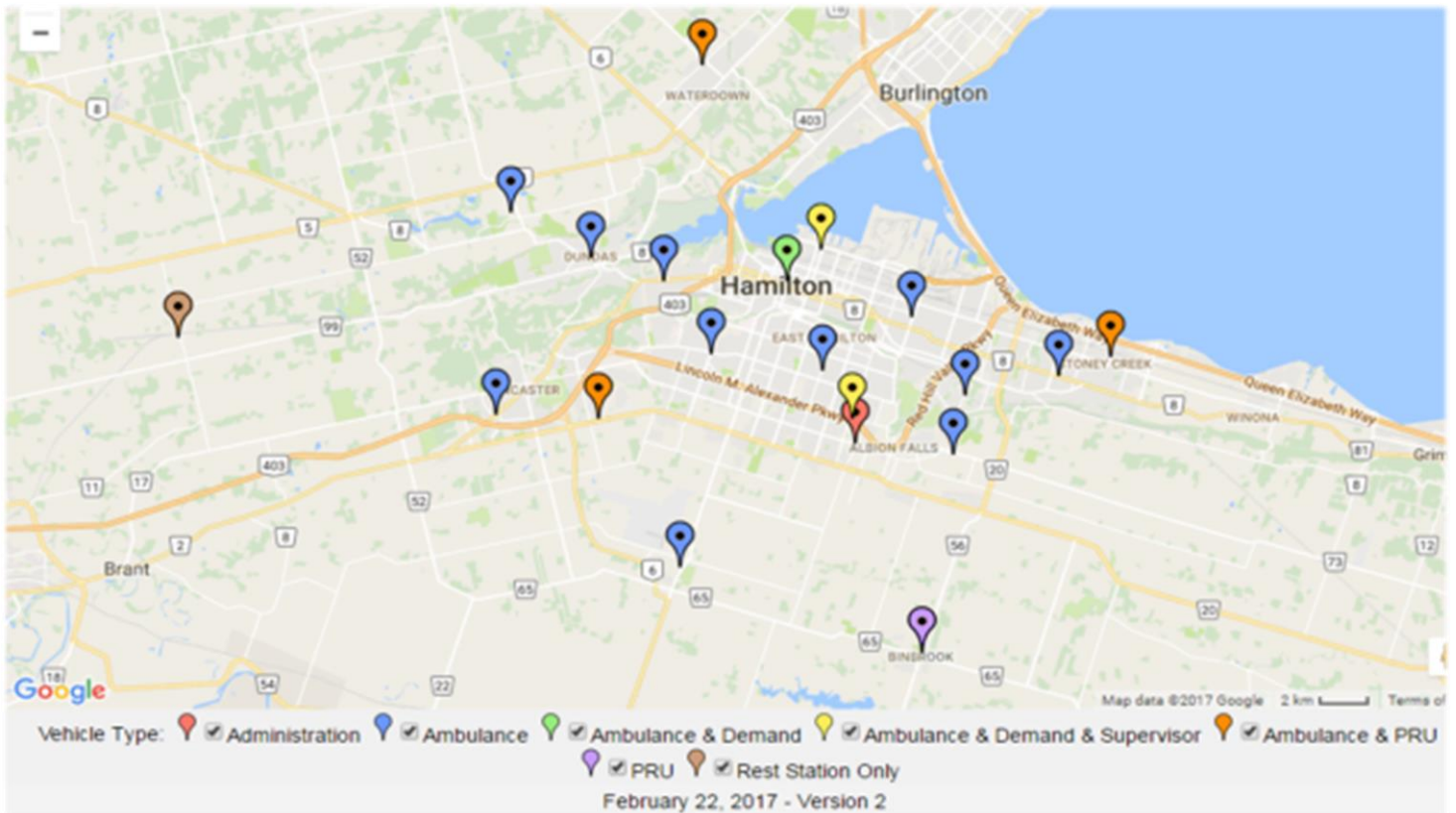
supported an interim staffing of one additional ambulance, to assist with the rise in call volume and the OLD challenges being experienced by HPS. This temporary staffing enhancement was made permanent by council as part of the 2018 operating budget deliberations.



# Staffing & Logistical Resources

## Facilities

With a diverse community of both urban and rural landscape, HPS strategically deploys its resources from 20 Paramedic Response Stations (*diagram 19*) shared with Hamilton Fire Service. Depending on location, a facility may deploy a combination of ambulances, paramedic response units (PRU's) and supervisor vehicles. Stations are temperature controlled due to temperature sensitive medical supplies, contain additional equipment to stock vehicles and administrative quarters for completion of required documentation. In addition, kitchen and washroom facilities are provided to allow for appropriate rest periods of staff.

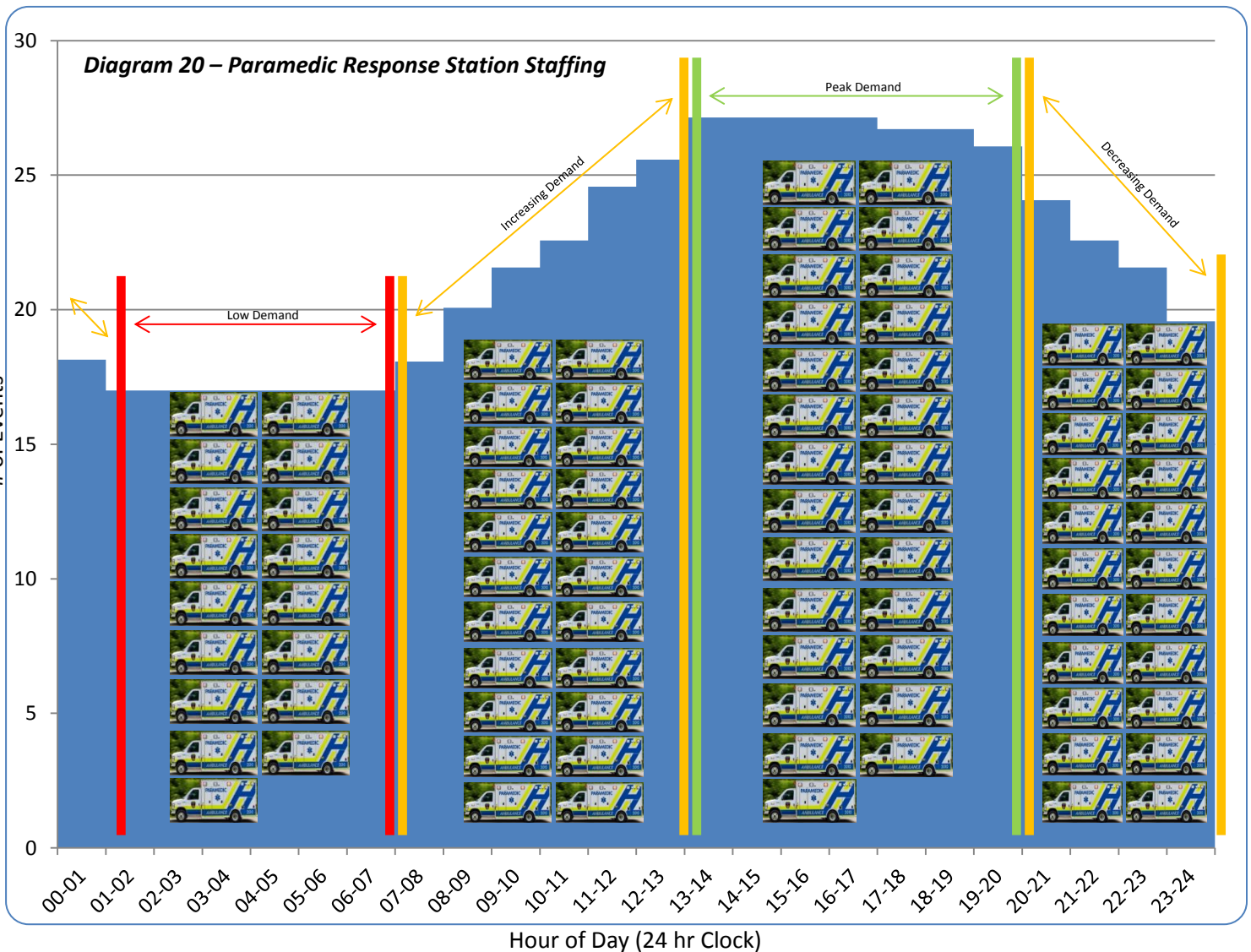


**Diagram 19 – Paramedic Response Stations**

## Staffing

HPS utilizes staggered start times to allow for optimal coverage during the times when events and responses are at their peak in a 24 hour period. In addition for allowing optimal responses to 911 events, this model allows for the potential reduction to end of shift overtime by allowing a “layered” response for paramedics near the end of their shift. Through these staffing models, HPS continues to provide efficient and cost effective paramedic services to their residents, while contributing to the minimization of the COH tax levy. *Diagram 20* demonstrates the current staffing of HPS vehicles throughout the COH. While staff may start their shift at a particular station, they are routinely moved to alternate stations or locations to provide emergency response coverage. The priority of this coverage is based on a variety of factors which include:

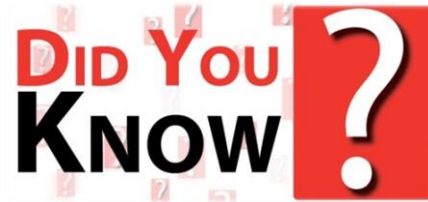
1. Time of day
2. Travel time of vehicles
3. Number of available ambulances
4. Historical data of where responses likely to occur
5. Road closures or other geographical limitations



Paramedic services when calculating staffing requirements, utilize a formula that considers the following:

1. Number of hours paramedics are available during a shift
2. How many responses and transports are attended to by paramedics
3. Finally but most important, is what is referred to as Time on Task (TOT). This is the time it takes from when paramedics respond to a 911 call, until the time they are clear the scene/hospital and able to respond to another 911 event. One of the larger contributors to this number is Off-Load Delay as hospitals as discussed earlier

This calculation is known as Unit Hour Utilization (UHU) in the paramedic services industry, and the recommended guideline is between 0.35 and 0.45. This range allows for variation in call volumes, ensures an optimal return on investment, while preserving our employees' health by ensuring they are not over utilized and receive the required

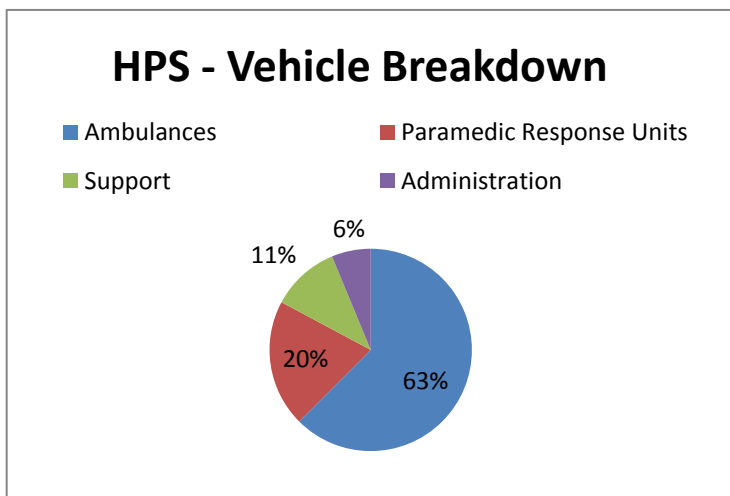


**HPS's unit hour utilization was higher than most peer services in 2017**

rests/meals during their shift. With 420,793 paramedic hours on the road, covering 210,396 available ambulance hours, the service performed 83,928 responses and 49,763 transported patients to hospital in 2017.

## Fleet

With an estimated 1,727,321 kilometres travelled last year, HPS depends on a fleet of 64 ambulances, paramedic response units and administrative vehicles to respond, transport and move its patients and employees in a safe manner. All vehicles are certified to ensure MOHLTC compliance against applicable standards including conversions to the Original Equipment by the Manufacturer (OEM) systems. Vehicle branding is established to ensure safety during low light conditions and meet legislative requirements while maintaining a professional appearance unique to the COH.



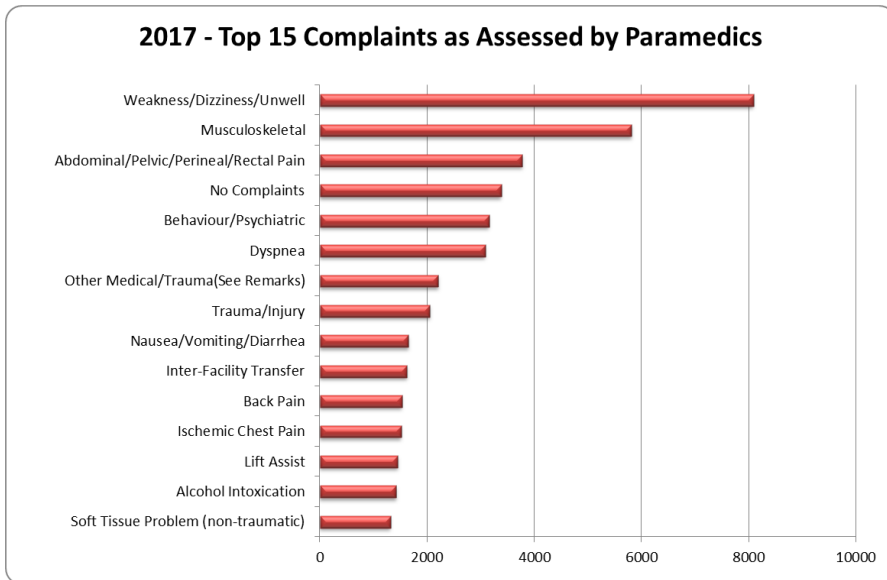
# Clinical Overview

## Call Types

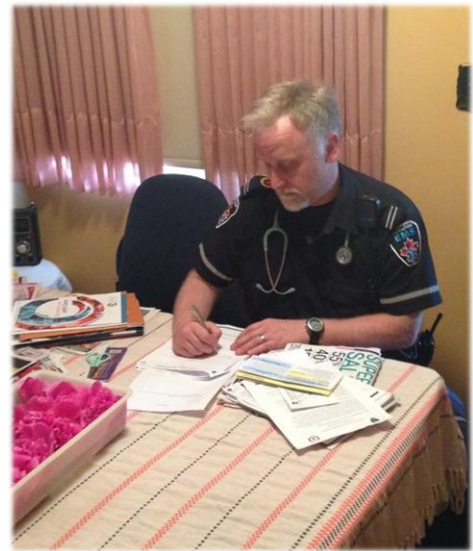
Hamilton Paramedic Service reviewed 65,667 Electronic Patient Care Records (ePCR) 2017, which was a combination of patients transported to hospital and patients that refused transport after initial assessment. As a mobile health care provider, HPS responds, assesses, treats and transports patients with a variety of physical and mental health conditions as seen in *diagram 21*. Once arriving on scene, paramedics conduct the following to determine a “working diagnosis”:

1. Detailed history of current condition including previous medical history
2. Diagnostics assessments including vital signs, electrocardiogram, and blood sugar testing
3. Detailed physical assessment of the impacted body system

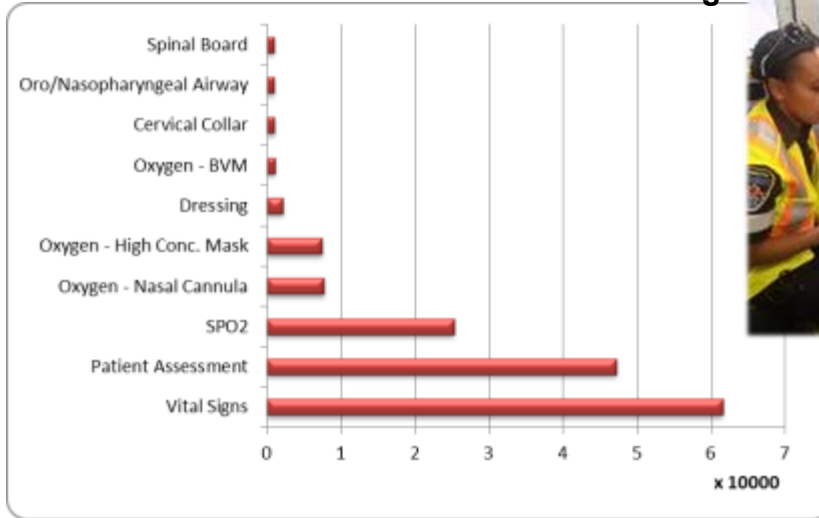
**Diagram 21 – Top 15 Illnesses/Injuries**



(Hamilton Paramedic Service, 2018)



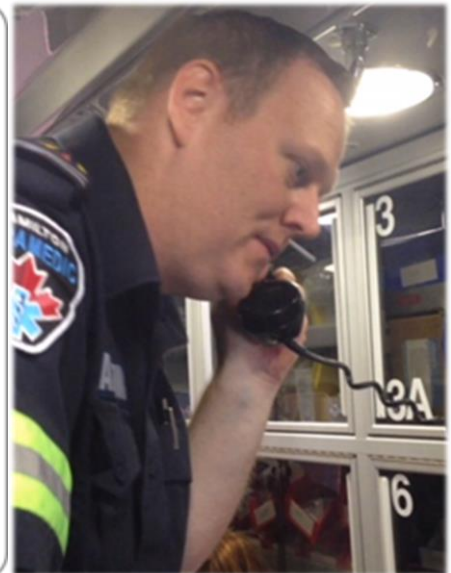
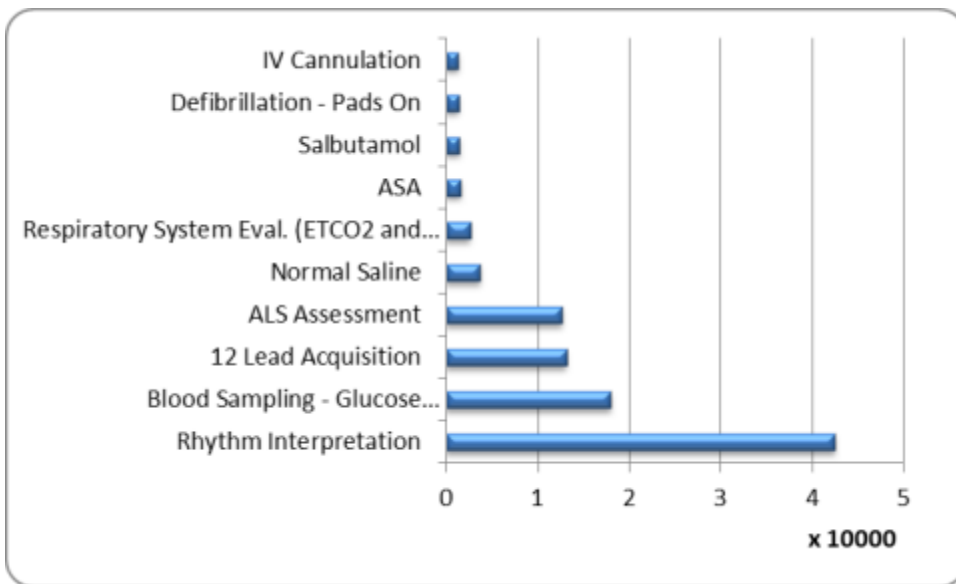
Once completed the paramedic shall decide on a treatment modality, should the patient’s condition warrant intervention. Assessments and interventions are dependent on the level of experience, education and certification level of the paramedic. Diagrams 22 and 23 show the most common types of interventions including both delegated and non-



(Hamilton Paramedic Service, 2018)

delegated medical acts. As noted in the paramedics scope of practice on page 12, all paramedics in Ontario are educated and trained to provide minimum assessments and controlled acts as per provincial legislation. Additional education provided to ACP’s, allows them to enhance the patient’s quality of life and/or provide additional life-saving assessment/interventions that are usually reserved for the hospital setting.

Diagram 23 – Top 10 Delegated Medical Act Procedures



(Hamilton Paramedic Service, 2018)



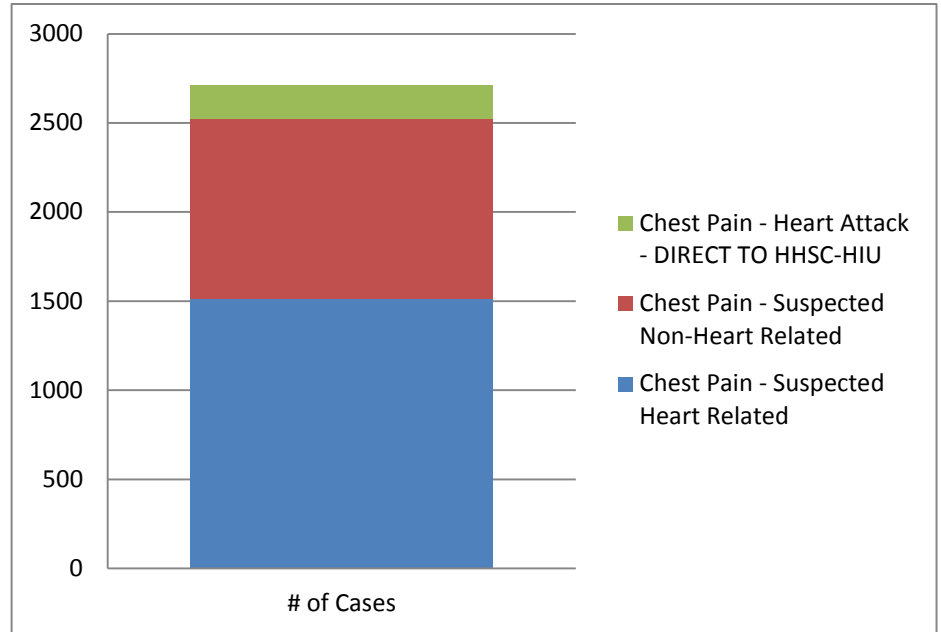
## Specialty Programs & Partnerships

The City of Hamilton is fortunate to have some of the best hospitals in the Province of Ontario in providing leading edge clinical services for our residents. In collaboration with the MOHTLC and Hamilton Health Sciences Centre (HHSC), Hamilton Paramedic Service is able to transport to these specialized services directly, minimizing the time for patients to get to these specialized services.

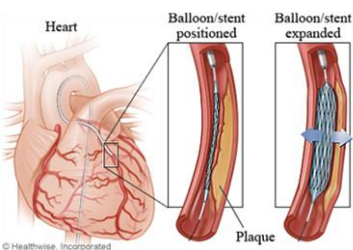


In addition to both trauma and stroke programs, HPS now

transports patients that are having heart attacks directly to the Heart Investigation Unit (HIU) at HHSC-General site. The paramedic will acquire and interpret a heart ECG in the field and notify the HIU if the patient is having a heart attack. This allows the HIU to prepare for the patients arrival and receive advanced treatment in the catheterization suite. *Diagram 24* demonstrates the number of chest pain related calls as determined by paramedics and the number of hearts attacks that were confirmed in the field and transported directly



**Diagram 24 – # of Chest Pain Call Type versus Heart Attacks**  
(Hamilton Paramedic Service, 2018)



**Diagram 25 – How a heart artery is opened due to a heart attack**

to HHSC.

Once arriving at Hamilton General HIU, a physician and specialized team will assess and if necessary open the artery (*diagram 25*) which is causing the heart attack. This reestablishment of blood flow, not only decreases injury to the heart muscle, but can lead to 6.5% decrease in mortality (Michel R. Le May, 2012) compared to being transported to a hospital not having the same services available.



**187 residents/visitors in the COH were diagnosed with a heart attack by paramedics and taken directly to Hamilton General Hospital for optimal cardiac care**



**Do you know what the symptoms are for a suspected heart attack and what to do if you have these symptoms?**

*Adapted from the Heart and Stroke Foundation  
(Heart and Stroke, 2018)*

1



### **Call 9-1-1**

- ⇒ Be prepared to answer questions asked by the Ambulance Communications Officer
- ⇒ If at night, turn on a porch light if possible

2



### **Stop All Activity**

- ⇒ Sit or lie down in a comfortable position

3



### **Nitroglycerin**

- ⇒ If you take nitroglycerin, take your normal dose
- ⇒ Use only as prescribed by your health care practitioner
- ⇒ Tell the paramedics how many doses you have taken

4



### **Aspirin (ASA)**

- ⇒ Chew and swallow Aspirin (ASA) if you are not allergic or intolerant
- ⇒ Take one 325mg OR;
- ⇒ Take two 81mg tablets
- ⇒ Tell the paramedics you have taken Aspirin

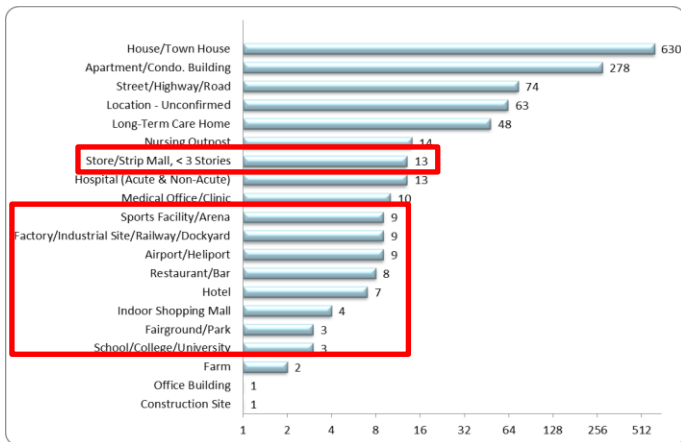


## Sudden Cardiac Arrest Outcomes

Sudden Cardiac Arrest (SCA) is defined as when “the heart suddenly stops beating normally and cannot pump blood effectively” (Heart and Stroke, 2018). The Heart and Stroke Foundation also predicts that 8/10 out of hospital SCA’s occur in the home or a public place and on 1/10 survive events like this.

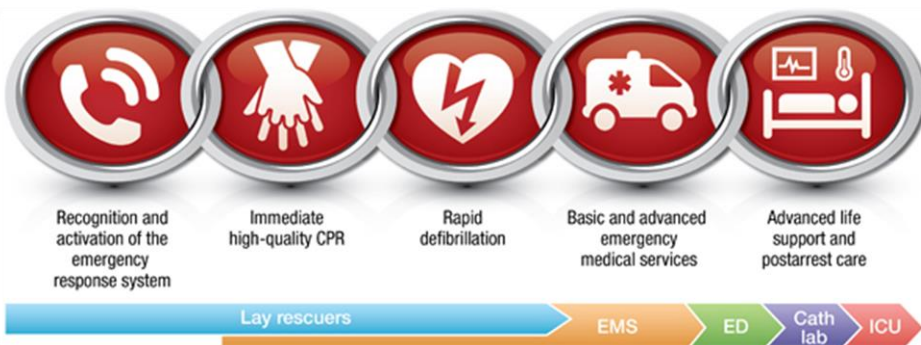
**8/10 Sudden Cardiac Arrests occur in the home or a public place and only 1/10 people will survive this event**

In 2017 HPS responded to a total of 1,187 SCA’s in 2017 compared to 1,193 in 2016. With the partnership of allied agencies and our Public Access Defibrillator (PAD) program, HPS recorded an Automated External Defibrillator (AED) to a SCA 88% of the time in less than 6 minutes. In conjunction with first responders paramedics successfully resuscitated 117 cases or approximately 9.8%. In cases suspected in being of medical nature only, the resuscitation rate raises to 11.4%. It should be noted, that due to privacy legislation, HPS cannot confirm if these patients were discharged from hospital, which is the true measure of successful resuscitation.



**Diagram 26 – Location of Sudden Cardiac Arrests**  
(Hamilton Paramedic Service, 2018)

As in most jurisdictions, SCA events in the COH occur overwhelmingly 53% of the time in the persons’ home. With this being said, we must focus our efforts on improving the survival rate of SCA’s in the community. With approximately 5% of these events occurring in public places (*diagram 26*), HPS continues to advocate for residents to become familiar with recognition of a SCA and 911 activation, early hands-only CPR and greater access and use of an Automated External Defibrillator (AED). These steps are consistent with the American Heart Association (AHA) Chain of Survival which emphasize key factors in increasing the survivability of out-of-hospital SCA (*diagram 27*)



**Diagram 27 – Chain of Survival for Sudden Cardiac Arrest**



## Public Access Defibrillation & Automated External Defibrillators

As a continued effort into moving towards a “Cardiac Safe City” as declared by COH council, HPS continues to coordinate the maintenance and where possible expansion of Automated External Defibrillators (AED’s) within the city.



Call 911



Begin CPR



Get an AED

Reestablishment of blood flow is time

critical, to preserve the function of the heart and brain. *Diagram 28* demonstrates that every minute where cardiopulmonary resuscitation (CPR) and defibrillation from an AED is not completed the chance of survival decreases by 7%. For the lay rescuer, the red area indicates the time in which they could make the greatest impact prior to paramedic arrival. By calling 911, beginning CPR and attaching an AED, the lay rescuer may increase the rate of survival by 7%-28%.

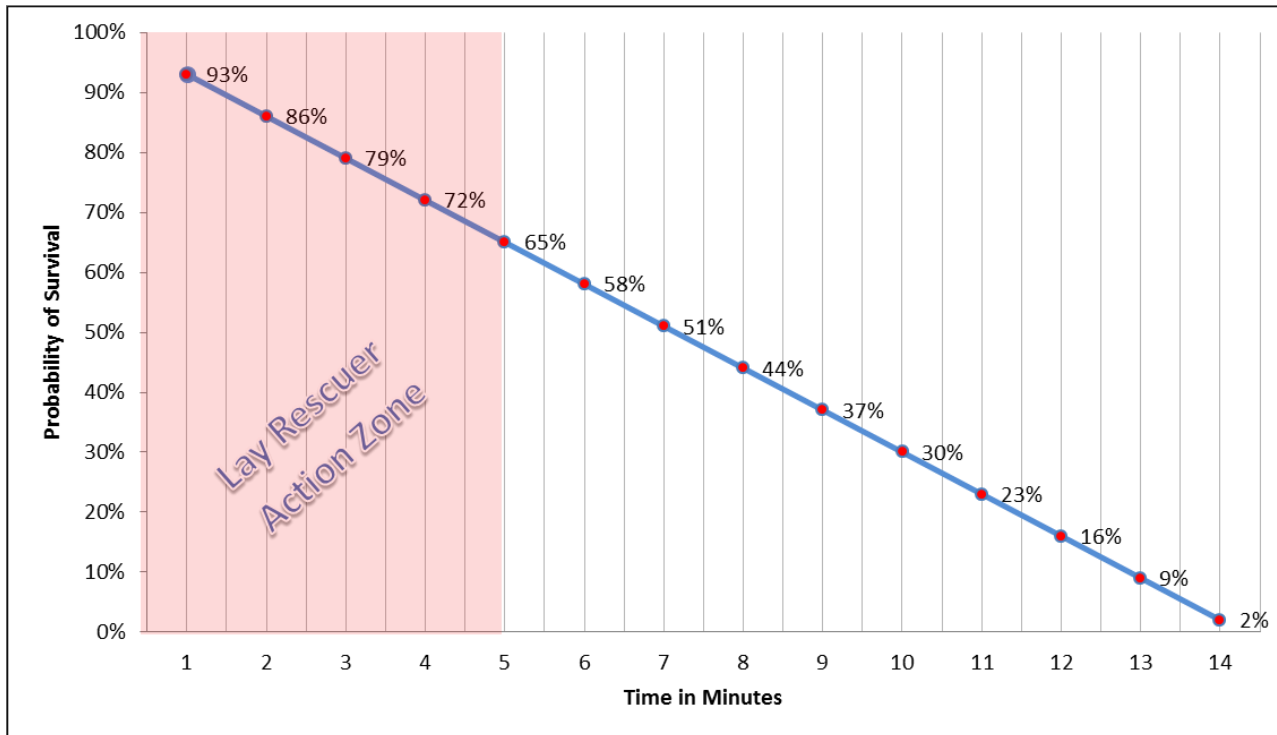


Diagram 28 – Location of Sudden Cardiac Arrests



**For every minute when CPR and defibrillation from an AED is not completed, the chance of survival from a SCA decreases by 7% (Sudden Cardiac Arrest Association)**

To assist with this, HPS continues to maintain and where possible expand publicly accessible AED's in the community. 432 AED's (diagram 29) are now located in public buildings, schools, recreational facilities and hockey arenas.

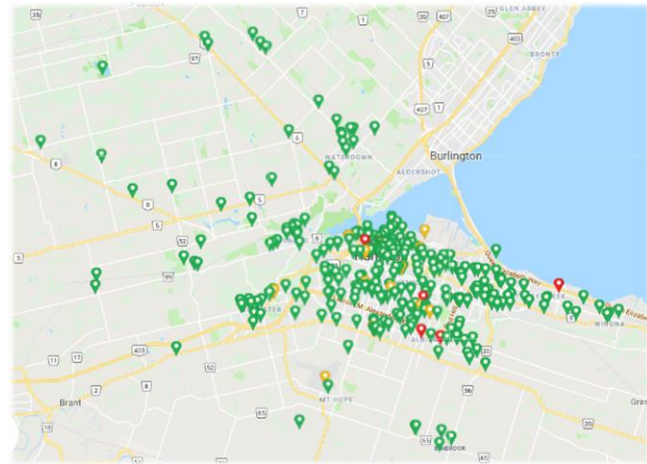


Diagram 29 – AED Locations in the COH

**HPS maintains and/or tracks 432 AED's in the City of Hamilton. This information is made available to the MOHLTC dispatch centre, who can then relay this information to a 911 caller in the event of a sudden cardiac arrest**

To assist with the task of tracking, maintaining and reporting of AED's throughout the community, HPS utilizes a third party database that allows for quick referencing of "AED Readiness" (diagram 30). Through the Research and Community Paramedicine Unit, paramedics are deployed to service, answer questions and provide necessary follow-up with agencies and

businesses that are tracked within the database.



Diagram 30 – AED "Readiness" Dashboard for COH AED's

**CPR is offered through a variety of community organizations and private companies including St. John's Ambulance, the Canadian Red Cross and the Heart and Stroke Foundation**

# Community Paramedicine

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## Introduction

During the past 15-20 years, paramedic services around the world have increasingly become a frontline health care resource to citizens for low acuity illnesses. The reliance on their services has resulted in a cohort of patients known as “high-users” that utilize paramedic services on a continual basis.

As a result of this, HPS in collaboration with a variety of community partners including Hamilton Police Service, McMaster University – Department of Family Medicine, City of Hamilton Housing and Catholic Family Services initiated the Community Paramedic program in 2014. Keeping with the MOHLTC’s “Patient First: Action Plan for Health Care”, the Community Paramedic programs directly focuses on the key objectives set forth by the MOHLTC which include:

1. Access: Improve access – providing faster access to the right care
  - a. In identifying “high users” of paramedic services, community paramedics are able to intervene and assist the patient in receiving the right health care services for their needs. This translates in decreasing reliance on paramedic/hospital services, therefore increasing the capacity for other 911 emergencies
2. Connect: Connect services – delivering better coordinate and integrated care in the community, closer to home
  - a. The Community Paramedic program does not look to duplicate services, but to identify, triage and refer high use patients that utilize paramedic services to the appropriate specialized services already being offered by community agencies.
3. Inform: Support people and patients – providing the education, information and transparency they need to make the right decision about their health
  - a. In addition to responding to “high users”, the community paramedic program completes preventative health assessments by identifying patients that are at high risk of falls, high blood pressure, diabetes and heart disease through clinics at COH Housing. This allows patients to follow up with their personal health care practitioners prior to their condition requiring paramedic and hospital services
4. Protect: Protect our universal public health care system – making evidence based decisions on value and quality, to sustain the system for generations to come
  - a. In partnering with McMaster University, the community paramedic program continues to be evaluated by medical researchers to ensure quality of care to patients and its impact on the health care system
  - b. Using technological advancements such as remote patient monitoring, the CP looks to utilize technology to effectively triage patients while maintaining a high level of patient care

These objectives set forth by the MOHLTC and adopted as the cornerstones for community paramedic program, has accomplished the following:

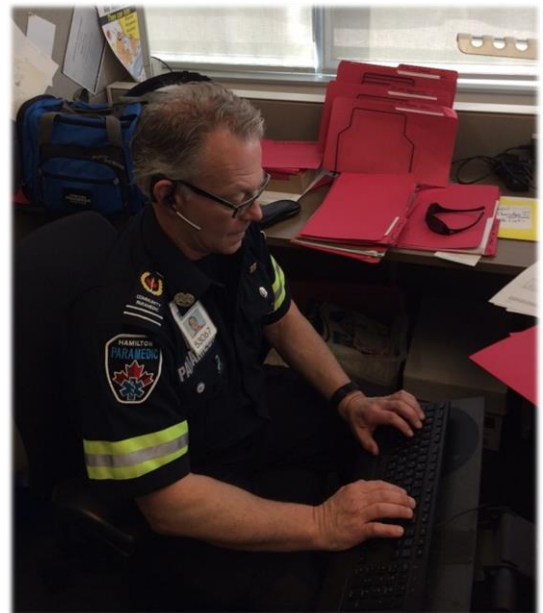
1. Giving patients the necessary support to manage their needs and the confidence to navigate the healthcare and social systems on a continued basis
2. Decrease the number of patients that are transported by Hamilton Paramedic Service to local hospitals, with the intention of decreasing the demand on paramedic and emergency room resources

HPS utilized a three part strategy to assist with deferring clients from acute care facilities which included:

1. Identify – utilizing both a paramedic referral “hotline” and/or ePCR data, HPS identifies patients that have the potential to become “high users” of the system.
2. Refer – Once attending the clients home and a needs assessment completed, the Community Paramedic will refer the client to appropriate community agencies that specialize in the level of care the client requires
3. Advocate – During subsequent visits, Community Paramedics will ensure that resources are in place to support the client prior to discharge from the program. If not, the CP will contact the appropriate organization and ensure follow-up

## @Home Visit

Established in 2014 with funding for one year provided by the MOHLTC, the @Home program sees a speciality trained Community Paramedic visit a client in their home. Once identified as having used 911 services on a variety of occasions through the HPS electronic patient care record (ePCR), CP's can mobilize quickly and provide a more in depth assessment of the client's needs. The result, is a the appropriate use of paramedics skills to provide a rapid assessment to a repeat 911 caller, and to assist the client in identifying their health care needs. Referrals are then made to experts and/or clinics in the community that are specially trained in meeting the specific needs of the client. This approach allows for the efficient use of all health care partners and the potential to interact with more clients as a result.



## Social Navigator Paramedic

The Social Navigator Program is collaboration with the Hamilton Police Service, COH Neighbourhood Action Strategies and the Urban Renewal Section of Economic Development. Introduced in 2012, the Social Navigator Programs objectives were to reduce contacts with persons interacting with police, by coordinating and advocating for appropriate care to meet their specific needs. The program is part of the Hamilton Police Service ACTION Strategy and consists of one paramedic, constable and case coordinator.



In 2017, there were 244 referrals made to the Social

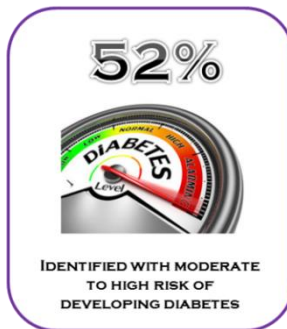
Navigator Program by a variety of agencies including front-line paramedics. 22 clients identified by paramedics were noted as having called 911 on a variety of occasions, potentially tying up paramedic resources for very low acuity issues. In addition to this, 25 clients were referred to the program by the judicial system, as it has recognized the Social Navigator Program as a valuable asset to assist at-risk individuals back into society with the supports they need to be successful.



## CP@Clinic

CP@Clinic is led by the paramedic service and overseen by the Community Paramedicine Research Program at the Department of Family Medicine, McMaster University. The clinics are located in selected COH Housing buildings and the intervention focuses on health promotion and the prevention of high blood pressure, diabetes, cardiovascular disease, social isolation and falls in senior residents at these buildings. This program has multiple benefits, including improvement in risk profile for chronic diseases, improved quality of life, and decreased paramedic responses to these buildings with resultant resource savings.

With a total of 9 clinics located in City of Housing building, the following successes occurred in 2017:

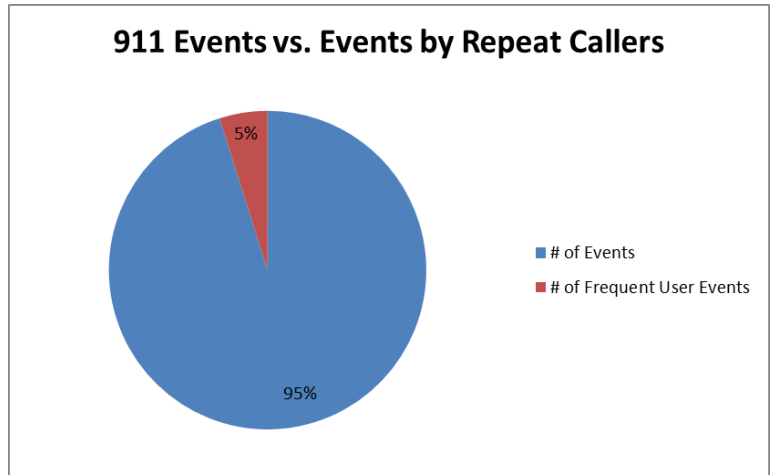


(McMaster CP Research Team, 2017)

## Summary

In reviewing events between January 1, 2017 and December 31, 2017, approximately 5% (3,488 responses) of events were generated by 698 repeat callers of the 911 system (diagram 31). These clients have been divided into 5 categories which include “very low” (3-4 calls) to “very high” (40+ calls) in an effort to assist HPS in identifying which Community Paramedics services might benefit the client best.

Diagram 31 – Percentage of events created by “repeat callers”



As a result of referrals from a variety of agencies, 197 of these patients were identified and entered into one of several Community Paramedic programs. Prior to entering the program, these clients were responsible for 556 events to HPS or an average of 3 calls per client in 2017. After CP intervention, events to HPS dropped by 37%, resulting in a gain in available ambulance resources to respond to 911 calls. To continue in locking in these gains for the remaining 501 repeat callers, HPS will look to secure additional funding to enhance the hours of the program. (Hamilton Paramedic Service, 2018)

**3946**  
UNIQUE PATIENTS

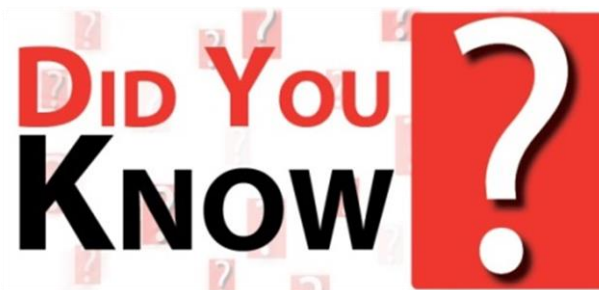
**19,219X**  
CALLED PARAMEDICS

**197**  
PATIENTS PLACED

**INTO THE COMMUNITY  
PARAMEDIC PROGRAM**

**37%**  
REDUCTION

**IN CALLS TO 911 BY  
REPEAT CALLERS**



# Education & Training

2017 proved to be a very busy year for paramedics in Hamilton Paramedic Service and around the province as a result of the MOHLTC updating majority of the standards that regulate paramedics. In addition to this, regional base hospitals assumed regulatory oversight for emergency child birth involving deliveries in the field by paramedics.

In collaboration with the Centre for Paramedic Education and Research (CPER), approximately 11,832 hours of cumulative education was delivered to paramedics in 2017. In addition to emergency child birth, other education topics included CPR, personal protective equipment application, corporate and corporate initiatives. The MOHTLC through its regulatory oversight also introduced combat tourniquets and hemostatic dressings to assist with traumatic events where bleeding control is not accomplished through more traditional means.



*Paramedics reviewing emergency child birth*



*Paramedics drill personal protective equipment used for infectious or other hazardous situations*

When a paramedic is absent from the workplace for greater than 90 days, they are required to complete a “Return to Clinical Practice” educational workshop. During this process, staff is provided with knowledge and skills acquisition which is finalized through a variety of patient simulated scenarios. The paramedic will also be interviewed and if necessary tested by the delegating physician to ensure competence in all controlled medical acts. In 2017, HPS conducted 26 Return to Clinical Practice workshops that ensured clinical competency of staff returning from absences.

**Paramedics completed over 11,000 hours of training in 2017 and 26 paramedics completed a return to clinical practice workshop after returning from a prolonged absence**



# Service Inquiries

Hamilton Paramedic Service is dedicated to providing the highest quality of care and customer service to anyone that utilizes our services. In addition to a rugged quality assurance process, patient and customer feedback from both external and internal agencies is imperative.

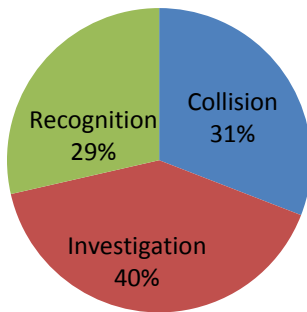
**Diagram 32 – Quality Review Type**

The Commander of Quality Improvement and Regulatory Affairs (QIRA) in

cooperation with the Operations Section is responsible for the coordination and follow up with patients and clients that provide feedback to HPS. In 2017, HPS received a total of 217 items (*diagram 32*) that required further investigation to determine potential system and/or behavioural improvements.

When a Customer Service Inquiry (CSI) is received, the Commander of QIRA reviews the file and assigns a Risk Priority Number (RPN) to the file. The lower the number, the higher the risk is to the patient, public and/or paramedic.

## Quality Review - Type



(Hamilton Paramedic Service, 2018)

## Vehicle Collisions



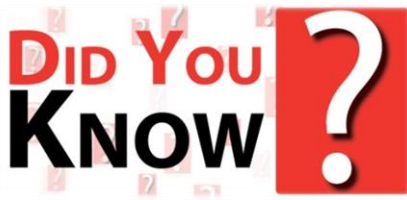
As mentioned earlier, HPS travelled a total of 1,793,219 kilometres in 2017 and was involved in a collision on average every 28,019 kilometres. 86% of these collisions were considered minor in nature and involved side clearance issues with no resulting injuries to the public or staff (Hamilton Paramedic Service, 2018). For example of the 66 collisions ambulance were involved in, 28 were classified as a side swipe and involved a mirror striking an object

As a result, HPS will be conducting a review of the following in an effort to improve on these results:

1. Driver education for new staff
2. Vehicle specifications
3. On-going driver training of current staff



Although there are no industry standards in regards to this measurement, other services have communicated interest in comparing results in an effort to better understand potential areas for improvement.



**HPS will be partnering with other services in the Province of Ontario to determine standards and/or benchmarks of collisions involving ambulances. Currently there are no baseline standards to determine acceptable practices for ambulance collisions**

## Service Inquiries



Service Inquiries are generated from both external and internal customers of HPS. When a patient and/or customer have a question or concern regarding the service they received, a Customer Service Inquiry form is generated and a Quality Review (investigation) is conducted. In 2017, HPS conducted a total of 150 Quality Reviews (Hamilton Paramedic Service, 2018).



Reviews are conducted to determine how to improve or leverage both system and behavioural matters that have resulted from feedback from the public. Some of the types of inquiries

we received surround the following:

- Dispatch issues
- Clinical practice
- Professional conduct
- Response issues
- Vehicle operations
- Equipment failures

# Innovation

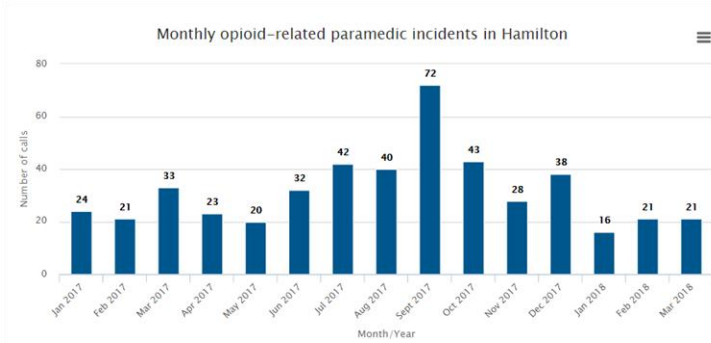
## Opium Reporting

In a partnership with COH Public Health, a collaborative effort was developed as to how HPS could assist the Public Health Unit in reporting on opioid related emergencies in the community. Through both agencies data analysts and epidemiologists, it was determined that Hamilton Paramedic Service could

provide “street level” data on opioid related responses. As a result the following was actioned

1. The HPS Electronic Patient Care Record (ePCR) would be able to supply information related to suspected opioid related emergencies. This information would be shared with Public Health, **but no personal health information was included in the data**

2. The information would then be packaged and shared with the Public Health Unit for their epidemiologists to evaluate. This information would then be shared publicly and for strategic purposes as to assist in our efforts to help those affected by this terrible drug.



**Notes:** January data only displays calls from January 10 to 31, 2017. A new code was implemented on Mar. 15, 2017 to capture suspected and confirmed opioid overdoses as well as naloxone administrations. The data for January through March has been updated to reflect this change.  
**Source:** Hamilton Paramedic Services, extracted March 20, 2018.

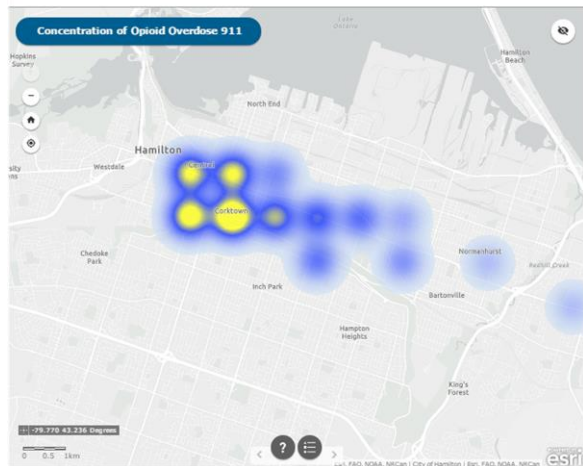
**Diagram 33 – # of suspected opioid related emergencies encountered by paramedics**

The result of this collaboration are best demonstrated in the reports produced the Public Health Unit seen in *diagrams 33 and 34*, that provide essential information of both the frequency and approximate

location of suspected opioid related emergencies encountered by paramedics

### Map of paramedic incidents related to opioid overdose

**Note:** This map shows the approximate location (within a 1.5 km radius) and density of paramedic incidents related to opioid overdoses since January 10, 2017. The exact locations of the calls may differ from what is shown on this map. To protect the privacy of cases, clusters of fewer than 5 calls have been removed.



**Diagram 34 – Location of suspected opioid related emergencies by paramedics**



**HPS responded to 416 suspected opioid related emergencies in 2017 & shares this information with COH Public Health as the lead agency on opioid addictions for strategic**

## Remote Patient Monitoring

The Remote Patient Monitoring program by Future Health was introduced as a community paramedicine initiative in 2014. The uniqueness of this initiative, is it leverages technology to allow efficient, timely and personal ownership by the patient in the comfort and safety of the own home.

Chronic conditions such as congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD) and diabetes can be managed utilizing wireless transmitting scales, blood sampling machines, blood pressure cuffs and oxygen monitors. The information is then transmitted wirelessly to a Community Paramedic database, which analyzes the information and if predetermined thresholds are exceeded, the CP is notified and a response is generated. Once the patient is assessed, information is relayed to their primary care practitioner who in turn can schedule a follow up appointment with the patient, or provide adjustments to medications directly over the phone. The result is the deterioration in the patient’s condition is intervened prior to the condition warranting a 911 response and subsequent hospitalization. These interventions allow for significant cost savings and resource utilization for both paramedic and hospital organizations (diagram 35 and 36).



**Community Paramedic Anthony Caravaggio assisting a client in setting up her in remote patient monitoring system**

**The RPM program saw a reduction of 42% in 911 calls and a cost reduction of \$791.00 per patient**



*Diagram 35 & 36 – Results of Remote Patient Monitoring (Whittaker, 2015)*

**HPS gained a total of 620 frontline paramedic hours as a result of RPM**



### **A program worth preserving**

RE: Remote Patient Monitoring Program

Almost a year ago I was diagnosed with heart failure, and understandably, as a 92 year old woman living alone, and after 91 years of excellent health, I was never so frightened in my life. Can't believe how fortunate I was to be included in the Community Paramedic's Remote Patient Monitoring program through the Ontario Ministry of Health and City of Hamilton and also connected with Queen's University.

Apparently this is a one-year pilot project ending January 1, 2018. I am able to check my vitals daily and they are transmitted to my trusty paramedics on Nebo Road. They have come to my rescue several times in the past, resulting in several necessary trips to the E.R. and the eventual implant of a pacemaker.

The total number of days spent in hospital for my three or four trips was a two-day stay for the pacemaker and an approximate 10-hour stay the other times. This wonderful system brings comfort to the patients who long to be at home and saves literally thousands of dollars in avoiding lengthy hospital stays.

All I want for Christmas is to learn that this fantastic service is renewed for at least another year.

**A client of the Community Paramedic RPM program writes to the spectator describing her experience with the program**

## Medical Venturers (Medvents)



*Medvents prepared to provide first aid at a scout camping event*

Through the motto “Challenge and Service”, the MedVent program was born as part of the vocational scouting program in 1994 with Scouts Canada. There are now approximately 29 Medvent groups across Canada that seeks to achieve the following objectives:

1. Provide first aid assistance at community events
2. Encourage youth leadership
3. Personal development
4. Expose youth to a future vocational opportunity

In addition to this great developmental opportunity, having the presence of a Medvent group in community increases safety and potentially decreases the calls to paramedic services for minor illness/injuries.

As a Scouts Canada organization, participation in the Medvent program is very inclusive and is open to anyone between the ages of 15+ irrespective of their sexual orientation, cultural or religious background or disability.

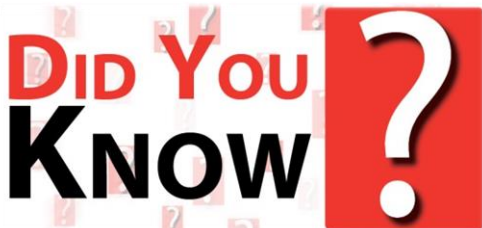
To remain as an active member, youth must complete 96 hours of volunteering in the community and remain certified in Standard First Aid and CPR.

Former Medvents have gone on to successful careers as a physician and paramedics. There is currently one former Hamilton Medvent currently in college for paramedicine with an additional 3 that have been accepted to schools in the fall of 2018.



*A Medvent provides on-site first aid to an injured scout*

**Hamilton Paramedic Medvents assist youth in personal development and to explore paramedicine as a future career. Membership is open to anyone irrespective of sexual orientation, cultural or religious background or disability**



## Peer Support Team



In continuing to build on the on successes of the Road to Mental Readiness (R2MR) program that was delivered to staff in 2016, Hamilton Paramedic Service in collaboration with local union representatives implemented HPS's Peer Support Team under the direction of Dr. Paulette Laidlaw and Canuckcare.

The mental health program within HPS is built on 4 R's which are:

1. Resiliency
2. Recognize
3. Respond
4. Recuperate

R2MR focused on the paramedic's ability to recognize a decline in their or a peer's mental health and to break the stigma around seeking assistance. The Peer Support Team now looks to be able to respond to their colleagues needs once they have identified a potential mental health issue. As a 24/7 service, the Peer Support Team's objectives are focused on the following:

1. To provide a trained resource for peers to confide in, when faced with occupational and/or personal stressors that affect the persons mental health
2. Bridge peers to an appropriate health care institution or health practitioner with the expertise to best assist with the persons difficulties

The bridging of peers to the appropriate health care institution or practitioner is focused on the 4<sup>th</sup> R which is to recuperate by receiving the appropriate care by one of these parties.

Effective December 2, 2017, the Peer Support team became operational. Comprised of 15 members, a medical advisor and committee oversight, the team is well situated to provide mental health support to their colleagues during times of professional or personal crisis.



Canuckcare



## National Paramedic Competition

The National Paramedic Competition (NPC) began in 2001 with the hosting of the first event by the Durham Paramedic Association in Whitby, Ontario. Each year since then a committee of volunteers has worked hard to bring a great experience to the competitors.

In the beginning the competition was simply called the Durham Paramedic Skills Competition. Over the last several years the event has grown tremendously. Interest and participation by both Paramedics and Sponsors has pushed this event to the level of a National Competition and in 2008, the Durham Paramedic Skills Competition officially became the National Paramedic Competition (NPC). Paramedics take pride in competing in the Advanced Care Paramedic Division, the Primary Care Paramedic Division and the Paramedic Student Division, which puts 'soon to be' paramedics to the test.

Although based in Ontario, teams have travelled from across the country to compete in this event. Provinces represented over the years include Alberta, British Columbia, Ontario, Quebec and Nova Scotia (as observers). The NPC is also honoured to have hosted teams from the Canadian Forces in the past. In 2009, for the first time, an international team from Holland competed.

With the motto "Excellence Through Challenge" the NPC embodied what paramedics in the Hamilton Paramedic Service strive for...clinical excellence. As such, in 2017 HPS entered the NPC for the first time since its inception in 2001. With 2 teams of

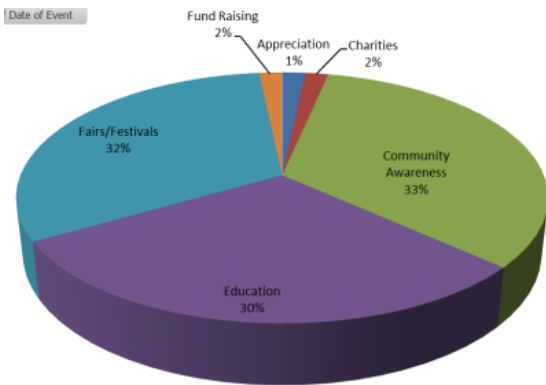
paramedics representing HPS in both the Primary and Advance Care categories, teams were tested in knowledge, skills and problem solving through variety of patient simulated scenarios and written examinations. We placed an exceptional 4<sup>th</sup> and 6<sup>th</sup> place respectively. The experience and knowledge gained from this competition, directly transfers to the patients we serve in the City of Hamilton. Congratulations to all the paramedics and staff involved!



**DID YOU  
KNOW ?**

**Experience learned at the National Paramedic Competition enhance the clinical care patients receive in the COH**

# Public Relations



**Diagram 37 – Type of public relations requests received** (Hamilton Paramedic Service, 2017)

Throughout the year, Hamilton Paramedic Service receives a variety of requests from the public to participate or attend events to assist in raising awareness of the paramedic profession and specifically HPS itself. A total of 60 public relations requests in 2017 for a variety of events as seen in *Diagram 37*.

Attendance at these events is based on a combination of utilizing paramedic volunteer, staff on modified duties as a

result of injury/illness and in rare circumstances frontline staff and/or Superintendents. This has resulted in 47 of 60 events being attended (78%) with the opportunity to meet and educate the public.

These events allows the public to have an inside look as to what the paramedic does, the vehicles and equipment they use and a chance to ask questions on health related topics.



# Volunteering in the Community

## Community Garden

The Hamilton Community Garden was developed in partnership with Neighbour 2 Neighbour, Toronto Dominion Bank and the City of Hamilton in 2014. Under the leadership of Paramedics Joe Cox and Heather Little, the objective of the garden is to raise food for local food banks to increase the availability of nutritious foods to those in need. In addition to this, local seniors that reside next to the garden are always welcome to “pick their own” produce whenever they wish.



**1800+  
LBS**



We are fortunate to have local residents contribute their time, gardening knowledge and resources to making the garden a success.

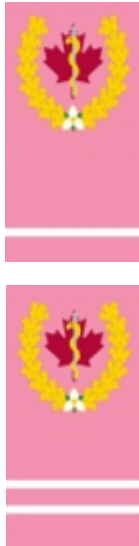


From early spring preparation and planting of seeds, to ongoing maintenance followed by multiple harvests, Joe, Heather and local volunteers ensure a great harvest every year that is organic and free of chemicals. On average the community garden produces 1,500lbs of produce per year that is contributed to local food banks for distribution. In 2017, we harvested an exceptional crop with over 1800+ pounds donated to community organizations.



## Breast & Prostate Cancer Fundraising

As health care professionals, paramedics often interact with patients that have been affected by breast and prostate cancer. To contribute to the eradication of these terrible diseases, a group of paramedics volunteered their time to participate in an annual awareness campaign and donate funds to local hospital foundations and agencies. During the months of September, October and November, the Office of the Chief granted permission for paramedics to wear on their uniform that symbolized awareness and remembrance of those fighting this disease. Through a donation, paramedics in HPS bought these specialized epaulettes and the funds raised donation to the following:



## City Kidz Christmas Toy Drive



During the Christmas holidays, Hamilton Paramedic Service partners with City Kidz for their annual Christmas Toy Drive. Led by Craig McCleary and Santo Pasqua, they have partnered with Walmart Canada and the Ontario Provincial Police (OPP) to raise funds and toys for the youth at City Kidz. With a variety of volunteers including family, youth, COH employees and retired/current paramedics, the City Kidz toy drive was able to raise \$3,356.85 and 1,134 toys! Thank you to our extremely generous City of Hamilton Community for making this annual event another huge success! A special thanks to Doug Mason, James & Anne Masterton and Walmart Stoney Creek for

their generosity in making this event a success!

**DID YOU  
KNOW ?**



## Christmas Food Drive



In addition to the City Kidz Toy Drive, Hamilton Paramedic Service is honoured once again to partner with the O.P.P. (Burlington Auxiliary), Fortino Supermarkets' and Neighbour to Neighbour (N2N) to raise food for those in the community who require assistance. As one of the co-organizers, Darren Radtke has been involved with this drive since its humble beginnings in 2007. Since the first year of filling one ambulance with food and various cash donations, the food drive now routinely fills up to 4 ambulances and police vehicles and accepts thousands of dollars in donations. In 2017 alone, the



generosity of the City of Hamilton residents once again, showed why our community is second to none by raising 19,414.5 pounds of food in addition to \$18,180.33!

**DID YOU  
KNOW ?**



# Appendix

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## Paramedic Acronyms

ACP – Advance Care Paramedic

PCP – Primary Care Paramedic

CACC – Central Ambulance Communications Centre

ACO – Ambulance Communications Centre

SCA – Sudden Cardiac Arrest

VSA – Vital Signs Absent

CTAS – Canadian Triage Acuity Scale

PAD – Public Access Defibrillator

AED – Automated External Defibrillator

ePCR – Electronic Patient Care Record

BLS – Basic Life Support

ALS – Advance Life Support

BLSPCS – Basic Life Support Patient Care Standards

ALSPCS – Advance Life Support Patient Care Standards

MOHLTC – Ministry of Health and Long Term Care

LHIN – Local Health Integration Network

COH – City of Hamilton

STEMI – ST Elevation Myocardial Infarction (Heart Attack)

CPER – Centre for Paramedic Education and Research

SNP – Social Navigator Paramedic

CHAPEMS – Cardiovascular Health Awareness Program by Emergency Medical Service

HPS – Hamilton Paramedic Service

CPSO – College of Physicians and Surgeons of Ontario

RPM – Remote Patient Monitoring

CP – Community Paramedic

SNP – Social Navigator Paramedic

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