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Research

Integrating community paramedicine with primary health care: a qualitative study of community paramedic views

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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 appears to lack systematic integration with the broader health system, specifically primary care, within which it is seated. The purpose of the 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 analysis of a public recording of a CP provincial forum held in Ontario, Canada, in 2017. Forum attendees (paramedics and stakeholders) were invited by email if they had attended a similar provincial forum in the past (no exclusion criteria for attendance). In small- and large-group discussions, attendees discussed their views on how CP could fit into primary care and what medical oversight and acceptance for the profession could involve. A recording of the large-group discussion, which is publicly available, was transcribed and thematically analyzed.

Results: The 89 participants varied in professional affiliation (66% from a paramedic service, n = 59). Among those from paramedic services, 33% were community paramedics (n = 14). Five major themes emerged: defining the role of community paramedics, how CP may integrate with other services, how to garner support for CP, where standardization is needed and possible oversight structures.

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 with a consideration for the unique position and potential of community paramedics.

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 that addresses the complex low-acuity health needs within their communities, especially those of older adults, patients with chronic health issues and individuals who frequently call 9-1-1.[1–3] Additional training for paramedics in this role is diverse and often focuses on clinical assessment and social service connections.[3,4] However, many CP program structures and protocols are poorly documented, with some exceptions, such as CP@clinic, 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 with respect to the health of their patients.[5,6]

A strength of CP is its ability to respond to a variety of health needs, tailored to local contexts.[2,3,7] This, however, also presents a challenge for defining CP, standardizing training and understanding the role of the community paramedic.[3] Therefore, despite some universal aims and its potential to improve health and reduce emergency medical costs, CP remains inconsistently defined.[3,8] Community paramedics in Ontario continue to practise under the provincial medical oversight model for all paramedics.[9,10] Semi-annual provincial 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 and possibilities for medical oversight.[11]

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The World Health Organization describes integrated care as providing and managing multiple coordinated and patient-centred health services.[12] 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.[13,14] 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 older adults who live longer in communities and have multiple chronic conditions.[13–17] Among CP programs that describe working with other health providers, physicians and primary care providers are the most common partners for collaboration.[8,18] In one example, community paramedics refer back to family physicians and others who care for complex patients.[19] Although interprofessional collaboration occurs within some CP programs in the literature, CP integration with the health system has yet to be achieved, perhaps in part owing to inconsistent and poorly defined roles of community paramedics (e.g., training and scope of practice).[3,8]

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

Methods

Design and data source

We conducted a retrospective qualitative analysis 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- and large-group discussions within a CP forum in Ontario from Jan. 24 to 25, 2017. The McMaster Community Paramedicine Research Team and the Hamilton Paramedic Service organized and co-hosted the forum on behalf of the then Ontario CP leadership.

During the forum, the large-group discussion, composed of reports from all smaller focus groups combined, was recorded in the form of a webinar. The webinar was publicly archived online by the Ontario Telemedicine Network at the following link: https://webcast.otn.ca/videos/65355700. This publicly available recording, as well as an electronic file from the registration process for the forum, constitute the data source for this study.

The reporting of this study follows the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist for interviews and focus groups.[20]

Participants and recruitment

An email invitation for the CP forum was sent to previous CP forum attendees, all paramedic services in Ontario and paramedic service partners, including representatives from the Local Health Integration Networks (LHINs, local health system management) and Health Links (care coordination systems). Individuals interested in attending self-registered via an online event management site. There were no exclusion criteria for forum attendance.

Data collection

During the forum, participants were asked by G.A. (principal investigator of the McMaster Community Paramedicine Research Team and practising family physician) to consider 1 of 2 sets of questions. Attendees self-selected these topics and were asked to stand in 1 of 2 locations in the room. Available topics included integration ("How will community paramedicine fit into primary care ultimately? What is required to get us there?") or medical oversight ("What will be required for medical oversight and acceptance? How will we get there?").

The research team then divided each topic group into 2 smaller groups, according to location in the room, for a total of 4 small focus groups of about the same size, each with a volunteer note-taker. In these small focus groups, facilitators (composed of the forum co-hosts, including G.A. and F.M.-L.) provided the opportunity to all participants to share their views while note-takers captured the discussions, which lasted about 20–25 minutes. Then, attendees reassembled and group note-takers reported on what was discussed in their respective groups, providing an opportunity for group members to validate that their ideas were accurately represented. We allotted 1 hour and 15 minutes for all sessions combined.

The large-group discussion was publicly recorded and provided the content for our thematic analysis. Field notes were taken by 2 research team members independently (F.M.-L. and M.P.) during the whole process, for triangulation of findings.

Data analysis

After transcription of the audio recording from the large-group discussion in November 2020, A.K. (research assistant, studying in a Master of Public Health program with experience working for a local health authority) thematically analyzed the transcript using a word processor through iterative coding and validated it with reference to field notes by F.M.-L. (research coordinator working with paramedic services and with experience working in public health) and M.P. (research coordinator with personal knowledge of paramedicine).

Through hierarchical framework analysis, chosen for its systematic and transparent method,[21] we deliberated on 20 themes and subthemes in full-team discussions and reached consensus at all levels of abstraction. We created a comprehensive codebook that reflected this process and organized all direct quotes into themes and subthemes.

Ethics approval

This study was approved by the Hamilton Integrated Research Ethics Board No. 13154.

Results

The large-group discussion was 21 minutes in length. Attendees varied in their professional affiliation and roles within paramedic services; demographic results are shown in Table 1. Participants included all 89 forum attendees, among whom most (n = 59, 66%) were from 1 of 27 paramedic services across Ontario. The most common paramedic role was that of a leader, such as a commander or chief (n = 27, 45%). Stakeholders included individuals from the provincial ministry of health, electronic medical record organizations, research institutions, community social support organizations, base hospitals and regulatory bodies, and municipalities.

Five major themes emerged from the large-group discussion, including the role of community paramedics, integration with other services, support for CP, standardization and oversight. We assumed that saturation was reached as there was agreement between the small groups in what they presented, and the large-group discussion provided an opportunity to identify and explore any missed concepts. The 5 themes and their subthemes are shown in Table 2 and contextualized with illustrative quotes.

Table 1: Summary of attendee characteristics

Characteristic	No. of attendees
Professional affiliation, n = 89	
Paramedic service	59
MOHLTC	9
Electronic medical record stakeholders	7
Research institution	4
Community social support organizations	4
Base hospitals and regulatory bodies	4
Municipality	1
Not disclosed	1
Role within paramedic service, n = 59*	
Community paramedic	15
Leader	27
Manager or coordinator	12
Other paramedic	5
Location of paramedic service participants in Ontario, n = 59*	
Central West	23
Central East	10
South West	10
Eastern	8
North East	6
North West	2

Note: MOHLTC = Ministry of Health and Long-Term Care.
*Only among attendees affiliated with a paramedic service.

Role

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, benefiting clients who wish to stay home and alleviating pressure on the strained emergency system.

One group highlighted the need for community paramedics to have a complex understanding of client needs. These complex issues addressed by community paramedics are not exclusively health related but also encompass social concerns that ultimately affect health. As exemplified by 1 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. 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. To fulfill their role effectively, 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 — a reflection of how community paramedics may currently work, referring clients to community services and coordinating with family physicians. One group envisioned systematic integration as community paramedics becoming part of the primary care pathway, in which they communicate directly with patient care teams (e.g., as case managers) and are involved in patient–physician communication. Although 1 group noted that this collaboration with family physicians was currently taking place in some settings, multiple groups described finding a way to make contact with physicians and operationalizing these relationships as the biggest challenge to achieving integration.

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, many groups perceived solo physicians as being more difficult to make contact with and more hesitant to collaborate with community paramedics than 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

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

Table 2 (part 1 of 2): Illustrative quotes from large-group discussion, by attendee group

Themes and subthemes	Illustrative quotes
1. Role of community paramedics	
(A) Visit or call	[We make] sure that people who want to stay home can stay at home; people in their homes, the whole 9-1-1 trip to the ER. These are things that we currently do now. (Group 1)
(B) Complex needs and 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 2 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 CP 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 [1] 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 CP 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 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 1 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)

Table 2 (part 2 of 2): Illustrative quotes from large-group discussion, by attendee group

Themes and subthemes	Illustrative quotes
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, using our skills is sort of outside the realm of what we should be doing [as paramedics]. So using 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 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 1 oversight. (Group 4)
(C) Self-regulation	Places that do have successful CP 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)

Note: CP = community paramedicine, ER = emergency department, LHIN = Local Health Integration Network.

and acceptance from family physicians, especially those who may be more traditional, and with whom community paramedics aim to collaborate. One strategy proposed by many groups is to communicate benefits of CP widely and in many forms. 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. One group expressed that ultimately, to garner support effectively, strategies need to be centralized and share core components. Attendees supported additional aspects of standardization, as discussed next.

Standardization

Multiple groups discussed standardizing CP across Ontario; this encompassed many dimensions. One group proposed developing clinical practice guidelines and another suggested uniformity in CP documentation and reporting, perhaps using databases for referrals and charting. A perceived benefit of achieving standard practices with protocols, according to 1 group, is building CP credibility among physicians and avoiding a reputation of being unreliable.

Despite these calls for standardization, many groups described the necessity for context-specific differences between CP practices across Ontario, given the diversity of the province, especially between urban and rural settings. For instance, community contexts differ even within 1 jurisdictional area, as acknowledged by 1 group that suggested implementing CP pilot projects that address particular community needs, in lieu of single programs across entire jurisdictions. To promote standardization and develop the practice of CP, attendees discussed 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 nonemergency focuses. This has prompted some paramedic services to seek medical direction for community paramedics outside typical sources, 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 1 group, which 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. Another group proposed self-regulation of the CP profession in lieu of medical oversight. This group highlighted the success of paramedicine self-regulation in the United Kingdom and supported an independent profession of paramedics as collaborators instead of delegated health care providers.

Interpretation

In summary, attendees described the adaptable role of community paramedics, a vision for integrating with primary care teams, the persistent need to obtain buy-in from others such as family physicians, many elements of CP that could be standardized and support for revisiting medical oversight for community paramedics that considers their unique place in primary care. 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.

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.[3,22] This balance may be fulfilled by employing evidence-based practices such as the CP@clinic health promotion and the disease prevention program, which uses defined protocols while allowing for context modifications and making use of local community referral pathways and resources, as described elsewhere.[5] The standard paramedic wellness program, CP@clinic, can be conducted in patient homes, social housing buildings, shelters and other community locations, and uses generic as well as localized resources.[5] Centralizing oversight for CP, as suggested by participants in this study, and given that family physicians do often provide medical direction to community paramedics in practice,[23] 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[2,3,8,18] and as advocates for patient care.[16] 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.[3,7,22,24] More organizational support (including professional development and training) to establish clear roles for and responsibilities of community paramedics working in primary care will prevent role duplication and promote acceptance from other health providers and patients.[3,7,8,18,22]

Finally, there are notions of self-regulation for the paramedic profession in Ontario in lieu of medical direction and complex oversight,[25] as is the case in the UK.[24] 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.[24] 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.[26]

As Ontario centralizes its health system and Ontario Health Teams emerge,[27–29] 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. In addition, 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, nor primary care stakeholders. Family physicians were not invited to the Forum, so they are not represented in the data source. Further, some participant views may be more prominent in these results owing to the nature of focus groups, and the large-group discussion format may possibly contribute to less in-depth findings. However, these findings are exploratory and will contribute to this novel field of the integration of CP into primary care, which is undergoing tremendous system transformation currently. This paper will be able to guide future research, which can be more in depth.

We did not design this study as a research study at the time of data collection. This meant that few demographic details about participants were collected. Additionally, results may have been affected if participants would have answered differently in the context of a research study as opposed to a publicly recorded forum. Two named authors involved in data analysis were small-group facilitators during data collection, which may have influenced the direction of discussions and analysis. Although these findings are not generalizable outside of Ontario, other jurisdictions may face similar challenges and could benefit from these results.

Conclusion

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 directions 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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