Integrating community paramedicine with primary health care:

A qualitative study of community paramedic views

AUTHORS AND AFFILIATIONS
Gina Agarwal MBBS, PhD*[1,2]; Amelia Keenan BSc[1,2]; Melissa Pirrie MA[1]; Francine Marzanek-Lefebvre BSc[1]

*Corresponding author: gina.agarwal@gmail.com

[1]Department of Family Medicine, McMaster University, Hamilton, Ontario, Canada
[2]Department of Health Research Methods, Evidence, and Impact, McMaster University, Hamilton, Ontario, Canada

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CONTRIBUTORS STATEMENT

Each named author (female-identifying) contributed substantially to this research. GA, MP and FM were involved in the data collection. All team members were involved in the analysis, drafting and revision of the manuscript.

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All authors declare no conflict of interest.

DATA SHARING

Data for this study are available in the form of a recorded webinar at this link: (http://mediasite.otn.ca/Mediasite/Play/61d50ab24af341188c2c1b4dc9d9d0dd1d?catalog=fd668812-d87c-47f9-b1ba-6d979fed9af4)

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ABSTRACT

Background: Community paramedicine (CP) is an emerging model of care that addresses local health needs through programs led by community paramedics; however, CP remains poorly defined and does not seem to be systematically integrated with the broader health system, specifically primary care within which it is seated. The purpose of this study was to elucidate the views of community paramedics and their stakeholders in Ontario, Canada, on the topic of integrating CP with the broader health system.

Methods: This was a retrospective qualitative study involving small and large group discussions which took place as part of a CP forum in 2017 in Ontario, Canada. All 89 forum attendees were invited through an email invitation. There were no exclusion criteria to attend the forum. Attendees were asked to discuss their views on how CP will fit into primary care and what medical oversight and acceptance for the profession will involve. The audio recording from the large group discussion was transcribed and thematically analyzed.

Results: Participants varied in gender (63% male) and professional affiliation (66% from a paramedic service). Among those affiliated with a paramedic service, 33% were community paramedics. Five major themes emerged: role of community paramedics, integration with other services, support for CP, standardization, and oversight.

Interpretation: Community paramedics and their stakeholders have insights into barriers and facilitators for integration with the health system. These study findings could help inform the integration of health and social services in Ontario that considers the unique position and potential of community paramedics.

INTRODUCTION

Community Paramedicine

Community paramedicine (CP) is an emerging and evolving model of care within primary care that expands upon the traditional role of paramedic services, often through locally designed programs.[1,2] These programs have emerged in Canada and elsewhere and often involve paramedics with additional training addressing complex low-acuity health needs within their communities, especially those of seniors, patients with chronic health issues, and individuals who frequently call 911.[1–3] For example, CP@clinic is an evidence-based weekly program that takes place in social housing buildings where community paramedics conduct assessments (e.g., blood pressure, diabetes risk, fall risk), provide education, make referrals to community resources, and communicate with family physicians regarding the health of their patients.[4,5] A strength of CP is its ability to respond to a variety of health needs, tailored to local contexts.[2,3,6] This, however, also presents a challenge for defining CP, standardizing training, and understanding the role of the community paramedic.[3] So, despite some universal aims and its potential to improve health and reduce emergency medical costs, CP remains inconsistently defined.[3,7] In Ontario, semi-annual CP forums present opportunities for community paramedics and stakeholders to discuss best practices and clarify roles of community paramedics, including integration with other health services.[8]

Integration

Integrated care is described by the World Health Organization as providing and managing multiple coordinated and patient-centred health services.[9] Interprofessional collaboration, an example of integration within primary care, involves effective communication, cooperation, and shared decision-making among health providers, each with clear and defined roles.[10,11] Collaboration and coordination between the silos of primary care and others (e.g. community care, acute care) are needed to manage complex health and social conditions, particularly for seniors who live longer in communities with multiple chronic conditions.[10–14] Among CP programs that describe working with other health providers, physicians and primary care providers are the most common partners for collaboration.[7,15] In one example, community paramedics refer back to family physicians and others who care for complex patients.[16] Although interprofessional collaboration occurs within some CP programs in the literature, CP integration into the health system has yet to be achieved, perhaps in part due to inconsistent and poorly defined roles of community paramedics (e.g. training and scope of practice).[3,7]

The purpose of this study is to better understand views of community paramedics, paramedic chiefs/supervisors and other CP stakeholders in Ontario regarding CP integration with the broader health system, specifically primary care in which it is seated.

METHODS (443)

Design and Setting

A retrospective qualitative study was conducted to understand the views of community paramedics and stakeholders involved in CP regarding integration with primary care and medical oversight in Ontario, Canada. Views were elicited using small focus groups occurring within a two-day CP forum in Ontario in 2017. A large group discussion, composed of all smaller focus

groups combined, was recorded in the form of a webinar and is publicly archived online by the Ontario Telemedicine Network (1 hour and 15 minutes were allocated for all sessions combined). This forum was co-hosted and organized by the McMaster Community Paramedicine Research Team and the Hamilton Paramedic Service on behalf of the then Ontario CP leadership.

Sample and Recruitment

Participants included all 89 forum attendees, most from a paramedic service in Ontario. Attendees were invited by email invitation using attendee lists from a previous CP forum and paramedic service partners, such as representatives from the Local Health Integration Networks (LHINs, local health system management) and Health Links (care coordination systems). There were no exclusion criteria for forum attendance.

Data Collection

Participants were asked to consider one of two sets of questions by GA, Principal Investigator of the McMaster Community Paramedicine Research Team and practicing family physician. Attendees self-selected these topics and could consider:

A. Integration: *How will community paramedicine fit into primary care ultimately? What is required to get us there?*

Or

B. Medical oversight: *What will be required for medical oversight and acceptance? How will we get there?*

The research team divided each topic into two groups for a total of four small focus groups, each with a volunteer note-taker. In these small focus groups, facilitators (composed of the forum co-hosts) provided the opportunity to all participants to share their views. Then, attendees re-assembled and group note-takers described what was discussed in their respective groups, providing an opportunity for group members to validate that their ideas were accurately represented. This large group discussion was the content for our thematic analysis. Field notes were taken by two research team members independently during the whole process for triangulation of findings.

Data Analysis

Following transcription of the audio recording from the large group discussion, the transcript was thematically analyzed using a word processor through iterative coding and validation, with reference to field notes. Three team members were involved in individually coding the transcript. Themes and sub-themes were deliberated in full-team discussions and consensus was reached at all levels of abstraction. A comprehensive codebook was created that reflected this process and organized all direct quotes into themes and sub-themes.

Ethics Approval

This study was approved by the Hamilton Integrated Research Ethics Board #13154.

RESULTS

Attendees varied in their observed gender, professional affiliation, and roles within paramedic services; demographic results are shown in Table 1. Most forum attendees were from a paramedic service (66%) and among this group, the most common role was community paramedic (24%).

Table 1: Summary of attendee characteristics

Characteristic	No. of attendees
Gender	*n = 89*
Male	56
Female	33
Professional affiliation	*n = 89*
Paramedic service	59
Organization	13
MOHLTC*	9
Research institution	4
Hospital	2
Municipality	1
Not disclosed	1
Role within paramedic service	*n = 59***
Community paramedic	14
Deputy/assistant chief	9
Superintendent/supervisor	8
Commander	6
Coordinator	6
Manager	6
Chief	4
Other paramedic	3
Lead paramedic	2
Social navigator	1

*Note: MOHLTC = Ministry of Health and Long Term Care

**Only among attendees affiliated with a paramedic service

Five major themes emerged from the large group discussion and include the role of community paramedics, integration with other services, support for CP, standardization, and oversight. These themes and their subthemes are shown in Table 2 and contextualized with illustrative quotes.

Table 2: Illustrative quotes

Themes & Subthemes	Illustrative quotes
1. Role of community paramedics	
(A) Visit/call	"[We make] sure that people who want to stay home can stay at home; people in their homes, the whole 911 trip to the ER. These are things that we currently do now." (Group 1)
(B) Complex needs & diversity of clients	"We often say that 'CP fills the gap' but, as a matter of fact, you don't fill a gap as much as you address a challenging situation that doesn't fit in sort of one particular pot ." (Group 2)
(C) Identify social concerns	"[during the] medical assessment that [we do], [an important part] is uncovering these social situations that are leading to the medical concerns" (Group 2)
(D) Adapt	"we're all paramedics that are doing the CP work and pretty much we're all very adaptable people. It's something that we kind of pride ourselves in — our ability to walk into various locations, various places, and come out having made friends, come out having gained the confidence of the people we need to gain the confidence of. I call it the chameleon effect." (Group 1)
(E) Patient Advocacy	"getting things advocated for your patients… making sure that the patient gets what they need in the way of treatments and in the way of attention." (Group 1)
(F) Target long-term disease	"Ultimately, we should all strive to get involved in [clinics]. It's probably a really good thing; it will minimize calls if you can nip that sort of long term disease process in the bud — or at least control it. Then, it's not going to become as much of an issue down the road." (Group 1)
2. Integration with other services	
(A) Fit with primary care and social service	"The fit is really with primary care and the social service system. So I think we can agree that in Ontario, although it's all maybe under a giant umbrella of primary care, the two systems sometimes don't work so well together." (Group 2)
(B) In patient care pathway	Basically, communications with the physicians...and making sure that the physician is on board with you — number one, interjecting yourself into his client or patient's relationship with him...(Group 1)
(C) Make contact and operationalize relationships	"the biggest problem is finding some sort of system to make contact with the family doctors, and in particular the solo physicians"(Group 1)
3. Support for CP	
(A) Support and acceptance from family physicians	"one of the things of course that we need to do is obtain buy-in " (Group 3)
(B) Communicate benefits of CP	"Somebody mentioned getting into the medical schools so that medical students are learning from the get-go that paramedics are out here, we have a very high skill-set, and we are more than willing to work with them to help and benefit their clients." (Group 4)
(C) Central promotion	"centralized awareness— coming up with a system where we can make community paramedicine more known with the primary care group." (Group 2)
4. Standardization	
(A) Guidelines and directives	"[It would be good to have] clinical practice guidelines that we could share with [physicians] and they can approve or at least know what we're doing." (Group 3)
(B) Skills and equipment	"As for the actual oversight, it [is] an issue of standardization of practice. There are something like 8 or 10 [individual paramedic services] in [one] base hospital control [but they] all have somewhat different... equipment ; they might have slightly different skill sets." (Group 4)

(C) Documentation and reporting	"I know what the documentation is here in <name of region>. I don't know how it's different in other services. We need to be talking about the documentation so that everybody is doing the same reports." (Group 4)
(D) Build reputation	"We need to establish standardization and have some continuity and… best-practice — some clinical best practices — so that the physicians know that it is not a fly-by-night practice that we're doing." (Group 3)
(E) Need to account for context	"It struck me that in our group there were several types of community paramedicine programs — all different ways of receiving referrals, all different ways of sort of managing the patient load. And so that right there is great and I think that is what has to happen in Ontario because of the diversity in geography and practice patterns in primary care." (Group 2)
(F) Pilot projects within jurisdictions	"If you wanted to work with the LHINs [Local Health Integration Networks] and they're trying to say well you have to do something that is established across the whole LHIN boundaries, and we have services that have more than one LHIN, and certainly have multiple Health Links, then maybe you could do demonstration projects, or pilot projects, within certain areas within that LHIN that could address a certain geographical need within that area.(Group 3)
5. Oversight	
(A) External medical directives	"When we're on the road we're not truly working as [paramedics], we're working as community paramedics. So, utilizing our skills is sort of outside the realm of what we should be doing [as paramedics]. So utilizing a medical control … would allow for … different skill levels. What that would allow for is us to do basic checking … for antibiotics, blood, urine dip, that sort of thing; taking blood, sending someone to an urgent care centre [instead of] an ER, to keep the ERs clear. And those are just a few of the things that we came up with." (Group 1)
(B) Need to centralize oversight	"If base hospitals could take on a family physician, not as a full-time, but as somebody that we could turn to so we're still only responsible to the base hospital… [perhaps a] family physician … could be taken in on contract with the base hospital. Then, it would all still be one oversight." (Group 4)
(C) Self-regulation	"Places that do have successful community paramedicine programs do have self-regulation — you look at Great Britain, where actually the paramedics are consulting with physicians rather than getting delegation from physicians...paramedics are considered as health care providers, not ambulance drivers…" (Group 3)

Role of Community Paramedics

Attendees provided their perspectives on the community paramedic role by describing core components and model initiatives in Ontario. One group outlined home visits and phone calls as core role components that may reduce unnecessary emergency trips to the hospital, benefitting clients who wish to stay home and alleviating pressure on the strained emergency system (1A). One group highlighted the need for community paramedics to have a complex understanding of client needs (1B). These complex issues addressed by community paramedics are not exclusively health in nature but also encompass social concerns that ultimately impact health (1C). As exemplified by one group, community paramedics have identified poor diet and caregiver burnout in clients' homes which may have been concealed from family physicians.

One group attributed adaptability among community paramedics to their success in this work and also highlighted the role of advocacy that community paramedics must take on to support patients (1D-E). Beyond home visits and phone calls, attendees highlighted other defined programs (such as CP@clinic) delivered by community paramedics that target chronic diseases and should be expanded (1F). To effectively fulfill their role, community paramedics may consider integrating with other primary care and community services, as discussed in the next theme.

Integration

Attendees described CP as fitting with both primary care and social services (2A) — a reflection of how community paramedics may currently work, referring clients to community services and coordinating with family physicians. Systematic integration was envisioned by one group as community paramedics becoming part of the primary care pathway where they communicate directly with patient care teams (e.g. as case managers) and are involved in patient-physician communication (2B). While this collaboration with family physicians was described by one group as currently taking place in some settings, finding a way to make contact with physicians and operationalizing these relationships was described by multiple groups as the biggest challenge to achieving integration (2C). Multiple groups provided suggestions for moving forward including developing strategies for communicating with clinical care models, building relationships with medical schools, and making early contact with family physicians and health teams at an individual level. Notably, solo physicians were perceived by multiple groups as being more difficult to make contact with and more hesitant to collaborate with community paramedics compared to physicians who work within family health teams. Support

from all types of physicians was described as required for integrating CP with the broader health system.

Support for CP

Experiences with external support for CP were not uniform. One group provided the example of a family physician who advocates for CP both in the community and the health system, making them an effective CP supporter. Other groups expressed the continued need to obtain buy-in and acceptance from family physicians, especially those who may be more traditional, and with whom community paramedics aim to collaborate (3A). One strategy proposed by many groups is to communicate benefits of CP widely and in many forms (3B). This includes explaining billing processes to family physicians when community paramedics conduct assessments, reaching out to medical schools to advocate for the skills of community paramedics and their willingness to collaborate, and highlighting the value of having community paramedics for challenging situations that may not be well addressed in current practice. Ultimately, to garner support effectively, one group expressed that strategies need to be centralized and share core components (3C). Attendees supported additional aspects of standardization, as discussed next.

Standardization

Standardizing CP across Ontario was discussed by multiple groups and encompassed many dimensions. One group proposed developing clinical practice guidelines (4A) and another suggested uniformity in CP documentation and reporting, perhaps using databases for referrals and charting (4C). A perceived benefit of achieving standard practices with protocols, according to one group, is building CP credibility among physicians and avoiding a reputation of being

unreliable (4D). Despite these calls for standardization, context-specific differences between CP practices across the province were described as necessary by many groups, highlighting the diversity of Ontario, especially between urban and rural settings (4E). For instance, community contexts differ even within one jurisdictional area, as acknowledged by one group who suggested implementing CP pilot projects that address particular community needs in lieu of single programs across entire jurisdictions (4F). To promote standardization and develop the practice of CP, attendees discuss how oversight and medical delegation may also need to change.

Oversight

Attendees supported reconsidering medical oversight for community paramedics in their emerging role which is expanded from that of the traditional paramedic and often includes different clinical assessments and non-emergency focuses. This has prompted some paramedic services to seek medical direction for community paramedics outside typical sources (5A), such as through family physicians who are well suited to overseeing these types of primary care responsibilities. How family physicians will be incorporated was a concern for one group who proposed that family physicians integrate into current oversight structures (such as base hospitals and LHINs) to centralize oversight so that community paramedics can receive delegation and guidance from one place (5B). Another group proposed self-regulation of the CP profession in lieu of medical oversight (5C). This group highlighted the success of paramedicine self-regulation in the UK and supported an independent profession of paramedics as collaborators instead of delegated health care providers.

INTERPRETATION

Summary

These findings highlight achievements and remaining challenges for integrating CP into the broader health system, and specifically primary care, from the perspective of community paramedics in Ontario and their stakeholders. Major considerations identified for further action in the province include standardizing practices and directives, strategizing how to make contact with family physicians and operationalize these relationships, gaining acceptance and support from other health providers, and centralizing oversight.

Explanation of Findings

Standardizing CP practices while still tailoring programs to community needs was generally supported by participants in this study and is similarly described in the literature.[3,17] This balance may be fulfilled by employing evidence-based practices such as the CP@clinic health promotion and disease prevention program that uses defined protocols while allowing for context modifications and making use of local community referral pathways and resources, as described elsewhere.[4] The standard paramedic wellness program, CP@clinic, can be conducted in patient homes, social housing buildings, shelters, others community locations and utilizes generic as well as localized resources.[4] Centralizing oversight for CP, as recommended by participants in this study and given that family physicians do often provide medical direction to community paramedics in practice,[18] could contribute to standardizing practices.

In our study and the literature, community paramedics are seen positively as collaborators with primary care and social service providers[2,3,7,15] and as advocates for patient care.[15] Despite this, the role of CP continues to lack a consistent definition and scope which challenges its integration with and acceptance by other health care providers.[3,6,17,19] More organizational support (including professional development and training) to establish clear roles and responsibilities of community

paramedics working in primary care will prevent role duplication and promote acceptance from other health providers and patients.[3,6,7,15,17]

Finally, there are notions of self-regulation for the paramedic profession in Ontario in lieu of medical direction and complex oversight,[20] as is the case in the UK.[19] This is a challenge in Ontario where training and practices are inconsistent across regions.[3] Developing an independent paramedic professional identity would help with the pursuit of self-regulation.[19] Continuing to raise awareness about community paramedics and their potential as valuable members of primary health care may be achieved through research and evidence on safety, effectiveness, and benefits of CP, of which there are emerging examples.[21]

Gaps + Future Directions

As Ontario centralizes its health system and Ontario Health Teams emerge,[22–24] how and to what degree CP may integrate with these new structures remains unknown. Future research could explore the impacts of these upcoming changes on existing CP program operations and elucidate the views of others in primary health care (such as family physicians) about integrating CP with their work. Also, future work in this area is needed to achieve standardized CP practices that are evidence-based and that contribute to a strong CP professional identity — one that is integrated with and trusted by primary health care in Ontario and elsewhere.

Limitations

The participants of this study include only those who attended the CP Forum in 2017, which may not represent all perspectives in the Ontario CP landscape. Further, some participant views may be more prominent in these results due to the nature of focus groups and group

discussions. Although these findings are not generalizable outside of Ontario, other jurisdictions may face similar challenges and could benefit from these results.

Conclusions

Community paramedics and their stakeholders in Ontario have insights into barriers and facilitators for integrating CP with the broader health system, specifically primary care. Findings from this study could help inform future direction for CP and achieve an integrated health system in Ontario that considers the unique position and potential of community paramedics. Ultimately, integration with primary care and social service systems is highly complex and requires many stakeholders at the decision-making table. Future work should focus on how best to facilitate integration in Ontario with a fragmented and changing system.

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