2020 Business Plan & Budget

Paramedic Department

Prior Year Accomplishments

Economic Prosperity & Innovation

Paramedics continue to support *Economic Innovation & Prosperity* by providing best practices, clinically evidenced high quality service, and strengthening the County's overall corporate brand.

Sustainable Growth

Paramedic Stations

The department long term plan for station replacement is on schedule. Cramahe Emergency Services Base was completed in 2017. Alnwick-Haldimand Shared Base was completed in December 2018 with a Grand Opening in the spring of 2019. Also in 2018, plans for a shared facility with the municipality of Trent Hills were solidified. The RFP was awarded to Taskforce Inc. and construction began in spring 2019 with a projected completion date of June 1, 2020. That leaves Brighton remaining and preliminary discussions have not yet begun although a replacement station is in the municipality's strategic plan. Locations, research/planning as well as the current ministry funding model will need to be discussed before this shared facility can be realized. We strongly believe that these collaborative projects are examples of the County and member municipalities working together to create efficiencies and improve service delivery to our communities.

Ambulance Replacements

As part of the County's capital planning, ambulances and Emergency Response Vehicles (ERVs) are replaced on a regular cycle. This cycle ensures that the County continues to efficiently and cost effectively, operate paramedic services. In addition to replacement, in order to maintain operational readiness in its 24/7 operation, the County ensures that there is one ambulance available for every shift as well as ERVs that are deployment ready to service the community as needed. The following were under-taken in 2018/2019 to address the Paramedic Department's capital needs: **Ambulances (2) – ERV (1)**

Emergency Generator – Port Hope Base

Northumberland Paramedics is committed to providing the best possible level of service to the community. The purchase and installation of a back-up power generator for the Port Hope Paramedic Station is an opportunity to maintain service levels and emergency paramedic response times in the event of a power outage and increased service demands. During periods of prolonged power outages, the facility would be not able to be occupied and used as an emergency response station. The 2019 installation of a generator in Port Hope brings the facility up to the same standard in regards to back-up power as we have at the other 5 paramedic stations.

Scissor Lift – 600 William Street

Paramedics

The department requires significant storage space to maintain an inventory of equipment and supplies. 600 William Street is home to the Cobourg Paramedics Base. It also serves as the department's central storage depot (serving five other Paramedic bases throughout the County).

When the Port Hope Base was constructed (Croft Street), space was set aside for storage, but this space has been, and continues to be used for maintenance of stretchers, which is a legislated activity mandated by the Province.

Some of the equipment kept at 600 William is bulky and/or heavy. Supplies that are regularly delivered include pallets of linens and boxes of uniforms. These items, along with medical equipment, must be stored and easily accessed for use by the Paramedics.

In addition the paramedic department has to rent a scissor lift several times through the year to allow access to our garage door mechanisms. The ceiling is in access of 20 feet high making the scissor lift the only viable and safe option for maintenance/repair of garage doors, light fixtures, HVAC system, etc. Since the purchase of the scissor lift in June 2019, the facility has saved over $3000.00 in rental fees.

Ambulance Service Review

In June 2018, the MOHLTC conducted its triennial service review for Northumberland Paramedics. This review is a full audit of the entire paramedic operation. The purpose of the audit is to ensure compliance, in all aspects of service delivery, with legislated standards. Over

three days, the Team audited all aspects of legislative requirements in service delivery. This included Operations; vehicle and equipment maintenance schedules, Quality Assurance programs; Human Resources Inventory, education development/facilitation and chart auditing, collaboration/cooperation with other ministry stakeholders; Regional Base Hospital Program, MOHLTC Eastern Field Office, Hospitals, Allied Agencies.

The results of the review were complimentary with some references as “standing out in Ontario” with Quality processes. A licence to operate Land Ambulance was issued in March 2019

Thriving & Inclusive Communities

Pursuit of Clinical Excellence

The service that paramedics deliver almost always provides opportunities to learn and to improve on the high quality of care already provided. The Advanced Life Support Patient Care Standards (ALSPCS) change frequently and are considered a “living document” referenced in legislation and updated annually. The paramedic scope of practice, both primary and advanced is evolving with it. The department has developed several initiatives to improve the quality of care in the community both directly and indirectly. The direct measures included increased monitoring of patient care through practical observation on calls as well as digital chart review. These observations are then used as opportunities to educate paramedics. Some of this education occurs with high fidelity simulation either in our lab or in the field. This process has greatly enhanced the training available to paramedics and supports our best practices initiatives. In addition simulation is a vital part in preparing paramedics to return to the workplace and clinical practice after an extended leave.

Indirectly, paramedics continue to participate in the training of member municipal staff in first aid and CPR. These courses occur a few times a year and allow us to connect with both laypersons as well as trained first responders. The experience of training and connecting with highly trained paramedics helps to build relationships and enhance the safety and well-being of the people in Northumberland County.

Specific enhancements included:

- Increased reviews of ambulance calls including random and targeted audits and call reviews
- Increased use of technology and improved processes in conducting and expediting call investigations

- Continued utilization of high fidelity patient simulation in lab and now available in the field.
- Focused training in “Crisis Intervention and de-escalation”
- Implementation of a new ePCR/Quality Assurance tool to enhance the ability to accurately collect and report on data, utilize a digital dashboard to monitor key performance indicators in real-time, provide two-way feedback to paramedics, reduce paper and support LEAN initiatives.

Paramedic Week Celebrations

Every year in May the County recognizes National Paramedic Week. Northumberland Paramedics takes this opportunity to celebrate service to the community and strengthen relationships with our partners across the County. We celebrated Paramedic Week 2019 with our annual open house and BBQ and concluded with our staff appreciation awards. During this year’s awards, an AED was donated to the Centreton Community Hall in the name of a fallen colleague, David Hornbeck who passed in the previous year. Funds for the AED were raised by paramedics.

Survivor Night

Northumberland Paramedics responds to approximately 150 cardiac arrests per year. A small percentage of these cardiac arrest calls have the potential for successful resuscitation. Public awareness and education on the “Chain of Survival” has a direct impact on the chance of resuscitation. Once a year we honour and connect cardiac arrest survivors with the Paramedics, community First Responders (Fire, Police), Ambulance Dispatch Officers and public involved in their successful resuscitations. This event brings together community members and allied agencies for an evening of celebration and has become highly appreciated and anticipated by the First Responder agencies we work with every day. This strengthens our positive relationships both on and off duty. This year we are celebrating 17 saved lives through the collaborative efforts of our teams.

Exemplary Service Medal

The Exemplary Service Medal, created on July 7, 1994, recognizes paramedic professionals in the provision of pre-hospital emergency care whom have had at least 20 years of exemplary service, ten of which were in a position of risk. This year the County once again submitted to the Chancellery for recognition of two veteran paramedics who are eligible to receive the Emergency Services Exemplary Service Medal. One paramedic will be receiving her 20 year medal and the other paramedic will receive his 30 year bar. The presentations took place

during the 2019 September Ontario Association of Paramedic Chiefs (OAPC) Conference. The 30 year bar recipient will be honoured at Queens Park in November.

Collaboration with Hospital Partners

As one of our largest partners, collaboration with all of the hospitals we transport patients to is an essential part of our operations. Collaboration takes place every day between front line paramedics and hospital staff in order to best care for the patients we take to hospital. On a larger scale, ongoing cooperation and collaboration has resulted in system improvements and efficiencies. Working closely with our hospital partners we have established improvements in our linen retrieval processes (LEAN); coordinated responses to large-scale situations through emergency exercises; improved communications between nursing staff and Superintendents to address the deployment challenges surrounding emergent inter-facility patient transfers and process improvements through post-incident reviews. This collaboration is achieved by cultivating and maintaining partnerships with management staff at our local hospitals through our Northumberland Emergency Services Network (NESN) with the goal to improve communication, increase collaboration and better serve our community.

Public Safety Messaging

Traditionally paramedic services are in a perpetual state of readiness to react to emergencies. Although this is the foundation of what we do, as health professionals in the community we want to take a more proactive role in public safety and awareness. Our first initiative will be to work with local police/OPP, Fire Departments local Hospitals/heath units and County Communications to create a Public Safety Strategy. This will give us the opportunity to educate our citizens in matters such as the dangers of Opioid/other drug overdoses, Acute Coronary Syndrome (ACS), Stroke awareness, First-Aid/CPR/AEDs, fall prevention/injury statistics, etc. It is our hope that through this strategy we can improve the safety, health and well-being of the residents in Northumberland

Leadership in Change

Community Paramedicine – Enhancing Community Care

The Paramedic department believes in the need for “community paramedicine” in Northumberland as part of our “Community Care Strategy “and will at some point be a normal function of all land ambulance services in Ontario. Many services have community paramedicine programs but all are slightly different in scope. The commonality in every community is attempting to bridge gaps in current services provided through the Ontario Local

Hospital Integration Networks (LHINs). When these gaps exist in the provision of care for people with chronic physical or mental illness, emergency services and hospital emergency rooms are over-utilized causing surge capacity and ambulance deployment challenges. The current governments Ontario Health Teams (OHT) initiative is a potential avenue for Community Paramedicine. Northumberland County, Northumberland Hills Hospital, Community Care, Family Health and Primary care collaborated to submit an OHT Northumberland application. We have been selected along with 30 other groups to proceed to the "full application." One of the proposed "projects" within the application is a community paramedicine initiative. This program will partner with local agencies which are already funded by the CELHIN. Northumberland Paramedics will submit a strong proposal, with support from Northumberland Hills Hospital, the Northumberland Family Health Team and the Port Hope Northumberland Community Health Centre. The proposal aimed to reduce non-emergency visits to hospital, reduce re-admission rates to hospital, increase efficiency and availability of emergency ambulances and facilitate improved access between patients and primary health care providers.

It is the hope of Northumberland Paramedics that through 2019/2020 we will see this very important and valuable service come to fruition. All of which assist our citizens to remain in their homes, *"The Right Care in the Right Place."*

Psychological stress injury - Supporting our front line

As a result of the passing of Bill 163, all paramedic service providers were required to submit their PTSD Prevention Plans to the Minister of Labour by April 29, 2017. A comprehensive plan both proactive and reactive was completed and submitted to the Minister of Labour.

All staff received Road to Mental readiness (R2MR) training and is now a standard part of recruitment. This initiative is a full day course teaching staff about PTSD including warning signs, support methods and resilience strategies. The course was developed at the Mental Health Commission of Canada. This initiative was done in collaboration with the County Health and Safety/Emergency Management Coordinator.

In 2018/2019 discussions and framework began in the development of a "Peer Support Team" for Northumberland Paramedics. This would involve eliciting the services of professionals to interview and select suitable paramedic peers that are interested in becoming peer support contacts. Once a team is selected, they would receive training in this area. The staff has chosen "Tema Solutions" as their resource and selection has begun. There were 31 nominations which is very high and to be commended quoted Tema. This support is not limited to paramedic staff but will be available to all county staff should they wish to call on it. To date two other departments have expressed interest.

Employee Insight Survey

Employee Insight Survey is an opportunity for continuous consultation with staff as to how we are doing and to verify the results collected. All staff had an opportunity to review the collective results and look at areas where we did well and areas identified for improvement. The results of these sessions were then taken back and analyzed for commonalities which were congruent with the original survey results. Three areas were identified and action plans put in place for 2019. It was reassuring to discover that many of the identified areas for improvement had commonalities with the department's strategic plans for 2019.

Paramedic Team Leader

These positions were solidified in 2019 which entailed training a group of full-time primary or advanced care paramedics in the basic duties of a Superintendent and then deploy a PTL to cover for a short-notice absence from the superintendent team i.e. sick. There are a few positive outcomes in engaging in this program. The first and most obvious is the continuance of a paramedic leader who can respond to the needs of crews in emergencies, health and safety, emergent equipment replenishment, liaise with allied agencies and short-notice sick call scheduling. An additional benefit is the opportunity for the front-line staff to experience and learn the skills and aptitude for a municipal management position. Currently there is a gap in this area and no opportunity to learn these skills until an individual is hired into the position. Additionally, there are no succession opportunities for our internal staff. The trial was a great success operationally and fostered employee growth and engagement.

Paramedic FT Float positions

Historically, when a full time employee requests, or requires time off they are back filled by a part time paramedic. The reasons for time off can vary such as; vacation, STAT time, banked time, training, sick, WSIB, Leave of Absences (LOA's) maternity, educational leaves etc... Therefore, ensuring 24/7 coverage given the various time off can present serious challenges and staff scheduling hours.

The Paramedic department received approval to alter the organizational chart for paramedics to include the addition of four full-time floats. This involved succession from the part-time compliment which altered the approved 52 full-time 52 part-time to 56 full-time and 48 part-time. All four approved positions were filled in 2019.

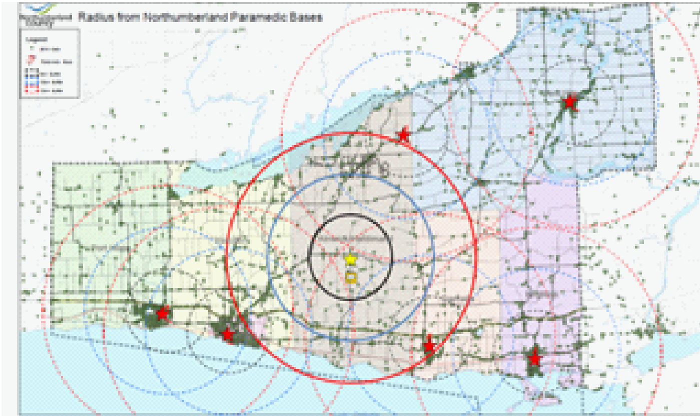
Call Data Analytics

Northumberland County Paramedic Service has reduced risk and reallocated time and resources to an electronic Patient Care Reporting (ePCR) system which will more closely resemble the paramedic practice in Northumberland County. In 2018/2019 the paramedic department migrated our hosted data (previously with ZOLL Canada), to Interdev solutions, an Ontario ePCR model designed around Ontario legislation. This product has a very robust back-end for quality assurance and monitoring, workflow for critiques or questions to the paramedic and back, built-in forms with automatic distribution to the MOHLTC Field Office when indicated, real-time dashboard with data analytics to monitor KPIs, and many other features.

The County will benefit from heightened transparency regarding Paramedic department performance, timely reports of response times by municipality, expedient access to queries on Paramedic call data, mitigation of privacy exposure, minimization of clinical protocol variances, and a significant reduction in labour associated with ePCRs.
Northumberland County Paramedic Service should rely heavily on its electronic Patient Care Reporting System (ePCR) in order to:

- Reduce time spent auditing patient care reports
- Have a real time dashboard of key performance indicators and statistical data drawing from patient reports and Ministry Ambulance Dispatch Reporting System (ADRS)
- Manage risk associated with non-compliance of clinical protocol
- Deliver legislated response time reports to the MOHLTC
- Generate reports on system performance for planning exercises
- Handle the digital screening and transmitting of Incident reports to the MOHLTC Field Office as per the Documentation Standard
- eliminate privacy issues associated with handling patient data

Rural Response Vehicle Study



A six month response vehicle study utilizing existing staff and resources was approved and began May 1, 2019. Deployment would begin in May 2019 and run to the end of October 2019. This will ensure increased capacity to respond to emergencies when populations are at their highest. In 2017 there were 2380 responses to central rural Northumberland. This GIS map with our call volume layer shows responses through the center of Northumberland County. The yellow star is placed at Centreton (Alnwick-Haldimand) and the radiuses are 5, 10, and 15 km. The red stars, also showing 5, 10, 15 km radiuses are placed at existing paramedic bases where the highest volume of calls occurs. The first four months of this study showed a significant decrease in paramedic to patient side time in CTAS 2 (potentially life threatening) calls, in some cases over 30 percent. There was at least one cardiac arrest save directly as a result of the ERV placement. The department expects this trend to continue for the remaining 2 months of the study and will be requesting the ERV become permanent.

- Issue paper attached

Primary Care Paramedic Autonomous Intravenous Access (PCPAIV)

Northumberland Paramedics is committed to providing the best possible level of service to the community through innovation and Organizational excellence. The implementation of a Primary Care Paramedic – Autonomous IV (PCP-AIV) program in 2019 was an opportunity to increase the knowledge and skills of our existing primary care paramedics in order provide a higher level of care to the community and as well as visitors of Northumberland County.

The PCP-AIV certification allows Primary Care Paramedics (PCP) to initiate Intravenous (IV) access, and administer a wider range of medications. This will both reduce suffering and decrease wait-time to medication which would otherwise be given in the Emergency Department. The PCP-AIV certification does not reach the level of Advanced Care Paramedic (ACP). Therefore, the educational and training costs are quite manageable consisting of only 2 days in class and 2 days in the clinical setting.

Northumberland has a large pool of dedicated primary care paramedics that have interest in furthering their education in paramedicine in order to provide the best possible care to their patients. To date we have trained 14 primary care paramedics in intravenous cannulation.

2020 Service Objectives & Initiatives

Economic Prosperity & Innovation

The objectives for the Paramedic department continue to focus on service delivery. Through call data analysis, quality improvement audits and patient feedback we can measure many aspects of service delivery. From this, benchmarks are set creating Key Performance Indicators that serve to enhance excellence in service delivery. The quality of the service delivered is central to the brand that Paramedics continue to refine.

These Quality Improvement initiatives help to meet what it is that the public expects from its paramedic service. In setting the departmental goals and objectives to meet public expectations, Paramedics will be poised to support *Economic Prosperity and Innovation* by developing a sustainable program that will ensure that people and businesses are confident with the pre-hospital care offered in Northumberland County.

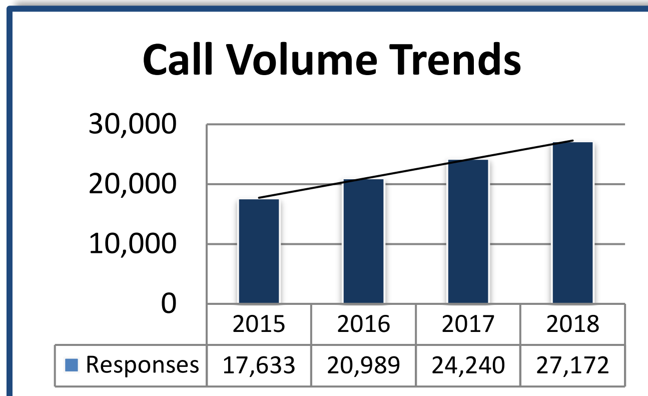
Sustainable Growth

Trent Hills Shared Emergency Services Base – Campbellford

Campbellford is a busy ambulance station with its strategic location in servicing the Municipality of Trent Hills as well as its role in the County's critical emergency coverage plan. With the County's aging demographic and global call volumes increasing each year, the demand on our resources will continue to increase. In order to address the increasing call volumes in Trent Hills, and mitigate the inherent challenges of rural response times, we need to plan for an infrastructure capable of delivering the level of service we expect in Northumberland County. The primary coverage radius of the Campbellford station includes the town of Campbellford, and the majority of the Municipality of Trent Hills, some 510 km^2. The Station's proximity provides emergency coverage to the entire north east part of Northumberland County and secondary coverage to Alnwick-Haldimand, Cramahe and Brighton. Construction of the new facility is well underway with a completion date of June 2020.

Paramedic Enhancement – Port Hope

The Paramedic department of the Corporation of the County of Northumberland operates Land Ambulance Services in the primary geographic area of the County of Northumberland.

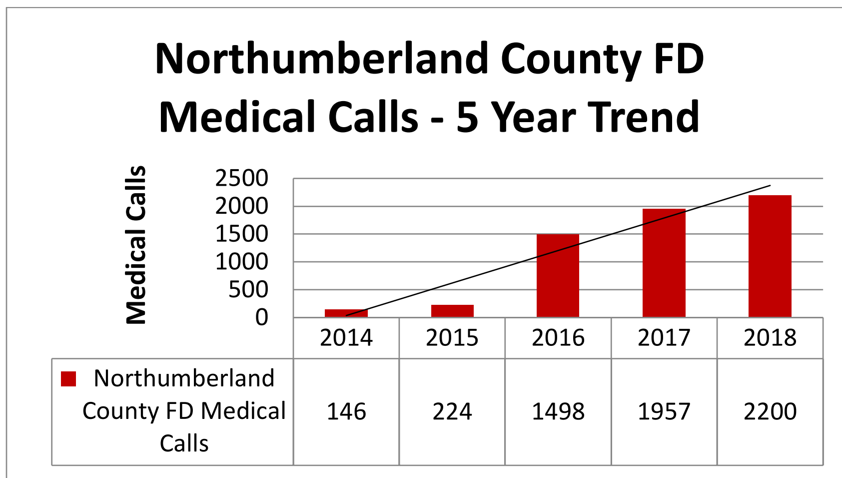


Northumberland Paramedics services our communities from six ambulance stations located strategically around the county. Ambulances are deployed from these bases twenty-four hours per day, seven days per week on every day of the year. In order to be able to provide land ambulance services in a balanced manner, ensuring that all residents have equal access to paramedic services in the event of a medical emergency, staffing levels must meet the service demands. Call volumes have increase year over year since the county assumed ambulance service delivery in 2004. To meet service demand and regulatory compliance, a twelve hour vehicle enhancement was put in place in 2014 (Colborne station). Since that time, call responses have increased 47% with no change to staffing.

Current Targets and Future Trends

Northumberland Paramedics service delivery is outlined in the department's ambulance service deployment plan. This plan is a living document and is reviewed semi-annually for efficiencies. Using resources to their maximum capacity has been necessary in the face of year over year increasing call volumes. This trend is anticipated to continue and is a result of several factors. The most significant factor remains the overall increase in age of the population.

Using resources to capacity and many times beyond has resulted in daily occurrences of Critical Minimum Emergency Coverage (CMEC). The county is in and out of CMEC on a daily basis and often at levels of CMEC 1 or CMEC 2 meaning 1 or 2 ambulances remaining for the entire county. When at CMEC 0, an overtime call-out is initiated which strains our operating budget.



	2014	2015	2016	2017	2018
Northumberland County FD Medical Calls	146	224	1498	1957	2200

This increased capacity has a direct effect on the municipal Fire Departments. Since 2014 the number of medical calls being dispatched to the County's Fire Departments has increased dramatically. This chart illustrates the number of medical calls dispatched to our municipal fire departments since 2014.

Using the current strategies, the paramedic department is not meeting its targeted response times globally and falls quite short when we look at rural response. This is likely directly related to urban call volumes and rural vehicles having to be deployed to assist in surge capacity. Aside from our aging population, additional factors contributing to capacity are increased bypass transports out of county for tertiary care (Stroke and Cardiac Cath lab), Hospital surge capacity causing off-load delays and increased traffic volumes through the 401 corridor.

The bulk of paramedic responses occur between 8 am and 8 pm. An enhancement of one 12 hr ambulance (four FT staff) strategically placed in Port Hope will assist in keeping our deployment within capacity and regulatory response time performance on target. Response time performance is based on the Canadian Triage Acuity Scale (CTAS) level assigned by the paramedic at patient contact and at destination. CTAS 1 is most severe and usually in arrest or pre-arrest. CTAS 5 is least severe or non-urgent. The majority of our life threatening emergency calls is CTAS 2.

- Issue paper attached

Cardiac Monitor/Defibrillator Replacement Schedule - 2020

Defibrillators are critical in that their use can literally allow the heart to re-start in the instance of cardiac arrest by eliminating lethal dysrhythmias. As the care paramedics provide has evolved, so too has the need for more diagnostic information upon which to base critical patient care decisions. Because of the critical nature of the cardiac monitor/defibrillator to the patient care that paramedics provide, we cannot risk equipment failures. This risk aversion

means that defibrillators must be regularly maintained in top form and that defibrillators also have a strict life-cycle. Regular maintenance is performed on all Northumberland Paramedics' defibrillators; however, as defibrillators age, they require more repair and more frequent maintenance.

As cardiac monitor/defibrillators are used on every ambulance call and are subject to extreme conditions under which paramedics operate, the life-cycle of defibrillators should not exceed five (5) years. Given the life-cycle of the defibrillator fleet, defibrillators form part of the County's long-term capital replacement strategy. The inclusion of defibrillators in this strategy means that regular replacement of the fleet is planned and budgeted for through reserve allocations each year. Cardiac Monitor/Defibrillators are scheduled to be replaced in 2020.

Ambulance Replacements - 2020

As part of the County's capital planning, ambulances and Emergency Response Vehicles (ERVs) are replaced on a regular cycle. This cycle ensures that the County continues to efficiently and cost effectively, operate paramedic services. In addition to replacement, in order to maintain operational readiness in its 24/7 operation, the County ensures that there is one ambulance available for every shift as well as ERVs that are deployment ready to service the community as needed. The following were under-taken in 2018/2019 to address the Paramedic Department's capital needs: **Ambulances (3) – ERV (1)**

Thriving & Inclusive Communities

Public Safety Messaging

The Paramedic department will continue to strive for partnerships in the community. We want to take a more proactive role in public safety and awareness. Our efforts thus far have fostered excellent relationships with local police/OPP, Fire Departments local Hospitals/heath units which supports our effort to create a Public Safety Strategy. This will give us the opportunity to educate our citizens in matters such as the dangers of Opioid/other drug overdoses, Acute Coronary Syndrome (ACS), Stroke awareness, First-Aid/CPR/AEDs, fall prevention/injury statistics, etc. It is our hope that through this strategy we can improve the safety, health and well-being of the residents in Northumberland.

Survivor Night

2020 will see our sixth annual Survivor Night. This is a much anticipated and appreciated event that brings together cardiac arrest survivors and the paramedics and community responders who were directly involved in saving them. Cardiac arrests make up approximately 1% of the

overall total call volume at Northumberland Paramedics. Of those cardiac arrests that are clinically viable to resuscitation, our save rate is 18%, almost twice the national average. With increased community awareness and training in by-stander CPR and the increased placement of Automated External Defibrillators (AEDs), the elapsed time between a cardiac arrest and an AED at the victim's side is narrowing, meaning those averages will continue to improve. This event also fosters continued excellent working relationships with our emergency partners in the community.

Paramedic Week Celebrations

Every year in May the County recognizes National Paramedic Week. Northumberland Paramedics takes this opportunity to celebrate service to the community and strengthen relationships with our partners across the County. We will celebrate Paramedic Week 2020 with our annual open house and BBQ and concluded with our staff appreciation awards. One such award is the "Community Award" which is given out to those members of the community who get involved in a life-saving intervention prior to paramedic arrival i.e.: CPR, intervening in a choking emergency, applying an AED to a person in cardiac arrest, etc. This is well received by the community and is a great opportunity to meet with them, share what we do and express our gratitude for their assistance in an emergency.

Exemplary Service Medal

In 2020 the County will once again participate in the recognition of those paramedics recommended for the prestigious award. The Emergency Medical Services Exemplary Service Medal, created on July 7, 1994, recognizes professionals in the provision of pre-hospital emergency care whom have had at least 20 years of exemplary service, ten of which were in a position of risk. The process for recommendation to the Governor General's office is quite lengthy and begins in January of each year. The initial phase is the collection of supporting data (BIO, dates and places of employment, community service, volunteer work, etc.) from the department's Awards Committee. From there the application is reviewed by the director and barring any reason to refute, is passed on the Ontario Association of Paramedic Chief's (OAPC) board for review. On the completion of that process, the application is sent on to the Governor General's Office. Recipients are typically notified in June/July and medals are awarded in the fall.

Leadership in Change

Community Paramedicine – Ontario Health Team Northumberland

In 2019 the provincial government announced that they were dissolving the Local Health Integration Networks (LHINs) in favor of new entities called Ontario Health Teams (OHTs). Northumberland County in collaboration with Northumberland Hills Hospital, Northumberland Community Care, Northumberland Family Health Team, Hospice and other stakeholders got together to complete the first phase application to create an OHT Northumberland. That application was successful along with 30 other groups and invited to the "full application" phase. The group has identified three focus projects as requirements which are: Volunteer Peer Support (Community Care Northumberland), Outreach (Community Health Centre for Northumberland) and Community Paramedicine (CP). Community Paramedicine typically resides in the Paramedic Department however currently the county does not have a program in place, largely due to a lack of funding dollars. 82% of paramedic services in Ontario have active CP programs. The Paramedic Department supports the development of a CP program and feels that this service is a vital link in community care. Focus areas will include fragile elderly, mental health and addictions, homelessness and palliative care. The program will function in two capacities:

1. Referrals from community partners such as Family Health, Mental Health, Social Services, Bridge Hospice, etc.
2. Mobile wellness clinics servicing citizens who otherwise cannot access care due to social-economical, geographical or other reasons.
3. Remote Patient Monitoring – Patients with multiple comorbidities and have little to no support or are challenged with access to care.

Long Term Plan & Strategic Objectives

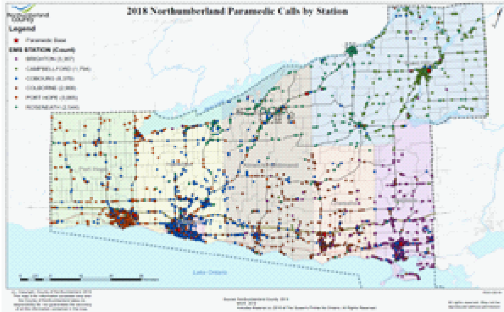
Economic Prosperity & Innovation

We will continue to improve the public image of the paramedic department as part of the broader health-care framework in our communities and as such, will support Economic prosperity by making Northumberland County a more attractive place to live and work. The department is undertaking measures to increase our visibility outside of reacting to emergencies. The department is committed to a larger proactive presence in the community through public safety messaging, support/access to resuscitation education and improved digital information i.e. County website.

Northumberland
county

Sustainable Growth

Call Volumes

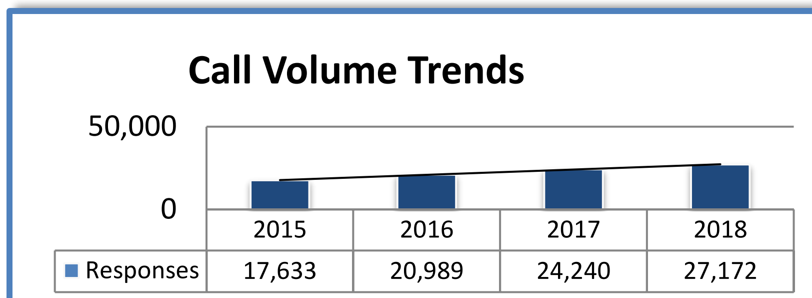


The following map indicates calls by municipality in Northumberland in 2018. This data assists the department to optimize base locations compared to call volumes and assess the need for enhancement.

2016 Call Volume - 20,989
Statistically, call volumes are rising between 6 and 7 percent each year although the department did experience a large jump from 2016 [20,989 responses] to 2017 [24,240 responses], an increase of 15.49%. Northumberland Paramedics is monitoring these trends along with station locations and vehicle deployment plans.

2017 Call Volume – 24,240
If trends continue in the manner of the previous 5 years, the department anticipated the need to address longer response times to rural areas of the County. One such strategy may include Emergency Response Vehicle deployment. The 2019 Business Plan included an issue paper requesting a six month trial of an ERV response unit (existing staff and resources) which was granted and proved efficacious. The deployment was 12 hours a day 7 days a week over the peek population months, May 1, to October 31, 2019.

2018 Call Volume – 27,172



Year over year the departments is increasing quite significantly, 47% in fact since 2015. Our deployment is at and beyond capacity at times which is taking a toll on resources and regulatory compliance. This year's business plan includes an issue paper for a 12 hour enhancement likely stationed in Port Hope if approved. With our aging demographic, declining health and 401 corridor volumes we need to look at other solutions for long-term sustainability. One very viable strategy is a community paramedicine program. Treating and/or referring patients before they need to utilize 911 have proven very successful in programs across Ontario with as much as a 30% reduction. This equates to less hospital ED surge, less off-load delay and more available ambulance resources when needed.

Station Replacement Schedule

2018-2020 will see the completion of both Roseneath and Campbellford stations in a shared emergency services facility with the respective municipal fire departments. This will leave the Brighton facility as the only remaining station within the County due to be replaced. The department anticipates a similar collaboration with Brighton and will look to begin discussions with that member municipality in 2019/20 in hopes to solidify a plan for 2021 assuming the current funding model remains unchanged.

Power-load Stretcher overhaul – 2022

In 2018 the ambulance fleet was outfitted with the Stryker Power Stretcher and Load system. This system effectively eliminated a minimum 8 lifts per call, greatly reducing the physical demand to the paramedic and the potential for lost time due to acute and repeated strain injuries. In addition to reducing lifts and therefore lost time due to injury, a power load stretcher system also:

- Increased patient and paramedic safety
- Increased patient comfort/stability at transport height
- Increased the weight capacity and therefore eliminate the need for extra bariatric equipment/stretchers
- Reduced the need for lift assist and therefore increase available ambulances when caring for bariatric patients
- Reduced tiered response lift assist and therefore reduce cost to member municipalities

Stryker's recommended life cycle for this system is seven years. Through consultation with the manufacturer, it was agreed that ten years was easily achievable if an overhaul was performed at the five year point. Ten year life span is in our long term financial plan as the first five years is dedicated to repaying the debenture and the next five for allocating budget dollars for replacement in 2028 budget cycle.

Thriving & Inclusive Communities

The Paramedic Department will continue to foster excellent relationships with both our community Care and First Responder partners. Various mechanisms to achieve this are:

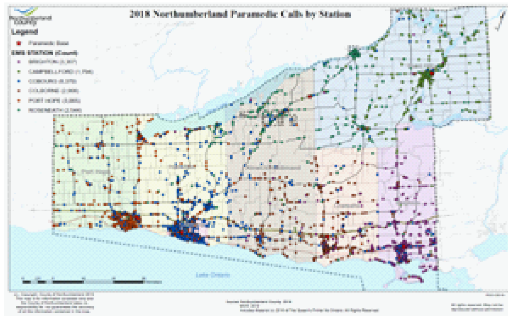
- Joint advisory committees
- Tiered response alliance
- Hospital advisory committees
- Field collaboration with community care
  - Family Health Teams, Primary Care, Mental Health, Hospice, Social Service, GAIN, etc.

Leadership in Change

Community Paramedicine Northumberland

Although community paramedicine is referenced throughout this document, it is important to leave in the strategic objectives. Community Paramedic Programs have been evolving across Ontario over the last decade. Initially implemented in large urban centers such as Toronto, the focus was primarily on targeting those patients that are repeatedly visiting the ER due to gaps in community care or access to that care because of geographic or socioeconomic barriers. These programs and specifically Toronto, found a decrease in repeat ER visits from this demographic by 80%. A direct impact to decreasing congestion in the ER is ambulance off-load times and therefore vehicle deployment. More importantly, are there gaps in community care that are appropriate to be addressed by the paramedic department without duplicated existing services.

Besides connecting frequent emergency system users with appropriate primary care services, an effective Community Paramedic Program will focus on fall and injury prevention (through home-safety inspections), expanded resources for mental health and substance abuse clients, and improved disease management for patients with diabetes, congestive heart failure, and chronic respiratory conditions therefore improving health outcomes among those considered medically most vulnerable. In addition, save healthcare dollars by preventing unnecessary ambulance transports, emergency room visits and inpatient hospitalizations.



The adjacent map depicts the nearly 2000 emergency responses that were actually non-urgent, low acuity calls. These patients would benefit more from community care referrals, community paramedics or treat and release strategies rather than a trip to the emergency department.

A key theme in a community paramedicine program is overcoming geographic and transportation challenges through outreach and home visits to meet the needs of residents who are facing these barriers due to socioeconomic circumstances or in county locations where primary care providers and public transportation resources are scarce.

The program's success will be contributed to the strong web of local connections with social services, local LHIN, hospitals, primary care providers, elder services, family healthcare teams, mental health providers, substance abuse specialists, pharmacists, dietitians, and Social Services.

The program will function in three capacities:

1. Referrals from community partners such as Family Health, Mental Health, Social Services, Bridge Hospice - Palliative Care, etc.
2. Remote Patient Monitoring (vital signs monitored remotely and alerts sent to CP and shared with caregivers)
3. Mobile wellness clinics servicing citizens who otherwise cannot access care due to social-economical, geographical or other reasons.

A Community Paramedicine program working in parallel with the traditional Land Ambulance system can reduce the non-urgent 911 calls by as much as 30% (statistics provided from a similar municipality utilizing community paramedic) leaving those ambulance resources available for actual emergencies.

2020 Issue Paper

12 Hour Ambulance Enhancement

Purpose

Northumberland Paramedics strives to delivery excellent service to all members of our community, including those who reside in rural settings. Our ambulance deployment plan strategically places ambulances throughout the county with the goal of having timely responses to all requests for emergency service from the residents and visitors of Northumberland. These resources are located in the most populated areas of the county, as the majority of our calls are located in those areas.

To this point, we have worked hard to address response times in all parts of the County. Surge capacity in the more densely populated areas means vehicles stationed in rural communities are pulled in to assist in call volume. The last approved enhancement was in 2014 in Cramahe. Since then call volumes have risen year over year to the point that we are at and beyond capacity, affecting our ability to balance emergency coverage and meet regulatory compliance.

Background

The Paramedic department of the Corporation of the County of Northumberland operates Land Ambulance Services in the primary geographic area of the County of Northumberland from six ambulance stations located strategically around the 1,901 square kilometers we service. The station deployment is as follows:

- Cobourg (one 24 HR and one 12 HR vehicle)
- Port Hope (one 24 HR vehicle)
- Roseneath (one 24 HR vehicle)
- Campbellford (one 24 HR vehicle
- Colborne (one 24 HR vehicle)
- Brighton (one 24 HR vehicle)

In order to be able to provide land ambulance services in a balanced manner, ensuring that all residents have equal access to paramedic services in the event of a medical emergency, staffing levels must meet the service demands. Call volumes in Northumberland continue to rise. In 2015 to now, there has been double the usual annual increase from 6-7% to 15.49% (2016 to

2017). The increased demand for service directly impacts the availability of ambulances and global response times.

Northumberland Paramedics is required to set response time targets based on the severity of a patient's condition, and report annually to the Ministry of Health on those response times based on the Canadian Triage Acuity Scale (CTAS).

Response Time Metrics - Defining the Canadian Triage Acuity Scale (CTAS)

The Canadian Triage and Acuity Scale (CTAS) was first developed for use in Canadian hospital emergency departments (ED) as a tool to help define a patient's need for care. CTAS assists hospital staff to assign a level of acuity for patients based on the presenting complaint and the type and severity of their presenting signs and symptoms. Patients are triaged using CTAS to ensure that they are managed based on their need for care (e.g. sickest patients are seen first).

Shortly after CTAS was implemented in Ontario hospital EDs, CTAS was successfully adapted for use by paramedics in the prehospital environment. One major difference between the hospital use of CTAS and the prehospital use is that in the ED, the CTAS assessment is used as a triage tool while in the prehospital care setting it is used solely as an indicator of acuity. In Ontario, the term Prehospital CTAS will be used to be consistent with the terminology found in current legislation and paramedic practice standards.

CTAS is based on a five-level scale with Level 1 (Resuscitation, Sudden Cardiac Arrest (SCA) or pre-arrest) representing the "sickest" patients and Level 5 (Non urgent) representing the least ill or "non-urgent" group of patients. The determination of a CTAS level is achieved by establishing a relationship between a presenting complaint (chief complaint) and the potential causes of that complaint. CTAS level is determined by the paramedic on-scene and is re-evaluated in transport to hospital. The retrospective data provided in this report will look at rising call volumes and MOHLTC regulatory reporting on CTAS 1, 2 and SCA.

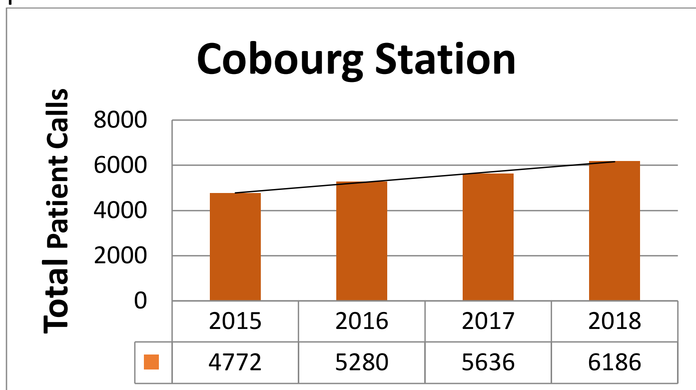
The manner in which the department reports on CTAS response times is:
- Sudden Cardiac Arrest (SCA), Defibrillator at Patient side in 6 min or less 45%
- CTAS level 1 Arrive 8 min or less 55 %
- CTAS level 2 Arrive 10 min or less 65%
- CTAS level 3,4,5 Arrive 10 min or less 65%

The graphs below indicate the County average in 2016, 2017, and 2018. It is clear that the service is not meeting our minimum response times on CTAS for CTAS 1 and 2 – the sickest of patients. The third graph illustrates the year-over-year increase in calls from the Cobourg Station. From 2015 through 2018 there has been a 29.5 percent increase in patient calls.

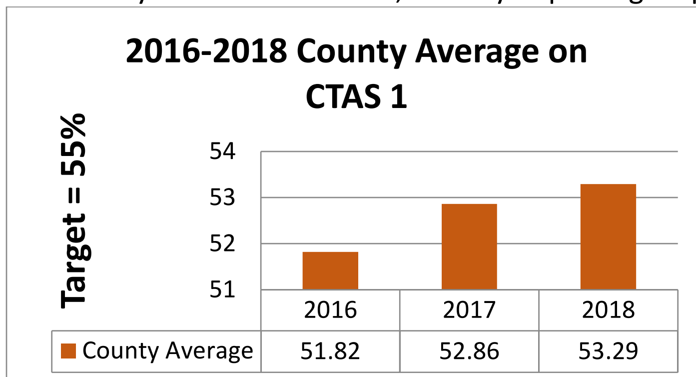
Northumberland County

Scope of Problem

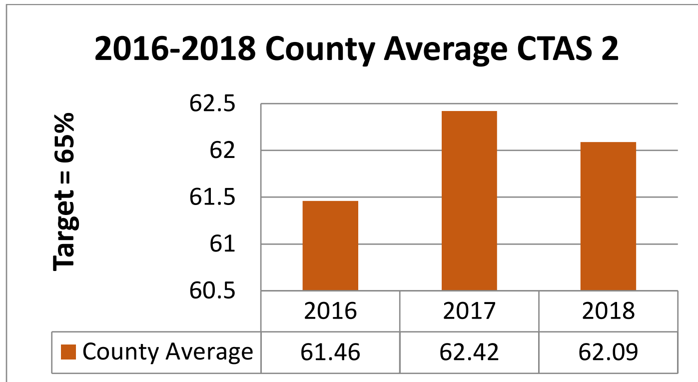
When evaluating ambulance service deployment and optimal staffing levels, many factors must be considered. For example, there are a significant number of factors that affect response times. When a member of the public calls 911 in an emergency, they expect a rapid response. Further, response times remain the most easily measured metric to evaluate system performance.



As paramedics travel to more distant hospitals to access specialized care services (for example, bypassing the local hospital to take a patient suffering a stroke to a regional stroke centre or a patient suffering a heart-attack to a CATH lab) there are fewer ambulances remaining in the County to maintain emergency coverage for those potentially in need. This requires a re-deployment of ambulances such that the same population and the same 2,000 km^2 must be covered by fewer ambulances, directly impacting response times.

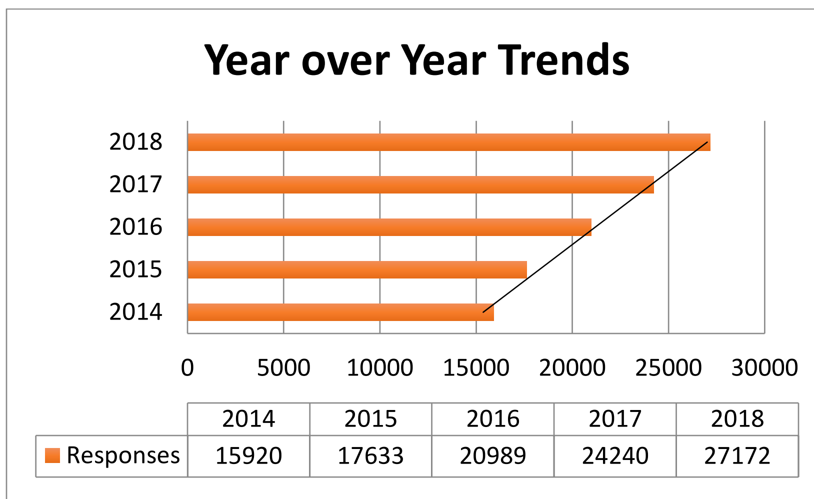


Additionally, paramedics will potentially be transporting trauma patients to specialized trauma centres and other patients (mental health, maternity and orthopaedics) in accordance with locally developed patient destination agreements to hospitals that have specialized services available. This is of great benefit to improving patient access to necessary care. However, this will increase the amount of time Northumberland County ambulances spend outside of Northumberland County.



In addition to access to specialized care, Northumberland County is seeing growth in population, particularly in the 65+ cohort. The retiree age group typically represents the largest proportion of ambulance call volumes.

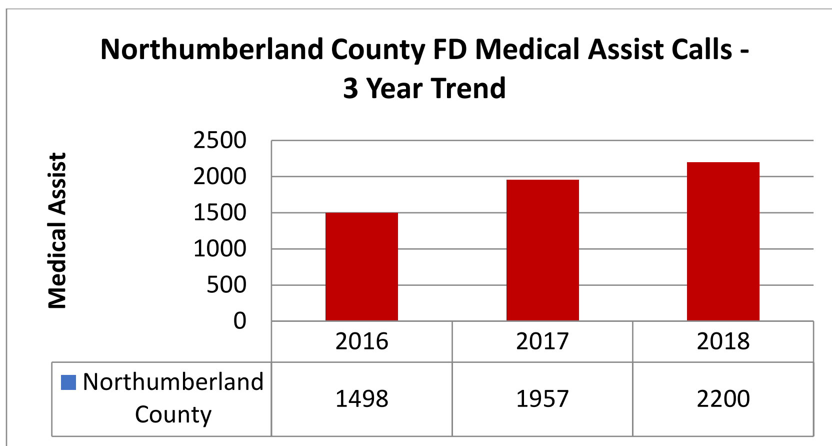
As call volumes increase, more ambulances will be engaged in calls at any given moment meaning that fewer ambulances remain to cover the rest of the County. The increases in call volumes also increase response times.



Further to population growth is the continuing increases in ambulance offload delays experienced at local hospitals. With the increasing age of the population as well as the lack of primary care physicians available, the volume of patients seen at local area hospitals continues to increase. The increase in hospital admissions often causes a backlog in the emergency room as admitted patients wait for hospital beds to become available in the wards. This means that when ambulances bring patients into the hospital, there is physically no space to accommodate the patient. This leads to significant delays for ambulances and directly affects the service deployment.

Many other factors also affect response times. For example increases in vehicular traffic and poor weather conditions both contribute to increases in response times. These are factors that cannot be controlled; however, increasing the ambulance resources available helps to strategically spread out ambulance coverage such that these issues can largely be addressed.

The surge capacity in southern Northumberland County also has a direct consequence on rural equity. As our vehicle count is at Critical Emergency Coverage (CMEC) daily, ambulances in the northern and eastern stations are pulled in to do emergency calls causing increased response time in rural Northumberland.



Additionally, this decreased capacity due to volume has a direct effect on the Municipal Fire Departments. Since 2014 the number of medical assist calls being dispatched to the County's Fire Departments has increased dramatically. This is partly due to the Tiered Response Agreement however in many cases the increased volume is related to a delay in ambulance arrival 15 minutes or greater. This chart illustrates the number of medical assist calls dispatched to our municipal fire departments since 2016.

Consultation/Options

In consultations with paramedic chiefs across Ontario, it is evident that rising call volumes have affected all paramedic services. Northumberland's higher increases compared to other services are likely do to the age demographic in our County, increased cohort of patients with chronic disease, mental health and homelessness and significant traffic volumes on the 401 corridor. Many of these services added staffing in the last fiscal year to combat demand for service, legislative compliance and staff fatigue.

Option 1

Status Quo

Leave staffing at current levels and in their current locations. No budget/levy impact. Current service levels remain with no ability to respond to increasing response pressures - increase in response times – Potential negative patient outcome - increase employee stress/workload, decrease morale.

Option 2

Re-allocate 12 hours (**high risk**)

Take 12 Hours from lowest critical call volume location (Roseneath, Colborne or Brighton) and re-allocate to higher critical call volume location (Port Hope). Service levels increased in areas of higher demand. No budget/levy impact and no ability to respond to increasing rural response pressures (decreased rural equity) - increase in response times – Potential for a negative patient outcome - increase employee stress/workload (decrease morale) and increase in fire department responses. Additionally there will be an increase in "cross-border" billing from bordering municipalities as they will be doing increased calls into Northumberland.

Option 3

Add 12 hours day shift in Port Hope (preferred option)

Increase full-time paramedic staffing to make an additional 12 hour day shift in Port Hope (4 FTE). Allocate resources in Q1 2020 to address current system needs - decreased workload (higher quality care) - increased service levels - increase in response capabilities (decreased response times) and decreased strain on tiered response from county fire departments. The department would defer adding additional capital (ambulance) in year one to lesson levy impact.

This option could be implemented mid-year at Q3, 4 to lessen the year one levy impact.

Financial Impact

An additional twelve (12) hour shift requires the creation of four (4) new full-time positions.

In Year 1 of the additional staffing, the County will receive no additional funding from the MOHLTC for the new positions. The additional 50% funding for Year 1 will be realized in Year 2 and each year following.

	12hr Enhancement
Weekly Hours	168
Hourly Wage Inclusive of Benefits	$52.37
12 Month Burden	$228,752.16
Fuel, repairs & maintenance on existing fleet	$7,500.00
Annual Expense	$236,252.16
Levy Impact (50% cost share with MOH)	$118,126.08

Risk Considerations

The most significant consideration in terms of risk is ensuring that the County continues to meet or exceed established response time requirements. This includes meeting the public's expectations with respect to level of service.

Other health and safety considerations include the volume of work being performed in the period between 0900 and 2100 hours. Responder fatigue is the leading cause of negative incidents resulting from errors. In addition, fatigued responders have increased risk of health issues leading to increased absences.

By ensuring that staffing is adequate to help more evenly distribute workloads, these risks are minimized.

Ensuring that full-time staff receives their vacation time also helps to prevent responder fatigue (commonly known as burn-out). Part-time staffing must remain at adequate levels in order to accommodate full-time vacation time.

Impacts to Member Municipalities/Partners

It is anticipated that there will be a reduction in response times to CTAS 1 and 2 calls within the county. As surge continues throughout Northumberland our capacity to maintain response times diminishes. Rural equity is directly impacted as vehicles are moved to assist with emergency calls and fire departments are burdened with increased medical assist calls. An

additional 12 hour day shift will improve capacity in Northumberland both in urban and rural vehicle deployment.

Included in 2019 Long Term Plan: YES/NO

Yes, discussion only. The department has been watching data to identify trends over the last 5 years

Northumberland County

2020 Issue Paper

Rural Emergency Response Vehicle (ERV)

Purpose

Northumberland Paramedics strives to deliver excellent service to all members of our community, including those who reside in rural settings. Our ambulance deployment plan strategically places ambulances throughout the county with the goal of having timely responses to all requests for emergency service from the residents and visitors of Northumberland. These resources are located in the most populated areas of the county, as the majority of our calls are located in those areas.

To this point, we have worked hard to address response times in all parts of the County. Coverage gaps have been identified in central rural Northumberland.
The Emergency Response Vehicle (ERV) Study, staffed with a single paramedic has helped to improve response times to those areas, resulting in the potential to significantly improve time and access to definitive patient care.

This six (6) month pilot project has improved rural response times and successfully demonstrated the efficacy of stationing a paramedic resource in that geographical region. This has also positively affected the average response times for Northumberland County's higher acuity (CTAS 1 and 2) responses overall.

The success of the rural ERV program presents an excellent opportunity to combine with the Ontario Heath Team's Community Paramedic project, with little to no increase in financial impact.

<u>Ontario Health Team Northumberland- Community Paramedicine</u>

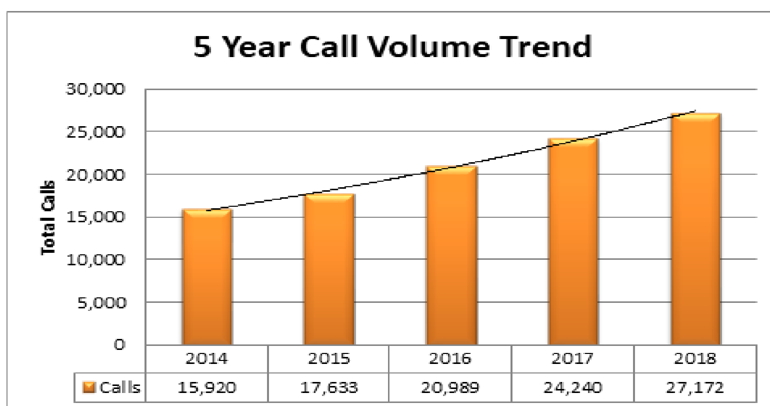
The inception of the Ontario Health Team Northumberland is currently evolving in Northumberland County. This network provides an integration of a multitude of health care systems focused on the patient and delivered effectively and efficiently.

The group has identified three focus projects as requirements which are: Volunteer Peer Support (Community Care Northumberland), Outreach (Community Health Centre for Northumberland) and Community Paramedicine (CP).

The OHT Northumberland Community Paramedic may provide a unique opportunity initially to blend together the Rural ERV and the CP. Blending these two programs provides a very effective and efficient delivery of care to the rural community. While providing aspects of the Community paramedicine program such as; remote patient monitoring, scheduled wellness checks, and follow-up care/tests. In 2018, the paramedic department transported 2000 low acuity (CTAS 4 and 5 calls) to hospital which could have potentially remained in the home with the right care. In this proposed model, the community paramedic maintains availability to provide a first response to CTAS 1 and 2 assessments when needed. This blended program is not only more financially effective and efficient; it also provides a system that leads to favorable patient outcomes.

Presently there is a tremendous amount of support and encouragement to provide healthcare services to the people within their homes. Prevention, diversion strategies, and bringing early care to the patient's home are the key to keeping the hospitals flowing effectively and efficiently, reducing strain on the 911 system, decreasing emergency department congestion and therefore reducing off-load challenges. The Minister of Health recently stated in her address to Association of Municipalities Ontario (AMO) that, "integrating healthcare systems by providing the care and services they need to prevent them from going to the hospital more often, and to be able to tend to their healthcare needs at home."

Background



	2014	2015	2016	2017	2018
Calls	15,920	17,633	20,989	24,240	27,172

Call volumes in Northumberland continue to rise. Over the past five years; 2014 to 2018, there has been a steady annual increase of 11,252 responses representing an overall increase of 41%. This increased demand for service directly impacts the availability of ambulances and global response times. GIS mapping of our actual calls shows a gap in coverage in the central areas of Northumberland County. The observed coverage gaps on the GIS mapping is also reflected in actual Ambulance Dispatch Reporting System (ADRS) data. Northumberland Paramedics are required to set response time targets based on the severity of a patient's condition, and report

annually to the Ministry of Health on those response times based on the Canadian Triage Acuity Scale (CTAS).

Response Time Metrics - Defining the Canadian Triage Acuity Scale (CTAS)

The Canadian Triage and Acuity Scale (CTAS) was first developed for use in Canadian hospital emergency departments (ED) as a tool to help define a patient's need for care. CTAS assists hospital staff to assign a level of acuity for patients based on the presenting complaint and the type and severity of their presenting signs and symptoms. Patients are triaged using CTAS to ensure that they are managed based on their need for care (e.g. sickest patients are seen first).

Shortly after CTAS was implemented in Ontario hospital EDs, CTAS was successfully adapted for use by paramedics in the prehospital environment. One major difference between the hospital use of CTAS and the prehospital use is that in the ED, the CTAS assessment is used as a triage tool while in the prehospital care setting it is used solely as an indicator of acuity. In Ontario, the term Prehospital CTAS will be used to be consistent with the terminology found in current legislation and paramedic practice standards.

CTAS is based on a five-level scale with Level 1 (Resuscitation) representing the "sickest" patients and Level 5 (Non urgent) representing the least ill group of patients. The determination of a CTAS level is achieved by establishing a relationship between a presenting complaint (or chief complaint) and the potential causes of that complaint. CTAS level is determined by the paramedic on-scene and is re-evaluated in transport to hospital. The retrospective data provided in this report looks at CTAS level 2 (which is the bulk of our true emergency calls) for the period of January 1, 2015 through December 31, 2017. Calls are averaged and compared to response time standards on CTAS as reported to the MOHLTC.

CTAS Level 2 (Emergent)

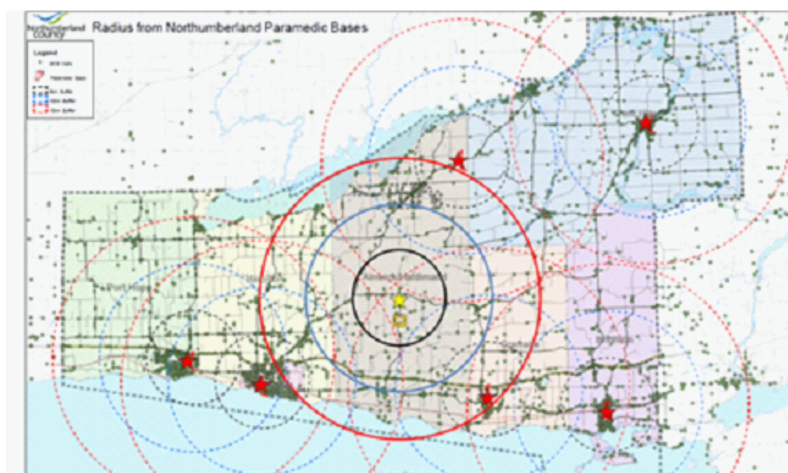
CTAS 2 is defined as conditions that are a potential threat to life, limb or function requiring rapid medical interventions and the use of condition specific controlled medical acts. These patients have serious illness or injury and have the potential for further deterioration that may then require resuscitation. They need prompt treatment to stabilize developing problems and treat acute conditions. These patients often have had controlled acts applied in the field (i.e. advanced airway procedures, advanced cardiac ECGs – diagnosis – transport to Cath labs, reversal of anaphylaxis, reversal of opioid overdoses, reversal of acute diabetic emergencies, etc.).

Rural Ambulance Deployment in Ontario

Many counties across Ontario have similar difficulties with servicing the rural areas within their respective boundaries. Many addresses are remote and access is challenging either by geography or road network. Proximity to stations and responses through county road networks are not “as the crow flies” and therefore add valuable minutes onto response times. In an effort to mitigate these challenges, many urban/rural paramedic services throughout Ontario have implemented Emergency Response Vehicle (ERV) programs. The ERVs are staffed with certified primary or advanced care paramedics and are placed strategically in areas where response times are the greatest. This provides rural communities with access to emergency care sooner and has shown to be very effective in cases that are acute such as cardiac arrest, anaphylaxis (life-threatening allergic reaction), diabetic emergencies, trauma, etc. The ERV paramedic will assess the patient and initiate treatment while awaiting the transport paramedic team.

An additional benefit in ambulance/emergency vehicle deployment occurs when the ERV paramedic assesses and determines that transport to hospital is not required. In these cases responding ambulances and or Fire Departments can be cancelled returning them to county deployment readiness.

As demonstrated by this data chart, rural Northumberland response time targets are difficult to meet. By deploying an ERV staffed by a single paramedic in the heart of these areas, it is anticipated that response times to the highest severity calls will be significantly decreased allowing for the critically sick or injured to receive care sooner.



The implementation of the Rural ERV permanently as part of our deployment plan will assist us in meeting the response time standards. In 2018 there were 2380 responses to central rural

Northumberland. This GIS map with our call volume layer shows responses through the center of Northumberland County. The yellow star is placed at Centreton (Alnwick-Haldimand) and the radiuses are 5, 10, and 15 km.
The red stars, also showing 5, 10, 15 km radiuses are placed at existing paramedic bases where the highest volume of calls occurs. The ERV study targeted the calls with the highest severity levels, namely CTAS 1 (resuscitation) and 2 (life threat) calls.

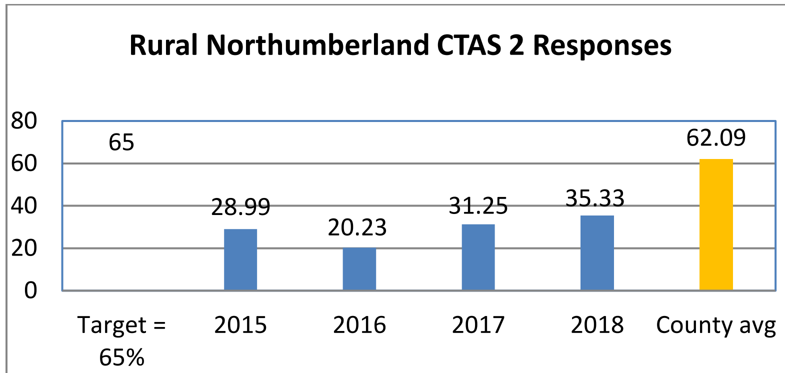
Northumberland Paramedic's response time target for CTAS 1 and 2 calls are as follows:

CTAS 1: 8 minutes or less 55% of the time
CTAS 2: 10 minutes or less 65% of the time

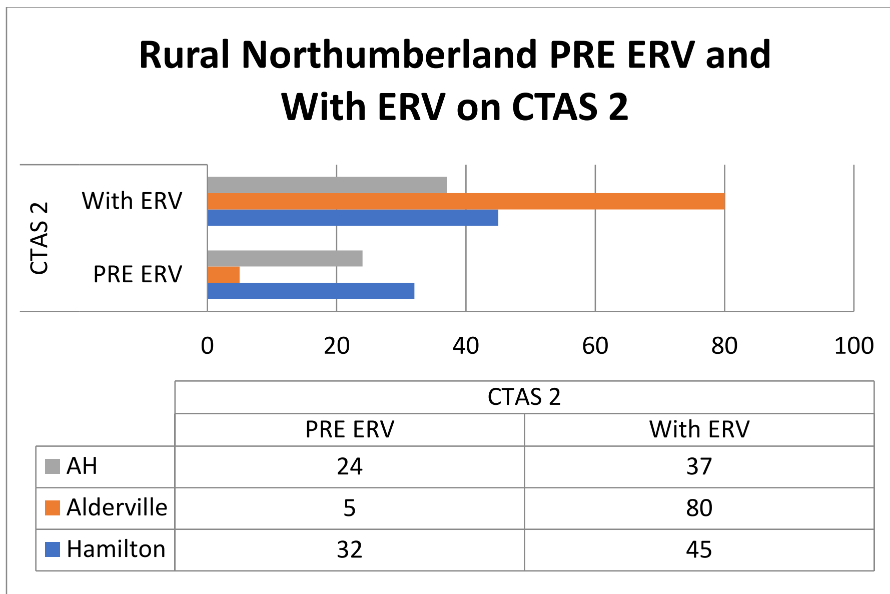
The Rural ERV pilot study implemented a target response area based on the rural area in the center of the County where the response times were routinely greater than 10 minutes. This zone provides the best access to the direct routes east / west and north/south through the rural area of the County.

The Rural ERV Pilot – Results to date

The six (6) month trial began May 31, 2019 and to current date of August 30, 2019 we have found through statistical analysis that we have improved response times in both the County overall average as well each of the municipalities during the Rural ERV pilot. The overall County average for response to CTAS 2 calls within 10 minutes improved to 62.09%, as well each of the individual municipality's response times improved as well.



This graph illustrates historical 4 year response data for rural Northumberland on CTAS 2.



	CTAS 2	
	PRE ERV	With ERV
AH	24	37
Alderville	5	80
Hamilton	32	45

This chart indicates the increase improvement by percentage for CTAS 2 responses in rural Northumberland.

- AH – 13%
- Alderville – 75%
- Hamilton – 13%

If we examine the table below (May 1 to October 31) for 2017-2019 we also see the positive influence the Rural Response Vehicle had on each municipality and the ability to meet the 10 minute response to CTAS 2 calls 65% of the time.

CTAS 2 Response Time – Targets Comparison Seasonal - May to October 2017-2019

Municipality	2017	2018	2019	Change (2018 to 2019)
Hamilton	34%	50%	45%	-5%
Alderville	66%	40%	80%	+40%
Brighton	58%	57%	67%	+10%
Alnwick and Haldimand	23%	19%	38%	+19%
Trent Hills	47%	38%	44%	+6%
Cramhae	81%	59%	65%	+6%
Port Hope	61%	61%	67%	+6%
Cobourg	83%	81%	86%	+5%

The ERV response may also decrease the demand stress of the volunteer tiered response requests of the rural fire departments. The ERV is present within the central area and thereby has the ability to decrease those calls with a response time, “as the crow flies” greater than 15 minutes which is a trigger to tier the FD. Review of the tiered fire department medical responses from 2016 to 2019 are currently trending to decrease in numbers. The Rural ERV represents an effective, efficient, and agile resource capable of providing first response care and treatment to the rural community. It provides definitive medical assistance and treatment to the community and patient in their home.

Medical Incidents	2016	2017	2018	2019-Aug
Alnwick Haldimand	95	96	116	71
Brighton	95	181	187	106
Cobourg	669	932	1151	680
Cramahe	90	94	84	49
Hamilton	154	183	162	87
Port Hope	219	216	252	143
Trent Hills	176	255	248	142
Total Medical incidents	**1498**	**1957**	**2200**	**1278**

Reduced response times ultimately results in reduced time to definitive medical care, which has the potential to decrease morbidity and mortality.

During the first month of the trial the Rural ERV responded and arrived to a CTAS 1 patient – VSA, prior to ambulance and other allied agency resulting in a successful resuscitation (ROSC).

To date the Rural ERV has responded to over 120 calls.

Consultation/Options

In consultation with other Urban/Rural paramedic services that have been challenged with response times and subsequently instituted an Emergency Response Vehicle (ERV) program have seen improvement in earlier access to rural emergencies and overall response time reductions. (Durham, Peterborough, Kawartha Lakes).

Community Paramedic programs that provide remote patient monitoring, prevention strategies and tools, wellness clinics, referrals and educational opportunities all have shown to be successful. Current programs have decreased the transportation requests to the emergency department and have assisted to decrease hallway medicine. (Hamilton, Renfrew, Niagara). Community paramedicine integrates healthcare networks, providing care, assessments, testing to the patient in their home, and mitigates the necessity of emergency transport to the hospital in many cases thus shifting strain from the 911 system.

Financial Impact

The financial impact is dependent upon the option chosen. Please see the financial impact of each option below:

Option 1 – Return to status quo. No financial impact, however response times continue to increase and the targeted times will not be met. This is a reportable measure to the Ministry of Health and Long Term Care outlines in the Ambulance Act 257/00

Option 2 – Implement the Rural ERV response seasonally; running from May 1st to October 31st annually, the vehicle would operate 12 hours a day, 7days a week, for 6 months. The cost would be two (2) PTE to replace the two (2) FTE assigned to the Rural ERV. No impact for the remaining 6 months, no patient and system impact as there is no alignment with community paramedicine.

	Rural ERV Response May 1 – October 31
Required Hours	2,208
Hourly Wage Inclusive of Benefits	$52.37
Seasonal Burden	$115,632.96
Levy Impact (50% cost share with MOH)	$57,816.48

Option 3 - Rural ERV response unit blended with Community Paramedic Program.
This is an opportunity to increase service and offer an alternative delivery of care. Blending the Rural ERV response which targets acute emergencies (CTAS 1 and 2) in an emergent unscheduled manner with a Community Paramedic consisting of “scheduled” assessments of non-acute (CTAS 4 and 5) patients is a winning strategy. Prevention and education is a key component to assist us in our current healthcare crisis. If we can assist people in their homes, assessing their specialized needs whether a chronic condition or a new illness, we can identify the “early warning signs” and treat them before they become emergent and life threatening. Conversely, many 911 calls are assessed to be non-urgent and would be better served to remain at home with treatment from a community paramedic rather than be transported to the ED unnecessarily.

- Preferred Option

	Blended ERV Response/Community Paramedic Program
Annual Wage Inclusive of Benefits	$125,272.00
12 Month Burden (2 FTE)	$250,544.00
Fuel, repairs & maintenance on existing fleet	$10,000.00
Annual Expense	$260,544.00
Levy Impact (50% cost share with MOH)	$130,272

There will be an added expense for fuel and vehicle maintenance as the ERV/ vehicle spends more time on the road estimated at $10,000.00

In year 1 we can utilize an ERV that was replaced and due to be decommissioned. This will help the financial pressures in the first year of this hybrid program.

Risk Considerations

1. By remaining status quo, (not maintaining or continuing the Rural ERV) we can expect to see a rise in call response times to those areas of the County and potentially affect patient outcomes.

2. The 6 month trial has proven to be successful by decreasing response times and positively affecting patient outcomes. The County may be at risk if the program is not continued.
3. Response time standards will not be met and continue to decline, while the call volume will continue to rise and the healthcare system will not meet the needs of the community. Off load delays and hospital hallway medicine will continue to increase in both time and occurrence as non-urgent patients continue to be transported to the ED due to a lack of an alternative care model.

Impacts to Member Municipalities/Partners

The rural ERV pilot/trial project has proven to be successful in reducing response times to CTAS 1 and 2 calls within the rural areas identified in the project, as well the County's overall average response time.

Combining the ERV rural program with a Community Paramedic program offers an effective, efficient option to assist with decreased emergency response times, while providing an integrated healthcare model of prevention, assessment and care in the homes of the chronically ill.   This option brings healthcare (both emergent and prompt acuity) to the patient and is an integral part of the Ontario Heath Team Northumberland.

Included in 2019 Long Term Plan: YES/NO

No. Discussion only extending beyond the 6 month trial