Emergency Medical Services

Prior Year Accomplishments

**Economic Renewal & Prosperity**
- The County’s EMS Department meets and exceeds all Provincial requirements and is recognized as a valued community service and asset.

**Sustainable Infrastructure & Services**
- Continued with Paramedic vehicle replacement strategy:
  - Replaced one (1) Ambulance
  - Replaced two (2) Emergency Response Vehicles
- Replaced ambulance station to continue to be able to effectively respond in the community:
- Acquired building/land and renovated to create new ambulance station in the Municipality of Port Hope
- Triennial ambulance service audit conducted by Ministry of Health and Long-term Care Emergency Health Services Branch:
  - Ambulance Service review completed to determine ongoing legislative compliance for the purposes of renewing ambulance service operating certificate
  - Substantively met all requirements of review with very few recommendations
  - Exceeded legislated requirements in many areas
- Staffed vacant and new necessary administrative support roles that included:
  - Deputy Chief of Quality Assurance and Education
  - Administrative Clerk – EMS
  - Part-time Superintendents – Six (6) positions – to fill in for full-time absences.
- Enhanced emergency response and administrative capabilities by:
  - Adding one (1) Emergency Response Vehicle

**Supportive Communities**
- Enhanced responsiveness to Sudden Cardiac Arrest and Paramedic response with the addition of defibrillators:
  - Added two (2) defibrillators to fleet for use in Emergency Response Vehicles to enhance paramedic response capabilities
  - Added twenty (20) Public Access Defibrillators in various public venues across Northumberland County
- Comprehensive review of the Ambulance Deployment Model:
  - Re-wrote entire ambulance service deployment plan
Focus on providing balanced coverage to all of Northumberland County
Uses existing ambulance resources to maximum benefit

✓ Continuous Quality Improvement:
  • Existing programme enhanced
  • New opportunities for improvement in service delivery identified and being studied for implementation (example: automated CPR devices, community partnerships for enhanced health care delivery)

Employer/Workplace of Choice
✓ Emphasis on workplace health and safety:
  • Worked with Joint Health and Safety Committee to develop pro-active approach to health and safety
  • Vehicle design changes improving paramedic safety while they are attending to sick and injured people in moving ambulance
  • Introduction of new patient care equipment improving patient comfort and paramedic safety (example: new I.V. catheters, new speed monitoring technology, etc.)

✓ Successful Collective Bargaining:
  • New Collective Agreement reached for three (3) years

✓ Policy and Procedure Manual revision:
  • Comprehensive review of manual
  • Removal of policies that appear in other County policies
  • Clear, easy to understand policies in format consistent with other County policies

2013 Service Objectives & Initiatives

The EMS Department has developed seven major initiatives for 2013 which support County Council’s goals in its 2011-2014 Strategic Plan.

Sustainable Infrastructure & Services
Appropriate Ambulance Base Facilities
When the land ambulance service was downloaded to the County there were four ambulance bases as follows:
  • Campbellford (part of Campbellford Memorial Hospital)
  • Cobourg (rented facilities)
  • Colborne (rented, with Cramahe Fire)
  • Port Hope (rented)

Over the first five years of operation the County added ambulance bases in Brighton (co-located with Fire) and at the Roseneath Works Yard in order to have appropriate response times across the County.

Some of the above bases have had or continue to have some significant deficiencies. As budgets have permitted the County has worked to improve existing conditions or where necessary to build new bases. In 2010 and 2012 the County purchased existing buildings in Cobourg and Port Hope respectively and renovated them to create appropriate facilities in those two municipalities. The next priority bases to be improved are the co-located facilities in the Municipality of Brighton and the
Township of Cramahe. While specific funds have not been provided in the 2013 Budget County staff are investigating options and business cases in Brighton and Colborne.

A significant concern with the current location at the Brighton fire station is the access to the roadway in cases of time sensitive emergency responses. The garage space available to the County for use by the ambulance exits on the north side of the fire station. The ambulance garage bay exits into a municipal parking lot. The public is welcome to park their vehicles in this municipal lot. The vehicles in the parking lot present an obstacle and, at times, have blocked ambulance access in emergencies. Add to this the need to park an ambulance outside in the same lot and spaces become extremely limited. In addition to parked vehicles, the added vehicular traffic poses a risk to both paramedics and the public both in terms of personal safety and safety of their property. Finally, in cases where volunteer fire-fighters are required to respond to an incident, they arrive at the fire station in their personal vehicles, These additional vehicles further increase the likelihood of a negative incident involving traffic as well as making ambulance access and egress more difficult.

Within the fire station itself, there are many challenges, the most significant of which is the storage of equipment – especially the safety of controlled medications. There is little space to store all of the equipment required for ambulances. In Brighton, the only available space is in the garage which further reduces the space to park the ambulance and increases the potential for a collision. The equipment being in the garage, despite measures and best efforts to protect it, is still subject to water damage and damage from exposure to vehicle exhaust. In addition, the controlled drugs – such as morphine – cannot be securely double-locked as is required by legislation and best practices. It cannot be properly double locked as there is no space where the County can limit access to only certified paramedics – all space available for storage is common fire and paramedic space.

Finally, due to the significant space restrictions, paramedics do not have a space to take a break while on shift. The paramedic crew quarters are located in the fire department training room. This means that a paramedic must, from time to time, leave the crew quarters in order to facilitate fire department meetings. The personal belonging that paramedics need to have with them while at work are also not secured.

Should an opportunity develop in 2013 to acquire a vacant property to build new upon or an existing building suitable for renovation, staff would propose to explore the use of reserve funds to fund the project in 2013.

Response Time Study
The ability of County EMS staff to respond to medical emergencies will be impacted by several factors including:-

- Population growth
- Aging demographics
- The new protocol to transport some stroke patients directly to specialized care centres out of the County. It is anticipated that beginning January 2013, another bypass protocol for patients suffering heart attacks will also require transport to facilities outside the County.

New response time standards were adopted in October, 2012 and these standards in conjunction with 1996 90th percentile standards will be the basis for staffing decisions going into the future. While the County presently meets all the response time standards the three factors noted above will
undoubtedly lead to increased response times and the exact nature of these impacts will not be known for several months. A considerable amount of analysis has already been carried out and it points to the need to add a twelve hour shift at the Colborne base.

Staff propose to complete the studies over the first six months of 2013 and present the findings and recommendations to County Council for its direction. Given the high probability that an additional twelve hour ambulance shift will be required staff propose that a contingency sum of $116,000 be provided in the 2013 Budget. This contingency would support the introduction of an additional twelve hour shift in the fourth quarter of 2013 which then continue forward to 2014 and beyond.

**Strategic Planning**

In 2012 the County’s EMS department was able to complete the revamping up to a full complement of Supervisors and Managers. Because of budget constraints the County had been incrementally working towards as resources permitted, the appropriate full and part-time management complement to properly administer its 24/7 operations. Significant work was carried out in 2012 team building and management development and improved staff relations and morale. The next important step is carry out a comprehensive strategic planning process to develop mission, vision and value statements and strategic priorities and initiatives which support County Council’s Strategic Plan. Management team building will continue to be a key priority. The foundation for the strategic plan will be employee engagement.

**Supportive Communities**

**Community Partners**

There are a number of community partners who play a significant role in the health of the community including:

- Hospitals (Campbellford memorial, Northumberland Hills and QHC – Trenton Memorial)
- Community Care Access Centre (Central-East CCAC)
- Public Health Unit (Haliburton- Kawartha-Pine Ridge District Health Unit)
- Member Municipal Fire Services (alnwick-Haldimand, Brighton, Cobourg, Cramahe, Hamilton, Port Hope and Trent Hills)
- Policing Services (Cobourg, Port Hope, Northumberland OPP)
- Long-term Care homes and Retirement homes
- Mental Health Services
- Local Health Integration Network (Central East LHIN)
- Children’s Aid Society

There will be many benefits to developing relationships with and working together with community partners. A critical example of one possibility is to develop a robust communications strategy with the goal of emphasising preventative, at-home health care services in Northumberland County.

The first stage would be to develop partnerships and define and identify the services provided by each of the community agencies in Northumberland. The next stage is to develop a communications strategy that refers people in need of assistance to the appropriate service in Northumberland County. Once the community referral programme is underway, Northumberland County EMS together with its community partners would then be in a position to identify those patients that “fall through the cracks” of the system. Once the system gap analysis is completed, working collaboratively, the
community partners at the table would then develop new programmes that meet the needs of the community.

A final benefit of such a partnership would be to eliminate or prevent duplication. By ensuring the most appropriate partner agency delivers the highest quality service in the community, there is a cost savings opportunity in the community.

**Employer/Workplace of Choice**

**Paramedic Health and Safety – Programs**

The over-arching goal will be to develop a comprehensive health and safety programme for the emergency medical services department that ensures a continuous focus on employee health, safety and well-being.

Northumberland County has a demonstrated track record of supporting and ensuring employee health, safety and well-being. Many programmes provide a high-level glimpse into the County’s support of its employees’ health and safety. Programmes include:

- On-site employee Occupational Health Services
- Employee Assistance Programme
- Human Resource dedicated to co-ordinating employee health and safety programmes
- Functioning Joint Health and Safety Committees in all departments
- Resources and education available to all County staff and managers to ensure employee health and safety

Health and safety has been at the heart of a transition in the County’s EMS Department. The focus on paramedic health and safety has helped to improve employee morale and management-labour relationships. Paramedics are becoming more engaged in every aspect of their work.

The first task will be to formalise a paramedic health, safety and well-being programme. There are many health and safety initiatives underway in the EMS department. These initiatives will be documented. Once the current initiatives are documented, measureable outcomes for each programme will be developed. Each programme will be evaluated for its efficacy. The ultimate goal of the department is to have zero incidents. Incidents in this case include both cases where employees were actually injured or nearly injured (a “near-hit”).

As various opportunities are identified, new health, safety and well-being programmes will be added to the department. Strategically, these opportunities will be identified using gap analysis techniques. Gaps in employee health, safety and well-being will be identified jointly and co-operatively by the EMS department’s Join Health and Safety Committee. Once gaps are identified, the committee will develop concept programmes to address the gaps. The concept programmes will then be implemented on trial bases, where possible, and employee feedback from the entire department will be incorporated to finalise the programme.

**Paramedic Health and Safety – Uniforms**

Paramedics are routinely exposed to a wide range of risks on a daily basis ranging from exposure to germs and diseases, to the risk of being hit by motorized vehicles at accident sites. New materials and clothing systems are now available which provide greatly enhanced protection and safety over current uniforms and costs. Issue Paper #1 describes this issue in detail and recommends a one-time expenditure of funds to provide this greatly enhanced protection. Additionally, the reflective
markings and emergency lighting systems on ambulances will be evaluated and enhanced to improve reduce the risk of when responding to an emergency such as crossing through intersections and stopped at the scene.

Training
The goal for 2013 will be to build on the strengths of the department and further hone and improve the skills of paramedics in delivery of health care and to provide a centre that facilitates increased training in skills required for community paramedics.

Both the treatments and care that paramedics provide are evolving. The pace of this evolution grows faster every year. The evolution and speed of change result from employing evidence-based scientific research to both medicine generally as well as to pre-hospital (paramedics) medicine specifically. As we are able to demonstrate a clear benefit to some treatment we find other treatment that is of limited or no benefit. As pre-hospital care is studied, further possible treatments are found.

All this change requires continuing education. The frequency of education requirements also increases. Not only are paramedics required to train in new care and techniques but, as a quality assurance and improvement measure, paramedics must continually review the basics.

Educational opportunities come in many forms. E-learning will greatly assist in reducing costs while at the same time increasing the frequency of paramedic exposure to educational opportunities. In-class, hands-on and practical training of paramedics continue to be very important in ensuring the highest quality of service provision.

The new Port Hope ambulance base has a dedicated training room designed for delivering the necessary training programs for the County’s paramedics.

**Long Term Plan & Strategic Objectives**

**Economic Renewal & Prosperity**
✓ Continue to refine the Paramedic service support of Economic renewal and Prosperity across Northumberland County.

**Sustainable Infrastructure & Services**
✓ Develop a 5-, 10- and 20-Year Strategic Plan for Northumberland Paramedics, together with all staff, that will account for service levels, staffing requirements and capital planning to reflect both departmental direction and demographic trends. This planning will involve consultants, where necessary, to assist in developing long-term plans to ensure adequate paramedic resources remain available.

**Supportive Communities**
✓ Continue work to improve existing service and to investigate new approaches to pre-hospital paramedic care in order to address existing and future community medical and health care needs.
**Employer/Workplace of Choice**

✓ Continue to work directly with employees to develop programmes to retain and train current staff and attract new talent as required to ensure adequate staffing for current and future paramedic programmes.
2013 Issue Papers

Issue Paper #1 – Automatic Vehicle Location (AVL) Replacement

Background
The current EMS fleet has 2 separate AVL systems, one tracks physical vehicle movement and the other is web based mapping and reporting.

The Tach West system is referred to as our E-tach system. The E-tach system records actual vehicle movement, stops and the respective speeds. In addition it records if the lights and siren are activated. It does not provide the position of the vehicle or any mapping associated to vehicle movement. All information collected is historical and must be collected after the fact. It provides no real time data.

The Grey Island system, recently renamed Webtech Wireless, uses GPS data to track vehicle movement and make it visible to the dispatch centre. This information is used by the dispatch centre to ensure they assign the most appropriate vehicle available to calls. The management team is also able to use the website to track vehicle movements in real time. In the event we require a history of vehicle movement we are able pull limited reports.

Scope of the Problem
The current system has been in use since approximately 2001. The current systems were state of the art at the time they were first used. The current systems have not evolved; the website functionality has not changed since its implementation in 2001. The website is monitored daily and has been unavailable regularly. The reporting has very limited functionality and is often difficult to gather the information we require. This information must then be combined with the Etach data. This often causes problems when attempting to analyze data as they are two separate systems and often times do not correlate.

To reduce risk and liability to the County, vehicle movement must be able to be tracked and reported on as outlined above. The Current system is limited as follows:

- The current Webtech Wireless System has proven to be unreliable and the website has been down on numerous occasions. Vehicles have stopped tracking and their movements could not be monitored.
- The web site used for vehicle movement reporting has very limited functionality.
- The current E-tach data can only be captured physically from the vehicle. A superintendent must physically make contact with each vehicle to capture the data. There is no way of remotely accessing this data.
• The E-tach system does not provide real time monitoring of vehicle movement. All data collected is historical in nature and it has no capabilities to provide real time information.
• Does not include any on board real time vehicle diagnostic monitoring capabilities.
• Does not offer any real time driver monitoring or reporting capabilities.
• Has no active driver modification system that assists in maintaining a safe work environment.
• Has no way to alert a crew if they have left equipment on scene.

**Alternative Solutions**
Technology has advanced to combine not only the vehicle and mapping information all into one solution but has also incorporated systems that allow us to monitor driver behaviour, fleet maintenance schedules, fuel management, battery levels, as well as observe and report on our carbon footprint.

The reporting capabilities and functionality that the EMS management team require to effectively monitor the fleet have now increased beyond the capabilities of the current system. The AVL system will allow us to generate the reports we require as well as implement programs that will enhance the health and safety of the employees who operate County EMS vehicles.

Key elements to be part of the AVL system include:
- GPS tracking and geo-plotting
- Real time information on vehicle speeds, locations, etc.
- Vehicle mileage and maintenance schedule status
- Operating costs

**Financial Implications**
The proposed expenditure for the replacement of our current system would be $3,000.00 per vehicle. The following vehicles would require this equipment and installation:

<table>
<thead>
<tr>
<th>Vehicle Number</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>4133</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>4134</td>
<td>$3,000.00</td>
</tr>
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<td>$3,000.00</td>
</tr>
<tr>
<td>4516</td>
<td>$3,000.00</td>
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</table>

A) License Cost $24,000.00
B) Non-recoverable HST $422.40
C) Less MOH Funding (50%) $(12,211.20)

Total $12,211.20

**Staff Recommendation**
Staff is recommending that the EMS department proceed with the retrofitting each current ambulance with a new vehicle monitoring system. If approved, EMS staff will work with the County’s Finance Department through a Request for Proposal process to select a preferred vendor.
Background
In 2008, Northumberland EMS made the transition from paper-based patient documentation to an electronic format for Ambulance Call Reports (ACR).

As part of Northumberland EMS Continuous Quality Assurance (CQI) program, collecting historical data is invaluable. We are required to audit all ACRs for completion and compliance to Ministry of Health documentation standards and patient care standards. This information also lends itself to the development of training initiatives further improving and promoting clinical excellence. In the paper ACR format, this was labour intensive and costly. That challenge was addressed in 2007 when Northumberland County EMS transitioned to an electronic format ACR. The successful vendors were Panasonic and ZOLL. The software utility is RescueNet and 11 Licenses were purchased.

Scope of the Problem
The County must comply with the Ministry of Health and Long-Term Care legislated documentation standards. These standards are referenced in the Ontario Ambulance Act, as well as the Basic Life Support Patient Care Standards and Ontario Ambulance Service Documentation Standards. These standards state that all ACRs must be completed by the end of shift in which the document was created. This proves challenging at times as paramedics often fall behind on documentation as a result of call volume. This has created a situation where both crew members require a computer and software licence to complete their respective documentation.

Paramedics work 12 hour shifts which often are physically and emotionally exhausting. Due to the limited licences (11) and tough-book computers (1 per ambulance) the result is that paramedics can be required to work overtime at shift end waiting for an available computer to complete the day’s documentation. The installation of software on the “Station” computers and purchase of additional licences will greatly assist in the reduction of paid overtime which will partially offset the cost to purchase.

Financial Implications
The proposed expenditure for the enhancement of RescueNet licences would be 1 additional Admin licence and 3 crew licences. The cost of each of these four (4) licenses is $3,510.00 for a total of $14,040.00 plus a $1,404.00 annual license maintenance fee. Software is depreciated over one year and, as such, 50% of the year 1 purchase cost will be recovered in 2014. In each subsequent year, 50% of the annual maintenance fees will be recovered from the MOHLTC.
The total financial impact for years one, two and three are outlined below:

**Year 1 (2013)**

- D) License Cost $12,720.00
- E) Annual Maintenance fee $2,544.00
- F) Non-recoverable HST $268.65
- G) Less MOH Funding (50%) $(7,766.33)
- H) Total $7,766.33

**Year 2**

- A) Annual Maintenance fee $2,544.00
- B) Non-recoverable HST $44.77
- C) Less MOH Funding (50%) $(1,294.39)
- D) Total $1,294.39

**Recommendation**

Staff is recommending the purchase of three (3) additional licenses and one (1) admin license in order to allow paramedics to complete ACRs at the station and not be reliant on the availability of the ambulance laptop.
Appendix A – Legislated Documentation Requirements

Each patient assessment requires a detailed “Ambulance Call Report (ACR) in accordance with the following legislation:

Reg 257/00 of the Ontario Ambulance Act, Part V STANDARD OF PATIENT CARE AND DOCUMENTATION, 11.1 :

“All operator of an ambulance service and every emergency medical attendant and paramedic employed by or engaged as a volunteer by the operator shall ensure that documentation is provided by the emergency medical attendant or paramedic in accordance with the “Ontario Ambulance Documentation Standards” published by the Ministry, as that document may be amended from time to time. O. Reg. 527/10, s. 3.”

Ontario Ambulance Documentation Standard:
In each instance where a report is required under this standard the report shall be completed as soon as possible following the event and will always be completed prior to the end of the shift or work period during which the documented event occurred.

Basic Life Support Patient Care Standards, General Measures:
Ensure that other procedures which impact directly or indirectly on patient care, are carried out on a regular basis specifically: Completion and submission of Ambulance Call Reports (ACRs), Incident Reports and other operational documents.

General Standard of Care, N – Documentation of Patient Care:
For each call type detailed in the MOHLTC Ambulance Call Report completion manual, complete and sign an ACR in accordance with the procedures detailed in the manual and Base Hospital guidelines. Complete the ACR as soon as possible following the call and in any event, prior to the completion of scheduled shift during which the call occurred and provide the receiving hospital with a copy of the ACR.
Issue Paper #3 – Additional Twelve (12) Hour Shift

Background
All EMS Services must adopt response time standards for a range of performance indicators and track and report annually on actual response time compliance. In October, 2012 EMS adopted response time standards for the seven required patient categories. Prior to these new standards being developed EMS Services relied on the 1996 90th percentile measure to inform municipal decision-making on when and where to increase paramedic staffing resources as the number of calls for service have increased.

Scope of the Problem
When evaluating ambulance service deployment and optimal staffing resources many factors must be considered. While Response times represent one clearly understood measure of performance there are other important considerations in providing an effective and efficient ambulance. When a member of the public calls in a medical emergency they expect a rapid response. Equally and arguably more important is the ability of the paramedic to clearly identify what is making the patient ill, make the appropriate care decisions to help stabilize the patient’s condition and then to make the decision to transport the patient to a hospital that provides the specific level of care that the patient needs.

With respect to patients suffering a stroke, a heart attack or a ST-segment elevation myocardial infarction (STEMI) starting in early 2013 paramedics will begin transporting these patients directly to specialized care services. For example this could mean that they would bypass the local hospital and take the patient to a regional stroke centre. This will improve the patient’s outcome however it will increase the amount of time Northumberland County ambulances spend outside the County. This will require a re-deployment of the other ambulances across the County and could result in increased response times.

In recent years the number of ambulance calls has increased moderately but steadily from 11,943 calls in 2004 to 17,895 in 2011. The 90th percentile response times have improved from 17:17 in 2007 to 15:35 in 2011 by focussing on the optimal deployment of paramedic resources. Northumberland has a growing population and demographically it now has the second highest percentage of seniors in its population in Ontario. Response time pressures can be expected to start increasing at a higher rate than experienced over the past 3-4 years. The ambulance deployment strategy has maximized available resources and the new direction to transport trauma patients directly to specialized treatment centres such as the regional cardiac catheterisation lab will lead to increased time responses. The exact nature of the increased time responses will shortly start to be seen, tracked and analyzed. Further the new response time standards for Ontario EMS services were
just adopted in October, 2012 and the ability to achieve them and their appropriateness will be seen over the coming months.

In recognition of the foregoing and the critical importance of the County being staffed and resourced to maintain appropriate response times across the County it is recommended that a “placeholder” or contingency sum be placed in the 2013 Budget which would enable the County to add one twelve hour shift in the fourth quarter of 2013. Staff propose to track and analyse the ability of the County’s service to meet the new performance standards and prepare the detailed reports for the consideration of the Emergency Medical Service Council Coordinators and ultimately County Council no later than June, 2013.

Financial Implications
An additional twelve (12) hour shift requires the creation of four (4) new full-time positions together with the addition of six (6) new part-time positions to bring full-time to part-time staffing ratios to 1:1. Part-time paramedics incur very minimal costs to hire and only increase staffing costs when they actively work a particular shift.

In Year 1 of the additional staffing, the County will receive no additional funding from the MOHLTC for the new position. The additional 50% funding for Year 1 will be realised in Year 2.

If the additional Paramedic staffing commences in the fourth (4th) fiscal quarter of 2013 – beginning 1 October 2013, this will minimise the impact on the County levy in the 2013 Budget Year when no additional MOHLTC funds are realised. However, because MOHLTC 50% funding is only realised in the year following an operational budget increase, in 2014, the County would not receive 50% funding on three-quarters (¾) of the 2014 wages until fiscal year 2015. From 2015 forward, the additional Paramedic positions will receive the full 50% funding in accordance with the current funding arrangement with the MOHLTC.

The following chart summarises the financial impact from 2013 forward through to the end of 2015:

<table>
<thead>
<tr>
<th>Year</th>
<th>Wages</th>
<th>Benefits</th>
<th>Total Cost</th>
<th>MOHLTC Funding</th>
<th>Levy Impact (in dollars)</th>
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<td>2013</td>
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<td>$73,000</td>
<td>$161,000</td>
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Staff Recommendation
Staff are recommending the provision of $161,000 as a contingency in the 2013 Budget to allow for the addition of one twelve hour Paramedic shift in the fourth quarter of 2013 should the detailed response time study warrant it.
2013 Issue Papers

Issue Paper #4 – Health and Safety – Paramedic Uniforms

Background
Recent technology innovations in uniform materials and design provide significant health and safety enhancements for paramedics.

Scope of the Problem
The first consideration is the colour and visibility of paramedic uniforms. The current navy blue uniforms are dark and even with reflective striping are difficult to see under almost all lighting conditions. A great deal of evidence is now available supporting the use of specific colours for workers working outdoors, on the sides of roads, in multiple and varying light conditions. As a result of this evidence, there are new recommendations and standards that dictate uniform colours including the use of reflective striping.

In order to comply with current safety requirements, paramedics must don additional layers of protective clothing. This leads to heat-related issues (too hot to complete what is often very physical work). As a result of this and the fact that humans are prone to forget details in emergencies, paramedics can neglect to wear required safety apparel from time to time. By simply incorporating the required safety standards into basic uniform design it ensures that there is no need to remember to add safety apparel – safety is built in.

A further safety consideration for Paramedic uniforms is the resistance to fires. In responding to motor vehicle accidents and building fires Paramedics can be exposed to flash fires and the new uniform materials have significantly increased fire resistance.

Another consideration is the health of paramedics. New uniform technologies are both more comfortable to wear and better regulate body temperatures. At the same time, these new uniform materials are also better at preventing disease transmission. The new materials are impervious to various bodily fluids that can carry disease. Further, these same new materials are treated and actually actively kill pathogens. This ensures paramedic health while, at the same time, prevents paramedics from spreading germs and disease in the community as paramedics move from patient to patient and facility to facility.

The County has the following staff who are required to wear uniforms:

- Full-Time (FT) Paramedics 48
- Part-Time (PT) Paramedics 46
- FT and PT Supervisors 10
Each Paramedic is eligible to receive up to 1 jacket, 5 shirts and 3 pairs of pants. Because the colour of the jackets and shirts will be changing to a more visible colour it will be necessary to fully replace all the uniforms and jackets at once. It would not be appropriate for a Paramedic crew to arrive on a scene wearing different coloured uniforms. More importantly it would be indefensible if one of the County’s paramedics sustained injuries due to a flash fire when the injuries could have been greatly mitigated by having all paramedics wear the current state-of-the-art protective equipment. A further benefit will be to have the County’s paramedics clothed in uniforms which are readily identifiable as EMS paramedics when they arrive at an emergency medical scene.

Financial Implications
It is proposed that $150,000 be provided in the 2013 budget for the design and purchase of new uniforms with the costs estimated as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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</thead>
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<tr>
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<tr>
<td>2. Shirts</td>
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<td>3. Pants</td>
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<tr>
<td>Total</td>
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</table>

This one-time cost will be partially offset by savings in the annual uniform replacement budget which has been in the range of $20,000 per year. From 2014 forward the annual uniform replacement budget will have to be increased by a moderate amount because the new uniforms will likely be somewhat more costly than the existing uniforms. Until quotations are received for the new uniforms it is not possible to accurately estimate the increased cost.

The cost of uniforms and safety supplies is eligible for 50% Provincial funding.

Staff Recommendation
Staff is recommending the introduction of new uniforms for the Northumberland County EMS to provide the appropriate protection for the health and safety of its paramedics.