

**The Cochrane and Manitoulin-Sudbury
Joint Community Paramedicine Program:
Final Evaluation Report**

30 June 2016



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LIST OF ACRONYMS

ACP	Advanced Care Paramedic
CCAC	Community Care Access Centre
DSB	District Services Board
DSSAB	District Social Services Administration Board
CBEC	Community-Based Emergency Care
CHAP-EMS	Community Health Assessment Program through Emergency Medical Services
COPD	Chronic Obstructive Pulmonary Disease
CP	Community Paramedicine
CRaNHR	Centre for Rural and Northern Health Research
CREMS	Community Referral by EMS
ED	Emergency Department
EMS	Emergency Medical Services
ICES	Institute for Clinical Evaluative Sciences
MOHLTC	Ministry of Health and Long-Term Care
MOU	Memorandum of Understanding
MSDSB	Manitoulin-Sudbury District Services Board
OSI	Operational Stress Injury
PCP	Primary Care Paramedic
PERIL	Paramedics Assessing Elders at Risk for Independence Loss
QoWL	Quality of Work Life

The Cochrane and Manitoulin-Sudbury Joint Community Paramedicine Program: Final Evaluation Report June 30, 2016

Executive Summary

This Final Evaluation Report summarizes the state of joint CP Program implemented by the Cochrane District Social Services Administration Board (DSSAB) and the Manitoulin-Sudbury District Services Board (DSB) Paramedic services after one year of implementation (April 2015-March 2016). The program was piloted in four communities: Gore Bay and Gogama (Manitoulin-Sudbury DSB), and Hearst and Smooth Rock Falls (Cochrane DSSAB). CP services include assessment and referral to the CCAC (province wide); paramedic-initiated (ad hoc) home visits; home visits referred by Circle of Care providers; and Wellness Clinics.

Data sources for this evaluation include administrative data, a survey of patients and caregivers, and review meeting reports (site observations). After one year, Wellness Clinics seem to be well established in the Cochrane District pilot sites, particularly in the Smooth Rock Falls service area. In contrast, there have been substantive challenges to implementing Wellness Clinics in the smaller communities of Gogama and Gore Bay. The home visit components at all four sites - either initiated by paramedics or through referral from Circle of Care partners - has developed much more slowly.

Despite the challenges, preliminary feedback from patients indicates that the services provided by paramedics at Wellness Clinics are acceptable and appreciated. Psychosocial benefits of the program appear to be noteworthy, particularly the reassurance that patients experience, and the enhanced sense of social connectedness. While measuring the impact of preventive services is inherently challenging and remains for future evaluation, the “success stories” of paramedics hint at the potential health benefits to patients and communities, as well as professional benefits to paramedics themselves.

Based on the available information and data, the team has identified several recommendations for moving forward and strengthening the CP program of the Cochrane DSSAB and Manitoulin-Sudbury DSB paramedic services.

Recommendations

- 1. Paramedic-Initiated Home Visits.** Paramedics were hesitant and uncertain about how to identify those patients that could benefit from a Home Visit. *We recommend that the*

Paramedic Service Providers support the paramedics practicing CP by identifying potential patients (i.e. frequent 911 users) that could benefit from regular Home Visits.

2. **Paramedic Training.** The CP program is in its infancy, and most paramedics at the four sites received less than a day of training. *We recommend that the Paramedic Service Providers support paramedics practicing CP with additional training opportunities, including retraining on the revised PERIL tool.*
3. **Program Review Process.** The CP program is relatively new and requires an accountability mechanism for ongoing surveillance, dialogue, and program adaptability and improvement. *We recommend that the Paramedic Service Providers implement a regular CP Program Review process with each site engaged in CP activities.*
4. **Promotion and Branding.** Community members are not familiar with the term “Community Paramedicine” or the services offered. *We recommend that the Paramedic Service Providers focus on developing more promotional material and branding CP so it is clearly differentiated from emergency response.*
5. **Documentation and Reporting.** Paramedics commented about the difficulties of documenting CP activities, and data quality control issues impeded this evaluation. *We recommend that the Paramedic Service Providers review the administrative data acquisition systems to ensure that all CP activities are documented with minimal errors and omissions.*
6. **Informal CP.** As a result of small town relationships, a system of “informal CP” appears to have developed but is not being documented in CP statistics. *We recommend that the Paramedic Service Providers seek to better understand, manage, and document these informal encounters with community members as CP activities.*
7. **Engaging Circle of Care Partners.** A system of referrals, communication, and collaboration at each site has been slow to develop. *We recommend that the Paramedic Service Providers, in collaboration with the CRaNHR research team, engage Circle of Care Partners and collectively identify and implement methods to strengthen CP referrals and health services integration that meets the unique needs of each community.*
8. **Collaborate with First Nations Communities.** In both service areas there are EMS bases that have high 911 call volume and dispatch to First Nations communities. *We recommend that the Paramedic Service Providers consider collaborating with appropriate First Nation community leaders to explore the possibility of implementing relevant CP services to these communities.*
9. **Activity Interruption.** Paramedics are reluctant to schedule Wellness Clinics or Home Visits because of the risk of disappointing patients if they have to respond to a 911 call. *We recommend that the Paramedic Service Providers develop a plan to address CP activity interruption by 911 calls.*

10. **Geographic Coverage.** Although rural and northern EMS services cover very large service areas, CP services are mostly limited to the local community surrounding the ambulance base, to ensure that CP does not affect emergency response times. *We recommend that the Paramedic Service Providers develop a plan to provide equitable CP services to patients throughout the entire service area of the bases participating in CP.*
11. **Scope of Practice.** Some paramedics and program staff felt constrained in what they were permitted to do for the lack of an authorized CP scope of practice. *We recommend that the Paramedic Service Providers consult with the MOHLTC to explore the possibility of extending the scope of practice for PCPs to include CP activities.*

Limitations and Further Research. Issues with data quality and completeness limit our ability to draw strong conclusions, however it is important to recognize that the program has been operating for approximately one year. Ongoing and planned evaluation activities seek to address these limitations and support the evolving CP programs across the north, including the addition of Rainy River and Superior North EMS providers in Northwest Ontario.

Conclusion. Implementation of the CP Program has met with both successes and challenges at the four pilot community sites. Importantly, the EMS Providers are already taking action to address many of the recommendations outlined in this report. For instance, a new CP administrative data recording system and paramedic feedback forms have been developed, and the District EMS Commanders are actively working with the paramedics at each site to identify patients who would benefit from Home Visits and/or remote patient monitoring services. Activities have already begun to expand beyond the pilot stage, with the inclusion of new communities, training of more paramedics, and implementation of a remote monitoring component for patients with chronic disease.

It is clear that the unique demographics and geographic context require an ongoing cycle of learning and improvement in order to establish an effective model of CP for rural and remote communities in northern Ontario, including Aboriginal and Francophone communities. In collaboration with the District EMS/Paramedic Service Providers in Cochrane and Manitoulin-Sudbury Districts, the plan is to continue this program of research to better understand how CP best fits and complements the array of health services provided in the north.

The Cochrane and Manitoulin-Sudbury Joint Community Paramedicine Program: Final Evaluation Report 30 June 2016

The purpose of this final evaluation report is to summarize the evaluation activities, observations, and findings related to the pilot community paramedicine (CP) program implemented by two Emergency Medical Services (EMS) providers (Cochrane District Social Services Administration Board EMS, and Manitoulin-Sudbury District Services Board–Paramedic Services), hereafter described as paramedic services. The report will also summarize 11 Key Recommendations, describe new program developments, and provide an overview of further research and evaluation plans related to CP in rural communities of northern Ontario. An interim version of this report was submitted to the paramedic services on 11 February, 2016.

I. Background and Overview

In 2014, the Ministry of Health and Long-Term Care (MOHLTC) provided funding to initiate 30 pilot Community Paramedicine (CP) projects across Ontario. The Chiefs from the three northeastern Emergency Medical/Paramedic Services, Manitoulin-Sudbury District Services Board – Paramedic Services, Cochrane District EMS, and Algoma District Paramedic Services, collaborated on the development and implementation of one of these programs.[1]

After program development and training, this pilot program was launched in April 2015, initially in four rural communities in northeastern Ontario (Hearst, Smooth Rock Falls, Gogama, and Gore Bay). The launch of the CP project was covered in local news media (see **Appendix A** for a list of news articles covering the CP programs being delivered by these services).

A distinctive feature of this model of rural and northern community paramedicine is that paramedics provide CP services while on regular duty, instead of operating CP as an ancillary program with dedicated paramedics to provide the CP services. This choice was explicitly made to increase the likelihood of the sustainability of the CP program, and it is justified by the fact that paramedics in rural and northern areas frequently experience lower call volumes than in busier urban areas. Thus, regular duty paramedics in rural and northern areas often have discretionary time available. If paramedics can productively use this discretionary time without having a negative impact on emergency response, CP can be provided to small northern communities at minimal additional cost.

This report is a final evaluation of the CP pilot program that was funded by the MOHLTC. The CP program primarily involves three inter-related components: (1) Paramedic-directed (ad hoc) Home Visits to frequent users of EMS services; (2) Wellness Clinics, offered by paramedics to interested participants at senior housing complexes and other convenient locations; and (3) Circle of Care Referrals, where paramedics perform home visits based on a request or referral from another health care provider in the community. Concurrently, a province-wide system of paramedic referrals to Community Care Access Centres (CCAC) was implemented, including within the three districts.

Additionally, the program included a global CP education component, developed through Northern College. This has resulted in an online CP training program consisting of five modules, with a sixth module currently under development (see **Appendix B** for a topical outline of the online course).

Researchers from the Centre for Rural and Northern Health Research (CRaNHR <http://www.cranhr.ca/>) provided consultation and support through the development and implementation of the CP program, and designed a research-based framework and tools for the evaluation of the CP program. This report covers activity from 01 April, 2015 - 31 March, 2016. Since the CP program can still be considered as being in the early stages of development, and as planned evaluation activities extend into 2017, complete data on outcomes and impact are not yet available.

A. Program Objectives. The stated goal of the pilot project was “to develop and evaluate an effective and valued Community Paramedicine Program which meets the unique needs of the population in rural northern Ontario”.^[1] There were two main objectives: (1) to provide appropriate and relevant health care and health promotion/disease prevention services (CP), primarily targeting seniors; and (2) reduce avoidable use of 911 services, emergency department (ED) visits, and hospital admissions and readmissions. The program was designed to achieve this by identifying unmet needs of frequent users of EMS services and connecting them to available services; providing Home Visits to high-needs patients and to those with mobility challenges; providing health education, health promotion and disease prevention services; and offering Wellness Clinics at senior housing complexes and other convenient locations to interested participants. A third planned component was to collaborate with community providers and other programs and services; this “Circle of Care” component was intended to strengthen transitions to community care for patients released from the hospital, and for patients – usually seniors and other vulnerable members of the community - identified as frail, at risk, and in need of more intensive follow up for chronic disease management and overall well-being in the home.

B. Program Development, Implementation, and Current Status. The CP program was developed over several months, primarily by David Wolff, CP Program Lead and Commander in the Manitoulin-Sudbury District DSB – Paramedic Service, in close collaboration with Derrick Cremin, CP and Operations Commander in the Cochrane District EMS. The development process involved the creation and compilation of CP policies, registration and referral forms, patient log books, assessment tools, and a training program. Program implementation began with site visits and introductory paramedic training (less than one day per site) in March 2015 in Hearst, Smooth Rock Falls, Gogama, and Gore Bay. Following the training, the four sites implemented the program with the launch of Wellness Clinics, and these have continued with relative consistency on a monthly basis in Hearst and Smooth Rock Falls, even expanding to neighbouring communities (e.g. Fauquier-Stickland), and more recently, the town of Cochrane. However, Wellness Clinics have been less consistent in Gogama and Gore Bay. Implementation of ad hoc Home Visits and Circle of Care Referral components has been slow to start, and will require stakeholder (other health care professionals) engagement and ongoing support and training to ensure viability longer term. Feedback from paramedics suggests that home visit activity may be picking up, however, as yet this is not reflected in available data.

The unique feature of this pilot program was the focus on engaging regular duty paramedics, located in small rural communities, to provide additional CP services with very few additional resources and limited support. There were two pilot sites in rural communities originally targeted for implementation of CP services in each of three original partner Districts (as per original grant submission): (1) Richard’s Landing and White River, served by Algoma District Paramedic Services; (2) Hearst and Smooth Rock Falls served by Cochrane District EMS; and (3) Gogama and Gore Bay served by Manitoulin-Sudbury DSB – Paramedic Services. However, the CP program was only implemented by the Cochrane District EMS and Manitoulin-Sudbury DSB Paramedic Services. Researchers at CRaNHR were unable to verify with the Algoma Paramedic Service the reasons for the delayed launch of the CP program in their District. **Thus, this report focuses only on the status of CP for Cochrane District EMS and Manitoulin-Sudbury DSB – Paramedic Services.** Table 1 (next page) provides a summary description of each pilot site.

Table 1: Description of Four Pilot Sites

	Manitoulin-Sudbury DSB Paramedic Services		Cochrane District EMS	
	Gogama	Gore Bay	Smooth Rock Falls	Hearst
Total Population ¹	277	850 / 2,500 ²	1,376	5,090
Percent Francophone ³	54%	2%	71%	88%
Percent of Population Seniors (Aged 65 +) ⁴				
Total	29.1%	24.8%	23.5%	15.8%
Male	27.6%	20.5%	23.5%	14.6%
Female	30.8%	29.5%	23.5%	17.1%
Percent of Seniors ⁴ Living Alone				
Total	25.0%	41.0%	33.3%	34.8%
Male	25.0%	31.2%	21.9%	22.2%
Female	25.0%	47.8%	45.2%	43.7%
Other Communities in Service Area	Mattagami First Nation	Western Manitoulin Island	Fauquier - Strickland/ Moonbeam	Mattice/Val Côté Constance Lake First Nation
Hospital/ED in Community	No (Timmins)	No (Mindemoya)	Yes	Yes
Primary Care	CHC staffed by 1 Nurse Practitioner	Medical clinic with 3 physicians	Walk-in clinic with 1 full-time and 3 part-time physicians	Family Health Team with 8 physicians, nurses, counselors, dietician, Aboriginal navigator
Paramedics ⁵	3 full-time / ~20 part-time	3 full-time / ~20 part-time	4 full-time / 26 part-time	6 full-time / 4 part-time

1 Census 2011 data, unless otherwise stated. Population at the Census Subdivision (CSD) level, except Gogama (Local Service Board (LSB) level). Does not represent the population of the entire EMS service area.

2 Community estimates of permanent / seasonal populations.

3 Percent who chose French as the first official language, Census 2011.

4 Population living in private households

5 CP program is primarily implemented by full-time paramedics.

Although somewhat slow to start, it does seem that there is leadership commitment, and there are positive indications that the CP initiative will continue and expand. For instance, both districts have initiated remote patient monitoring initiatives, and are looking to expand the CP program to other communities. Paramedics of the Manitoulin-Sudbury DSB are currently using the Northern College training modules in preparation for the expansion of CP beyond the two pilot sites. CP services in Smooth Rock Falls expanded rapidly to include Wellness Clinics in the neighbouring community of Fauquier-Strickland, approximately 24km west. Cochrane District EMS has also recently launched an expansion of CP to the town of Cochrane, and is planning to expand CP-related services to Matheson and Iroquois Falls in the near future. Further, the Community Health Assessment Program through Emergency Medical Services (CHAPS-EMS) is being launched in the urban community of Timmins. Manitoulin-Sudbury DSB has also begun to explore expanding the program to two First Nations Communities, Wikwemikong Unceded Indian Reserve and Mattagami First Nation, where call volumes are relatively high.

II. Program Evaluation Activities

Researchers from CRaNHR were approached to assist with the CP Program evaluation in the fall of 2014. A preliminary evaluation framework was established in December 2014, and it was designed to meet the MOHLTC reporting requirements. The framework includes both process and outcome evaluations capturing patient, caregiver, and provider (paramedic and Circle of Care Partner) data. **Appendix C** provides a graphic of the evaluation framework and process.

A. Data Sources. Through a mixed methods approach to data collection and analysis, the research team can triangulate using multiple types of data to improve interpretation. Data available to inform evaluation comes from several sources: (1) *Administrative Data* - Administrative data collected from forms completed by paramedics practicing CP; (2) *Surveys* - Surveys completed by patients, caregivers, paramedics, and Circle of Care professionals; (3) *Observations* - Observations and qualitative data collected from site visits and ongoing program review; and (4) *Outcome Data* - Outcome data related to patient utilization of 911 and hospital services (emergency department visits, admissions, and readmissions). Researchers at CRaNHR are committed to continuing the research and evaluation, and are currently in the process of seeking additional funding to support this work.

1. **Administrative Data.** Administrative data are being collected by paramedics practicing CP at each site, and then compiled by the Program Lead (David Wolff). Data from the first twelve months of the program (01 April 2015 to 31 March 2016) are currently available for the two districts.

2. **Surveys.** Comprehensive surveys have been developed in both French and English in order to evaluate the experiences and perspectives of patients and caregivers receiving or involved with the services of the CP program. **Appendix D** contains a sample English version of the Patient Survey. The survey development process included a rigorous “back translation” process to ensure that the English and French versions of each question item were measuring the same construct or concept in the same way.[2,3] The MOHLTC provided a draft satisfaction survey that was used in the development of our surveys in conjunction with Community Paramedicine literature and other sources such as the Canadian Community Health Survey. Research ethics approval has been received from the Laurentian University Research Ethics Board for this component of the evaluation, and survey responses (patient and caregiver) are currently being collected and analyzed.

The CP evaluation research team at CRaHNR has also begun collaborating with the CP programs of Rainy River and Superior North early in the spring of 2016. The CP patients from these two districts have begun participating in the patient and caregiver surveys as well. Surveys capturing experiences, perspectives, Operational Stress Injury (OSI) and Quality of Work Life (QoWL) of paramedics practicing community paramedicine, paramedics on regular duty, and Circle of Care partners have been drafted and will be administered later in the fall of 2016 when the program is firmly established.

3. **Observations.** Researchers participated in the initial paramedic training at each site in March and April 2015, and then facilitated a CP Mid-Program Review at each site in November and December, 2015, approximately half a year after the program was initiated. Observations and data collected during these site visits, and during interim teleconferences with paramedics and Commanders at each site, provided valuable process data with respect to the highlights, challenges, issues, and key learnings related to the early implementation of CP in these rural communities involving regular duty paramedics. The CRaHNR research team has also completed ongoing follow-up calls with CP program leads in each district as well as with some participating community paramedics.
4. **Outcome Data.** The planned outcome evaluation will be conducted after the program is well established, to examine the impact of the CP program as it relates to health services utilization and costs. The Institute for Clinical Evaluative Sciences (ICES) will link and provide denormalized data for analysis from the following three sources: (1) Hospital administrative data associated with each pilot site; (2) EMS Electronic Patient Charting data from each District (from Ambulance Call Reports); and (3) CP administrative data from the centralized database of CP activities for all four pilot sites. The ICES linked data will be used to examine how the implementation of the CP program impacts the frequency of emergency services utilization in terms of low acuity calls to 911 ambulance dispatch services, emergency department visits, and hospital admissions and readmissions by patients involved

in the program. Researchers have obtained a Confirmation of Feasibility with ICES that will form the foundation of an outcome evaluation (**Appendix E**).

B. Capacity Building. The CP evaluation process includes a substantive commitment to capacity building in terms of understanding the literature and recruiting and training human resources. Early in the evaluation process, an extensive library of peer-reviewed CP-related literature was compiled, and this was supplemented by government reports, whitepapers from the Paramedic Chiefs of Canada, and other grey literature of relevance from around the world. The purpose of the literature review was to ensure that the research and evaluation components were informed by and build on existing knowledge, where applicable. Since 2014, four graduate students have worked on the project in various capacities, with two graduate students currently conducting their Master’s thesis research on CP. As of June, 2016, a Northern Ontario Heritage Fund Corporation (NOHFC) research intern has been employed to provide research support to the CP project. Thus, CRaNHR is contributing to the development of research and evaluation capacity related to community paramedicine in northern Ontario.

C. Knowledge Translation. Researchers are committed to collaborating on the dissemination of evaluation findings to: (1) the Emergency Medical/Paramedic Service Providers and other stakeholders, as well as to the MOHLTC, in order to inform CP program improvement initiatives, and (2) the public and academe through presentations at conference and publications in peer-reviewed journals. To date, researchers have provided ongoing consultation with and feedback to commanders and paramedics in each District, submitted CP Review Meeting Reports to the paramedics at the four pilot sites, and produced the Interim and Final Evaluation Reports. Four abstracts have been accepted for presentation at three conferences.

D. Future of the Research and Evaluation. Current and planned research activities have been developed to capture the evolving model of CP across the Districts.

Surveys. The patient and caregiver survey is ongoing, and data collection will continue until July, 2016. Consent has been obtained from most participants that allows for follow up and the collection of additional qualitative information. A survey of paramedics will compare the experiences and perspectives of paramedics practicing community paramedicine with those performing only conventional (regular) EMS duties. The online survey will be launched in the fall of 2016 and aims to capture program related information and other important data on quality of work life, operational stress injury, and education/training in relation to CP. A third survey is under development that will explore the perceptions of CP among Circle of Care partners (other health care professionals).

Northwest Ontario. Recently, researchers and the EMS services of Rainy River and Superior North have agreed to collaborate on research and evaluation, because Rainy River and Superior

North EMS providers are developing a similar model of CP, where regular duty paramedics are performing CP in rural areas. Program participants from these two districts have already begun completing surveys. Verbal consent has also been received from the paramedic chiefs in Rainy River and Superior for their paramedics to participate in the paramedic surveys. The addition of two northwest Districts will yield a larger sample and more comprehensive data. As the evaluation expands to include the programs in Rainy River and Thunder Bay Districts, the research team will encourage and facilitate the exchange of “lessons learned” between the four EMS providers.

Outcome evaluation. The planned outcome evaluation (described above), which will investigate the impact of the CP Program on emergency services, hospital utilization and costs, is contingent on funding, but the research team is committed to seeking funds to complete this work. The preliminary evaluation protocol, developed in collaboration with ICES, could be used for other CP evaluations at other sites across the province; thus enhancing future research and evaluation capacity for CP programs.

Finally, with the aim to continuously collaborate and engage communities in this CP initiative, we are actively seeking additional sources of funding. For instance, recently CRaNHR submitted an application to the MOLTC Health Services Research Fund, and a substantive portion of that application involved the support, expansion, and ongoing evaluation of the CP program currently in place. Although the HSRF was cancelled, the team is dedicated to exploring additional funding opportunities.

III. Findings

This section reports on the results of the evaluation activities completed up to 31 March, 2016 for Manitoulin-Sudbury DSB and Cochrane District paramedic services. Data sources include: (A) Administrative Data; (B) the Patient and Caregiver Survey; (C) Researcher Observations; and (D) Outcome Evaluation.

A. Administrative Data. Administrative data related to CP activities were compiled by the Program Lead (D. Wolff) in a Microsoft Excel file for one year, from April 1, 2015 to March 31, 2016, and were made available to the research team for review and synthesis. The results are summarized here for three aspects of the program: (1) *Assessment and Referrals*; (2) *Home Visits*; and (3) *Wellness Clinics*. Assessment and Referral data were compiled district wide for both districts, and the Home Visit and Wellness Clinic data were collected for the four pilot communities of Hearst, Smooth Rock Falls, Gogama, and Gore Bay.

1. **Assessment and Referrals (District-wide).** Over the twelve-month reporting period, there were 207 paramedics in the two districts, and who were involved in the use of an

early unpublished version of a clinical prediction tool primarily designed for senior patients (age >65 years). This tool, the Paramedics Assessing Elders at Risk for Independence Loss (PERIL), was designed to facilitate paramedic referral to Community Care Access Centres (CCACs) across Ontario.[4,5]

Table 2 contains program statistics, which indicate a combined total of 4,213 patients were assessed using the PERIL tool (2,426 by Cochrane DSB paramedics, and 1,787 by Manitoulin-Sudbury DSB paramedics). Only 12.8% (n=538) of the patients were referred to the CCAC, however there was a significantly higher percentage of referrals made by Sudbury-Manitoulin DSB paramedics (20.9%) than by Cochrane District paramedics (6.8%). As expected, most patients referred were age 65 or older (92.9%), however, fewer than half of the patients referred were female (46.1%). No additional patient profile information was provided. Apart from the CCAC, there was no additional involvement of health or social service providers reported.

Table 2. Program Statistics: Assessment and Referral (District wide), April, 2015-March, 2016

Assess & Refer	Manitoulin-Sudbury	Cochrane	Total
# Paramedics (District)	120	87	207
# Patients assessed	1,787	2,426	4,213
# Patients referred	373	165	538
% Patients referred	20.9%	6.8%	12.8%
% Referred - Female	48.8%	40.0%	46.1%
# of health/social service providers involved	No data	No data	No data

2. **Home Visits (Pilot Sites).** For the reporting period, available data indicate that 16 paramedics made 42 Home Visits to 10 patients at the four pilot sites (see Table 3). Patient encounters in this table include repeat visits; thus these results suggest that each patient had received an average of 4 Home Visits. The patients receiving Home Visits were identified both by paramedics themselves (ad hoc) and by referral (Circle of Care) partners. No post-hospital discharge visits were specifically identified in the data.

It is suspected that the data are incomplete, particularly for follow-up visits, and may not accurately reflect the patient characteristics. No data were available on the number of prescription medications, access to or visits to a primary care provider, or the number who

were connected to the CCAC or other social service providers.

Table 3: Patients and Encounters at Home Visits and Wellness Clinics for Each Pilot Site

	Manitoulin-Sudbury DSB			Cochrane District DSSAB		
	Gogama	Gore Bay	Pilot Sites Combined	Hearst	Smooth Rock Falls*	Pilot Sites Combined
Home Visits						
Total # Patients**	n/a	n/a	n/a	n/a	n/a	n/a
Total # of Patient Encounters	1	17	18	10	14	24
Wellness Clinics						
Total # of Patients	18	5	23	64	90	154
Total # of Patient Encounters	18	5	23	77	170	247

Notes: *Statistics for Fauquier-Strickland are included in the Smooth Rock Falls service area.
 **Site specific # of patients not available (n/a) from administrative data for home visits.

Throughout the 42 patient encounters during home visits, a number of paramedic assessments were performed. The most common assessment was a general health and wellness assessment (i.e., blood pressure, general health concerns) that was performed during each visit. In addition, five mobility assessments (i.e., Timed-up and Go), two cognitive assessments (i.e., Mini-Mental State Exam) and two Independent Living Guides (ILGs) were reported. Twenty education and coaching sessions were reported; where the content was specified, education focused on falls prevention, medication review/management, and chronic obstructive pulmonary disease (COPD). Two referrals were also initiated during an ad hoc intervention, one to the CCAC, and one to a primary care provider.

The overall low number of documented Home Visits (approximately two per paramedic), over a twelve-month period at the four sites, indicates that this aspect of the CP program is not yet established, requiring further investigation, training, and follow-up. One issue is the documentation of Home Visits, which may be under-reported. As well, no individual health or social service providers were recorded as being involved in this initiative, and only one partnership (likely the CCAC) was reported, which may partly explain the low uptake of home visits. Observations and information collected during the site visits, described in the next section, provide further insights into why adoption of this aspect of the CP program has been slow.

3. **Wellness Clinics (Pilot Sites).** For the reporting period, there were 270 patient encounters (including repeat visits) with 177 patients recorded as participating in Wellness

Clinics (Table 3), and these clinics were conducted by 20 paramedics across the four pilot communities. Most of the Wellness Clinic patients are from Smooth Rock Falls (n=90; 51%), however this also includes patients from the adjacent community of Fauquier-Strickland. It appears that repeat visits to Wellness Clinics has only occurred in Smooth Rock Falls and Hearst, and this is confirmed from what was learned during the site visits in terms of the Wellness Clinics being established in these communities, but not in Gogama or Gore Bay. However, the Program Lead (D. Wolff) suggests that data on repeat visits is likely incomplete, and because patients may attend Wellness Clinics more than once, even monthly, the data on total patient encounters is likely under-reported.

Although there were some discrepancies in the data received that prevent us from reporting specific numbers, there are two observations worth noting: (1) As expected, the vast majority of patients were seniors over the age of 65; and (2) In the first six months, most of the new patients were female, and in the second six months there was an increase in new patients that were male. At the site review meetings, some paramedics commented that female participants had begun bringing their husbands with them to the Wellness Clinics, one possible explanation for the change over time. Further investigation is warranted.

During each Wellness Clinic, paramedics often provide a brief assessment of the general health and wellness (i.e., blood pressure, general health concerns) of the patients and often offer medication reconciliation, as well as health promotion and education strategies. Fifty-two education/coaching activities and six point-of-care tests were reported as well. Two patient referrals to the CCAC were reported, but no other referrals were recorded; based on discussions with paramedics, this represents under-reporting of referrals. Overall, the data on Wellness Clinics suggest that they were adopted earlier and are more accepted by paramedics than the Home Visits. They are also well established in Cochrane District EMS, and not established in the Manitoulin-Sudbury EMS. Observations and information collected during the site visits are described within Section C and provide further insights in terms of the successes and challenges related to implementing the Wellness Clinics.

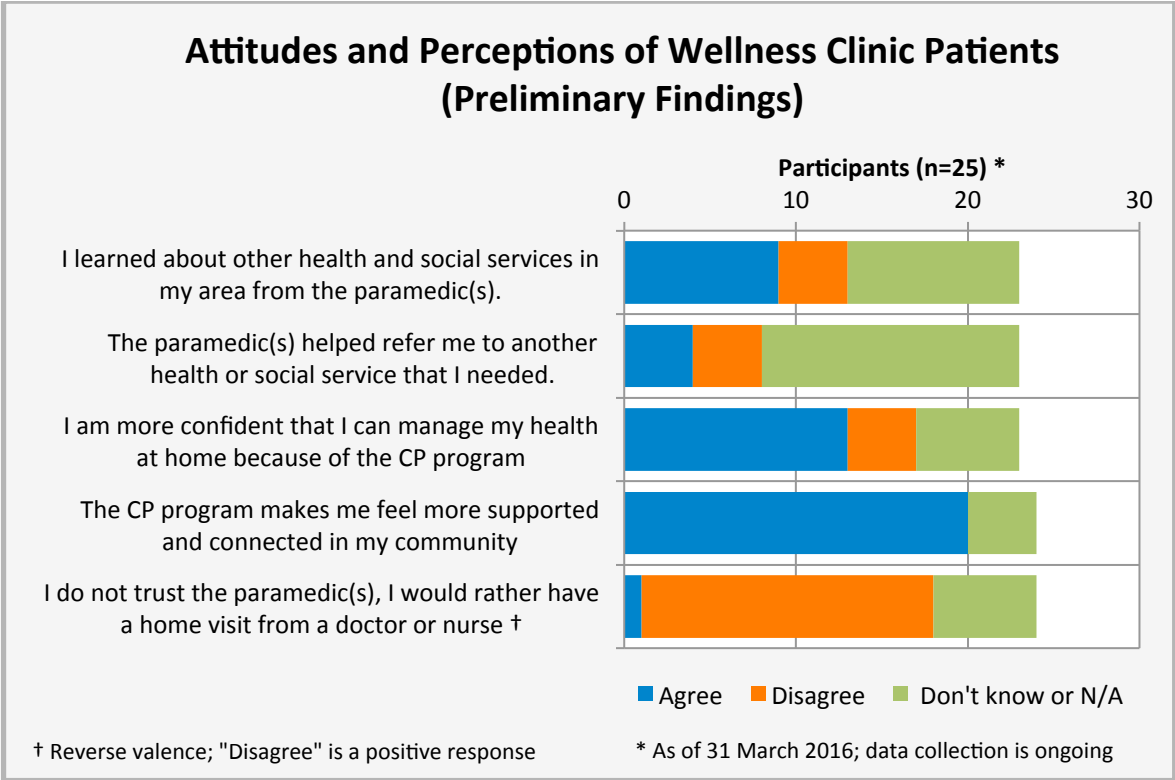
B. Survey: Patient and Caregiver Perspectives. The patient and caregiver survey instrument is a 33-item questionnaire with a combination of fixed choice and open-ended items and attitudinal scales (see **Appendix D**). The questionnaire can be completed on paper or over the telephone with an interviewer. To recruit patients or caregivers to take part in the survey, an invitation to participate in the study, a “consent to be contacted” (CTBC) form, and a business reply envelope were to be distributed by paramedics to all patients and/or their caregivers when they initially register for the CP program (Home Visits and/or Wellness Clinics). After waiting a minimum of three months (to allow the patient to have more experience with the program), survey packages are mailed to participants, and followed up with a telephone call.

During the reporting period (01 April 2015 to 31 March 2016), 67 patients and caregivers returned a CTBC form from three of the four pilot sites. Of these, 52 were sent a survey package (14 participants are still in the waiting period and have not yet been sent the survey, and one patient passed away before the survey package was sent). By the end of the reporting period, 27 questionnaires had been completed and returned (3 others were returned but were incomplete). The vast majority were from patients in Smooth Rock Falls, including Fauquier-Strickland (n=23), and all but one were participants in a Wellness Clinic. Only one caregiver (a health care professional) has thus far participated.

Due to the lack of recruitment and response from Home Visit patients to date, preliminary responses are only from Wellness Clinic patients/caregivers (n=26). At the time they completed the survey, 12 participants reported attending a Wellness Clinic “1-2 times”, 12 reported “3-5 times”, and two patients selected “6-10 times”. All but one participant indicated they were satisfied with the service, with most reporting they were “very satisfied” (16 of 26). Twenty-four participants indicated that they would recommend the CP program (Wellness Clinic) to others; one did not know, while another answered no (while also indicating that they were very satisfied). Participants were asked if the CP pilot program should be expanded to other communities; 23 agreed, while three were unsure.

Other questions on the survey address linkages to other health and community service providers, the perceived impact of the CP service on patients’ ability to remain in their own homes and on social connectedness, and confidence/trust in the care received from paramedics, again with positive results thus far (see Figure 1). Based on the survey, information about and referral to other services is perhaps a relatively weak aspect of the program, with the majority of responses in the “don’t know/not applicable” category. However, given that patients are attending Wellness Clinics, it is possible that participants themselves did not perceive a need for more information or services. Other positive results include a majority of participants agreeing that the CP program increased their confidence in their ability to manage their own health at home, as well as increased their sense of social connectedness. Finally, most participants appeared to have confidence in the care provided by paramedics, disagreeing with the statement “I do not trust the paramedics, I would rather have a Home Visit from a doctor or nurse”.

Figure 1.



Open-ended responses. Open-ended items allowed participants to give feedback in their own words. For example, some participants explained why they would recommend the program:

Many elders are not well enough to go to the doctor's office and wait for an hour and their problems are chronic and all they need is some monitoring. This service is also cheaper than a visit to the doctor.

Because you can take more time, be heard, and receive a very good explanation without waiting in the emergency department.

When asked what they liked about the program, many patients seemed to like the Wellness Clinics because the clinics helped the patients monitor their chronic conditions:

Monitor a chronic medical problem. It is a 2nd opinion.

... on items such as blood pressure. I monitor it myself, but it is a double-check for me. It helps to find problem[s] out before they get worse.

Others appreciated the easy access, support for independent living, the friendly and knowledgeable paramedics, and “everything”. Several participants described the service as “reassuring”. Referring to the log book given to patients at Wellness Clinics to keep a record of

their visits, the one caregiver respondent commented that the book was useful for patients when communicating with physicians.

Fewer participants indicated what they disliked about the program, with “*nothing*” being the most common response. The caregiver, however, disliked that the clinics were held only once a month, and that there was a lack of information and publicity about the CP program and services.

A home visit patient disliked when the service ended:

[They] stopped coming because they saw I was doing OK by myself. Would like to see them more often.

Only two participants offered suggestions for improvement. The caregiver suggested that the CP program coordinator should hold a small information meeting on topics related to the CP program services, while another patient thought the program should not be exclusive to seniors:

There are chronic people in the community, e.g. MS patients, stroke, etc., patients with severe mobility problems who need routine monitoring and assessment and even a renewal of prescriptions. A paramedic [visit] would be a good idea for these people, as they could be monitored and even treated at home and only have to go to the doctor if absolutely necessary.

Final comments were few, and included encouragement such as “*keep it up!*” In support of the CP program, one patient commented on the inconvenience and inefficiency of the current system:

To keep our health care system going, it is necessary to let qualified health care people do work they are trained to do. Why do I have to go to a doctor to have BP taken every 3 months and to get a renewal prescription when I have a stable condition? That is a waste of health care dollars!

Although these results seem to suggest that the CP program is relatively well received and meets a need in the communities being served, caution should be exercised when interpreting these preliminary results. There are substantive limitations to these survey findings, beyond the usual challenges such as recall bias. Limitations include the fact that the survey is ongoing, and only 27 responses were available for analysis. Almost all of the survey participants in this reporting period were involved in Wellness Clinics, a group who are relatively healthy and mobile compared to Home Visit patients, and for whom impacts may only become evident in the longer term. Additionally, the majority of respondents (23 of 27) were from one service area, Smooth Rock Falls (including Fauquier-Strickland), thus at this time, the survey data are not representative of all four pilot sites.

Finally, several participants initially indicated no involvement with the CP program, being unfamiliar with the terms “Community Paramedicine” and “Wellness Clinic”. Apart from the usual association of paramedics with ambulance-based emergency services, because the

Wellness Clinics in Cochrane District were initiated in partnership with Aging at Home programs, it is possible that some participants associated the Wellness Clinic activities with the Aging at Home programs.

C. Observations: Site Visits and Paramedic Perspectives. One of the components of the evaluation design framework was the implementation of a CP program review process. Between 17 November and 08 December 2015, the research team and CP Program Lead facilitated site visits to meet with paramedics involved in the CP program, review progress to date, reinforce highlights, identify key learnings, discuss issues and challenges, and develop next steps focused on improving the CP program at each site. The meetings were documented (See Review Meeting Reports, **Appendix F**) and then distributed back to the Districts and Sites (Commanders and paramedics) after each review meeting.

The site visits were informative, and numerous observations and insights were documented. The following sections summarize these insights in terms of overall applicability for CP across all sites: (1) Highlights and Key Learnings; (2) Challenges and Issues; (3) Next Steps for Improvement.

1. Highlights and Key Learnings. Although there is insufficient data at this point to address the impact of CP in these communities, paramedics at the pilot sites had success stories or anecdotes of the program having had a positive impact. In Gore Bay, paramedics perceived a reduction in 911 calls from patients that were receiving regular Home Visits (further suggesting that CP Home Visits were under-reported). In Hearst, a visit to a CP Wellness Clinic resulted in a patient seeking additional medical care and having a life-saving procedure. In Smooth Rock Falls, paramedics were aware of at least one patient who was receiving services as a result of a referral to the CCAC. In Gogama, paramedics seem to have become a trusted source of information and advice to residents within the community.

A key learning from the site visits is the *relational* nature of CP. This relationality has a number of features. For example, CP not only depends on paramedics' ability to gain the trust of community members, but also to keep it. Awareness of the importance of trust and mutual respect in gaining access makes a patient-centered approach an inherent aspect of CP, and the importance of attending to the relational aspects of patient interactions often takes precedence over paperwork. Moreover, paramedics who have resided in the community for several years have developed friendships and therefore have experiential knowledge of which community members may require assistance (e.g. patients at home with supplemental oxygen who are vulnerable during power outages), and can act on that knowledge to the benefit of the community. However, much of this activity is spontaneous, informal, and not reflected in administrative data.

Another emerging theme is the professional satisfaction that paramedics feel from receiving feedback from patients and their families in small communities. This satisfaction was reported as

a contrast to urban paramedic practice, where paramedics often do not know their patients and are unlikely to learn about the outcomes of the calls - either about the fate of their patients after emergency transport, or the effectiveness of their own practice. From the perspective of some paramedics, a benefit of CP is the opportunity to “*close the loop*,” because follow-up with patients when they return home is encouraged and supported as part of CP practice.

2. Challenges and Issues. While some challenges and issues were site and context-specific (e.g. the seasonal population surge in Gore Bay made it difficult to provide CP services during the summer months), a major issue for all sites was related to the documentation of CP activities. Other common challenges were related to the implementation of referrals to the CCAC, and to inconsistencies among paramedics practicing CP in terms of offering the survey invitation (and CTBC form) to patients for participation.

Documentation of CP. Paramedics at all sites commented on the challenges of documenting CP activity using the tools currently provided by the program. Paperwork was characterized as “*excessive*” and a deterrent to CP. Also, there were challenges reported with respect to unreliable internet connectivity that prevented the use of online reporting tools; this resulted in data errors. The current reporting system was “*cumbersome*” and did not support reporting of spontaneous or informal activities, nor did it provide a way for paramedics to see a patient’s history within the CP program (health conditions, medications, prior visits, assessments), or to complete a “*follow-up*” record versus a lengthy new patient record.

Informal CP. It is also important to recognize that some paramedics were performing many CP activities on an informal basis, and may have been doing so since before the launch of the CP program. To the extent that these informal CP activities are not actually new, the ability to measure change as a result of the CP program is hampered. Moreover, this activity is not captured in administrative data or by surveys, and available data likely underestimate the actual volume of CP activity, if these informal encounters are to be considered CP.

The CP Program Lead (D. Wolff) has responded to the challenges related to the reporting forms by developing an easier reporting tool that includes reporting for informal activities. Future analysis will determine whether this new report form will lead to more complete reporting of CP activities. The Community Paramedicine and Operations Commander in Cochrane (D. Cremin) has addressed the Internet connectivity issue by ensuring that all ambulances are now equipped and operating as a mobile “hot spot”.

Referral to the CCAC. A number of issues surfaced relating to the paramedic referral component and the use of the PERIL tool. First, paramedics found that the PERIL tool was not effective among the seemingly healthy patients who attend Wellness Clinics, because they did not see the home environment in order to complete an effective assessment, and the resulting low scores did not meet the threshold for referral to CCAC. Second, in Hearst, the CCAC nurse reported receiving only two referrals from the local community (though the District Office in Timmins),

despite claims by paramedics that higher numbers of referrals were made. Paramedics also reported that they did not receive any feedback after making referrals, so they did not know the result of their referrals, or whether the CCAC was following up. The Community Paramedicine and Operations Commander in Cochrane (D. Cremin) has addressed this issue by developing a new form that is distributed to paramedics who made the referral to ensure that they now receive feedback from CCAC on how the referral was addressed. Finally, case discussions revealed instances where a referral should have been made, suggesting that paramedics might benefit from more training on the application and interpretation of the PERIL tool. It is important to note that the original PERIL clinical prediction rule has recently been revised prior to publication,[5] and this will likely add to confusion by paramedics already trained to use the original PERIL tool that was released before final study completion and publication.

Impacts of service interruption. Paramedics expressed reluctance to schedule CP activities, such as Wellness Clinics, when they could potentially receive a 911 call and have to abandon their CP patients. There was equal concern about having people arrive for a cancelled Wellness Clinic, as there was for disappointing a senior expecting a Home Visit. In the larger communities, there was the potential of calling in additional paramedics for back up, but this is costly and more difficult in smaller communities, where additional (replacement) paramedics often lived further away from the ambulance base. Collaboration with other providers (such as a community nurse) was discussed as a possible solution, since the other providers could then continue the Wellness Clinic if the paramedics were dispatched to an EMS call. As for Home Visits, paramedics seemed to indicate a preference for keeping these unscheduled and informal.

Scope of practice. The range of services currently included within the CP program, operating primarily with primary care paramedics (PCPs), is limited compared to some other CP programs in Ontario. In particular, services such as blood glucose monitoring, INR monitoring, or immunizations are not provided as part of the current CP pilot program. As the Regulated Health Professions Act defines “performing a procedure on tissue below the dermis” as a controlled act, and because the Ambulance Act does not specify this Controlled Act as it relates to practicing CP, the regulatory framework appears to prohibit PCPs from performing these acts while performing CP duties.[6,7] Further, this Controlled Act is not included on the list of controlled acts that may be performed by PCPs practicing CP under authorization from Base Hospital Medical Directors. As observed in other districts, however, there is an opportunity to consult with the Base Hospital Medical Director to determine the potential to include these services within the CP program.

Geographic limitations. A final issue relates to the geographic context in which this model of CP is being implemented. While the model of using regular duty paramedics to engage in CP activities may appear to have advantages, a drawback is the need to remain close to the ambulance base, to ensure that CP activities do not interfere with emergency response times in the event of a 911 call. This “proximity paradox” means that either the CP program can only be implemented within the immediate vicinity of the base, or additional staff must be called in to

provide replacement coverage, at additional cost to the program. As a result, CP services are not available to all residents of a particular service area, especially those that are far from the Paramedic Base.

The geographic restriction may also be partly responsible for the low number of reported Home Visits and preference for informal CP. In the two smaller communities (Gore Bay and Gogama), other providers already make home visits in the same local area, so that the Home Visit component was seen as “duplication” or “stepping on another’s turf”. In at least one site (Gore Bay), the local-only provision of CP was in conflict with the expressed preference of stakeholders (physicians) that the CP program should provide services to the more distant and outlying communities because the local physicians were already providing Home Visits to patients in close proximity to their clinic. Finding a sustainable solution that will enable delivery of CP to more distant residents of a service area may enable greater program equity and impact through the Home Visit component.

3. Next Steps for Improvement. For paramedics, next steps focused on starting or increasing Home Visits, including follow-up visits. Increasing referrals to community service providers – not just to the CCAC – was encouraged. While some paramedics were concerned about the lack of a referral from a physician, the idea of making ad hoc visits to patients known to be frequent 911 users was reinforced.

Another potential solution discussed was to establish partnerships and collaborations for holding Wellness Clinics, both in terms of expanding clinics to new locations, and in bringing other providers who could continue to provide services at the Wellness Clinics, if the paramedics are called away.

For some, the importance of creating recognition of the CP program was discussed, either through the use of signage and other branding strategies, and/or through public information strategies, such as public service announcements or press releases.

To assist in recruiting Home Visit patients for the patient survey, paramedics can use follow-up visits or wait until they have built a relationship with a patient to offer the survey invitation. Even where patients are reluctant to participate, inviting family members to participate in the caregiver survey remains important, and may serve to encourage the patient to participate as well.

For the project team, continuing to simplify the reporting system to enable tracking of all relevant CP activity will support paramedics in improving their compliance with the reporting of CP activity. The CP Program Lead (D. Wolff) will also ensure that the online CP training program will be offered to all paramedics as soon as possible.

D. Outcome Evaluation. The outcome evaluation, which will use administrative data linked by ICES (see **Appendix E**), is yet to be completed, so there are no results available at this

time. This component of the evaluation is also contingent on funding, but the research team is committed to seeking funds to complete this work. The evaluation protocol, developed in collaboration with ICES, could also be used for other CP outcome evaluations at other sites across the province; thus enhancing future research and evaluation capacity for CP programs.

E. Limitations. Throughout the evaluation process, many challenges and limitations were encountered that could have an impact on the evaluation findings. Administrative data, although improving, remains incomplete and unreliable. For the patient survey, a primary challenge was the recruitment of survey participants. Due to privacy legislation, the research team could not obtain a list of patients from the EMS providers, but instead had to rely on paramedics' handing out the invitation and consent to be contacted package. Based on results, this task appears to have been easier to accomplish within the Wellness Clinic activity. Thus, a significant limitation for the patient and caregiver survey was the lack of recruitment of Home Visit patients. Compared to Wellness Clinic patients, Home Visit patients are likely to have more health and mobility challenges, be frequent users of 911 services, and experience more immediate benefits from CP. Program administrative data suggest there were only 10 Home Visits, which may partly explain the challenge of recruiting Home Visit patients for the survey; however, interpretation of administrative data is hampered by lack of completeness and other data quality issues. During program review meetings, paramedics sometimes expressed discomfort at the idea of discussing the survey process with patients or handing out the CTBC form, fearing negative reactions from the patient and loss of trust and rapport. Paramedics seemed to be more focused on providing care and maintaining good relationships with patients than addressing issues related to data collection and evaluation.

A related issue was the lack of caregiver participation in the survey. This is most likely due to the fact that nearly all participants were well enough to attend Wellness Clinics outside the home, and if both spouses attended, they tended to both complete the survey from the patient perspective. As Home Visit activity increases, it is likely that more caregivers may participate in the survey.

Another challenge for the survey was the public's lack of recognition of the term "community paramedicine" and the need for program branding. Since many Wellness Clinics conducted by Cochrane District paramedics were held in conjunction with the Aging at Home program, participants did not always associate the activities with "community paramedicine" or the term "Wellness Clinic", indicating no participation on their questionnaires. Follow-up telephone calls were used to explain what CP was, what a Wellness Clinic was, and that the participant had completed the CTBC form at a wellness clinic. Participants were given the option of reviewing their responses over the phone, or having a new questionnaire sent.

Gender and CP. Population data for the districts and the pilot communities indicate a larger number of women than men in the 65+ age group (see Table 1), and an even larger proportion of

senior women living alone compared to senior men. This suggests that we potentially could expect more CP clients to be female than male.

Wellness Clinic patients are self-referred and clinics were initially attended largely by women. Toward the second half of the year, more men began to participate, and by the end of the year, gender balance had largely been achieved. However, for the other service components - assessment and referral and home visits – a higher proportion of patients were male than female. At this time, the implications of this discrepancy are unclear. On the one hand, under-triage of female patients is a frequent finding in research on prehospital care; on the other hand, being “male” was identified as a risk factor in the recent publication on the PERIL tool.[5] More research is needed to examine this issue.

IV. Summary and Recommendations

This Final Evaluation Report summarizes the current state of the CP Programs in Cochrane District and Manitoulin-Sudbury DSB, one year after launch. Review of the administrative data, patient survey responses, and review meeting reports (see **Appendix F**) suggests that implementation of the CP Program has met with both successes and challenges at the different sites. Each site has a unique context that requires different approaches to implementing CP effectively with regular duty paramedics. The Review Meeting Reports identify specific recommendations for “Next Steps” at each site, and several of these steps have already been taken or are underway. However, improvement and sustainability of CP depends on committed leadership, and it is apparent that the administrative leadership of both Emergency Medical/Paramedic Service Providers (Chiefs, Deputy Chiefs, and Commanders) is committed to recognizing and reinforcing the successes and addressing the challenges. For instance, in response to paramedics’ complaints about data reporting tools, a new streamlined tool was developed to simplify reporting as well as capture more activity (e.g. informal CP). Commitment also exists to expand services; for example, remote patient monitoring programs have been introduced by each paramedic service. The Manitoulin-Sudbury DSB is currently negotiating a Memorandum of Understanding (MOU) for Circle of Care two-way referrals within the CCAC’s remote patient monitoring program, and service delivery has already begun. Cochrane District EMS has recently launched Wellness Clinics and Home Visits in the city of Cochrane.

Early indicators from the administrative data, site visits, and survey data suggest that Wellness Clinics seem to be well established in Hearst and particularly in the Smooth Rock Falls area. In contrast to the larger communities, however, there have been substantive challenges related to implementing Wellness Clinics in Gogama and Gore Bay. Further, documented Home Visits at all four pilot sites - either initiated by paramedics or through referral from Circle of Care partners - has developed much more slowly.

Despite the challenges, preliminary feedback from patients indicates that the services provided by paramedics at Wellness Clinics are acceptable and very much appreciated. Psychosocial benefits of the program are noteworthy, particularly the reassurance that patients experience, and the enhanced sense of social connectedness. While measuring the impact of preventive services is inherently challenging and remains for future analysis, the “success stories” of paramedics hint at not only the potential health benefits to patients and communities, but also of the professional benefits to paramedics themselves.

From the data collected and analyzed for this Final Evaluation Report, there are several recommendations for the path forward with respect to strengthening the CP program in the Cochrane District and Manitoulin-Sudbury DSB.

A. Recommendations

- 1. Eligible Patient Identification.** The initiation of Home Visits has been slow at each site. During the site visits, it seemed that some paramedics were hesitant and uncertain about who and how to identify those patients that could benefit from a Home Visit. *We recommend that the Emergency Medical/Paramedic Service Providers support the sites practicing CP by supplying them a list (or help them develop a list) of potential patients (i.e. frequent 911 users) that could benefit from regular Home Visits.*
- 2. Paramedic Training.** The CP program is in its infancy, and most paramedics at the four sites received less than a day of training. The skill set required for health education and promotion activities is substantively different than the skill set required for emergency response. Beyond “knowledge” focused training, learning from peers may be equally if not more effective, both in terms of applying CP concepts, approaches, and tools, and in supporting the culture change that is part of CP. This could involve having paramedics visit other services and perhaps observing other paramedics with more CP experience. Another possibility is supporting attendance at the Community Paramedicine Forum or other similar opportunities for CP knowledge exchange. Additionally, paramedics that completed training using the original PERIL tool must be retrained to use the revised version of the tool. *We recommend that the Emergency Medical/Paramedic Service Providers support paramedics practicing CP with additional training opportunities, including retraining on the revised PERIL tool.*
- 3. Program Review Process.** The CP program is relatively new and each site (community) has different contextual elements (geography, demographics, available health services, proximity to hospital, etc.). Additionally, the expectations related to engaging in CP activities are a substantive shift in organizational culture from the lights and sirens of a 911 dispatch call. This requires an accountability mechanism for ongoing surveillance, dialogue, and program adaptability and improvement. *We recommend that the Emergency Medical/Paramedic Service Providers implement a regular CP Program Review process, at an appropriate frequency (i.e. monthly or quarterly), with each site engaged in CP activities.*

4. **Promotion and Branding.** Observations during site visits with paramedics and comments on the patient survey suggest that there is often a misunderstanding or misconception surrounding CP activities that are performed by paramedics who are usually associated with ambulance-based emergency services. Although this confusion could be expected with the launch of a new program, it can be mitigated through public information and communication activities. *We recommend that the Emergency Medical/Paramedic Service Providers focus on developing more promotional material and branding CP so it is clearly differentiated from emergency response.*
5. **Documentation and Reporting.** Feedback from the paramedics during the site visits was clear and consistent about the difficulties of documenting CP activities; and there were additional challenges related to compiling the data in preparation for this Final Evaluation Report. High quality administrative data related to CP activities is critical to being able to evaluate the effectiveness of the CP program, especially with respect to linking with hospital data through ICES to assess the impact of the program on the health system. *We recommend that the Emergency Medical/Paramedic Service Providers review the administrative data acquisition system to ensure that all CP activities are documented with minimal errors and omissions.*
6. **Informal CP.** One insight that emerged from the site visits was that many paramedics living in small communities often have dual relationships with the patients they are serving. In other words, the paramedics often have both a paramedic-patient relationship and a friend/neighbour relationship. This leads to many informal conversations and interactions in the community, and many of these interactions involve health-related conversations. These informal conversations often lead to insights on a patient's condition or outcome in regards to their previous diseases/hospital admission. *We recommend that the Emergency Medical/Paramedic Service Providers seek to better understand, manage, and document these informal encounters with community members as CP activities.*
7. **Engaging Circle of Care Partners.** Numerous Circle of Care partners and organizations provided letters of support prior to the launch of the CP program, but the system of referrals, communication, and collaboration at each site has been slow to develop. *We recommend that the Emergency Medical/Paramedic Service Providers collaborate with the CRaNHR research team to engage Circle of Care Partners and collectively identify and implement methods to strengthen CP referrals and health services integration that meets the unique needs of each community.*
8. **Collaborate with First Nations Communities.** In both service areas there are EMS bases that have high 911 call volume and dispatch to First Nations communities that are in close proximity. In particular, Mattagami First Nation is close to Gogama, Constance Lake First Nation is close to Hearst, and there are several First Nations communities on Manitoulin Island in close proximity to Gore Bay. *We recommend that the Emergency Medical/Paramedic Service Providers consider collaborating with appropriate First*

Nations community leaders to explore the possibility of implementing relevant CP services to these communities.

9. **Activity Interruption.** Paramedics are sometimes reluctant to schedule Wellness Clinics or Home Visits because of the risk of disappointing patients, if they have to respond to a 911 call. Given that patients might line up for a Wellness Clinic and wait for service, or might be expectantly waiting for a paramedic to visit them at home, the potential harm of losing a patient's (or a community's) trust is real. *We recommend that the Emergency Medical/Paramedic Service Providers develop a plan to address CP activity interruption by 911 calls so that paramedics and patients can effectively manage the uncertainty related to providing potentially unreliable CP services.*
10. **Geographic Coverage.** Although rural and northern EMS services cover very large service areas, CP services are mostly limited to the local community surrounding the ambulance base. This is to ensure that CP duties do not cause any delays in response should the paramedics receive a 911 call. While this means that often the largest community in the service area receive CP services, many other outlying communities and patients do not benefit. *We recommend that the Emergency Medical/Paramedic Service Providers develop a plan to provide equitable CP services to patients throughout the geographic coverage area for EMS bases engaged in CP activities.*
11. **Scope of Practice.** Some paramedics and program staff had a broad sense of the potential of CP to fill gaps in care in their community, but under the current “on duty” model, felt constrained in what they were permitted to do. Paramedics must operate within the legislated scope of practice prescribed for PCPs under the Ambulance Act. *We recommend that the Emergency Medical/Paramedic Service Providers consult with the Base Hospital Director and the MOHLTC to explore the possibility of extending the scope of practice for PCPs to include CP activities.*

B. Conclusions

The introduction and development of the CP program by the Emergency Medical/Paramedic Service Providers of Cochrane District and Manitoulin-Sudbury DSB responds to recommendations made in the 2012 report informing the MOHLTC's Senior Strategy, *Living Longer, Living Well*.^[8] Such recommendations emphasized the key role of CP in rural and northern communities, such as the vast geographies serviced by these two EMS Providers. The implementation of CP is not only a technical and administrative challenge, but it requires a number of changes – change from a reactive to a proactive mode of working, change from a focus on immediate to long-term results, and change in organizational culture. It is important to recognize that some paramedics can perceive CP as disruptive, and that this kind of change takes time, even where there is ample support.

The CP program is developing slowly but steadily at the pilot sites. Each group of paramedics at each site faces their own particular challenges (see Appendix F), and yet some commonalities can also be observed. At this point, paramedics practicing CP at the pilot sites appear to be most comfortable with the Wellness Clinic intervention, and these clinics are generally implemented in collaboration with Aging at Home/seniors services. The ad hoc Home Visit component has yet to “take off” in the pilot communities, although responses during the site visit review meetings suggest that some paramedics are ready to take on this new challenge. There was mixed progress with the Circle of Care referrals. However, referrals for Home Visits appear largely dependent on the interest of particular health care professionals that are in support of the program, and these have been limited to the two communities where paramedics appear to have good pre-existing relationships with physicians. As the programs expand, the establishment of effective stakeholder relationships, including physicians and nurses, will become increasingly important.

It is important to note that the EMS Providers are already taking action to address many of the recommendations outlined in this report. For instance, a new CP administrative data recording system and paramedic feedback forms have been developed, and the Emergency Medical/Paramedic Service Commanders are actively working with the paramedics at each site to identify patients who would benefit from Home Visits and/or remote patient monitoring services.

The unique demographics and geographic dispersion require an ongoing cycle of learning and improvement in order to establish an effective model of CP for rural and remote communities in northern Ontario. For instance, there is a dearth of evidence on the effectiveness of CP programs in Aboriginal and Francophone communities. Our hope and plan is to continue our program of research to better understand how CP best fits in the array of health services provided in the north.

V. References

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List of Appendices

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Appendix C: Evaluation Framework (Conceptual Model)

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Appendix F: Site Visit Reports

1. Gogama - 17 November 2015
2. Hearst - 18 November 2015
3. Smooth Rock Falls - 19 November 2015
4. Gore Bay - 10 December 2015

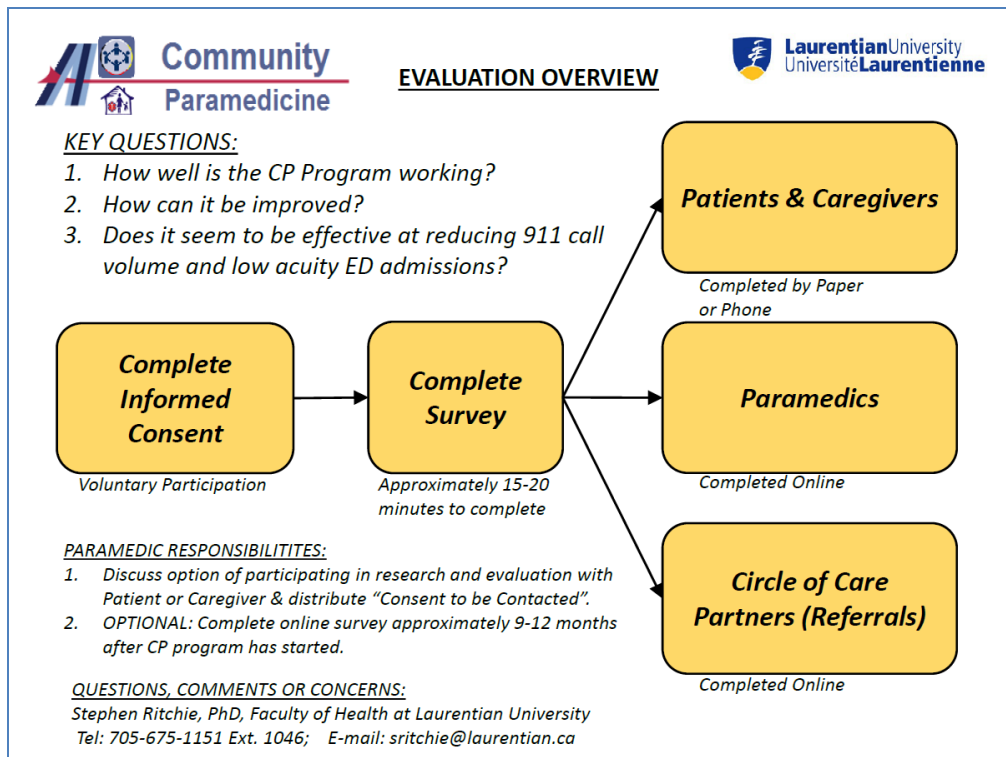
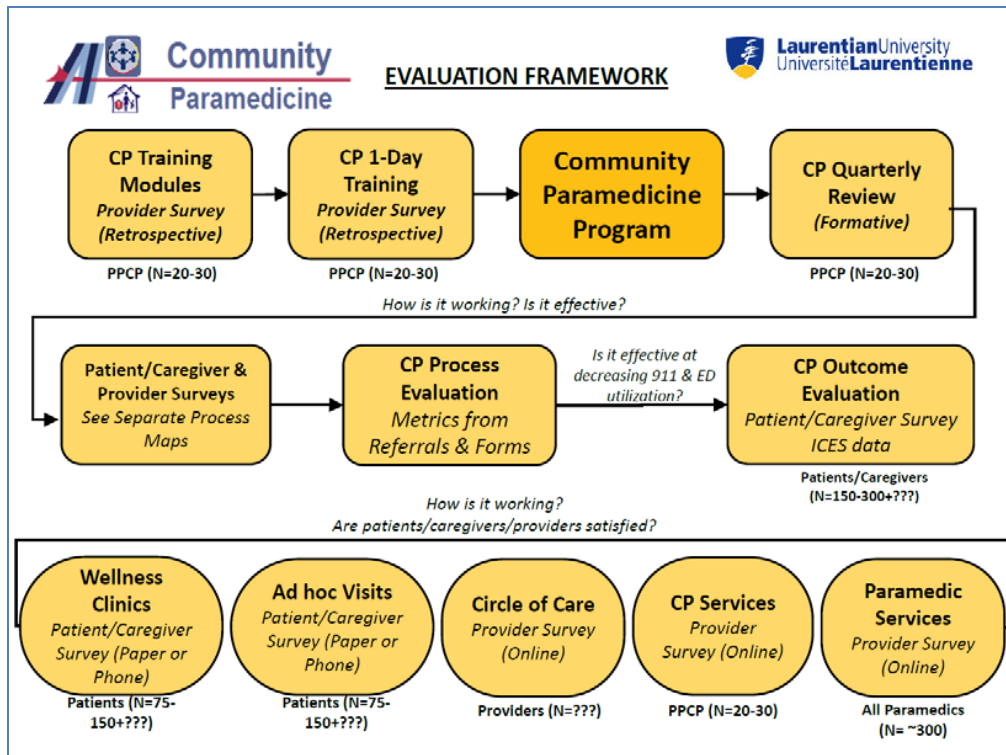
APPENDIX A: News Media Coverage of Community Paramedicine in Manitoulin-Sudbury and Cochrane Districts

Date	Newspaper	Reporter	Link	Article
Northern Ontario				
19-Dec-2014	Northern Ontario Medical Journal	Tollinsky N	http://www.nomj.ca/2014/12/19/paramedics-funded-for-home-visits.html	
Manitoulin-Sudbury District EMS				
09-Apr-2014	Manitoulin Expositor	McCutcheon A	http://www.msdsb.net/images/ADMIN/News_Media/2014/District%20Services%20Board%20seeks%20funding%20for%20community%20paramedicine%20project.pdf	
08-Apr-2015	Manitoulin Expositor	Erskine M	http://www.manitoulin.ca/2015/04/08/dsb-to-introduce-paramedicine-in-gore-bay-and-gogama/	
Cochrane District EMS				
13-May-2015	Timmins Times	Gillis L	http://www.timminstimes.com/2015/05/13/community-paramedicine-program-rolling-out	
14-Jul-2015	Timmins Press	Staff	http://www.timminspress.com/2015/07/14/paramedics-to-be-used-to-provide-remote-care-for-heart-patients-in-cochrane-district	
11-Apr-2016	Timmins Press	Hale AS	http://www.timminspress.com/2016/04/11/paramedicine-program-being-expanded	

Appendix B: Northern College – Training Modules Outline – Community Paramedicine

Module 1 - Health System
Welcome
Health Care Delivery in Ontario
Ontario’s Senior Strategy
Role of a PCP
Primary Care Paramedic Competencies
Defining Interprofessional Collaboration
Identifying Community Partners
Module 2 – Principles of Community Health Care
Welcome
Differentiate between downstream and upstream thinking
Define health, health promotion and disease prevention
Describe health promotion strategies for individuals and communities
Classify disease prevention activities
Identify strategies to reduce risk of familiar conditions
Describe injury prevention strategies for individuals and communities
Explore the social determinants of health
Review Aging at Home
Module 3 – Assessment of the Senior Patient
Review Physiological Changes associated with aging
Identify key components of functional status assessment
Review 4 types of community paramedicine visits
Targeted assessments: Describe the basic steps of the MMSE and Timed Up and Go tests
Module 4 – Geriatric Assessment
Determine how geriatric assessment differs from standard patient assessment
Describe the “Geriatric Giants”
Causes of Immobility
Define Elder abuse and identify useful screening questions
Review the routine management of congestive heart failure, COPD and diabetes
Module 5 – Community Paramedicine
Review BLS standards and NOCP competencies related to professional conduct and ethics
Apply patient care legislation to CP programs
Outline a process for increasing sensitivity to culture and religion/spirituality in patient care
Identify strategies to maintain professional boundaries in long-term therapeutic relationships
Review personal safety and self-care strategies in CP
Module 6 (under development) – The CP Visit

Appendix C: Evaluation Framework



APPENDIX D: Patient Questionnaire (English)

PATIENT QUESTIONNAIRE

COMMUNITY PARAMEDICINE PROGRAM

Instructions to Survey Participants

- The purpose of this survey is to learn about the services and care you have received from paramedics at a Wellness Clinic or during home visits related to the Community Paramedicine program. Community paramedicine simply refers to non-emergency medical follow-up and planned visits by paramedics rather than visits by emergency ambulance services that result from dialing 911.
- To respond to each question or statement, please mark the box (✓ or ✗) by the answer that reflects who you are, or is closest to the way you feel about the community paramedicine services and care provided to you. There are also a few questions requiring additional short answer written responses. The entire survey should take you 15-20 minutes to complete.
- Please do not include any personal information in your responses (e.g. names) that can identify yourself.

DATE: _____

PART A

1. Since you first started meeting paramedics at a wellness clinic or during a home visit, please indicate if you...

a. Met with a paramedic at a Wellness Clinic: Yes No

If yes, how many times? 1-2 3-5 6-10 11 or more

b. Met with a paramedic who visited you at home for a medical follow-up: Yes No

If yes, how many times? 1-2 3-5 6-10 11 or more

2. Where do you live, or what place is the closest to where you live?

Gore Bay Gogama Richard's Landing White River

Smooth Rock Falls Hearst Other

If "Other", please specify: _____

3. Which of the following best describes your living situation:

At home alone At home with family or friend(s)

At a facility that provides care Other

If "Other", please specify: _____

4. In what year were you born? _____ Prefer not to answer

5. What is your sex: Male Female Other Prefer not to answer

6. What is your preferred language: English French Other

If "Other", please specify: _____

7. Were the paramedic(s) able to communicate in the language you prefer?

Yes No Somewhat

8. If you had more than one home visit from a paramedic(s), did you have the same paramedic(s) during each home visit?

Yes No Do not know Not applicable / no home visits

9. Since your first visit with community paramedics, have you also received home visits from another health or support service?

a. Yes No Do not know Not applicable / no home visits

b. If "Yes", select all those organizations or professionals who provided home visits to you:

Community Care Access Centre Red Cross Victorian Order of Nurses

Nurse/Nurse Practitioner Physician Other

If "Other", please specify: _____

10. In general, would you say that your health is:

Excellent	Very good	Good	Fair	Poor
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. In general, would you say that your mental health is:

Excellent	Very good	Good	Fair	Poor
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Since you first started meeting paramedics at a wellness clinic or during a home visit:

a) Have you been seen in the Emergency Department of the hospital?

Yes No Do not know

 If "Yes", how many times? 1 2-3 4 or more

b) Have you been admitted to the hospital for at least one night?

Yes No Do not know

 If "Yes", how many nights? 1 2-3 4 or more

c) Have you used 911 ambulance service for transportation to the hospital?

Yes No Do not know

 If "Yes", how many times? 1 2-3 4 or more

d) Have you or someone in your household called 911 for your health?

Yes No Do not know

 If "Yes", how many times? 1 2-3 4 or more

e) If you answered yes to question 12c or d above, what was the reason for the most recent 911 ambulance call related to your health?

Reason: _____

Not applicable Do not remember Prefer not to answer

13. Think about the last time you were involved in the Community Paramedicine program, either at a Wellness Clinic or during a home visit. What would you have done if you had not gone to a Wellness Clinic or been visited at home by a paramedic?

[Check any that may apply]

Nothing Used 911 services Called a doctor Called
Telehealth

Visited a clinic Visited a health centre Visited a hospital Other

If "Other", please specify: _____

PART B

Community paramedicine refers to a non-emergency, community-based service conducted by paramedics with a focus on health education and promotion, illness management, injury prevention, and referral to other health services. For each of the following statements or questions, select the best response (answer) based on your opinion or how you feel.

14. The paramedic(s) helped me learn how to better manage my own health.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

15. I am more confident that I can manage my health at home because of the community paramedicine program.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

16. I learned about other health and social services in my area from the paramedic(s).

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

17. The paramedic(s) helped refer me to another health or social service that I needed.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

18. The paramedic(s) listened to my concerns.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

19. The paramedic(s) took the time to answer my questions.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

20. I did not understand the paramedic(s) answers and explanations.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

21. The paramedic(s) treated me with respect, dignity, and compassion.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

22. I get more frequent medical follow-ups now, because of the paramedics at the Wellness Clinic or the paramedics who visit me at home.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

23. I do not need to go to the doctor or hospital as often now, because of the community paramedicine program.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

24. I do not trust the paramedic(s), I would rather have a home visit from a doctor or nurse.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

25. The community paramedicine program makes me feel more supported and connected in my community.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

26. The community paramedicine program is addressing a gap in health care services in my community.

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

27. Overall, how satisfied are you with the services and care provided by the community paramedic(s)?

Very satisfied Satisfied Dissatisfied Very dissatisfied Not applicable/Do not know

28. Right now, community paramedicine is a pilot project in this region with only a few paramedics involved. Do you agree that more paramedics should be allowed to make home visits and offer wellness clinics in other regions across Ontario?

Strongly agree Agree Disagree Strongly disagree Not applicable/Do not know

29. Would you recommend this community paramedicine service to others?

Yes No

 Please comment: _____

Part C

Considering your experiences at a Wellness Clinic or during a home visit from a paramedic(s), please share your thoughts on the following questions. If you've had a home visit, please also consider any assessments that the paramedics performed (Timed Up to Go Mobility Test, Falls Risk Assessment, Mini Mental State Exam, Independent Living Assessment, etc.).

1. What do you like about the community paramedicine program?

2. What do you dislike about the community paramedicine program?

3. Do you have suggestions for how to improve the community paramedicine program?

4. Do you have any other comments?

THANK YOU FOR PARTICIPATING IN THIS SURVEY! THERE ARE THREE WAYS YOU CAN RETURN THE COMPLETED SURVEY: (1) FAX: 1-855-512-4321; (2) SCAN & E-MAIL: cpstudy@laurentian.ca; (3) CANADA POST: Use the self-addressed envelope provided.

FOR OFFICE USE ONLY:

Date received: _____

APPENDIX E: ICES Confirmation of Feasibility



Institute for Clinical Evaluative Sciences
Data & Analytic Services
G1 06, 2075 Bayview Avenue
Toronto, Ontario M4N 3M5
E das@ices.on.ca
www.ices.on.ca

Thursday, March 03, 2016

Dr. Stephen Ritchie
Assistant Professor, School of Human Kinetics/Faculty of Health
Laurentian University and the Centre for Rural and Northern Health
935 Ramsey Lake Road
Sudbury, ON, P3E 6H9

Dear Dr. Ritchie,

Re: Confirmation of Feasibility

The Institute for Clinical Evaluative Sciences (ICES) and ICES Data & Analytic Services (DAS) is pleased to provide conditional confirmation of feasibility for the research submitted by you and your colleagues, entitled “**Evaluation of a Community Paramedicine Program in Northern Ontario**” and the associated data and analytic services as outlined in Appendix A (“Research Plan”).

Funding for ICES DAS comes in part through support from the Ontario Ministry of Health and Long Term Care, the Ministry of Research and Innovation, and the Canadian Institutes for Health Research. ICES DAS provides in-kind support for upfront consultation required to determine feasibility and ongoing administrative services associated with managing your research. An estimate of the total cost for providing your research team with virtual access to ICES data and the analytic consultation and support for ICES to provide data cut and analytic services is attached. These figures are included in Appendix B (“Services Quote”) and are intended to aid in applying for research funding. Please note that this Services Quote is subject to change if there are any changes to the scope, funding or feasibility at any point during your engagement with ICES Data & Analytic Services.

While the research meets the eligibility criteria for accessing ICES DAS, research initiation will only occur upon receipt of an approval letter from a valid Research Ethics Board (REB) (see Appendix C) and corresponding application. It is the responsibility of the Principal Investigator to complete the Research Plan in its entirety prior to submission. The REB application must include this document as supporting documentation in order to ensure that the REB is authorizing the intended research.

ICES policy will require that the Principal Investigator confirms how and when the funds are used to support this research are derived from public or publicly-funded sources, that your interest in the disclosure of the data for your research purpose will not result in actual, perceived or potential conflict of interest. If you have any questions please contact das@ices.on.ca or 416-480-4092 (toll-free 1-844-848-9855).

Once you provide all conditional requirements ICES will provide you with an ICES Data & Analytic Services Agreement that governs the research and, upon execution allows the research to be activated.

We look forward to working with you and your colleagues.

Yours sincerely,

Refik Saskin
Staff Scientist

APPENDIX E: ICES Confirmation of Feasibility

Appendix A Research Plan

About this Form: As a prescribed entity under s. 18(1) of O. Reg. 329/04 of Ontario's Personal Health Information Protection Act (PHIPA), the Institute for Clinical Evaluative Sciences (ICES) is authorized to disclose data for research that is described in a research plan that meets the requirements of s. 44(2) of PHIPA and approved by a Research Ethics Board (REB), or in the case of research approved outside of Ontario, for research that meets the requirements of s. 44(10) of PHIPA. This Research Plan is used to capture the information required for a research plan under PHIPA (not all REBs request all of the required information). This Form must be appended to the REB application form(s) when applying for ethics approval. Where applicable, specific content is provided. Failure to provide all information and submit this Form for REB review may delay ICES DAS approval. This Form does not replace any forms or information required by an REB.

A. RESEARCH TITLE
Evaluation of a Community Paramedicine Program in Northern Ontario

B. RESEARCH SUMMARY & OBJECTIVES	
Summary	CP programs will be initiated at 6 different pilot sites (Gore Bay, Gogama, Hearst, Smooth Rock Falls, Richard's Landing, and White River) within the three EMS Districts (2 per district). The CP program involves ad-hoc home visits and the establishment of scheduled month wellness clinics for patients involved in the program. Each patient involved in the program will be registered using their OHIP# on new CP forms that have been created; this data will be compiled in a central database managed across all three districts. Patients using EMS by dialing 911 have all of the call information, including OHIP#, on standardized Ambulance Call Reports (ACR). The ACR data is entered into an EMS Electronic Patient Charting database that is managed separately by each district.
Research objectives	<ol style="list-style-type: none"> 1. Does the implementation of a community paramedicine (CP) program impact the frequency of emergency services utilization in terms of 911 ambulance dispatch services and emergency department (ED) visits by patients involved in the program? 2. Does the CP program reduce the volume of low acuity calls to 911 dispatch services and ambulance transport to the ED for patients involved in the program?
Research duration	Estimated start date 1-Apr-15 Estimated end date 30-Jun-16

C. PRINCIPAL RESEARCHER	
Name	Stephen Ritchie
Affiliation	Laurentian University and the Centre for Rural and Northern Health
Address	935 Ramsey Lake Road, Sudbury, ON, P3E 6H9
E-mail	sritchie@laurentian.ca
Phone number	(705) 675-1151 x. 1046
Data access required	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (specify reason): Data analysis

D. RESEARCH DATA	
Data source	The data identified at section D(a) are held at ICES, a not-for-profit research institute whose mandate is to enable health system evaluation and research. ICES has custody of a vast array of administrative, clinical and other information generated in the health system – collected, used and disclosed by ICES in accordance with applicable law, research ethics approvals and contractual commitments (ICES Data). The source of any data intended for transfer to ICES and listed at section D(b) is identified in that section (Third Party Data).
Data linkages (identify need and methodology)	The Research objectives cannot reasonably be accomplished without combining the data listed in section D (Research Data). The Research Data will be linked at ICES by authorized analysts in accordance with a dataset creation plan, in order to prepare a research-ready dataset for use by Research members. Linkage will be enabled by a unique confidential identifier attached to each data record.
Analysis plan (describe how the Research data will be used)	In order to answer the research questions we will need ICES to help link and analyze three data sources: (1) Hospital ED data associated with each pilot site; (2) EMS Electronic Patient Charting data from each district (from ACR forms); (3) CP data from the centralized database for all three districts.

APPENDIX E: ICES Confirmation of Feasibility

Necessity for data	All Research Data identified in section D and further set out in <i>Schedule 1: Data Dataset Specifications</i> is reasonably necessary to achieve the objectives, which cannot be accomplished using other information.
---------------------------	--

(a) ICES DATA <i>(List all ICES Data intended for use. See Schedule 1 for dataset specifications)</i>		
ICES Data	Rationale for use	Other rationale
Ontario Health Insurance Plan (OHIP)	Outcome or outcome definition	
Canadian Institute for Health (CIHI) Discharge Abstract Database (DAD)	Outcome or outcome definition	
Canadian Institute for Health (CIHI) Same-day Surgery (SDS)		
National Ambulatory Care Reporting System (NACRS)	Outcome or outcome definition	
Registered Persons Database (RPDB)	Outcome or outcome definition	
Ontario Drug Benefit (ODB)	Outcome or outcome definition	
National Rehabilitation Reporting System (NRS)	Healthcare utilization and costs	
Continuing Care Reporting System (for Chronic Care) (CCRS)	Healthcare utilization and costs	
Ontario Home Care Administrative System (OHCAS)	Healthcare utilization and costs	
Homecare Database (HCD)	Healthcare utilization and costs	
(b) REQUEST TO TRANSFER THIRD PARTY DATA TO ICES <i>(Use this section to identify Third Party Data to be transferred to ICES for linkage with ICES Data. Where Research Ethics Board approval is required to authorize the transfer of the data to ICES, the application approved by the REB must contain a stated intent to transfer the data to ICES.)</i>		<input type="checkbox"/> Not applicable
Source	Laurentian University and the Centre for Rural and Northern Health	
Estimated # of records	500	
Type	<input checked="" type="checkbox"/> Clinical data <input type="checkbox"/> Other personally identifiable information (<i>specify below</i>): Health card number (on some records)	
Current use	<input checked="" type="checkbox"/> Clinical/other primary use <input type="checkbox"/> Research	

E. PRIVACY PROTECTION & DATA SECURITY	
Access & use (describe applicable safeguards)	Access to the Research Data is subject to approval by ICES' Privacy Office and a REB. Once approved, ICES makes available research-ready, linked and de-identified data for use by individuals named in the research plan approved by the REB. Research Data are irrevocably stripped of personal identifiers before they are provided to Research members.
Retention & destruction (describe applicable safeguards)	All Research Data are held on secure ICES servers, located in a restricted area within ICES' locked and 24/7/365 video-monitored facility. Research members access Research Data remotely through a secure, encrypted VMware virtual desktop, requiring two-factor authentication. Research Data may not be copied or transferred from the VMware virtual desktop, except for results, which may only be removed subject to ICES' approval. ICES retains copies of the Research Data for 10 years, following which they are permanently removed from ICES systems.
Consent (justify why consent will not be obtained)	As a prescribed entity under PHIPA, ICES is authorized to collect personal health information from health organizations without consent for the purposes of evaluation and monitoring of Ontario's health system. ICES is prohibited, under its agreements with data providers, from contacting individuals whose information has been entrusted to ICES. This contractual obligation restricts any opportunity to seek individuals' consent for use of their information for research.
Confidentiality agreement	Research members must enter into an agreement with ICES affirming their commitment to protect Research Data, including not to use Research Data for unauthorized purposes, not to provide access to Research Data to unauthorized individuals, and not to attempt to link Research Data with other information to identify any person.

APPENDIX E: ICES Confirmation of Feasibility

F. RESEARCH MEMBERS (List <u>all</u> individuals who are part of the Research)			
1	Name	Jill E. Sherman	Access to Research Data required <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (specify reason below) Planning, conducting, and reporting analyses
	Affiliation	Laurentian University / CRaNHR	
	Qualifications	M.P.H, Research Associate	
	Role	Analyst	
2	Name		Access to Research Data required <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (specify reason below)
	Affiliation		
	Qualifications		
	Role	Select from list	
3	Name		Access to Research Data required <input type="checkbox"/> No <input type="checkbox"/> Yes (specify reason below)
	Affiliation		
	Qualifications		
	Role	Select from list	
4	Name		Access to Research Data required <input type="checkbox"/> No <input type="checkbox"/> Yes (specify reason below)
	Affiliation		
	Qualifications		
	Role	Select from list	
5	Name		Access to Research Data required <input type="checkbox"/> No <input type="checkbox"/> Yes (specify reason below)
	Affiliation		
	Qualifications		
	Role	Select from list	

G. RESEARCH ETHICS BOARD REVIEW & APPROVALS (Use this section to identify all Research Ethics Board applications and approvals associated with the Research. This includes applications and approvals required to authorize the transfer of any Third Party Data identified at section D(b) to ICES for linking with ICES Data. Attach copies of approvals and applications, including any accompanying protocols and applicable amendments.)	
Research Ethics Board (List all institutions)	Approval
1. Laurentian University	<input type="checkbox"/> Attached <input type="checkbox"/> Pending <input checked="" type="checkbox"/> Application to be submitted
2.	<input type="checkbox"/> Attached <input type="checkbox"/> Pending <input type="checkbox"/> Application to be submitted
3.	<input type="checkbox"/> Attached <input type="checkbox"/> Pending <input type="checkbox"/> Application to be submitted
4.	<input type="checkbox"/> Attached <input type="checkbox"/> Pending <input type="checkbox"/> Application to be submitted
5.	<input type="checkbox"/> Attached <input type="checkbox"/> Pending <input type="checkbox"/> Application to be submitted

H. RESEARCH FUNDING	
Source name	MOHLTC - grant funding to CP pilot programs
Source type	<input checked="" type="checkbox"/> Government Funding Agency <input type="checkbox"/> Charity <input type="checkbox"/> Industry <input type="checkbox"/> Other (specify):

APPENDIX E: ICES Confirmation of Feasibility

I. RISKS & BENEFITS	
Anticipated public or scientific benefit (Maximum 150 words)	<p>The proposed analysis will provide objective evidence of whether the CP programs have had the intended impacts of (a) improving the health and wellbeing of seniors in rural and northern communities, and (b) reducing excessive use of emergency services through provision of, or linkage to more appropriate community-based services. The analyses may help the MOHLTC (funding agency), the EMS services and paramedics, and other programs understand how to deliver improved services, to the benefit of rural and remote communities.</p> <p>As an emerging model of care, existing scientific knowledge of community paramedicine is limited. Scientific benefits include the generation of new knowledge of models of community paramedicine for rural and northern Ontario, as well as provide insights for future CP related initiatives in other similar regions across Canada.</p>
Contextual sensitivities or foreseeable harms (Potential to stigmatize or harm any person or institution)	<p><input checked="" type="checkbox"/> None identified</p> <p><input checked="" type="checkbox"/> Yes (<i>Identify and suggest mitigation below</i>)</p>

J. CONFLICT OF INTEREST DISCLOSURE (<i>A conflict of interest may arise when a Principal Researcher's or other Research member's personal, institutional, commercial or financial interests unduly, or appear to unduly, influence that member's duties and responsibilities related to the Research. The Principal Researcher is responsible for determining whether any Research members' participation in the Research would result in an actual or perceived conflict of interest.</i>)	
Conflict of interest	<p><input checked="" type="checkbox"/> None</p> <p><input type="checkbox"/> Yes (<i>Identify and suggest management strategy below</i>)</p>

APPENDIX E: ICES Confirmation of Feasibility

Schedule 1: Dataset Specifications

About this Schedule: This Schedule is used to identify the dataset specifications based on the Research Data identified in section D.

Type of study	<input checked="" type="checkbox"/> Cohort	<input type="checkbox"/> Case-control
Matching required	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes
Index event		
Description	Date of intervention – the cohort and index data is provided by the PI using the External Data.	
Age range	Min: 18 to Max:	<input type="checkbox"/> All non-missing
Sex	<input type="checkbox"/> Male	<input type="checkbox"/> Female <input checked="" type="checkbox"/> All non-missing
Required ICES Data	None.	
Demographic data	<input checked="" type="checkbox"/> Income quintile	<input type="checkbox"/> Age at outcome <input type="checkbox"/> Age at death
Geographic data	<input checked="" type="checkbox"/> Rural/urban indicator	<input type="checkbox"/> LHIN <input type="checkbox"/> Sub-LHIN
Comorbidity data	<input checked="" type="checkbox"/> ACGs	<input checked="" type="checkbox"/> Charlson index <input type="checkbox"/> Other:
Additional covariates		
Description	None.	
Required ICES Data	Not applicable.	
Outcome		
Description	Healthcare utilization, costs and visits	
Required ICES Data	OHIP	1-Apr-13 to 31-Mar-18
	DAD	1-Apr-13 to 31-Mar-18
	NACRS	1-Apr-13 to 31-Mar-18
	RPDB	1-Apr-13 to 31-Mar-18
	ODB	1-Apr-13 to 31-Mar-18
	SDS	1-Apr-13 to 31-Mar-18
Resource utilization data	MD visits ED visits Hospitalization Costs	
Required ICES Data	NRS CCRS OHCAS HCD	

Appendix B
Services Quote

 **DATA & ANALYTIC SERVICES**
SERVICES QUOTE

RESEARCH INFORMATION		
Name of Principal Researcher	Date	
Stephen Ritchie	2016-03-03	
Research Title: Evaluation of a Community Paramedicine Program in Northern Ontario		
SERVICES		
DISCLAIMER: Both parties acknowledge and agree that the costs captured within this document are estimate costs that may increase or decrease depending on changes in research scope, number of accounts on the ICES Data & Analytic Virtual Environment (IDAVE), additional consultation time and costs at time of initial request.		
NOTE: ICES Data & Analytic Services requires 25% plus applicable one-time research set-up fee(s) to be provided at first invoice. Late payment may result in delays in providing data and analytic services.		
FOR REQUESTS REQUIRING IMPORTATION OF EXTERNAL DATA: In addition to the costs outlined below, ICES will cost recover flat fees for each additional data sharing agreement required and any amendments requested, on a per institution basis.		
Activity	Quantity / Hours	Cost
Research Initiation		
Initial Consultation		<i>No charge</i>
Research set-up fee (incl. IDAVE account for Principal Researcher RSA SecurID, Information Technology Support)	1	\$ 500.00
Set-up fee for other authorized user(s) (quantity)	1	\$ 300.00
		\$ 800.00
Dataset creation plan		
Consultation for development of Dataset Creation Plan	10	\$ 1,040.00
Dataset creation		
Create the specified dataset(s) from the ICES Data Holdings	60	\$ 5,518.00
Anonymize (PARAT) the research data	1	
Post the data to virtual workspace	1	
Analytical consultation		
Analyst time	10	\$ 890.00
		\$ 7,448.00
External data importation		
Privacy impact assessment	2	\$ 238.00
Data importation and preparation	10	\$ 780.00
		\$ 1,018.00
TOTAL		\$ 9,266.00

Appendix C
Research Ethics Board Requirements

I. Proof of research ethics board approval is required to conduct a project through ICES Data & Analytic Services. Any research ethics board that meets the requirements of section 15 of Ontario Regulation 329/04 of Ontario's Personal Health Information Protection Act is acceptable. Those requirements are summarized as follows:

Ontario Research Ethics Boards

1. The research ethics board (REB) must have at least 5 members, which include:
 - a. 1 with no affiliation with the person(s) who established that research ethics board
 - b. 1 knowledgeable about research ethics
 - c. 2 with relevant scientific expertise, and
 - d. 1 knowledgeable about privacy

2. There is no actual or perceived conflict of interest between the research ethics board's duties and any member's personal interest in the project

Appendix F: Site Visit Reports

1. Gogama - 17 November 2015
2. Hearst - 18 November 2015
3. Smooth Rock Falls - 19 November 2015
4. Gore Bay - 10 December 2015

GOGAMA
Community Paramedicine (CP) Pilot Program
Review Meeting Notes and Synopsis

November 17, 2015

Community Context

- Although the majority of Gogama residents are Francophone, a large number are Anglophone. Bilingual services are important.
- There are three full-time and two part-time paramedics. Paramedics do not reside in or near Gogama, but travel long distances from home (Timmins, Chapleau, and Little Current), and stay at the station during week-long shifts.
- Emergency transport is to Timmins and District Hospital, a distance of 112 km (3 hours return trip).
- The EMS station covers a very large service area, including Mattagami First Nation. Calls can take paramedics a long way from the base, and affect their ability to respond to other calls.
- Gogama has only one other healthcare provider, a Nurse Practitioner, who works at a satellite nursing station of the Centre de Santé Communautaire du Grand Sudbury (CSCGS). The CSCGS is a multi-site community health centre based in Sudbury, dedicated to providing primary health care services for Francophones.
- It is customary for residents of this very small community to initiate contact in-person, rather than by telephone call. This includes a habit of some residents walking into the ambulance base to ask for paramedic assistance, rather than calling 911.
- Paramedics are aware of only a couple of frequent 911 users; it is thought that residents with high service needs are forced to move to larger communities for needed healthcare.

Highlights and Key Learnings

- The current complement of paramedics is well-liked and respected in the communities served; the full-time paramedics have served the community for several years.
- Residents seek out the paramedics as a source of first aid / primary care, information, advice, assistance with family members, and referral. This includes community members coming to the EMS station in lieu of calling 911. It may be that these residents rather not seek healthcare in a distant community (Timmins), or they simply prefer interacting directly with someone they know. Paramedics may also be seen as an alternative to the nursing station, particularly after hours.
- Informal contacts with patients are frequent, occurring at public places in the community (e.g. restaurant, grocery store), and sometimes patients (residents of Gogama) even stop by the ambulance base after a 911 call and hospital visit to inform the paramedics of the outcome. These informal contacts serve to provide follow-up and feedback on a previous 911 event.
- Gogama paramedics receive updates and feedback on an estimated 80% of their calls, largely through these informal contacts. Community members will also call paramedics to provide updates, as a cultural norm. This is in contrast with most paramedics, who receive little-to-no feedback or closure on patients. This feedback seems to provide the paramedics with a significant amount of job-related satisfaction.
- Paramedics have established good rapport with the Mattagami First Nation community. Informal activities included paramedics' participation at the community's Health Day.

- The success of the paramedics in gaining the communities' trust highlights the importance of the relational dimension in CP.

Challenges and Issues

- A key challenge is to recognize that some of what the paramedics are already doing is “community paramedicine,” and to document these activities. This includes public events (e.g. health promotion, wellness clinics) and ad-hoc visits.
- Currently, there is no mechanism to easily document informal contacts.
- Because none of the paramedics reside in Gogama, it is difficult to call in additional paramedics for extra coverage for special events (e.g. wellness clinics), related to CP.
- In Gogama, there is only one local health care provider with whom to collaborate. Most health/social services for residents are district-based in Timmins, not locally based in the community. Paramedics are not familiar with Timmins-based health/social service providers.
- The Nurse Practitioner also performs home visits; paramedics are concerned that performing CP home visits will be viewed as duplication (at best) or usurping turf (at worst).
- Some residents have learned “key words” to obtain a rapid response when calling 911, and use this process for non-urgent calls (e.g. assistance with medications). Because they are dispatched as emergencies, the visits are coded as emergency response rather than CP. These patients and the larger community would be better served if they could be seen through community paramedicine.
- No “Consent to Be Contacted” (CTBC) forms have been received from this pilot site, either for home visits or for wellness clinics. This form is the first step in recruiting patients & caregivers to participate in a survey for program evaluation. Paramedics felt that distributing the CTBC form during a patient visit was awkward and difficult.

Next Steps – Paramedics Practicing CP

- Collaborate with Nurse Practitioner on a joint Wellness Clinic. If paramedics receive an emergency call during the wellness clinic, the clinic can continue with the NP providing the services.
- Initiate home visits in Gogama, and begin documenting informal CP contacts as ad-hoc visits.
- Identify opportunities for follow-up with patients & caregivers, where providing information about the survey and distributing the Consent to be Contacted form is more appropriate.
- Continue to build relationships with the Mattagami First Nation community.
- Complete online CP training modules, when available.

Next Steps: CP Program & Research Team

- Create a simple reporting tool that will allow paramedics to easily document informal contacts; DW will provide a simple form to make logging these contacts as easy as possible.
- Examine data on 911 calls with no transport to hospital (Code 7).
- Explore whether patient-initiated services are a distinct type of service, whether it is important to document, and modify reporting tools accordingly.
- Ensure that the CP training modules address the importance of good relationships as well the technical and procedural aspects of CP.
- Compile a list of health and social service resources whose coverage area includes Gogama. This may include services based in Timmins and Sudbury. The list should also include services for Mattagami First Nation.

HEARST
Community Paramedicine (CP) Pilot Program
Review Meeting Notes and Synopsis

November 18, 2015

Community Context

- Hearst has a (2011) population of 5,090, of whom 86% are Francophone.
- Other communities in the Hearst service area include Mattice and Constance Lake First Nation; neither are covered by the CP program at this time.
- Relative to other small communities, Hearst has a good supply of a range of health services, including (but not limited to) a hospital and nursing home; a Family Health Team and a locum clinic; and local offices of regional services such the Porcupine Health Unit and and HKS Counselling Services.
- The CCAC is based in Timmins; its satellite office in Hearst does not provide home monitoring; they directly provide personal support services only. Home care and community support services (e.g. Meals on Wheels, Friendly Visiting) are provided by the Red Cross. CommunicAction operates a Lifeline service locally.
- CarrefourSanté/Health Crossroads (www.santehearsthealth.ca) is a health-related information and networking website for Hearst's professionals and community members.
- The hospital continues to experience an Alternate Level of Care (ALC) crisis. The 65-bed nursing home has 52 patients on a wait list; of those, 30 occupy an ALC bed at the hospital. About 10 of the ALC patients could have potentially remained in their homes with sufficient support.

- Owing in part to the historical lack of home care or other residential alternatives, “moving to the hospital” for assisted living is a community norm – often supported by physicians and other healthcare providers.

Highlights and Key Learnings

- In addition to five paramedics, representatives from the hospital and the CCAC attended the meeting. The discussion included brainstorming on new opportunities for community paramedicine.
- Wellness clinics have been held in April, May, and June, in collaboration with the Hearst Aging at Home program; one clinic also had a Diabetic team. Wellness clinics have been coordinated with a senior's club lunch event, with great success.
- Paramedics were aware of having a positive impact: As a result of concerns raised by a paramedic at a wellness clinic, who advised the patient to consult a physician, the patient has undergone a lifesaving procedure. This is an amazing success story!
- A Community Paramedicine referral form has been developed; referrals are to be faxed.
- Paramedics had just received their first Circle of Care (CoC) referral from the hospital.
- Paramedics have conducted a Brain Save program, a summer bicycle helmet program for children and youth, for several years. This is a great example of an unrecognized CP program already running and well established in the community.

Challenges and Issues

- Wellness clinics are well-attended and patients form long lines. This creates challenges for maintaining privacy.
- Paramedics had not yet started doing ad-hoc or Circle of Care (CoC) home visits; by seeing only the healthier Wellness Clinic clients, the program has not yet reached the higher risk patients.
- When used at wellness clinics, the PERIL tool scores are usually 0-1 and do not meet the threshold for referral to the CCAC. The tool may not be as sensitive in the wellness clinic intervention, because wellness clinic patients are relatively healthy, and because the paramedic does not see the home environment.
- Some physicians and other providers do not yet understand community paramedicine and may be reluctant to refer.
- Paramedics have received feedback that providers are unsure how to refer, how to get the referral form, and using the referral form is “difficult.”
- Although patient/family referrals are acceptable in theory, there is no telephone number or mechanism for the general public to request a CP visit.
- The local CCAC Care Coordinator has received only two paramedic referrals. Paramedic referrals to the CCAC are sent to DW, who forwards them to the CCAC in Timmins. It is unclear why only two referrals have been received locally, as more have been sent to Timmins.
- Lack of secure internet access hinders paramedics’ current use of online reporting tools. The full extent of activity is not being captured in program statistics.
- A small number of “Consent to Be Contacted” (CTBC) forms have been received from this pilot site, for wellness clinics only. This form is the first step in recruiting patients & caregivers to participate in a survey for program evaluation.
- Four surveys have been returned, however only two are useable. Three of the four respondents were unaware that they had participated in a “wellness clinic” or community paramedicine.
- CP records often lack patient OHIP numbers, as patients do not always bring their OHIP card. The OHIP number is important for planned research with the Institute of Clinical Evaluative Sciences (ICES) that will measure impacts of the CP program in the future.

Next Steps – Paramedics Practicing CP

- At wellness clinics, identify a separate room, or use a screen to ensure patient privacy.
- Initiate CP home visits for patients; it is not necessary to wait for a physician referral.
- Supplement the PERIL tool by asking patients if they are receiving any services in the home.
- Refer patients to other community based services as appropriate. Even if a patient has a low score on the PERIL tool and does not meet the criteria for a CCAC referral, they may benefit from other support services.
- Collaborate on an interprofessional/inter-organizational working group to develop criteria for hospital and community-based referrals to CP.
- Identify ways to make the referral process easier (possibly increase communication options beyond fax). Paramedics can carry referral forms and distribute on request.
- Consider adding information about the CP program to the 211 and CarrefourSanté websites, along with the referral form.
- Strengthen advertising of CP/wellness clinics to improve “branding” and name recognition of

the CP program, through posters, flyers, and public service announcements. Include instructions for patients on how to prepare for the clinics, such as bringing medications and their OHIP card, as well as the booklet (for repeat clients).

- Record OHIP numbers in the booklet.
- Continue to explore other opportunities/venues for wellness clinics, such as the annual community food drive. Identify other potential community partners (e.g. Red Cross) and coordinate with other stakeholders during events.

Next Steps – Community Partners

- Hospital and CCAC partners will support a working group to develop referral criteria.

- Hospital CEO will work with the Aging at Home Coordinator to educate the community about community paramedicine.

Next Steps: CP Program & Research Team

- Simplify the reporting formats, and provide better hardware (incl. internet access) to facilitate improved reporting.
- Add a space to record the OHIP number in the next print run of the patient booklets.
- Explore the reasons for the gap in the number of referrals made vs referrals received by the CCAC.
- Review patient/caregiver survey questions for relevance to wellness clinic participants. Consider separate questionnaires for home visit and wellness clinic patients.

**Smooth Rock Falls
Community Paramedicine (CP) Pilot Program
Review Meeting Notes and Synopsis**

November 19, 2015

Community Context

- Smooth Rock Falls (SRFs) has a population of 1,376, with about two thirds being Francophone. The service area includes the nearby community of Fauquier. The community is approximately one hour north of Timmins.
- Community health services include a primary care hospital with a walk-in clinic, 14 acute care and 23 long-term care beds. The hospital also manages the Aging at Home program in SRF and Fauquier, and the Cochrane District Regional Detoxification facility. Ambulance services are provided from a base in the community.
- The CCAC has only part-time staff in the community; they directly provide only personal support services. The Red Cross provides several programs in the community. Other community health services include the public health unit and HKS Counseling Services.
- The majority of emergency calls as well as CP patients are female; men seem to be reluctant to seek or engage with paramedics at wellness clinics.

Highlights and Key Learnings

- Paramedics know the community very well. One has lived in the community for over 40 years.
- Paramedics are doing all four CP interventions - referrals to the CCAC, wellness clinics, CoC referrals, and ad-hoc home visits. Paramedics also reported transporting patients for lab work and/or prescriptions.
- Paramedics are receiving high praise for the ad-hoc home visits. Patients were sometimes initially confused when paramedics arrived at

their home. However, after hearing the reason for the visit, they seemed to like and appreciate the visit.

- A couple of successes included a PERIL assessment that led to a CCAC referral, and having a patient bring her husband to the Wellness Clinic (he was refusing to go to the hospital).
- Wellness clinics take place at least once a month in Smooth Rock Falls. The paramedics also launched a wellness clinic in Fauquier in October, which lasted 3.5 hours because so many attended.
- Despite high attendance at clinics, there are no issues with privacy; they have a small room or cubicle in which they see individual patients.
- After the first clinic, most patients were repeat patients. Patients were given a booklet for tracking their vitals and other assessments, and paramedics state that most remember to bring the booklet to each clinic.
- The paramedics give wellness clinic patients "homework": patients are asked to record their medications in the booklet at home, rather than bringing them to the clinic and having the paramedics record this information. The booklet is described as an asset to help communicate with physicians/other providers.
- As appropriate, paramedics advise patients to discuss their results with their physicians. The paramedics also coach patients with how to talk with the physician - what issues to address and how to ask questions.
- The hospital's CEO and physicians support the CP program. The physicians have made referrals, including requesting specific

assessments (e.g. falls assessment, independent living guide, MMSE).

- The CP program has a referral form that providers can send via fax. Individuals can refer using the same form.
- Paramedics have been effective in encouraging interest and participation in the patient and caregiver survey; most of the survey participants are from this community.

Challenges and Issues

- There are more CP activities than are being documented, and among those that are recorded, records are often incomplete.
- Paramedics feel the paperwork is excessive, and this could discourage paramedics from performing CP activities.
- There are many problems with the current CDMS; paramedics cannot edit or cancel a form; if wifi signal is lost, the form is sent, resulting in errors in reporting.
- There is a need for an “ongoing patient record.” Currently, there is no separate form for follow-up visits, but most information only needs to be recorded once. Also, paramedics cannot access records of previous visits, including the number of previous patient contacts. Being able to see the number of visits and previous interventions will help the paramedics, especially when different paramedics see the same patient.
- Paramedics discussed a case where their use of the PERIL tool did not trigger a referral, despite repeated calls and ultimate placement in the nursing home. Discussion with the CP program team identified an alternative interpretation that would have triggered a referral. This reinforces the importance of PERIL tool training.
- Paramedics estimated that more than half of their home visits triggered a referral to the CCAC; however, they received no feedback.

- Paramedics are not fully aware of other services in town to which they can refer patients.
- All of the patients who have completed the survey were Wellness Clinic patients/caregivers; no “Consent to Be Contacted” (CTBC) forms or surveys have been received from home visit patients. The research team clarified that the CTBC forms and survey were also for home visit patients (all types).

Next Steps – Paramedics Practicing CP

- Begin providing CTBC forms to home visit patients. Use own judgment about the appropriate time to explain about the survey and offer the form. It is better to wait until the patient has had 2-3 home visits before giving the CTBC form.
- Complete online CP training modules, when available.

Next Steps: CP Program & Research Team

- Improve system for tracking CP patient data – systems, software, secure and reliable internet access. Include some information on previous visits, and documentation that patients are aware of/have consented to referral. The new systems should enable paramedics to correct/revise data.
- Enable referrals to be submitted electronically, in addition to the “print and fax” option.
- Continue to investigate opportunities for additional CP assessments/interventions (e.g. INR testing and blood glucose testing, under a medical directive; 12-Lead ECG).
- Clarify expectations and limitations of CP – for example, should paramedics clean patient driveways as they do in Renfrew?
- Consider developing additional training on the use and interpretation of the PERIL tool; adaptation of actual cases into case-based learning tools may help train other paramedics.

- Prepare a press release to publicize the success of the program. This can include quotes from paramedics describing the benefits of the program, other quotes from patients and research team. The draft should be sent to DC and then the CEO for review and release. SR will prepare a draft with input from the research team.
- Compile a list of health and social service resources for Smooth Rock Falls. This may also include services based in Timmins, Cochrane, and Kapusaxing.

**Gore Bay Review Meeting
Community Paramedicine (CP) Pilot Program
Review Meeting Notes and Synopsis**

December 10, 2015

Community Context

- Gore Bay is one of two incorporated towns on Manitoulin Island. It has a permanent population of about 900 people, which triples in the summer with seasonal residents and tourists. It is the service centre for all of western Manitoulin, with a population of approximately 2,500. Some seasonal residents live at camps or on islands that are difficult to access.
- Gore Bay EMS covers a large geographic region, the western half of Manitoulin Island. There are four full-time (FT) paramedics in Gore Bay; two are long-time residents of the community, the other two live in Mindemoya, but reside at the Gore Bay base while on shift/on-call.
- Paramedics usually transport patients to the emergency department at Manitoulin Health Centre-Mindemoya, about 30 minutes to the southeast.
- The Gore Bay Medical Centre provides health care to residents of the community and Western Manitoulin, including clinics on First Nation reserves. Services are provided by three family physicians, an x-ray technician, and a phlebotomist. Approximately 10-15% of residents access physician care elsewhere, including the Family Health Teams in Little Current and Mindemoya.
- Patients are accustomed to calling their physician for all health concerns; if necessary, a doctor will often place the 911 call on their behalf.
- Physicians routinely make home visits and are able to quickly arrange needed services; because of this, there is thought to be less unmet need for home care than in other communities.

- PSWs can be accessed through the CCAC, and a wound care nurse travels from Little Current, but there is no other home nursing care.
- Other local services include Manitoulin Lodge, a 61-bed long-term care facility. The Lodge also manages Meals on Wheels. Other district-wide services are based in Little Current or Mindemoya.
- One public housing complex (Millsite) was developed for seniors (65+). The municipality also supports a Seniors' drop-in centre.
- According to paramedics, most CP patients are in their 60s, although some people in their 90s still live independently in their homes. Most residents have the support of family members in the community.

Highlights and Key Learnings

- There is overlap between "community paramedicine" and "small town life." CP is "supportive relationships with people in the community," it is just what you do if you live in a small town. In many ways, CP describes what paramedics have long been doing in this community.
- Paramedics who are also long-term residents of the community may already know the medical histories of many of the town's residents. Paramedics may also hear of individuals who might need help via social media.
- Paramedics conducted an informal wellness clinic at the public event on Canada Day. While 18 assessments were documented, an estimated 200 people (including children and tourists) stopped by to talk to the paramedics and see the

ambulance. In this example, the clinic functioned as a paramedic outreach and promotion event.

- However, paramedics observed that many people seemed uncomfortable with the lack of privacy at the wellness clinic, and may prefer home visits. Home visits also allow paramedics to see changes in the home environment and better monitor patients over time.
- Paramedics described having very good working relationships with the physicians in the community. The physicians also know the community and residents very well, and accept the recommendations of the paramedics. Paramedics have received one formal CP referral from a physician, however they have had many more “informal discussions,” and physicians sometimes contact paramedics for additional home visits or more urgent response (through 911/EMS) as required.
- Paramedics often do follow-up on patients they take to the hospital, checking in on patients while in hospital, and after they return home. In one case, follow-up with a patient after an EMS call gave paramedics an opportunity to “get in” to the patient’s home and now they visit the patient once a month.
- Paramedics have perceived a reduction in 911 calls from their CP patients, after these patients received the care and services provided during CP visits. Currently, paramedics are making regular visits to about 5 or 6 patients, but could expand to as many as 50 patients.
- In another example of CP, paramedics know which residents are dependent on supplemental oxygen. If there is a power outage, paramedics know these patients need assistance. If the call starts as a 911 call, there is no need to take the patient to the hospital in Mindemoya; in consultation with dispatch, they can divert to an alternative destination – in this case, the nursing home, which has a generator.
- CP can also be a chance encounter with the patient or family member. For example, paramedics often go out in the afternoon for coffee, and residents approach them with updates, questions, and concerns. Having paramedics accessible in the community appears to be a benefit for CP and the community.
- Community members make suggestions that paramedics visit individuals who need assistance, for example with medications, or with medical equipment. Paramedics can provide education on the proper use of the devices or equipment. For example, one patient with COPD didn’t know the meaning of an alarm that kept sounding on the oxygen machine; paramedics helped the patient understand that the alarm meant they were breathing too fast, and needed to slow down.
- It takes time (approximately 3-4 contacts) for the paramedics to establish trust with the patient, and for patients to agree to a home visit. And, some patients may only feel comfortable with a specific paramedic. Working with family members appears to be a good way to increase patients’ comfort and obtain consent for CP.
- Paramedics exchange information with their cross-shift on CP patients, so that all are aware of issues, patients’ status & preferences, need for follow-up visits, etc.
- While most CP patients are in their 60s and the program is of great benefit for seniors, paramedics emphasize that other members of the community who benefit from CP services, such as those with disabilities; it is not exclusively for residents over 65 years.
- CP gives paramedics the opportunity to “close the loop,” to find out what happened to a patient and assess their own performance. This is an important benefit that seems to increase paramedics’ job satisfaction.

Challenges and Issues

- Paramedics seem to be performing much more CP activity than is being documented. Paramedics felt that documentation was cumbersome, and their informal approach made documentation difficult.
- During the busy summer tourist season, paramedics are often too busy with 911 calls to do many CP activities. Also there is concern that if they start a wellness clinic or home visit, it is likely to be interrupted.
- Because paramedics are doing CP while on duty, CP is only offered to the local community of Gore Bay, and not to the residents of the larger service area. They need to be able to respond quickly if an emergency call comes in so they do not travel too far from the base. However, local physicians feel they can cover local residents themselves, and would like paramedics to make home visits to the rest of the communities outside of Gore Bay.
- Some older people do not want to provide their OHIP numbers for CP activity, as they are afraid they will get a bill. Also, some seniors are afraid of being forced to leave their homes; this fear seems to be a source of resistance to CP.
- Many residents are self-conscious about having the ambulance show up in front of the house, as the entire community will respond, so paramedics will sometimes park elsewhere, such as in a public lot, and walk to the home.
- Only one Consent to be Contacted (CTBC) form and completed survey has been received from Gore Bay (for a Wellness Clinic). Paramedics state that patients want to remain anonymous, and are reluctant to provide contact information.

Next Steps – Paramedics Practicing CP

- Explore the feasibility of offering wellness clinics at the Seniors' drop-in centre, and/or

collaborating on wellness clinics held at the seniors' housing complex.

- Review the new reporting tools and provide feedback to DW. Begin documenting activities, including informal activities.
- To address the problem of emergency calls interrupting scheduled wellness clinics, DW has agreed that off-duty paramedics can volunteer to assist at wellness clinics.
- Continue to offer the CTBC form to patients for all intervention types, including home visits and explain the importance of the evaluation research and the CTBC process. Also offer the opportunity to participate in the survey to family members/informal caregivers. Note that it is better to wait until the patient has had 2-3 visits (any type) before giving the CTBC form.
- Patients and caregivers have the right to not participate in the survey. However, the information provided with the invitation may influence this choice. Inform patients and informal caregivers that (a) completing the CTBC form does not obligate them to participate, they can decide after they receive the questionnaire; and (b) the survey will be anonymous - only the researchers will know who participates and what they say, and their names will not be divulged to anyone outside the research team.
- Complete online CP training modules, when they become available.

Next Steps: CP Program & Research Team

- Continue to improve a simplified system for tracking CP patient data - ensure that "social visits" can be recorded.
- The CP program is exploring the possibility of adding a new service, remote patient monitoring.
- Explore potential solutions that would enable paramedics to provide CP services outside of Gore Bay to the rest of western Manitoulin.