

Clause 12 in Report No. 1 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on January 22, 2015.

Expanding Paramedicine in the Community Update

Committee of the Whole recommends adoption of the following recommendation contained in the report dated December 18, 2014 from the Commissioner of Community and Health Services:

1. Recommendation

It is recommended that this report be received for information.

2. Purpose

The report provides an update on the status of the Expanding Paramedicine in the Community clinical project. Secondly, this report details one-time funding of \$296,600 from the Ministry of Health and Long-Term Care (MOHLTC) to support the growth of community paramedicine in York Region.

Since the initial report to Council on February 21, 2013, two memorandums from the Committee of the Whole have been provided to Council as updates on the Expanding Paramedicine in the Community project:

1. September 26, 2013: Emergency Medical Services - Expanding Paramedicine in the Community Update (Report No. 1 of the Committee of the Whole, September 12, 2013)
2. April 17, 2014: Emergency Medical Services Expanding Paramedic Scope of Practice (Report No.7 of the Committee of the Whole, April 3, 2014)

3. Background

Rapid population growth and an aging population will have impacts on paramedic services

According to the 2011 Statistics Canada Census data, York Region is the fastest growing census division in Ontario and by 2031 York Region's senior population will account for 21% of the total population.

The impacts of rapid population growth and aging population on paramedic services were described by a consultant group in 2011 during the development of the 10-year Resources and Facilities Master Plan. The plan showed that demand for paramedic services continues to grow at a faster rate than population growth, with transport demand expected to increase by 48% from 2011 to 2021.

Patients with chronic diseases are frequent users of the healthcare system and chronic diseases are affecting more and more Canadians each year

Chronic diseases such as chronic obstructive pulmonary disease (a combination of emphysema and chronic bronchitis), diabetes mellitus (inability of the body to regulate blood sugar) and heart failure (a form of heart disease where the heart cannot adequately pump blood to meet the body's needs) account for a significant segment of paramedic services response volume. In 2013, York Region paramedics transported 14,678 patients with these conditions which represents an increase of 2,400, or 17%, from the previous year, and accounts for nearly one-third of all patients transported annually.

Although specific data to York Region is not available, studies across Canada indicate that:

- Patients with diabetes are three times more likely to be hospitalized at least once a year.
- One Ontarian is newly diagnosed with diabetes every 20 minutes.
- In 2012, there were 1.2 million people in Ontario with diabetes and this is expected to grow to 1.9 million by 2020.
- There are 500,000 Canadians living with heart failure and 50,000 new patients diagnosed annually.
- Admissions due to chronic obstructive pulmonary disease have an average hospitalization of 10 days and average \$10,000 per hospitalization.
- The total annual cost of chronic obstructive pulmonary disease to the Canadian healthcare system is estimated to be \$1.5 billion.

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Positioning Paramedic Services to be more responsive for a growing and aging population requires an examination of how healthcare resources are used

Since the Region began delivering paramedic services, significant investments have been made to augment staffing levels, vehicles and stations, and training investments for advanced care.

In February 2013, Council approved the Expanding Paramedicine in the Community clinical project

On February 21, 2013 (Report 1 of the Community and Health Services Committee), Council approved the participation of York Region Paramedic Services in the Expanding Paramedicine in the Community clinical project with Rescu, the emergency medicine research unit at St. Michael's Hospital. The recommendations of that report were as follows:

- Staff engage the Central Local Health Integration Network to seek support for and pursue funding for the development of Community Paramedicine initiatives.
- Council approve the participation of York Region Emergency Medical Services in a clinical project with Rescu, the emergency medicine research unit at St. Michael's Hospital, Expanding Paramedicine in the Community.
- The Commissioner of Community and Health Services or designate be authorized to sign the necessary agreements for the participation of York Region Emergency Medical Services in the Expanding Paramedicine in the Community clinical project with Rescu.
- Staff report back to Council on the outcomes of the clinical project.

Ministry of Health and Long-Term Care is supporting the development of community paramedicine and had committed \$296,600 to continue the Expanding Paramedicine in the Community project in York Region

On January 21, 2014, the Honourable Deb Matthews, Minister of Health and Long-Term Care for Ontario, announced \$6 million dollars in funding to support or develop community paramedicine programs in Ontario.

On August 27, 2014, York Region Paramedic Services was notified that the MOHLTC would provide \$198,500 in one-time funding for the 2014-2015 funding year and \$98,100 in one-time funding for the 2015-2016 funding year for a total

of \$296,600 in funding. Twenty-nine other community paramedicine programs were also funded under this initiative.

This funding will assist York Region Paramedic Services in continuing the Expanding Paramedicine in the Community program and will improve the scientific rigor of the results.

As a condition of this funding, York Region Paramedic Services will be required to submit quarterly status reports to the MOHLTC beginning on October 30, 2014. Furthermore, a final program report to the MOHLTC is due on September 30, 2015.

A second Paramedic Service will be initiating an Expanding Paramedicine in the Community project as a result of the Ministry of Health and Long-Term Care funding

Grey County Paramedic Services received funding to initiate the Expanding Paramedicine in the Community project in Grey County. This project will operate in the same manner as the York Region's program using the same researcher and outcome measures.

The addition of Grey County to the project will increase the number of patients in the study ultimately making the results more scientifically meaningful. It is anticipated that Grey County will begin enrolling patients in January of 2015.

4. Analysis and Options

More Family Health Teams are becoming interested in the Expanding Paramedicine in the Community project

Since beginning in July of 2013, three additional Family Health Teams have joined the Expanding Paramedicine in the Community project. These additional teams include the Markham Family Health Team, the Stouffville Medical Centre and the Aurora-Newmarket Family Health Team. A final Family Health Team, Thornhill Medical Clinic, is currently interested in joining as well. These additional teams have assisted in increasing the sample size of the project, which will increase reliability by providing higher quality evidence to determine the projects value.

Patients in the Expanding Paramedicine in the Community project are divided into an intervention and control group. Control and intervention group patients have access to their primary care practitioner as usual; however, these patients also receive regular home visits from community paramedics at three month intervals. Intervention group patients are also able to call the community

paramedics directly if there is a worsening in their condition. In such cases, the community paramedic travels to their home and begins treatment in consultation with the patient's primary care physician.

Currently, 265 patients are enrolled in the project with 135 patients in the control group receiving standard care and 130 patients in the intervention group receiving care from community paramedics. Community paramedics have completed 631 visits to the intervention group, 45 of which were visits for an acute worsening (exacerbation) of their chronic condition, which would have likely resulted in a 911 response if the study was not underway. Of the 45 exacerbation visits, 90% were managed in the patient's home in collaboration with the patient's primary care physician and did not require transport to hospital.

In-depth data analysis is underway to demonstrate the results of one year of community paramedic care

Rescu has started the in-depth data analysis process by committing staff resources to analyzing several sources of data. The sources include:

- In-hospital data to determine the Emergency Department visits, hospitalizations and length of hospital stay before and after the Expanding Paramedicine in the Community project in both the intervention and control groups.
- York Region Paramedic Services 911 response data to determine if paramedic services are decreasing. This data is currently under review.
- Institute of Clinical and Evaluative Science to determine the patient's overall health care utilization before, during and after one year of the Expanding Paramedicine in the Community project.
- Family Health Team utilization data as well as improvement in health status as demonstrated by improvements in diagnostic tests that measure the state of particular chronic diseases.
- Financial analysis and cost benefit analysis.

A qualitative analysis is also underway. Researchers from Rescu are using validated quality of life questionnaires to assess patient's quality of life before, during and after the Expanding Paramedicine in the Community project. They also intend to interview 40 Expanding Paramedicine in the Community project patients to determine their level of satisfaction with the model of care.

During the qualitative analysis, researchers will also interview paramedics, physicians and Family Health Team staff to determine their level of satisfaction with the Expanding Paramedicine in the Community project and note any areas for improvement.

Preliminary results are demonstrating improvement in patient condition

Although large amounts of data are not yet available, some preliminary results are showing improvement in patient conditions. Some of the highest risk patients enrolled in the Expanding Paramedicine in the Community project are demonstrating a decrease in the number of emergency department visits, hospitalization and length of stay following admission.

Table 1 provides an example of a small sample of health care utilization from patients enrolled in the Expanding Paramedicine in the Community project. When compared to health care utilization before the Expanding Paramedicine in the Community project, there appears to be a reduction in emergency department visits, hospital admissions and hospital length of stay once patients became enrolled in the project. Full analysis of the control group is not yet complete for comparison.

Table 1
Small Sample Interim Findings of Intervention Group

	Pre Expanding Paramedicine in the Community	Post Expanding Paramedicine in the Community
Average Annual Number of Emergency Department Visits per Patient	5	2
Average Annual Number of Hospital Admissions per Patient	4	1
Average Annual Hospital Length of Stay Days Following Admission per Patient	13	4

Link to key Council-approved plans

This report directly contributes to supporting the 2011 to 2015 Strategic Plan objective to “optimize the health of the community for all ages and stages through health care delivery, protection, prevention and promotion initiatives,” supporting the completion of the indicator of success, “Completed analysis and phase 1 of paramedic expanded scope of practice.”

The report also directly supports the action in the Community and Health Services Multi-Year Plan to “pursue opportunities to address growth and the optimal use of paramedic resources by expanding the scope of community paramedic care.”

The report also directly supports the actions in the York Region Paramedic Services 10-Year Resources and Facilities Master Plan to “address the projected service demand increase of 47.8 percent over the next 10 years through community paramedicine/innovative approaches.”

5. Financial Implications

The costs for the Expanding Paramedicine in the Community program were estimated to be \$1.2 million from March 2013 to May 2014, with approximately \$0.9 million in 2013 and the remaining \$0.3 million in 2014. The costs were accommodated within the annual operating budget for paramedic services by transitioning the annual Advanced Care Paramedic training program to the expanded scope of practice initiative, saving approximately \$1.9 million including staffing costs, deployment, back fill and tuition costs.

The proposed 2015 operating budget will include the costs to continue the program as outlined in this report. The MOHLTC funding of \$198,500 recently announced for the 2014-2015 funding year will offset 2014 expenditures and \$98,100 for the 2015-2016 funding year will be incorporated into the proposed 2015 operating budget for Paramedic Services. There are no additional financial resources required at this time.

Staff will continue to seek out and pursue ongoing funding opportunities with the Local Health Integration Network.

6. Local Municipal Impact

Currently, residents primarily from the municipalities of Aurora, Markham, Newmarket and Whitchurch-Stouffville are benefiting from the Expanding Paramedicine in the Community pilot project. However, if this pilot proves to be successful and the MOHLTC begins funding this model of care, it is expected that all nine municipalities would benefit from this program.

7. Conclusion

The implementation of the Expanding Paramedicine in the Community project has introduced a community-based paramedicine approach to a clinical trial with

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the intention of reducing paramedic services responses. Although the majority of the data produced by the project is currently being analyzed, small patient samples seem to demonstrate reductions in emergency department usage, hospitalization and hospital length of stay.

York Region Paramedic Services remains committed to developing options and dispositions that better meet the needs of our patients and are pursuing opportunities to work with public policymakers, primary healthcare providers, social service agencies, and public safety groups to develop initiatives which will help create enhanced, community-based paramedic services.

For more information on this report, please contact Norm Barrette, Chief and General Manager, Paramedic and Seniors Services, at ext. 74709.

The Senior Management Group has reviewed this report.

December 18, 2014

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Accessible formats or communication supports are available upon request