

Hamilton Paramedic Service 2021 Annual Report





Table of Contents

Message from the Chief.....	4
Service Overview.....	5
HPS Services	5
HPS Finances	6
HPS Structure	7
Performance Overview	8
At a Glance: Events, Responses, Transports	8
Events.....	8
Responses	9
Patient Problems.....	10
Transports	10
Response Time Compliance	11
Offload Delay	12
Code Zero Events	14
COVID-19 Response	15
Mobile Integrated Health	19
Clinical Excellence	23
Continuous Improvement.....	26
Community Connections.....	30
Recognitions.....	36

Message from the Chief



As I reflect on the past year, I still have feelings of disbelief that we experienced a second year of the COVID-19 pandemic. However, I also think about all the activities, innovation, flexibility and resilience I have witnessed from all levels of Hamilton Paramedic Service staff, especially those on the front line, to adapt to and help mitigate this global health crisis.

In 2021, paramedics responded to an increasing number of emergency calls with the added pressures of dealing with potential COVID-19 positive patients, donning additional personal protective equipment, enhanced cleaning procedures, daily screening and rising wait times in offload delay. As health care services are being overwhelmed and people are unable to get the care they need in a timely manner, they turn to calling 911 as their only option.

In 2021, our Community Paramedics took on an expanded role in the united fight against COVID-19 with Hamilton's Public Health Services. In addition to conducting assessments and providing aftercare at vaccination clinics, they also assisted in administering vaccines at clinics, congregate settings and in the homes of resident who were immobile.

Staff in all areas of the Hamilton Paramedic Service have risen to the challenges brought about by the pandemic. Logistics technicians, support staff, supervisors, data technicians and managers collectively have achieved optimal performance in a less than optimal circumstances. For example, our schedulers were successful in covering more than 98 percent of shifts as we dealt with a shortage of paramedics who were self-isolating. I was impressed, but not surprised, by the number of staff who accepted extra shifts to support each other during these difficult times.

Despite another challenging year, paramedics continued to undergo training to develop new skills and enhance existing ones; they initiated a number of charitable events to collect food, toys and raise money for local community organizations; and they excelled at delivering quality care to those in need. This 2021 Annual Report provides just a glimpse of some of these activities.

In 2021, we received additional funds to expand our Mobile Integrated Health program to deliver preventative care to the community, add an ambulance to our fleet and increase resources to better equip us in providing excellent service during these unprecedented times.

I want to thank Mayor Eisenberger, members of Council and the Senior Leadership Team for their unwavering support. I am also grateful to General Manager Angela Burden and Medical Officer of Health Dr. Elizabeth Richardson for their leadership and partnership as we navigate the challenges of an increasingly busy service amidst a global pandemic.

Most importantly, I want to express my gratitude and pride in staff who continue to answer the call to action with compassion and determination even though they have endured excessive hardships throughout the pandemic. They are inspiring.

A handwritten signature in black ink, appearing to read "M. Sanderson".

Michael Sanderson, Chief
Hamilton Paramedic Service

Service Overview

HPS Services

The Hamilton Paramedic Service (HPS) is the designated sole provider of paramedic services for the City of Hamilton serving over 536,000 residents in addition to those who come to Hamilton to work, play and learn.

Operating out of 18 stations in urban and rural areas of the city, HPS provides pre-hospital advanced medical care, trauma care and the transport of patients from emergency incidents to health care facilities.

In addition, HPS provides a range of programs and services to promote the health of the community and proactively mitigate the demand on ambulance transports to hospitals. These include:

- Seniors Clinics
- Home Visits
- Flu Immunization Clinics
- Remote Patient Monitoring
- Social Navigator Program
- Flu Response for Emergency Department Diversion
- High Intensity Supports at Home
- Emergency Department Diversion Withdrawal Management Program
- Palliative Outreach Support
- Neonatal Intensive Care
- Public Access Defibrillators
- Community and Stakeholder Engagement
- Public Education
- Continuing Education Classes for Hamilton Paramedics
- Media and Awareness campaigns
- Fundraising to Support Local Charities

During 2021, HPS continued to carry out additional activities in response to the COVID-19 pandemic, including:

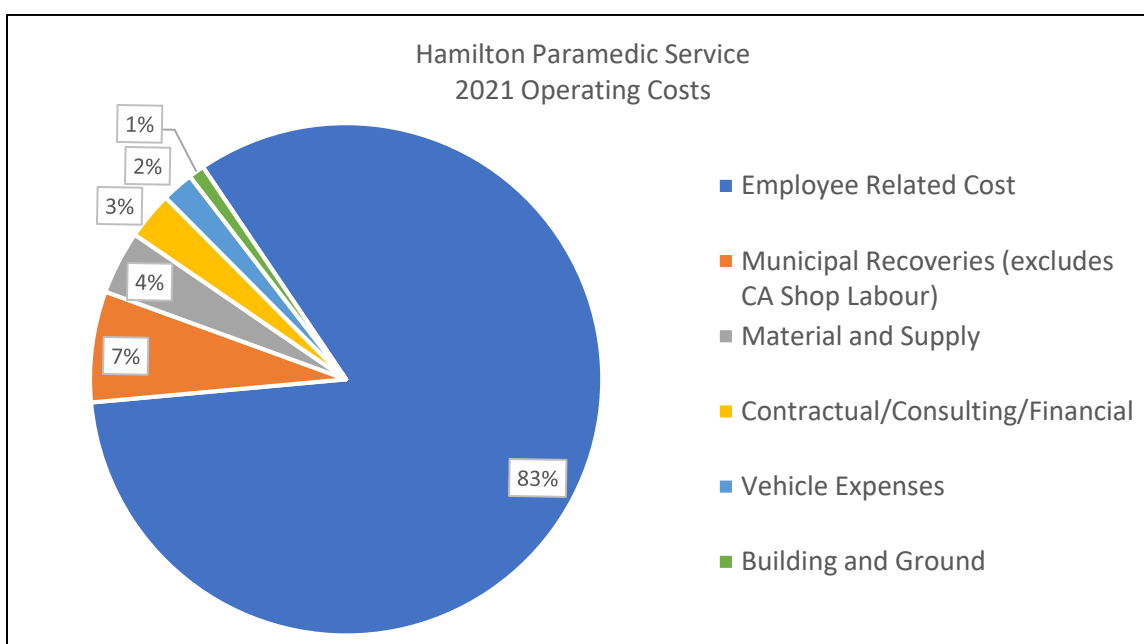
- COVID-19 swabbing
- Mobile COVID-19 testing clinics
- Vaccine administration for homebound residents
- Respirator fit-testing for City of Hamilton employees
- Additional measures for COVID-19 positive patients to prevent exposure and transmission



HPS Finances

In 2021, HPS had an overall operating budget of \$63,318,012 however, 50% of the costs were covered by funding from the province. The allocation of funds per each cost category and percentage of the overall budget is as follows:

Cost Category 2021	\$	%
Employee Related Cost	52,610,123	83
Municipal Recoveries (excludes CA Shop Labour)	4,666,118	7
Material and Supply	2,776,959	4
Contractual/Consulting/Financial	1,743,441	3
Vehicle Expenses	1,184,818	2
Building and Ground	336,553	1
Total	63,318,012	100



HPS achieves cost effectiveness in operating vehicles through partnerships within the City of Hamilton. With corporate fuel purchasing arrangements and utilizing the Hamilton Fire Department vehicle maintenance services, HPS realizes cost efficiencies without jeopardizing quality service.

The response costs breakdown for 2021 is as follows:

Response Category 2021	Total
Kilometres Travelled	1,987,029
Cost per Response	\$696.63
Cost of Materials & Supplies per Response	\$30.55
Vehicle Cost per kilometre	\$.82

HPS Structure

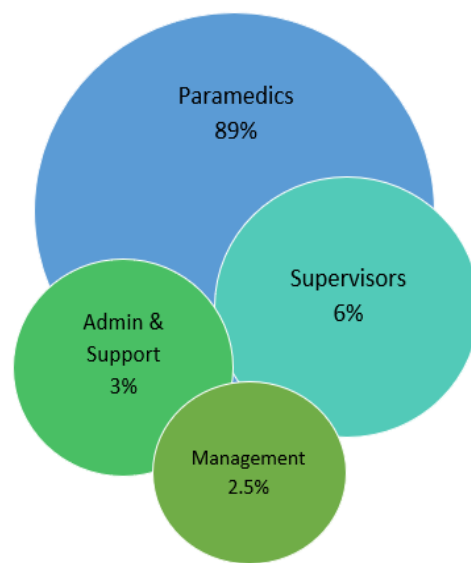
As an integral part of the health care system, HPS helps to promote the health and safety of Hamilton’s residents and visitors through prevention, response and follow-up activities. HPS achieves this best through being situated within the Healthy and Safe Communities Department which enables collaboration with other divisions focused on similar outcomes for the community such as PHS, the Hamilton Fire Department and Long-Term Care facilities.

Reporting to the General Manager of the Healthy and Safe Communities Department, the Paramedic Chief is responsible to lead the planning and operationalization of HPS which is comprised of four sections:

- Office of the Chief
 - Responsible for strategic vision, direction, and planning
- Operations Section
 - Responsible for providing oversight of deployment and resource utilization
- Logistics Section
 - Responsible for providing support to all sections through procurement and asset management
- Performance and Development Section
 - Responsible for ensuring regulatory compliance, quality improvement, continuing education and training

A total of 358 full-time equivalent (FTE) positions made up the HPS workforce in 2021. Approximately 89% of staff are paramedics with 19% of those Advanced Care Paramedics. While paramedics provide direct frontline services to the community, supervisors, administration and support staff, and management provide a variety of supportive and regulatory functions to meet Ministry of Health (MOH) mandates. HPS’s workforce breaks down as follows:

Position	FTEs	
	Full-time	Part-time
Total Paramedics	293	25
Primary Care	234	24
Advanced Care	59	1
Supervisors	21	-
Administration & Support Staff	10	-
Management	9	-

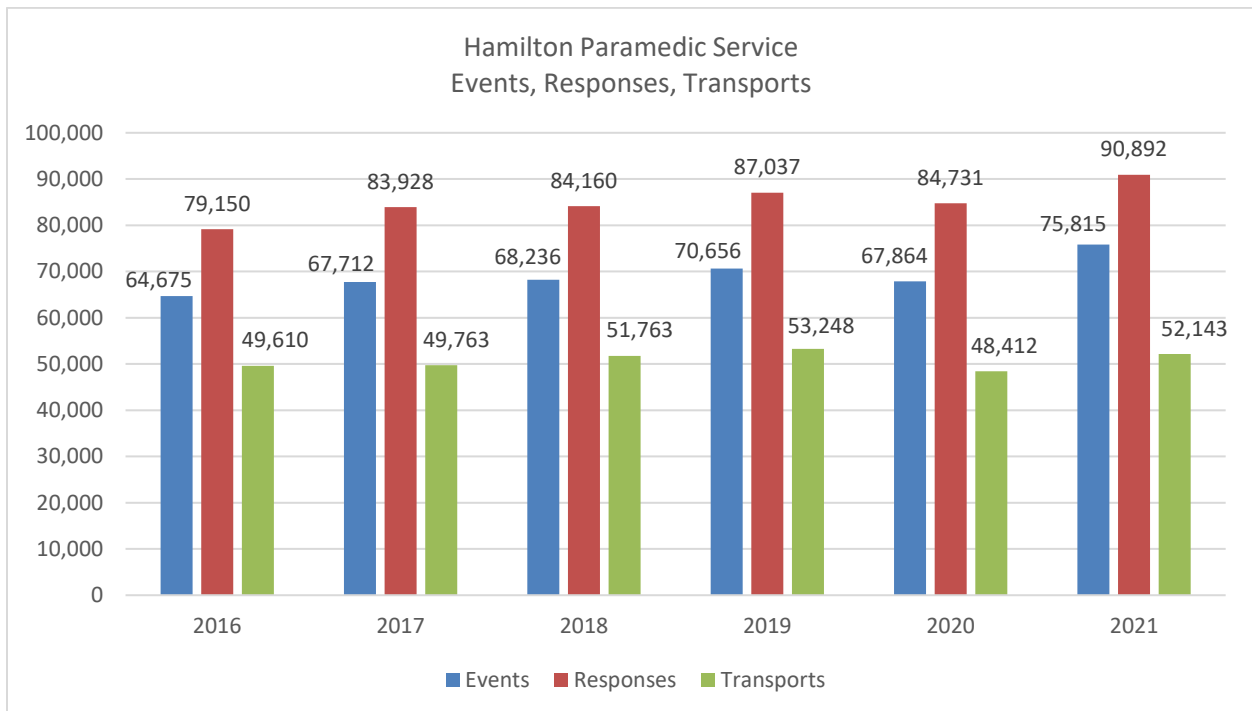


Performance Overview

At a Glance: Events, Responses, Transports

Prior to the onset of the global pandemic, HPS experienced an increase in service demands each year. While demand decreased slightly at the start of the pandemic in March 2020, it has since increased to levels significantly higher than 2019. In 2021, demand for service increased overall by approximately four percent from 2019 which has been forecasted as the annual increase.

The following graph shows the total number of events, responses and transports respectively, each year from 2016 to 2021.

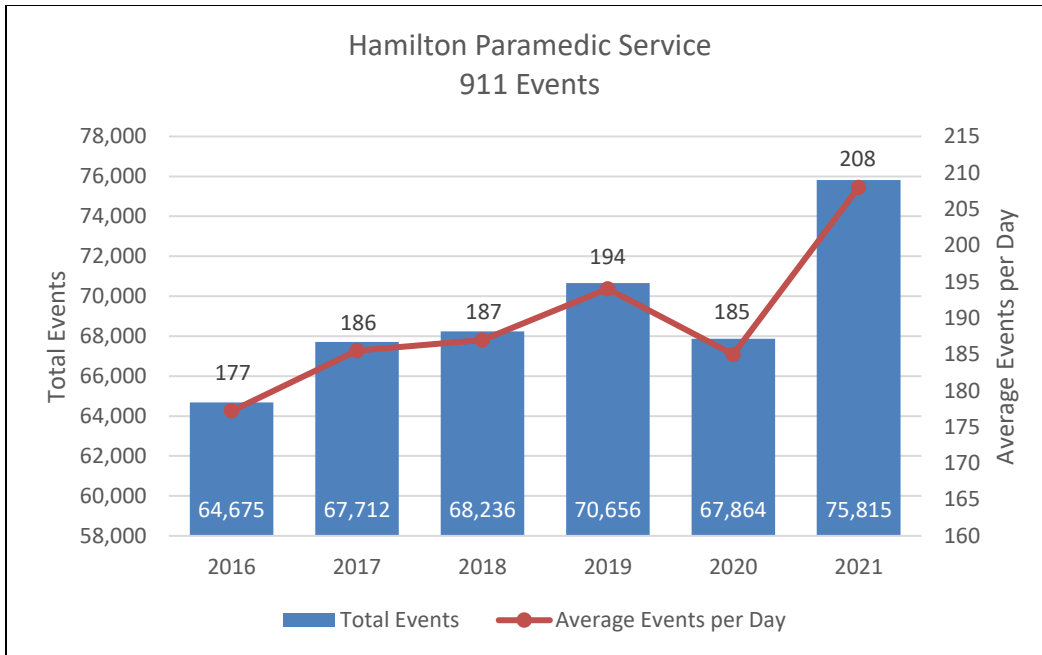


Events

An event is generated every time 911 is called for paramedic assistance through dispatch, the Central Ambulance Communications Centre (CACC).

In 2021, HPS experienced a larger number of 911 events than in previous years with 75,815 events, an average of 208 events per day.



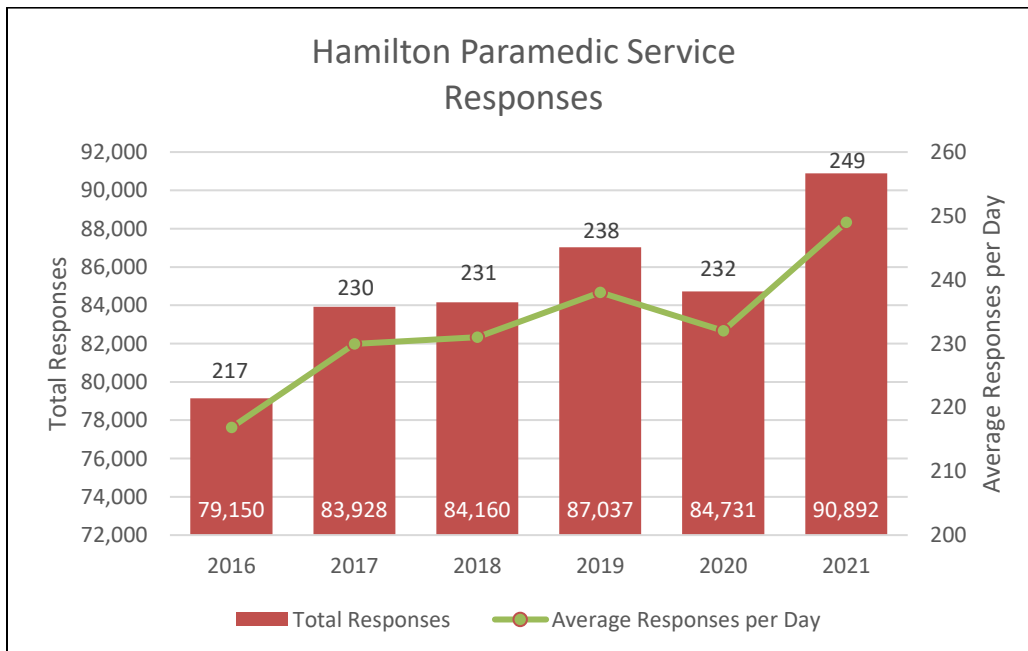


Responses

Responses are the number of paramedic vehicles that are sent to an event. This number is usually higher than the number of events as there is usually more than one vehicle required to manage an emergency incident. For example, in the event of a motor vehicle collisions or a complex medical/traumatic emergency, multiple paramedic vehicles may be assigned to respond.

**90,892
RESPONSES**

In 2021, HPS had a total of 90,892 responses with a daily average of 249 responses, a level higher than has been experienced in previous years.



Top 10 Patient Problems 2021	% of Responses
Fall	14
Dyspnea (shortness of breath)	14
Unknown	8
Abdominal/Pelvic/Perineal/Rectal Pain	6
Unconscious	5
Unwell	5
Ischemic	4
Behaviour/Psychiatric	3
Active Seizure	3
Motor Vehicle Accident	3

Patient Problems

The table to the left shows the top ten reasons an ambulance was dispatched for medical assistance in 2021.

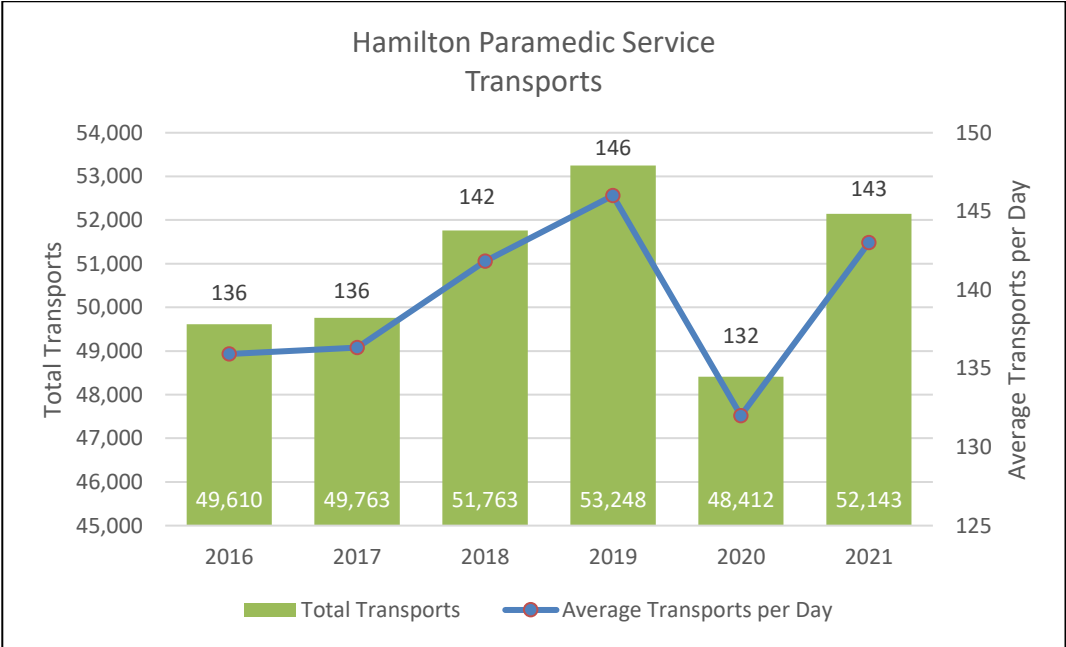
Transports

Transports refers to the number of times patients are transported to hospitals by ambulance. This number is typically lower than the number of events, as some patients decline transport to the hospital or are found not to require hospital services as determined through an assessment conducted by the paramedics.



The number of transports to hospitals in 2021 was well above the total number for 2020 as expected due to the decline in demand for service during the first three months of the pandemic. However, transports for 2021 were just slightly below those in 2019 yet surpasses years prior to 2019.

HPS carried out a total of 52,143 transports in 2021, with a daily average of 143 transports.



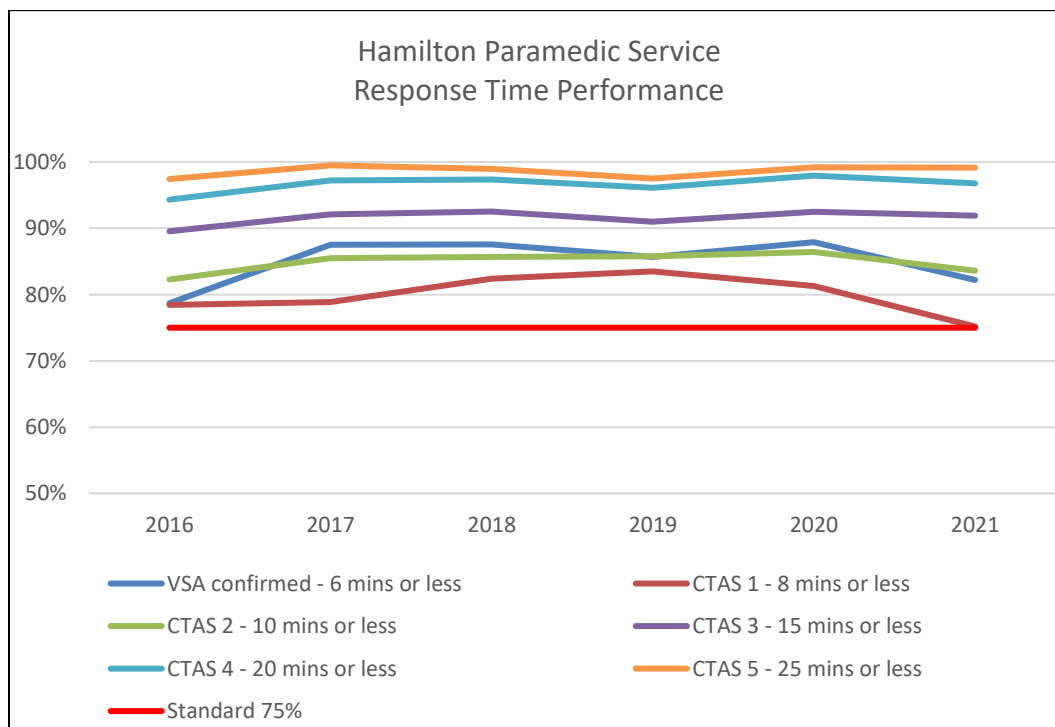
Response Time Compliance

The *Ambulance Act of Ontario* requires that every paramedic operator in Ontario is responsible to establish and publicly report on response time performance. The City of Hamilton and the MOH approved target response times based on the Canadian Triage and Acuity Scale (CTAS). CTAS is a triage system that prioritizes patient care by severity of the injury or illness. HPS is expected to achieve the target times in each CTAS category at least 75% of the time.

In 2021, HPS again met or surpassed the standard for achieving the target times for each CTAS category despite the significant increase in demand for service over previous years.

CTAS Category	Acuity Level	Target Time	Standard % of Time Target Time to be Achieved	% of Time HPS Achieved Target Time
Vital Signs Absent	VSA Confirmed	6 minutes	75	82
1	Resuscitation	8 minutes	75	75
2	Emergent	10 minutes	75	84
3	Urgent	15 minutes	75	92
4	Less Urgent	20 minutes	75	97
5	Non-Urgent	25 minutes	75	99

The graph below shows that as with previous years HPS achieved and exceeded the response time standard of 75%, as indicated by the red line, in each CTAS category in 2021.



In 2021, the response time to calls dispatched as a life-threatening (Code 4) emergency at the 90th percentile was 11 minutes and 56 second, an increase from 2020 of 39 seconds. This reflects the time period from when dispatch assigns the call to paramedics until paramedics arrive on scene.

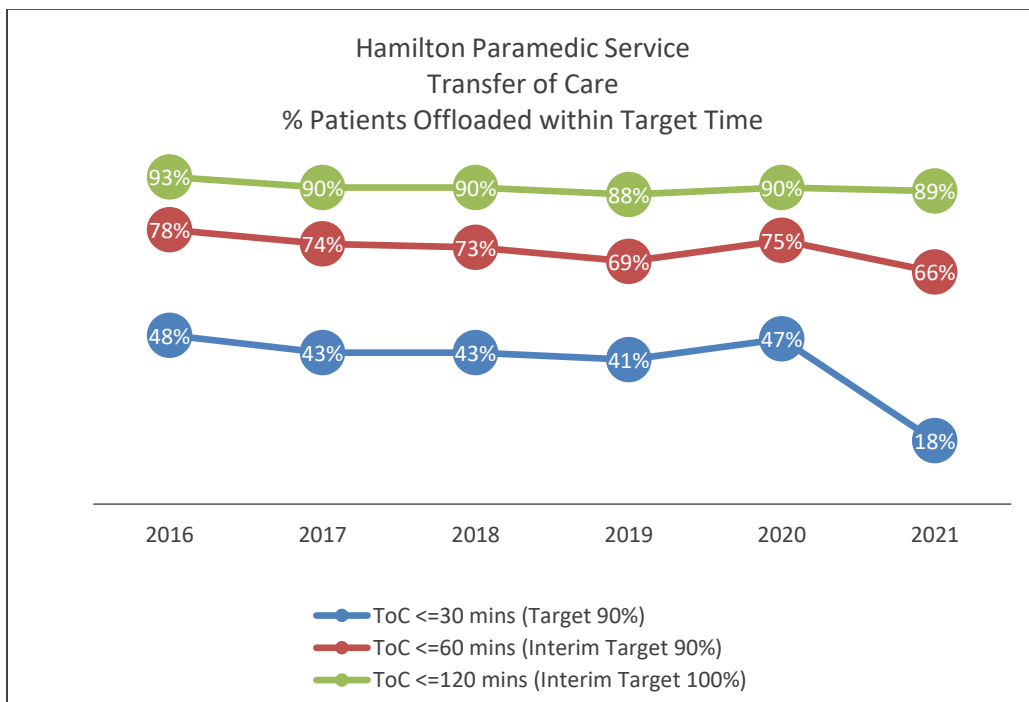
Offload Delay

An offload delay occurs when the hospital does not accept responsibility for the care of the patient from paramedics within 30 minutes of their arrival to the Emergency Department. The MOH recommends that transfer of care (TOC) of patients occurs within 30 minutes 90% of the time. Paramedics are required to remain with and care for the patient until the hospital is ready to accept the responsibility.

As a result of a variety of system pressures, hospitals in Hamilton continue to struggle to meet the target of accepting the patient within 30 minutes of paramedic arrival. Thus, the City of Hamilton and hospitals have implemented interim targets of transfer of care to hospital within 60 minutes 90% of the time and within 120 minutes 100% of the time.

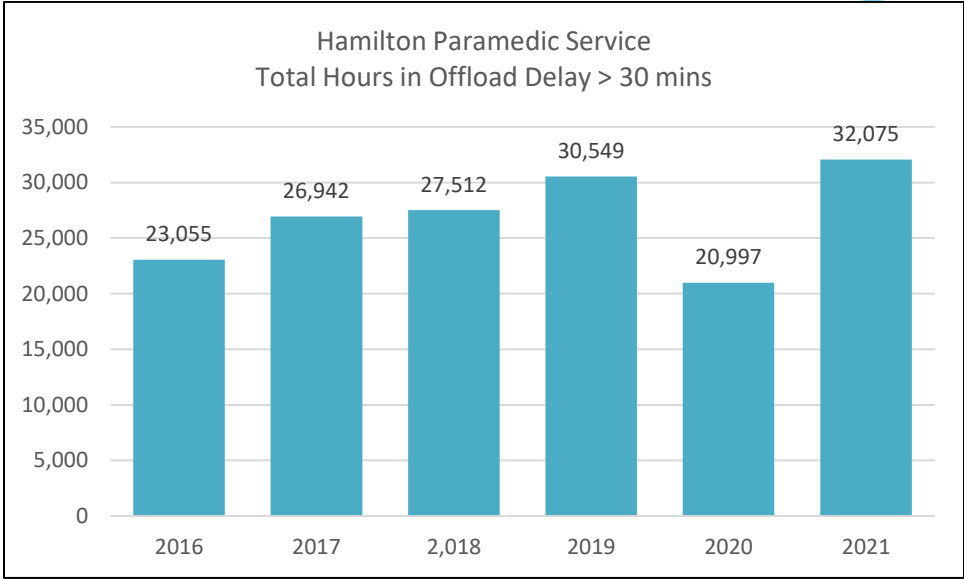
In 2021, delays in offloading patients increased significantly from 2020. Just 18% of patients were transferred from paramedics to the hospital in 30 minutes or less, compared to 47% in 2020. Transfer of care within 60 minutes occurred 66% of the time, falling short of the interim target of 90% of the time. Hospitals took over the care of patients from paramedics within 120 minutes 89% of the time, short of the target of 100% of the time.

The graph below shows the percentage of time patients were transferred to the care of hospitals within 30, 60 and 120 minutes for each year since 2016.



In 2021, paramedics spent a total of 32,075 hours in excess of 30 minutes waiting in Emergency Departments to transfer care of their patients to the hospital. As illustrated in the graph below, this total is greater than previous years including pre-pandemic total hours in 2019.

32,075 hours
in offload
delay >30
mins



The frequency of offload delays longer than the interim target of 60 minutes 90% of the time also increased in 2021 to levels higher than before the pandemic as shown in the following chart.

Frequency of Offload Delays				
Duration in Hours	2018	2019	2020	2021
1-2	12,127	12,782	9,135	12,105
2-3	3,018	3,590	2,120	3,584
3-4	1,058	1,308	772	1,530
4-5	328	429	205	645
5-6	103	146	63	223
6 +	46	54	25	126

There were 126 offload delays lasting more than 6 hours in 2021 which is more than double the previous largest amount in 2019. Similarly, the frequency of offload delays lasting between 3 to 4, 4 to 5, and 5 to 6 hours in 2021 surpassed the totals from previous years.



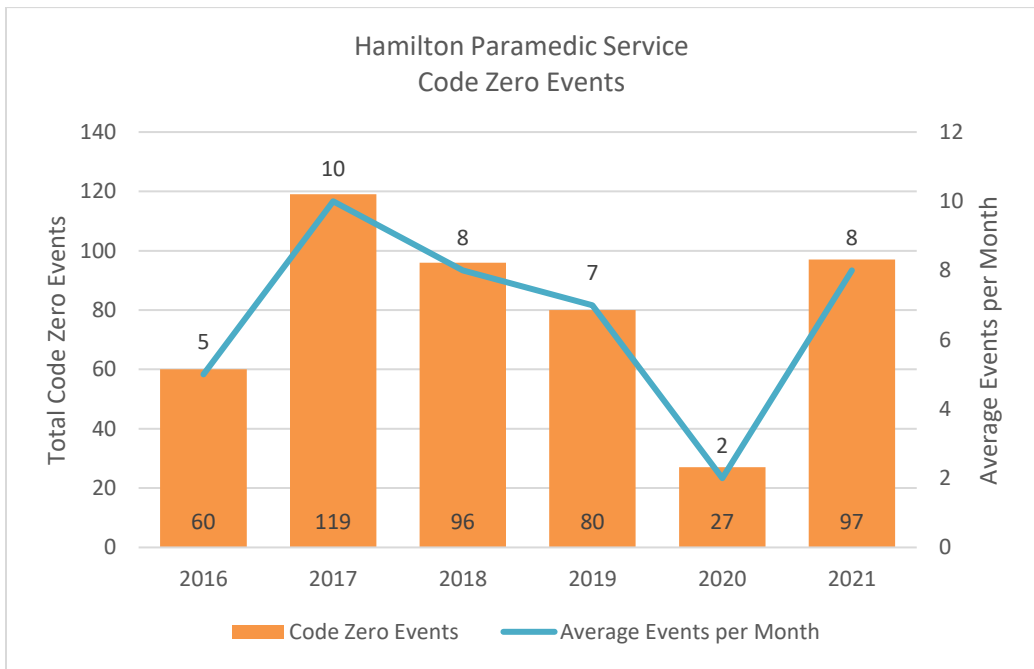
Source: The Hamilton Spectator, Cathie Coward

Code Zero Events

Long offload delays, particularly when there are 10 or more delays longer than 2 hours in one day, continue to be the major cause of code zero events. When a code zero event occurs, ambulances from neighboring municipalities are assigned to respond to emergency calls in Hamilton.

In 2021, there were a total of 97 code zero events that lasted an hour on average. The graph below shows the number of code zero events from 2016 to 2021 and the average number of code zeros per month each year.

97
CODE
ZEROS



COVID-19 Response

COVID-19 Patients

With the onset of the pandemic, the MOH provided paramedics and dispatchers assessment criteria to determine whether a patient who requires an ambulance should be treated as COVID-19 positive. Dispatchers utilize a COVID-19 screening tool and communicate results to the responding paramedics. Paramedics also perform an evaluation once on scene and if there is a suspected case of COVID-19 additional precautions are taken, and the receiving hospital is notified in advance of arrival.

In 2021, Hamilton paramedics identified a total of 9,766 patients as suspected COVID-19 positive. While these patients may not have actually had the virus, which must be confirmed through laboratory testing, paramedics have to take extra measures to mitigate the risk of exposure and transmission. These additional activities add to the complexity of the call and increase the time it takes to complete the call. This added time on a call can affect the number of ambulances available during peak periods.

COVID-19 Testing

In 2021, in collaboration with Hamilton Public Health Services and regional base hospital, community paramedics carried out COVID-19 testing within the community at congregate settings such as retirement homes, long term care residents, group homes, hospices and shelters.

As well, testing was done at some CityHousing Hamilton buildings, Hamilton Street Railway (HSR), community centres, detention centre, local businesses and for international students. When required by Public Health Services, paramedics conducted testing at a number of areas in the city where outbreaks occurred. Paramedics also conducted testing for first responders and public health nurses at a temporary clinic in the paramedic administration building.

Community paramedics also initiated mobile COVID-19 assessments utilizing a Hamilton Street Railway (HSR) bus converted into a clinic to target sectors of the city with high numbers of positive cases.

In total, the COVID-19 Swabbing Team conducted 14,319 tests in 2021.

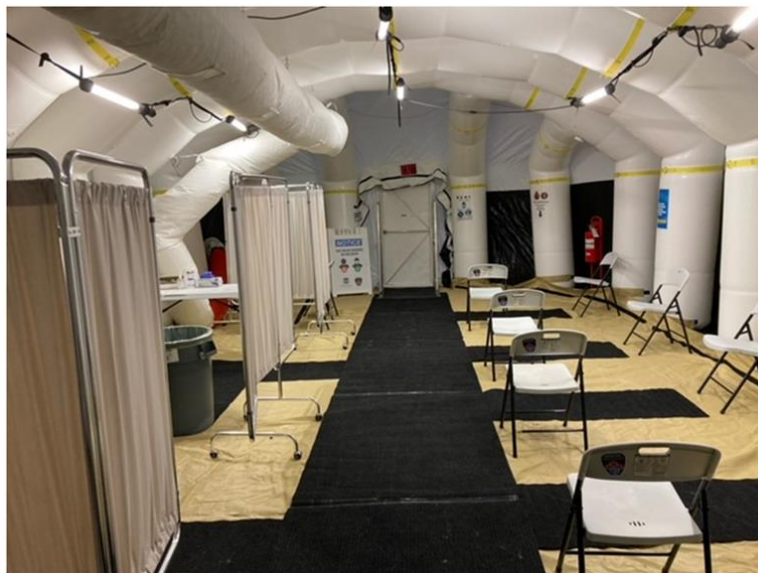


COVID-19 Vaccinations

The involvement of paramedics in supporting Hamilton Public Health Services' vaccine deployment plan intensified in 2021. In 2021, 80 paramedics were trained to administer COVID-19 vaccines. Paramedics administered vaccines in congregate care settings such as retirement homes, group homes, long-term care residences and shelters. Hamilton paramedics also delivered vaccinations to people in larger temporary clinics such as those that took place at recreation centres, community centres, municipal centres and schools as identified by public health.



In addition, HPS established an immunization clinic for police, fire and paramedic services staff and public health nurses at the City of Hamilton. During the latter part of 2021, paramedics in the return-to-work program ran a clinic to administer third doses of the COVID-19 vaccine and influenza vaccinations to first responders and nurses. An inflatable medical shelter was erected on the premises of the HPS administrative building and fully equipped to deliver vaccines and aftercare to City staff.



COVID-19 Vaccination After Care

Paramedics also continued to support Public Health Services in 2021 by providing aftercare at fixed mass vaccination clinics throughout the city such as the Hamilton Health Sciences Wellington site and the First Ontario. One crew of paramedics each day was stationed at the site to deliver a program of aftercare developed by HPS paramedics to ensure people who received COVID-19 vaccinations were monitored for any adverse effects and assisted when necessary.



COVID-19 Homebound Vaccinations

In partnership with Hamilton Public Health Services, paramedics led an in-home vaccination program for people with health and mobility issues that prevent them from leaving their homes to be vaccinated at clinics or pharmacies.

Paramedics are well-equipped to handle the logistics of travelling to homes, in any kind of weather, to provide health care so delivering COVID-19 vaccinations to homebound residents was simply an extension of that care.

Starting in April 2021, two teams of paramedics were dispatched to help vaccinate the most vulnerable and least visible populations in the city. In total, they administered 3,994 COVID-19 vaccines.



Respirator Fit-Testing

With the onset of pandemic, in addition to challenges acquiring an adequate supply of PPE, there were also challenges related to providing respirator testing. The City of Hamilton as an employer is required to administer a fit test for employees who wear respirator masks such as an N95 to prevent infectious and hazardous agents from being inhaled. A fit test verifies the mask is the right size, creating an effective seal for the proper level of protection.

Contractors used by the City of Hamilton for respirator testing were not available due to high demand during the pandemic, so paramedics utilized their technology to assist in conducting in-house fit testing of their colleagues in other divisions (e.g., Hamilton Public Health and Long-Term Care).

Not only did this help to fill a gap in lack of service from outside contractors, it was more cost efficient and led to more uniform testing methods across division.



Mobile Integrated Health

In addition to emergency response and pre-hospital care, HPS also provides a range of community paramedicine initiatives to care for clients with complex and chronic conditions where they live. Community paramedicine allows vulnerable residents to receive clinical support in their homes and reduces pressure on the health care system.

Since the Community Paramedicine program began in 2014, it has expanded and evolved to become Mobile Integrated Health (MIH) with an increased capacity to reach more people in the community. The focus remains on meeting patients' needs in the comfort of their own homes thereby increasing their quality of life and reducing hospital visits.

MIH programs activities for 2021 are described in the following pages.



Home Visits

When someone has been identified as using 911 services regularly, a specially trained Community Paramedic is notified who visits the client in their home and conducts an in-depth assessment. As part of a network of service providers the paramedic can quickly connect the client to the resources they require. In 2021, additional staff resources enabled Community Paramedics to care for 1,145 clients who were enrolled in the Home Visit Program with Community Paramedics. This is an increase of over 500 clients from 2020.

Clinics

Clinics are set up in selected buildings where vulnerable seniors reside. Community Paramedics' interventions are focused on health promotion and the prevention and monitoring of high blood pressure, diabetes, cardiovascular disease and social isolation.

Due to the pressures of the pandemic, paramedic resources were reallocated to areas most in need relating to COVID-19 testing, vaccination and after care. As a result, no clinics were held in 2021.

Flu Clinics

The Clinics also provide residents of the seniors' buildings with the influenza shot during flu season. However, with the existence of a very transmissible COVID-19 variant in the fall of 2021, the flu clinics were limited. As a result, 129 residents of the CityHousing Hamilton were inoculated. In addition, paramedics administered flu shots to first responders. In total, 880 flu shots were administered in November and December 2021.



Emergency Department Diversion to Withdrawal Management

The EDWIN Program enables paramedics to transport men and women with addiction-related issues to the appropriate addiction service facility in Hamilton rather than to hospital Emergency Departments. In late 2021, this program expanded to include youth between the ages of 16 and 21 with direct transport to St. Joseph's Youth Substance Use Program (YSUP) facility.

In 2021, a total of 23 clients were supported by community paramedics through the EDWIN program.

Remote Patient Monitoring

The Remote Patient Monitoring (RPM) Program leverages technology to allow patients to stay in their homes while their health is being monitored by Community Paramedics. Information about the patient's chronic condition is transmitted from a variety of devices to a database monitored by a Community Paramedic. If a predetermined threshold is exceeded, a Community Paramedic promptly contacts the patient to determine the best way to mitigate the condition. In 2021, there were 198 patients enrolled in the program with 7,907 alerts yet only six transports to hospitals.



Public Access Defibrillation

MIH is responsible for the maintenance and tracking of Automated External Defibrillators (AEDs) throughout the city and advocate to increase in the number of AEDs in the community. Medical evidence shows that when an AED and CPR are administered immediately, often by a bystander, the chance of survival from sudden cardiac arrest is substantially improved by up to 75%.

In 2021, there were 486 AEDs in the city, an addition of 44 devices from the previous year. AEDs were also placed in COVID-19 clinics. Paramedics responded to three AED uses in 2021. Public access defibrillators are located throughout the city in privately owned and public buildings, such as City of Hamilton office buildings, schools, libraries, arenas, fitness facilities, recreational facilities and seniors' centres.

Social Navigator Program

The Social Navigator Program (SNP) is a collaboration with the Hamilton Police Service to support at-risk individuals and those with repeat police interactions by connecting them to the health and social services they require. In 2021, SNP made contact with 908 individuals, an increase of 35% from 2020.

Approximately 78% of the individuals SNP interacted with in 2021 were houseless. SNP provided a range of support for these individuals including wound care, Narcan kit distribution, COVID-19 testing and vaccinations, assistance with medications, transportation to appointments, and assistance with court matters. SNP also provided clothing, footwear and other necessities to those who required them.



SNP team members delivering supplies to clients.

In addition, SNP made 467 referrals to health care and social programs for these individuals related to housing/shelter, mental health and addiction, income, primary care and developmental supports.

Encampments

As a result of social, economic and health inequities which have escalated during the pandemic, there has been a rise in the establishment of encampments in Hamilton. Encampments are set up in unsheltered locations by those experiencing homelessness. This has increased calls for paramedics for medical response as well as outreach activities to assess and provide necessary supports for people living in encampments. In response, the SNP team works with encampment residents to support their needs and prevent emergency calls for first responders.

In 2021, there was an estimated 190 encampment sites across the city. SNP visited 154 of these encampment sites. Of the houseless individuals SNP supported, 56% or approximately 397 individuals were encampment residents with over 1,400 visits.

SNP has secured funding to further expand the capacity of the program with two additional paramedics enabling an increase in service availability commencing in the spring of 2022.

High Intensity Supports at Home

New in 2020, the High Intensity Supports at Home program helps patients with complex care needs access services in their home. Patients transitioning from hospital back to their home or community setting are supported by a range of services including paramedicine.

Community Paramedic Long Term Care (CP LTC)

In late the spring of 2021, the High Intensity Supports at Home program was expanded to include high risk patients waiting to be placed in long-term care homes. Hospitals report a significant number of alternative level of care patients awaiting long term care placement as one of the factors contributing to bed shortages.

Through the CP LTC program, Community Paramedics are able to support patients in their homes both in person and virtually helping to avoid Emergency Department visits and easing the burden on hospitals especially during the pandemic.

In 2021, 270 patients were supported by paramedics through this program.



Clinical Excellence

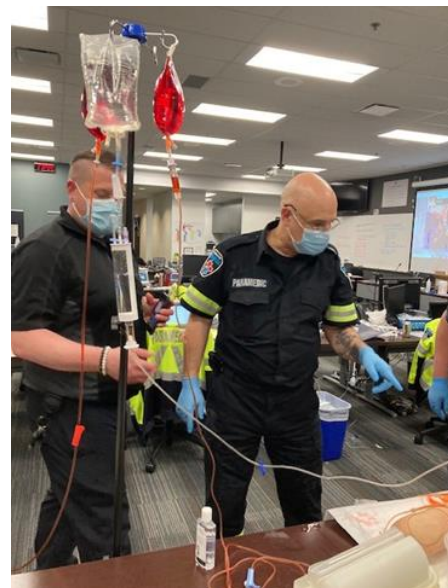
Clinical excellence is achieved by Hamilton paramedics through a commitment to continued growth and development. In 2021, new procedures were added to the annual training paramedics undertake to refresh and expand their capabilities. In total, over 27,000 hours of training and continuing education were delivered to paramedics in 2021 to ensure they continue to provide excellent clinical care to patients.



Primary Care Paramedics Autonomous Intravenous

In the spring of 2021, HPS began offering the Autonomous Intravenous training to Primary Care Paramedics (PCPs). The PCP AIV course expands the scope of practice enabling PCPs to assist with an increasing number of high acuity patients. Through this course, PCPs are trained to perform controlled medical acts that are performed by Advanced Care Paramedics. PCPs certified in PCP AIV can administer peripheral intravenous therapy and medications outside of the scope of regular practice of a PCP.

In 2021, 103 paramedics completed this in-class portion of this training and 44 were fully certified having completed the clinical requirements. HPS will continue to offer this training with the goal of having all PCPs trained and certified in PCP AIV.



COVID-19 Inoculation and Testing

As the pandemic entered into its second year, more paramedics were trained to respond to the health crisis. The Covid-19 Swabbing Team that was established in 2020 was expanded as more paramedics were trained in COVID-19 testing. Also, paramedics underwent training in the administration of COVID-19 vaccinations as they became available in 2021. In 2021, 97 paramedics were trained in assessments and 140 paramedics were trained to administer vaccines.



Paramedic Naloxone Distribution Program

In the latter part of 2021, as part of their professional development, all paramedics underwent training in distributing naloxone kits when required along with providing education on prevention, storage, safe use, signs of overdose, CPR and how to administer naloxone to someone else in crisis.

Although paramedics have long carried and administered naloxone to reverse the effects of opioid overdose, this program marks the first time paramedics will distribute kits in the community.



In December 2021, all ambulances were equipped with naloxone kits so paramedics could begin distributing them when responding to an opioid call. In 2021, HPS responded to 914 opioid-related incidents, a significant increase from previous years. The focus of this program, in collaboration with Hamilton Public Health Services, is to promote harm reduction and prevent overdoses amid an ongoing opioid crisis in the city.



Paramedics Providing Palliative Care

After a year of planning in partnership with the Local Health Integration Network and base hospital, the Paramedics Providing Palliative Care or 3PC program was launched in April 2021. All paramedics underwent training to enable them to provide palliative care to registered patients. This program allows patients to remain in their homes as paramedics provide the care and medication to keep them comfortable. In 2021, 90 palliative patients were registered to receive paramedic support at home through this program.

Addition of Resources

HPS increased its fleet by one ambulance in 2021. This additional ambulance is operational 24 hours a day, seven days a week. This truck is required to catch up with the growing demand in service that has been intensified by the COVID-19 health crisis.

Fifty-one paramedics joined the service 2021. These new recruits underwent five weeks of orientation training delivered by HPS's Performance and Development Section. These newly hired paramedics have helped to keep ambulances and Emergency Response Vehicles fully staff throughout the pandemic.



Automated Chest Compression Devices

Following field testing and paramedic as well as the HPS Health and Safety Committee input, automated chest compression devices were purchased in late 2021. These devices allow paramedics to continue providing chest compressions while moving the patient. The device delivers automated CPR to sudden cardiac arrest patients without interruption. It also reduces the need for close contact required with traditional CPR. These automated devices also help to eliminate paramedic fatigue and the need for assistance from additional first responders. HPS will equip all ambulances with automated chest compression devices in early 2022.



Continuous Improvement

HPS is constantly looking for ways to improve processes, programs and services through innovation and best practices to ensure the delivery of optimal care to the community. Some of the continuous improvement initiatives undertaken in 2021 are highlighted below.

Quality Assurance

HPS has a robust quality assurance program that, among other activities, reviews and responds to feedback from customers. Follow-up with paramedics is an integral part of the program to ensure the continuous improvement of HPS service delivery.

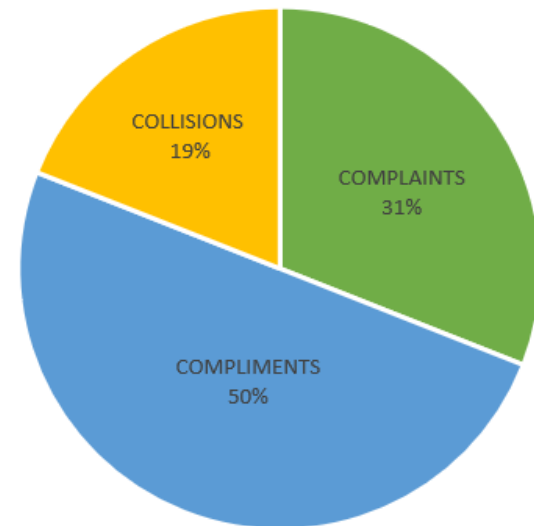
In 2021, 227 reviews were conducted to identify opportunities for improvement and employee recognition. Forty-four were related to collisions, 70 were customer concerns about conduct and practice while 113 were compliments on paramedics' performance (not including social media posts).

The majority of collisions were related to clearance issues involving damage of under \$1,000 and most complaints were related to professional conduct. Such incidents are thoroughly investigated and may result in coaching or additional training of paramedics.

A wide range of compliments were received from people who have used HPS services or the ones who care for them. These related to paramedics' performance including skillfulness, compassion, ability to calm, caring, kind, professional and friendly nature.

The following excerpts are examples of the recognition Hamilton paramedics received in 2021 from the community they serve.

My husband was in cardiac distress. The paramedics arrived quickly and were professional, kind, reassuring and efficient. They kept my husband at ease. They explained everything to us clearly. I understand that on route [to the hospital] they had to pull aside and cardiovert him. Our doctors have all said the paramedics acted correctly and did everything they were supposed to do. We feel that because of their actions and skills, my husband is still with us and possibly coming home later today.



I'm the PSW that called 911. The two paramedics that showed up were absolutely, incredibly amazing, compassionate, and the kindest people I have ever met in my life. They stayed on the scene for quite some time. They called the services to see what they could get in for the family and they also came back in the house to help with going up and down the stairs so I could provide personal care. They went beyond their call of duty. I'm so happy we have them here in Hamilton.



Hamilton resident photographs Hamilton paramedics helping members of the community in a different way on a snowy February day in 2021

PeerConnect App

The HPS Peer Support Team is comprised of trained volunteer paramedics and a mental health practitioner. The Peer Support Team responds to their colleague's needs once they have identified a potential mental health issue. They are available 24/7 to support their colleagues and connect them to the services they require.

In September 2021, the Peer Support Team trialed a free application called Hamilton Paramedic PeerConnect that enables paramedics to have easy access to Peer Support Team members from their convenience of their devices. The app also gives paramedics access to health and wellness articles, resources, self- assessment tools, and mental health related events.



Offload Delay Mitigation

Juravinski Offload Delay Reduction Pilot

Offload delays at hospital Emergency Departments (ED) continued to be a challenge in 2021, causing paramedics and patients to be in waiting rooms for extended periods of time before the patient is seen by hospital staff.

In February 2021, Hamilton Health Sciences and HPS implemented a pilot strategy to improve patient safety and reduce offload times. During the pilot project, paramedics' patients are assessed by the ED physician on the ambulance stretcher and receive limited diagnostic testing and medical treatment. Early diagnostic testing will help to improve the flow of patients through the ED and medical treatment can allow for the appropriate patients to be offloaded into lower acuity areas.

Fit-to-Sit Program

This initiative is aimed at reducing offload delay by allowing paramedics' patients to wait on their own in the ED waiting room if they are well enough to sit or stand. Each Hamilton hospital has a process to determine if patients meet the criteria to be well enough to sit in the ED waiting room without paramedics waiting with them. This initiative enables paramedics to return to the community to respond to emergency calls rather than being held up in offload delay until the care of the patient is transferred to hospital staff.

A renewed focus on this program took place in 2021, in consultation with Hamilton hospitals given the increasing call volume and delays amidst the challenges of the persistent pandemic.



Source: The Hamilton Spectator, John Rennison

Lift Assistance Device Trial

Paramedics have physically demanding jobs as they are constantly lifting and moving patients. As such, they are at risk of musculoskeletal injuries. In fact, musculoskeletal injury due to repetitive strain is the most common injury sustained by HPS paramedics.



HPS is continually looking for ways to reduce the physical strain paramedics endure on a daily basis. In 2016, HPS replaced all manual stretchers with hydraulic lift stretchers and in 2019, paramedics trialed a state-of-the-art light-weight stair chair to make lifting patients down the stairs easier to maneuver. In 2021, these stair chairs were added to every ambulance.

In June 2021, paramedics tested a lift assist belt and provided feedback about its effectiveness. This device is worn by paramedics to help safely lift and maneuver heavy, bariatric or elderly patients. It is a lifting harness that can also be used to aid in lifting patients who are immobile or assist people in walking. It is ergonomically designed and will help to reduce the risk of back injuries.

HPS will acquire these devices and provide training to all paramedics on their use in the fall of 2022.

Technology Improvements

HPS relies heavily on technology to aid in the care of patients through equipment and records, track and monitor performance in real time and predict future demand for service.

Technology systems that enable mobile electronic patients care records (ePCRs), provide paramedics with dispatch data instantaneously, plot the fastest route to an incident and produce dashboards of real-time call data are some of the technologies that are integral to HPS operations.

To ensure HPS continues to operate as optimally, it is crucial that technology systems are continually updated and improved. In November 2021, HPS enlisted an expert in the field of emergency services technology to identify areas for improvement and a group of paramedics to test systems. Recommendations for upgrades will be developed, reviewed and implemented by mid-2022.



Community Connections

Hamilton paramedics have always played an important role in the community not just in providing quality programs and emergency response but in providing information and support to the community. In past years, HPS achieved this through attending events such as festivals, fairs and through participating in fundraisers and awareness-raising campaigns. However due to the pandemic, in-person events have been restricted. However, HPS was still able to carry out charitable work in 2021 and increased media presence to continue the flow of important and educative information to the community.

Media Presence

HPS continued to have a strong media presence in 2021. Through spots in local television, newspapers and radio, HPS was able to share important information relating to their activities, raise awareness of key community issues and support community health, safety and well-being.

2021 Twitter Activity
@HPS_Paramedics
213 Tweets
16,000 Followers
975 Retweets
6,515 Likes
1.3 million Impressions

HPS also has a strong presence on social media. HPS is able to share timely news about emergency incidents, promote community events and charitable work, provide education in the area of health and safety and recognize the dedication of paramedics and other first responders.

Social media also provided a key platform for HPS to disseminate information related to COVID-19 to the community including how to protect against contracting and spreading the virus, where to go for assessments and vaccinations and the activities of HPS in responding to and combating the virus.

In 2021, the HPS Twitter account had over 16,000 followers with a reach of over 1.3 million impressions or the

number of times an HPS tweet appeared on users' timelines impressions.

HPS launched an Instagram account in January 2021 garnering over 800 followers and a reach of almost 16,000 impressions with over 5,000 visits to 70 posts of pictures and videos.

2021 Instagram Activity
hamilton.paramedic.service
70 Posts
960 Followers
8,071 Likes
15,815 Impressions
5,251 Visits

Make the Right Call Campaign

Late in 2021, HPS initiated a media campaign aimed at reducing the unnecessary calls for an ambulance. The public are reminded of the health care options other than calling 9-1-1 in the case of non-urgent health concerns. Diverting calls to other more appropriate services, helps to ensure ambulances are available for emergency purposes and reduces pressures on the hospital system.

Make the Right Call

Residents should only call an ambulance in an emergency situation, and seek other health services for less urgent needs.



Learn more at: hamilton.ca/maketherightcall



Charity Support

Despite the restrictions due to the pandemic that prevented paramedics from participating in annual community fundraisers such as Tim Hortons Camp Day and McHappy Day in 2021, they were still able to give back to the community through their own initiatives.

Food Drives

Community Garden

For the eighth year, paramedics have volunteered their time to tend the garden that produces food that is donated to Neighbour-to-Neighbour Centre. In 2021, the paramedic's community garden yielded 1,470 pounds of produce for donation.



Fortinos Food Drive

In 2021, Hamilton paramedics resumed the holiday food drive on location at Fortinos grocery stores in partnership with Neighbour-to-Neighbour and the Burlington Auxiliary O.P.P. This two-day event resulted in gathering 9,393 lbs of food and \$35, 902.77, the largest monetary amount collected in the 23 years this food drive has occurred. This effort provides essential food to families in need during the holidays.



GlobalMedic Holiday Hustle

Once again, HPS partnered with GlobalMedic in 2021 to assist in collecting, packing and delivering boxes of food to Neighbour-to-Neighbour in Hamilton. In total, over 3,000 pounds of dried pantry staples were donated which provided food to the most vulnerable in the community over the holiday season.



Hamilton paramedics volunteer to assist GlobalMedic in packing boxes of food for the Holiday Hustle food drive

CityKidz Toy Drive

The annual Paramedic Toy Drive for CityKidz ensures that children in Hamilton who experience the challenges of poverty receive a personalized and meaningful gift for Christmas. In 2021, Hamilton paramedics help to raise over \$10,500 in cash donations and collected over 1,100 toys for CityKidz.



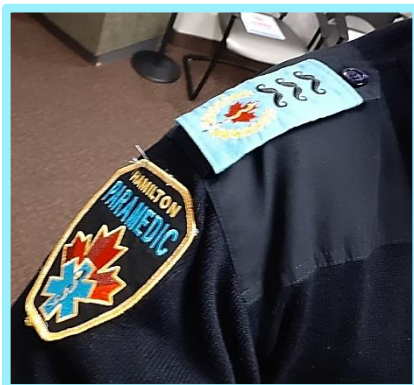
Santa for Seniors

Hamilton paramedics started this initiative in 2020 because many seniors living in long-term care residents were unable to see their loved ones during the holiday season due to the pandemic. Due to the success of the initiative, it was continued in 2021 with 52 paramedics donating 88 gifts to seniors at the Revera Baywoods Place. This initiative helps residents to know they are not forgotten during a season when most people are with family.



Fundraisers

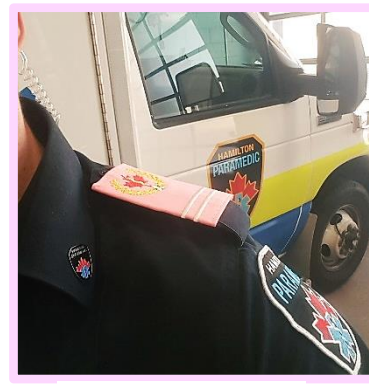
Through the sale of themed epaulettes and collecting cash donations, Hamilton paramedics raised \$12,380 in 2021 for various charities, including the following:



Prostate Cancer
\$300



Autism
\$300



Breast Cancer
\$300

In addition to raising \$300 each for cystic fibrosis, childhood cancer and pride in support the 2SLGBTQI community, paramedics also raised \$10,280 for mental health which was donated to St. Joseph's Healthcare Hamilton.



Paramedic Ride 2021

This annual event helps to raise funds in support of the Canadian Paramedic Memorial Foundation and for the construction of a monument in Ottawa honouring paramedics who have lost their lives in the line of duty. For seven years, Hamilton paramedics have been involved in the ride from Toronto to Ottawa. Due to the pandemic, smaller rides throughout Ontario replaced the ride to Ottawa. In 2021, HPS and its bike team, the Escarpment City Gears (ECG), hosted a two-day ride of 150 km in total.



Recognitions

A number of employees of HPS were formally recognized in 2021 for their extraordinary achievements in serving the community and their peers.

YWCA Women of Distinction Nomination

The YWCA of Hamilton Women of Distinction award recognizes local women who have shown dedication and leader

ship in their roles and act as agents of change in the community. In 2021, the focus of the awards was on women who showed exceptional courage in the face of the challenges brought on by the pandemic.



Hamilton paramedic Naomi Henderson was nominated by her peers for this award.

Naomi is a Social Navigator

Paramedic who works with the most vulnerable in the community including those experiencing homelessness. Naomi's peers describe her unique ability to connect with people who have been reluctant to reach out to other care providers. Her respectful and compassionate approach has led to relationships of mutual trust with her clients. Naomi has expressed being humbled by what she has learned from her clients, including the strength and resilience they have shown particularly in the wake of the pandemic.



Act of Conspicuous Bravery Certificate

In October 2021, paramedics Steve Kawamura and Jennifer Brooks were on their way to a call when something caught their eye. They recognized the signs of someone in imminent danger. They immediately pulled over, and Steve jumped into action. With Jennifer's help they were able to prevent a potentially fatal incident. Chief Sanderson presented Steve with the Certificate for an Act of Conspicuous Bravery for saving the life of a resident in crisis.



CPER Quality of Care Award

The Hamilton Health Sciences Centre for Paramedic Education and Research (CPER) Quality of Care Award recognizes paramedics for a variety of reasons including outstanding patient care and documentation, community involvement regarding clinical care, continued medical education or promoting the paramedic profession. Paramedics are nominated by their peers or CPER's program staff.



The recipients of the CPER Quality of Care Award for 2021 include:

- ❖ Jonathan Buxton, Advanced Care Paramedic
- ❖ Brian Mak, Advanced Care Paramedic
- ❖ Danielle Mastrangelo, Primary Care Paramedic

Governor General of Canada Emergency Medical Services Exemplary Service Medal

The Emergency Medical Services Exemplary Service Medal awarded by the Governor General of Canada recognizes professionals who provide pre-hospital emergency medical services to the public in an exemplary manner, characterized by good conduct, industry and efficiency. Recipients must have completed 20 years of exemplary service with at least 10 years performing duties that involve potential risk.



The recipients of the 2021 Emergency Medical Services Exemplary Service Medal for HPS are as follows:

- ❖ Grant Burse, Advanced Care Paramedic
- ❖ Robert Dikaitis, Advanced Care Paramedic
- ❖ Jennifer Wood, Primary Care Paramedic

In addition, the following former recipients of the Medal received the 30 Year Bar:

- ❖ Grant Burse, Advanced Care Paramedic
- ❖ Angela Schotsman, Advanced Care Paramedic

HPS H.E.A.R.T. Award

In the latter part of 2021, HPS staff developed a program to recognize their colleagues who go above and beyond in performing their duties



when serving the residents of Hamilton. This monthly award is peer-nominated and is based on excellent service that exemplifies Heart, Empathy, Accountability, Responsibility, Teamwork and Trustworthiness (H.E.A.R.T.). The award recipients will be acknowledged service-wide by sharing their exceptional performance through multiple medium. As well, Chief Sanderson will present recipients with the H.E.A.R.T. Award trophy that was custom designed for HPS. This program will launch in early 2022.

