

# Greater Sudbury Paramedic Services Update Report

Presented to: Emergency Services Committee on October 23, 2019



This report aims to provide the City of Greater Sudbury Emergency Services Committee with an update on good news stories and relevant statistics as well as recent performance measures within the Paramedic Services Division of the Community Safety Department.

Greater Sudbury Paramedic Services is responsible for the delivery of a performance-based paramedic service that complies with legislative and regulatory requirements, ensuring pre-hospital emergency medical care and transportation to those individuals suffering injury or illness. A performance-based paramedic service focuses on clinical excellence, response time performance, patient outcomes, patient satisfaction, continuous quality improvement, and a healthy work environment conducive to professional growth.

## Paramedic Operations

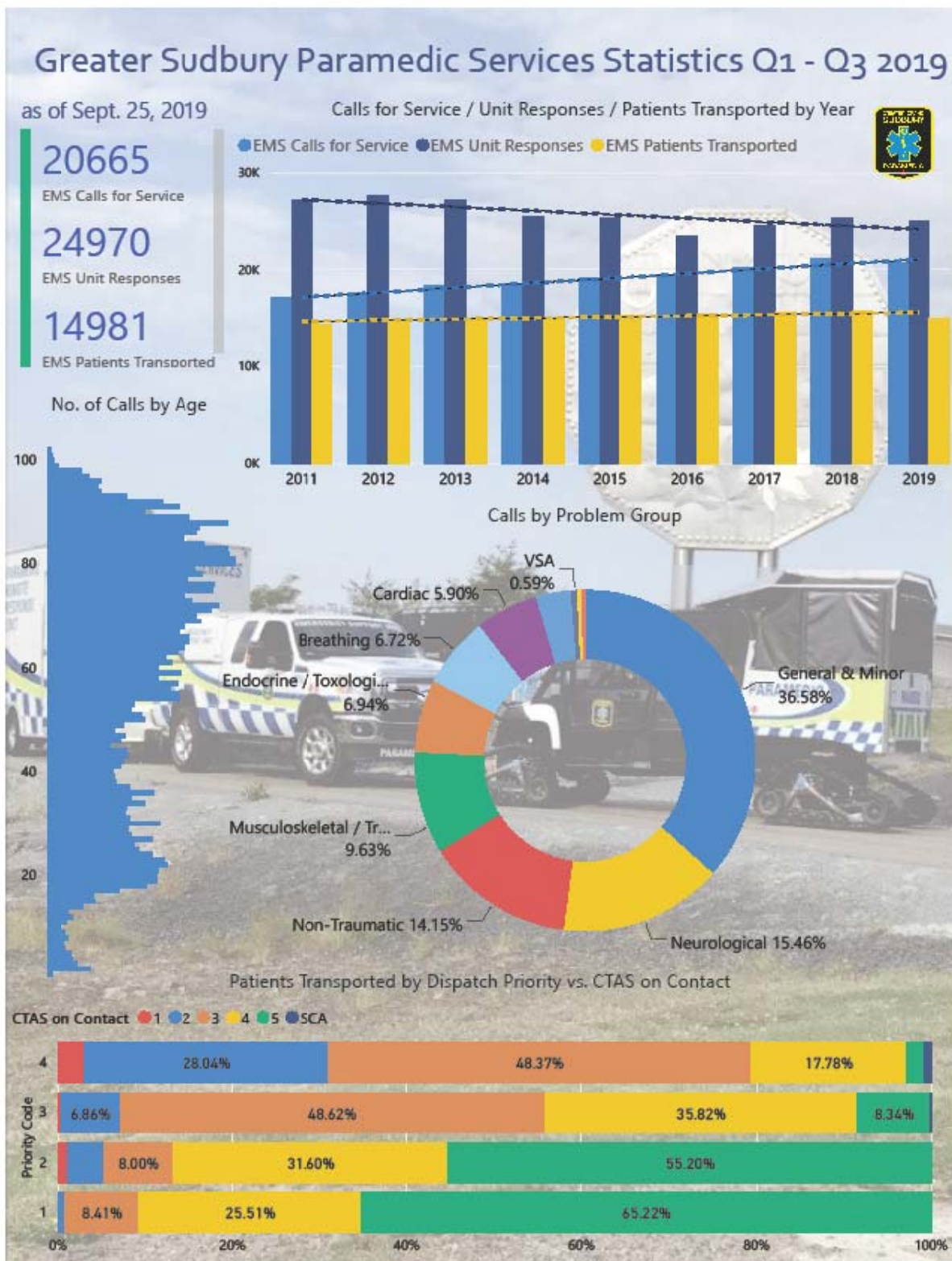
The Operations Section provides pre-hospital emergency medical care and transportation as well as non-urgent transportation between health-care facilities, the airport and residences, to over 21,000 patients. 83% of the Division's resources are used to deliver approximately 114,000 hours of ambulance services in accordance with mandated provincial legislation. Responding to over 27,000 calls for service, Paramedic Operations maintains a response time for the most serious patient acuity (CTAS 1) within eight minutes, 80% of the time.

### Peer Support Network Team Professional Development

On June 19<sup>th</sup>, 2019 several members of the Peer Support Network Team participated in a professional development session with clinical psychologist Dan Keaney from Dan Keaney and Associates. These sessions are instrumental in further developing the team. The training was not only important to help in the development of each member but also to ensure the members take care of themselves. Mr. Keaney's session was titled "Self Care". The information presented was critical to making sure the team members have all the tools required to assist fellow Paramedics and Firefighters and to take care of each other as well.

### Platoon Superintendent Professional Development

Most of the Platoon Superintendent group (Full-time and Relief) actively participated in a dynamic and interactive education session hosted on June 11<sup>th</sup>, 2019. Jack Miller, from Jack Miller and Associates, led the presentation and concentrated on leadership development. This session taught many valuable lessons. It allowed participants to share their experiences, and these methods will be applied to improve communication amongst fellow Paramedics, Managers, Dispatchers, and other allied agencies.





## Paramedic Services Performance Measures Defined

### Paramedic Calls for Service

A measure of calls **received** by Greater Sudbury Paramedic Service by the Central Ambulance Communications Centre (CACC) to respond to emergencies. In simpler terms, the number of calls to 911 for paramedic services that resulted in Paramedics being dispatched.

### Paramedic Unit Responses

A measure of units **dispatched** by the CACC to Paramedics to service emergencies. This number will typically be higher than calls for service as some calls necessitate the use of multiple ambulances, Paramedic Response Units, or Platoon Superintendent units.

### Paramedic Patients Transported

A measure of patients being transported on both an emergency and non-emergency basis.

### Calls for Service/Unit Response/Patients Transported by Year

A comparative chart detailing, since 2011, these three measures together.

### No. of Calls by Age

A clustered bar chart detailing the age of each patient encountered. The purpose of this chart is to detail the effects of the aging population in comparison to call volumes.

### Calls by Problem Group

A pie chart detailing the categorized primary problem of each patient who was transported. Paramedics detail in great granularity the primary problem as assessed and treated where possible. These primary problem codes have been rolled up into primary categories as detailed on the Patient Care Record and displayed here.

### Patients Transported by Dispatch Priority vs. CTAS on Contact

A metric consisting of a 100% stacked bar chart that measures the urgency at which Paramedics are dispatched by the CACC against the actual patient acuity at patient contact.

Ambulance Communications Officers (ACOs) at the CACC currently use a system called the Dispatch Priority Card Index (DPCI) when determining a patient priority. This system automatically generates a priority based on the series of questions answered by the caller of the emergency. Then, once on scene, Paramedics assign a detailed Canadian Triage Acuity Scale (CTAS) rating based on the patient's presenting condition.

Paramedics are generally dispatched, by CACC, to patient calls on four different "Priority" codes.



- **Code 1** “Deferrable” (no time factor) - e.g. a non-scheduled transfer with no definitive time factor, a minor injury
- **Code 2** “Scheduled” (time is a factor) – e.g. inter-hospital transfers for scheduled diagnostic tests, a scheduled meet with an air ambulance, patient transferred for a scheduled appointment.
- **Code 3** “Prompt” – transport without delay (serious injury or illness e.g. stable fracture)
- **Code 4** “Urgent” – where the patients “life or limb” is at risk (e.g. Vital Signs Absent patient; unconscious).

CTAS is a widely recognized rating scale used across within Canadian healthcare institutions. There are 5 different CTAS ratings.

- **CTAS 1:** Severely ill, requires RESUSCITATION
  - Requires resuscitation and includes conditions that are threats to life or imminent risk of deterioration, requiring immediate aggressive interventions (for example, arrest, and major trauma or shock states).
- **CTAS 2:** Requires EMERGENT care and rapid medical intervention
  - Requires emergent care and includes conditions that are a potential threat to life or limb function, requiring rapid medical intervention or delegated acts (for example, head injury, chest pain or internal bleeding).
- **CTAS 3:** Requires URGENT care
  - Requires urgent care and includes conditions that could potentially progress to a serious problem requiring emergency intervention, such as mild to moderate asthma, moderate trauma or vomiting and diarrhea in patients younger than 2 years.
- **CTAS 4:** Requires LESS-URGENT care
  - Requires less-urgent care and includes conditions related to patient age, distress or potential for deterioration or complications that would benefit from intervention, such as urinary symptoms, mild abdominal pain or earache.
- **CTAS 5:** Requires NON-URGENT care
  - Requires non-urgent care and includes conditions in which investigations or interventions could be delayed or referred to other areas of the hospital or health care system, such as sore throat, menses, conditions related to chronic problems or psychiatric complaints with no suicidal ideation or attempts.



### Professional Standards

Using 5% of the Division's resources, the Professional Standards Section is responsible for the delivery of continuous quality improvement programming ensuring that legislatively mandated responsibilities of the division are upheld. This section also manages the electronic patient care record (ePCR) system in accordance with various legislative and regulatory requirements. By conducting approximately 1,600 clinical audits of paramedic documentation this section endeavors to achieve the goal of improving safety and high-quality clinical care. Conducting approximately 1,400 event analysis/reviews in relation to patient care and operational investigations this section assists in preparations for related legal proceedings. Lastly, this section provides approximately 500 hours of stakeholder/community relations to ensure integration into the health-care framework.

### Opioid Surveillance and Clinical Audit

Prompted by a notable increase in opioid-related events as seen on the Community Drug Strategy Opioid Reporting Tool Dashboard, a clinical and documentation quality review of opioid calls was conducted in early June 2019. There was a review of 71 patient call records for 63 events for May which focused on problem code – Suspected Opioid Overdose.

#### Overview of findings

Paramedic Services response was prompt. Response Time Standards for associated CTAS on Contact was met for 100% of opioid-related calls. Not all cases coded as 81.1 Suspected Opioid Overdose calls require life-saving interventions (i.e. airway management, ventilator support, and naloxone).

Although these calls are compliant with the Ministry of Health Documentation and Patient Care Standards, they present a challenge with the Community Drug Strategy Opioid Reporting Tool where treatment meets or exceeds the standard of care in 94% of call events. Minor clinical variances noted on four occasions were resolved through clarification and education.

#### Recommendations

Despite life-saving measures not being required on many of these calls, problem code 81.1 Suspected Opioid Overdose was the most appropriate problem code available. This limits the accuracy in the Community Drug Strategy Opioid Reporting Tool. This review recommends that clinical filters related to vital sign parameters for opioid overdoses be added to the Opioid Reporting Tool Dashboard for patient care records. The following measures will include:

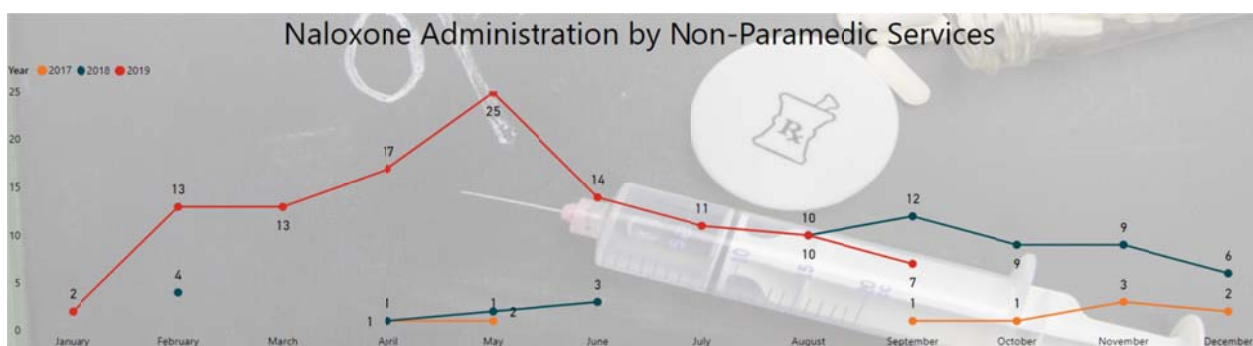
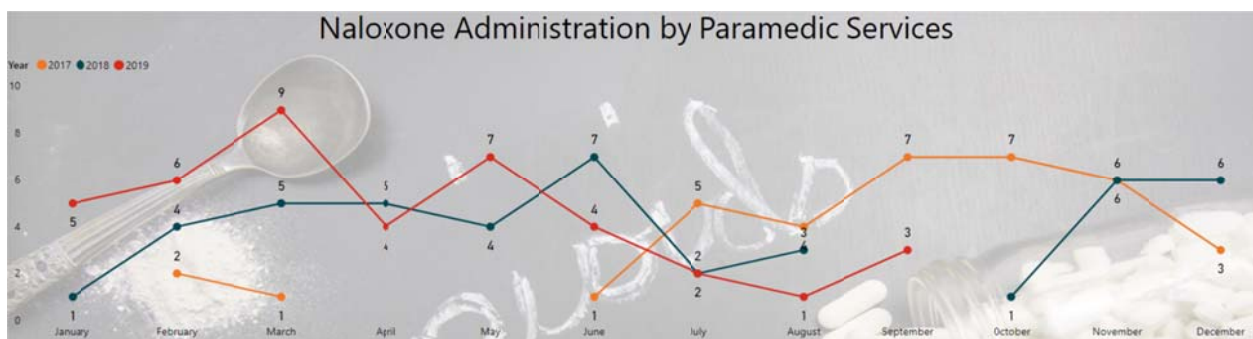
1. Respiratory Rate  $\leq 10$  and
2. A patient's level of responsiveness (recorded as Glasgow Coma Scale) and
3. Documentation of Suspected Opioid Overdose in primary, secondary or final problem code.





## Paramedic Services Opioid Monitoring and Reporting

The following three graphs represent the cumulative suspected opioid related incident call data and naloxone administration as tracked and shared with the Community Drug Strategy for early warning and detection up to September 24<sup>th</sup>, 2019.



Paramedics in Ontario do not confirm an opioid overdose, as they lack the diagnostic tools to do so. Paramedics indicate suspicion of an opioid-related incident as derived from the patient, scene assessment, signs and symptoms, patient and bystander reports of drug use or incident history. The Opioid Reporting Tool Dashboard represents suspicion of opioid-related incident(s) and cannot confirm cases or deaths because of the suspected opioid overdose. Data regarding deaths from opioid overdoses can be obtained from the Public Health Ontario website.

<https://www.publichealthontario.ca/en/data-and-analysis/substance-use/interactive-opioid-tool#/dTrend>

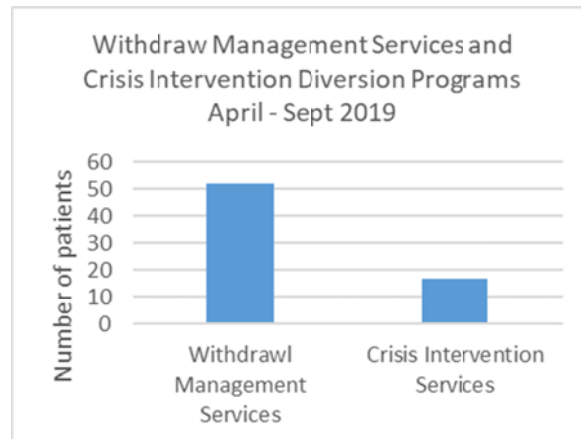


### Clinical Audit for heart attack patients is underway – ST elevation myocardial infarction (STEMI)

Clinical audit enables the quality of care to be reviewed objectively with a supportive approach and is focused on clinical treatment improvement. This review focuses on key components of care and documentation as identified in applicable standards related to STEMI. This is a type of heart attack, which can be identified in the field by Paramedics using 12 Lead electrocardiogram interpretation skills. Identification of this type of infarction can, in the absence of exclusion criteria, initiate a bypass protocol to Health Sciences North's cardiac catheterization lab. This review is expected to be completed in early Q4.

### Mental Health and Crisis Emergency Department (ED) Diversion Pilot Program Update

The program has shown to safely divert patients from the Emergency Department (ED) to appropriate receiving facilities based on their complaint and clinical presentation. There is a need to broaden uptake to these ED diversion locations. Some eligible patients are still being transported to the ED. To identify opportunities for improvement, we have created a new diversion form, which is to be completed by Paramedics for all patients that qualify for diversion but who are transported to the ED. This data will assist in reviewing patient cases and help us better understand diversion barriers.



### Training

Training utilizes 5% of the Division's resources to orient new staff, sustain legislatively mandated training requirements for staff, and support reorientation of staff returning to work after a medical leave. Service level training is delivered annually to 165 staff on initiatives that include continuing medical education and remedial education to address identified gaps in knowledge, skill or critical decision-making. Additionally, the Training Section devotes an average of 28 days of orientation support for newly hired Paramedics. Coordinating with educational institutions, this section assists with the clinical placement of paramedic students, and educational observer shifts for other allied

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agencies. Lastly, Training participates in national and international clinical research initiatives aimed at improving pre-hospital clinical care.

In the second quarter, the Training Section conducted return to work programs for two Primary Care Paramedics as well as an Emergency Vehicle Technician. These staff members are required to review all Paramedic Services training and education that occurred in their absence, in addition to preparation for Base Hospital Certification for Paramedics.

In June, the Training Section participated in Peer Support Team training over four days. This program was a refresher program with a key focus on peer-to-peer support and group defusings, thereby providing assistance to alleviate potential stress-related symptoms. Eight new peer support team members were welcomed to the team and received their orientation training.

Annual Paramedic Spring Training sessions commenced in May. Highlights of these sessions included guest speakers from the Ministry of Attorney General's Office and Bill Morin, Professor, Laurentian University School of Indigenous Studies. The Attorney General's Office presented material to frontline staff on court processes and Dr. Morin brought in the beginning of a series of cultural competency training sessions specific to Indigenous peoples.

In June, Platoon Training Officers delivered the Road to Mental Readiness (R2MR) Working Minds Program to Platoon Superintendents. Key course concepts include supporting the mental health and well-being of their co-workers and ensuring a workplace climate that is respectful and inclusive of all, including those with mental health problems. Additionally, the training helped provide front line supervisors with a focused approach on the responsibility of operating in a high-stress environment and the relationship between stress and performance.

## Logistics

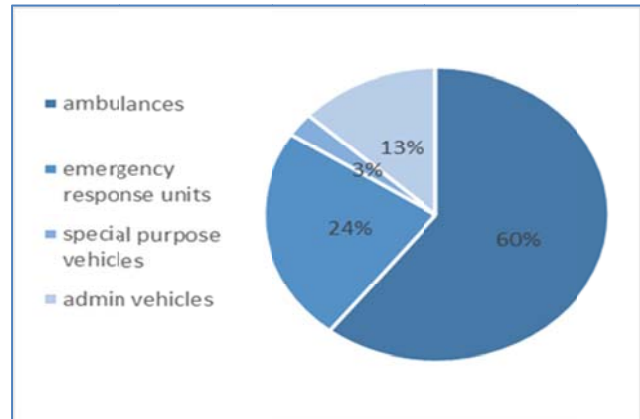
Encompassing 7% of the Division's resources the Logistics Section provides support through asset management and supply chain maintenance services for Paramedics and vehicles. Processing approximately 5,400 paramedic vehicles each year the Logistics Section meets the processing standard 93% of the time. They ensure both vehicles and equipment are sanitized, stocked and operationally ready for service in accordance with all legislative requirements and industry best practices. Inventory control is managed through the purchasing and deployment of materials within a centralized model with delivery to five satellite stations on a regular basis. This section also maintains operational oversight of two specialized response units; the Mobile Command Unit and the remote response rural unit, as well as maintenance oversight of the city's emergency helipads. Ensuring the reliability of paramedic vehicles according to manufacturer's recommendations, logistics personnel monitor and deliver paramedic vehicles to the maintenance depot, on average, over 780 times per year.





## Fleet Services

The City of Greater Sudbury Paramedic Service's operating fleet consists of 41 vehicles. The Logistics Section coordinates vehicle purchasing, maintenance and the decommissioning of retired vehicles.

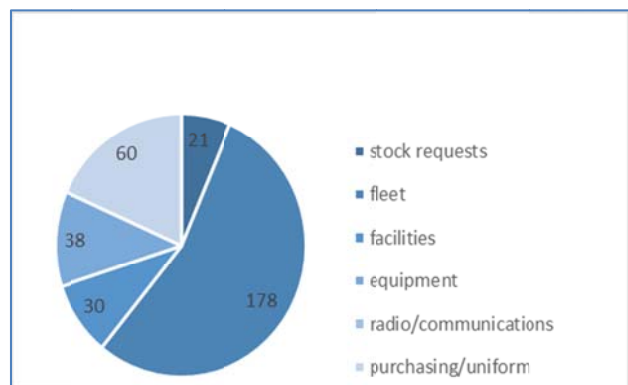


**In Q2 Paramedic Services drove a total of 214,593 km equivalent to 5 times around the Earth!**



## Requests for Service

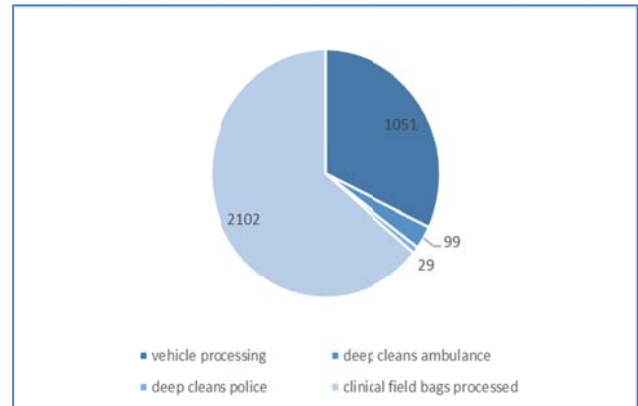
In Q2 Logistics staff processed a total of 327 requests for service. These requests are made by frontline Paramedics for stock, fleet issues, needs within facilities, uniforms and radio/communications system issues.





### Emergency Vehicle Technicians

Emergency Vehicle Technicians (EVT) process vehicles 24 hours per day, ensuring vehicle readiness. This includes washing, deep cleaning and restocking vehicles and field clinical bags. EVT's processed 1051 vehicles in this quarter and all clinical field bags within them. 128 deep cleans were completed, including 29 Police vehicles.



### Community Paramedicine

The Community Paramedicine section utilizes specially trained Paramedics in non-traditional roles providing home visits, clinical interventions, and preventative health initiatives with the goal of reducing 911 calls, demand for Emergency Department visits and hospital admissions. Community Paramedics (CPs) also assist our at-risk aged population to keep them healthy and at home while working to aid our vulnerable populations by directing them to suitable community resources. Both programs are currently funded through the Northeast Local Health Integration Network (NE-LHIN) with in-kind contributions from the City of Greater Sudbury.

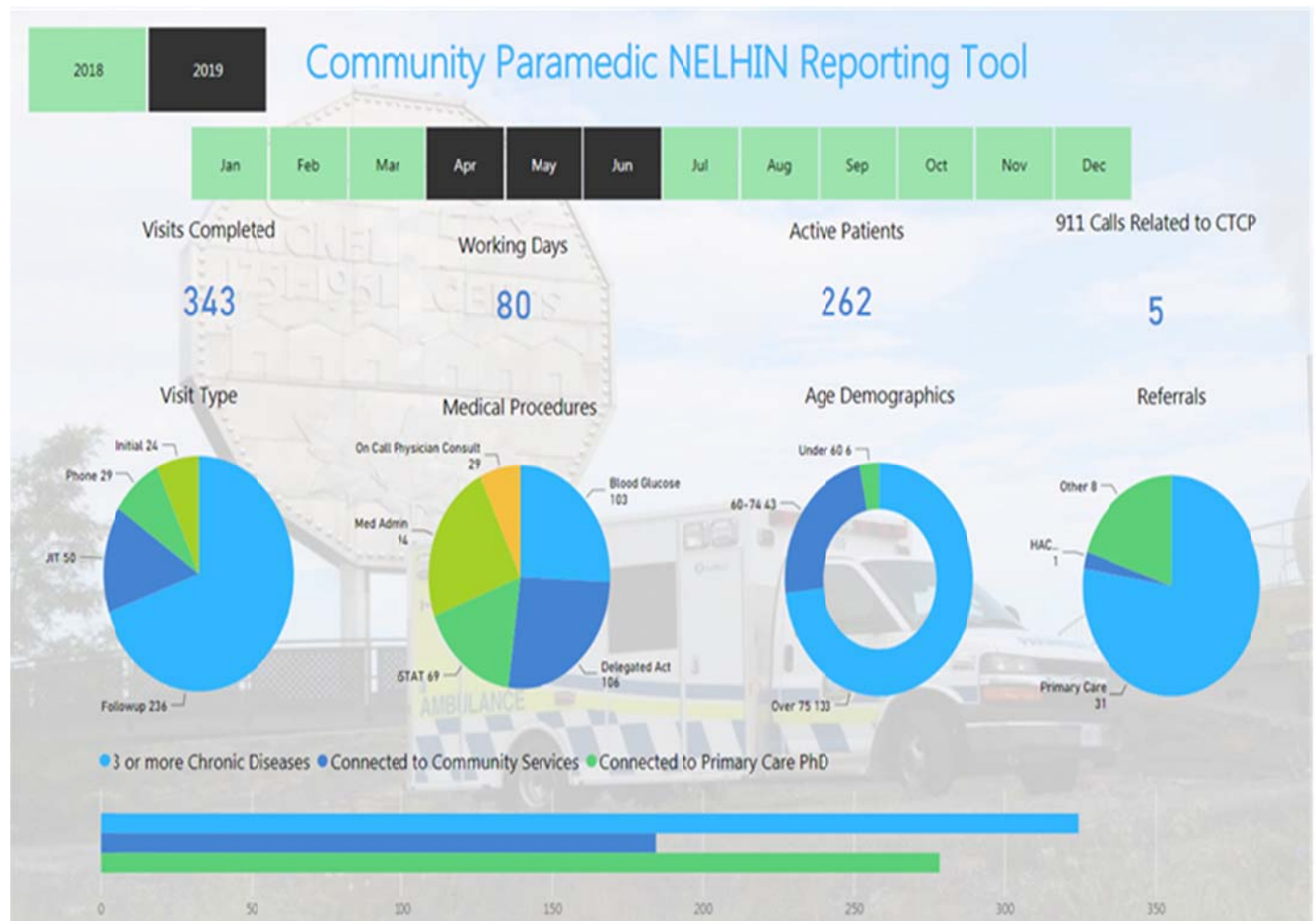
#### Care Transitions Community Paramedic Program

The Care Transitions Community Paramedic (CTCP) Program has been active since January 12, 2015. This program employs two full-time specially trained Advanced Care Paramedics who are able, through an expanded scope of practice, to provide education and medical interventions for three targeted chronic diseases; Congestive Heart Failure, Chronic Obstructive Pulmonary Disease and Diabetes. The education and interventions improve our patients' quality of life at home and decrease reliance on the emergency response of Paramedic Services and readmissions to the hospital.

In the spring of 2019, six Relief Community Paramedics were hired and completed their specialized training program. This program was conducted over six weeks and included online training as well as 18 various clinical placements with outpatient programs at Health Sciences North, the NE LHIN Home and Community Care Palliative Care – Care Coordination programs, with the North East Specialized Geriatric Program, and our Community Paramedic Physician Group. We are incredibly pleased to have these new members on our team to support our evolving Community Paramedicine Programs.



## Care Transition Community Paramedic Performance Measures



### Care Transition Community Paramedicine Performance Summary

Between April 1<sup>st</sup> - June 30<sup>th</sup>, 2019, the CTCP Program had 262 active patients who received 343 clinical calls for service that include phone consultations, scheduled visits or just in time visits. CTCPs also made 44 referrals this quarter to other care agencies for their patients.

A summary of therapeutic interventions performed includes; 94 medication administrations, 69 iSTAT point of care blood testing, 106 delegated acts, 103 capillary blood glucose testing and 29 on-call medical direction consultations (via phone).

### Health Promotion Community Paramedic Program

The Health Promotion Community Paramedic (HPCP) program is a compilation of various prevention and health education initiatives that work to ensure our most vulnerable populations are linked to community health and/or social services and can obtain healthy lifestyle education and prevention information. HPCP initiatives include; paramedic referrals to community agencies, Wellness Clinics targeting older adults and homeless populations; Free Bystander Hands-Only CPR/AED Training; and

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Rapid Mobilization Table (RMT) response. RMT is a collaboration with community partner groups working toward healthy and safe communities. Our next initiative is a Home Visit Program, which includes case management and home visits to frequent 911 users.

The goal of the Health Promotion initiatives is to ensure our vulnerable populations remain living with their health at home for longer without reliance on Paramedic Services or the local Emergency Department. This program employs one full-time Paramedic and is currently at maximum capacity (evaluated at 96% workload capacity). Unfortunately, this service is suspended when vacation or sick time occurs.

### Paramedic Referrals

Paramedic Referrals typically come out of a 911 call for service. During a 911 call when our Paramedics notice that their patient is not coping well at home, that there are risks to the patient or others, or perhaps a noted lack of social supports, a referral is sent to the HPCP. The assistance the HPCP provides these patients helps to prevent unnecessary use of Paramedic Services, ED visits or hospital admissions. These patients undergo a case management process, which may result in a home visit or further referral for services.

### Rapid Mobilization Table

The HPCP sits at the Rapid Mobilization Table (RMT) biweekly. This forum is where agencies can present individuals, families or community situations that are at an acutely elevated risk of harm. Paramedic Services presents opioid overdose patients that meet the criteria of elevated risk of harm to the RMT for an immediate multi-agency response offering wrap-around care strategies for this patient population.

### Community Hands Only CPR Training

Our HPCP is currently in the planning phase for our next round of Free Community Hands Only CPR Training and AED review. To date CPs have educated 1685 citizens and in this last quarter 123 citizens with this life saving skill.

### CP@Clinic / Shelters

This research program has been running since 2015 in collaboration with McMaster University. Through this program, the HPCP sets up weekly clinics in older adult subsidized buildings and targets vulnerable populations. The HPCP provides the following services in these clinics; chronic disease screening, education, medication review, healthy lifestyle evaluation, falls evaluation and education, referrals to community services and support for healthy change goal setting.

This program is staffed by one HPCP who hosts weekly clinics in the following five buildings; 1920 Paris Street and 1960 A & B Paris Street in Sudbury and 38 Coulson Street and 27 Hanna Street in Capreol. Monthly maintenance clinics are also held at our two original CP@Clinic research buildings; 720 Bruce Street and 1052 Belfry Street in Sudbury.



Shelter Clinics are modelled after the CP@Clinic program, though they are not part of the McMaster University research project. At the shelters, the goal is to empower this vulnerable population to reengage with the health care system or community services as necessary and as required.

### CP@Home

This program set to commence in October 2019, is another collaborative research program with McMaster University. This program involves Paramedic Services identifying multiple callers of 911 for consensual enrollment for CP home visits. During three home visits, the HPCP will offer chronic disease screening, education, medication review, and healthy lifestyle evaluation and make recommendations. The premise is to identify the root of the reliance on Paramedic Services (perhaps an unmet need that limits their independence) and link the individual to required support services.

The need for this program in the City of Greater Sudbury has been evaluated, and through monitoring, we have identified that our multiple caller rates are growing faster than other communities.

As reported in Municipal Benchmarking Network Canada (MBNC) for Paramedic Services in 2018:

- Multiple caller rates increased by 24% in 2018
- 750 individuals were identified as having called 911 more than four times in 2018
- Repeat calls from these 750 individuals account for over 4700 calls for service
- More than 6600 hours were spent on responding to these multiple callers
- Amount of calls per individual ranged from four to 38 calls





### Good News Stories

In recognition of Paramedic Week in May, CGS Paramedic Services hosted an official proclamation on Monday, May 27<sup>th</sup> at the LEL Centre in Azilda. Many honoured guests attended this event, including Mayor Brian Bigger and Councilor Rene Lapierre. In addition to staff appreciation initiatives, a number of community events took place including the Save a Life session at the YMCA, Summer Safety sessions at Adamsdale Public School and a Seniors Wellness Workshop at the Kinsman Club in Lively. Paramedic Week 2019 was organized by the organizing committee under the leadership of Kevin Powell, Committee Chair and Primary Care.

Greater Sudbury Paramedic Services has partnered with Trillium Gift of Life Network (TGLN) regarding a new initiative to identify, screen and connect family members to Trillium for organ donation consideration following the loss of a loved one. The goal of this program is to help families fulfill their loved one's wishes, provide them with information and connect them with TGLN. Greater Sudbury is one of five paramedic services working with the group in Ontario. Currently, over 1,500 Ontario citizens are waiting for an organ transplant and countless others could benefit from tissue donation.

On June 8<sup>th</sup>, 2019 at St. Joseph School in Chelmsford during Rayside Belfour Days, Cruisin for Organ Donors presented Commander Shawn-Eric Poulin from Paramedic Services with a plaque to recognize Paramedics who save lives daily just like organ donors. Cruisin for Organ Donors continues to educate people about the need for organ donation and raises money to help people who are waiting for a transplant.