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ORIGINAL RESEARCH

# Perspectives from the frontline of two North American community paramedicine programs: an observational, ethnographic study

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## ABSTRACT:

**Introduction:** Community paramedicine is one emerging model filling gaps in rural healthcare delivery. It can expand the reach of primary care and public health service provision in underserviced rural communities through proactive engagement of paramedics in preventative care and chronic disease management. This study addressed key research priorities identified at the National Agenda for Community Paramedicine Research conference in Atlanta, USA in 2012. The motivations, job satisfaction and challenges from the perspectives of community paramedics and their managers pioneering two independent programs in rural North America were identified.

**Methods:** An observational ethnographic approach was used to acquire qualitative data from participants, through informal discussions, semi-structured interviews, focus groups and direct observation of practice. During field trips over two summers, researchers purposively recruited participants from Ontario, Canada and Colorado, USA. These sites were selected on the basis of uncomplicated facilitation of ethics and institutional approval, the diversity of the programs and willingness of service managers to welcome researchers. Thematic analysis techniques were adopted for transcribing, de-identifying and coding data that allowed identification of common themes.

**Results:** This study highlighted that the innovative nature of the community paramedic role can leave practitioners feeling misunderstood and unsupported by their peers. Three themes emerged: the motivators driving participation, the transitional challenges facing practitioners and the characteristics of paramedics engaged in these roles. A major motivator is the growing use of ambulances for non-emergency calls and the associated need to develop strategies to combat this phenomenon. This has prompted paramedic service managers to engage stakeholders to explore ways they could be more proactive in health promotion and hospital avoidance. Community paramedicine programs are fostering collaborative partnerships between disciplines, while the positive outcomes for patients and health cost savings are tangible motivators for paramedic services and funders. Paramedics were motivated by a genuine desire to make a difference and attracted to the innovative nature of a role delivering preventative care options for patients. Transitional challenges included lack of self-regulation, navigating untraditional roles and managing role boundary tensions between disciplines. Community paramedics in this study were largely self-selected, genuinely interested in the concept and proactively engaged in the grassroots development of these programs. These paramedics were comfortable integrating and operating within multidisciplinary teams.

**Conclusions:** Improved education and communication from paramedic service management with staff and external stakeholders might improve transitional processes and better support a culture of inclusivity for community paramedicine programs. Experienced and highly motivated paramedics with excellent communication and interpersonal skills should be considered for community paramedic roles. Practitioners who are proactive about community paramedicine and self-nominate for positions transition more easily into the role: they tend to see the 'bigger picture', have broader insight into public health issues and the benefits of integrative health care. They are more likely to achieve higher job satisfaction, remain in the role longer, and contribute to better long-term program outcomes. Paramedic services and policymakers can use these findings to incentivize career pathways in community paramedicine and understand those changes that might better support this innovative model.



Keywords:

change, community paramedics, ethnography, implementation, inclusivity, innovation, integration, North America, paramedicine, primary care.


## FULL ARTICLE:

### Introduction

Paramedic roles have been expanding and changing to meet the healthcare needs of vulnerable rural communities in North America for over a decade[1]. Community paramedicine is one emerging model filling gaps in rural healthcare delivery due to aging populations and chronic health workforce shortages[2]. This innovation can expand the reach of primary care and public health services in underserviced communities, with paramedics performing patient assessments, procedures, preventative care and chronic disease management[3].

Traditionally, the core business of paramedics has been emergency treatment and transportation. In contrast, community paramedicine supports the application of paramedic training and skills in primary care and community-based environments[4]. With a rise in non-emergency calls from patients requiring basic assessment and treatment, paramedics are increasingly referring patients to alternative care pathways in lieu of transporting all patients to hospital emergency departments[1].

Evidence supporting the positive impact and cost efficacy of community paramedicine programs is emerging in relation to utilization and emergency department presentations[4-6]. One set of studies has described and distinguished community paramedicine from related service delivery models, such as mobile integrated care and extended care paramedics[2,7,8]. Educational and integration challenges facing paramedic services when transitioning community paramedics into primary and public health service domains have been explored[2,7,9,10]. A recent Canadian study found positive perceptions of consumers involved in a Community Health Assessment Program through Paramedic Services (CHAP-EMS) in Toronto, Canada. In CHAP-EMS, community paramedics provide weekly in-home health promotion for senior residents of an urban subsidized housing estate known

for high volume 911 (emergency) utilization[11,12].

In 2012, key community paramedicine stakeholders convened in Atlanta, USA at the National Agenda for Community Paramedicine Research conference, to discuss this topic and formulate a list of research priorities. A need was identified to investigate the experiences, characteristics, job satisfaction and motivating factors that make community paramedicine a desirable career pathway[2]. Few published studies have explored the motivations of paramedics entering community paramedicine. One Canadian study recently explored the attitudes and experiences of community paramedics working in partnership with registered nurses to deliver after hours care in collaborative emergency centers across Nova Scotia, with organizational support identified as an important factor in interprofessional team functioning[13]. A cross-sectional study across four US states recently explored the perceptions and willingness of 283 emergency medical service (EMS) professionals to participate in a community paramedicine program[14].

The purpose of this study was to identify the motivations, job satisfaction and challenges of community paramedics pioneering two independent programs in rural North America from their perspectives and those of their managers. Paramedic services and policymakers can use the findings to incentivize career pathways in community paramedicine, and to understand what systematic and cultural changes might better support this innovative model.

## Methods

### *Design*

An observational ethnographic approach was used to acquire qualitative data from community paramedics and their managers through semi-structured interviews, informal discussions, focus groups and direct observation of practice across two independent sites in North America[15,16]. This approach helped capture the richness and diversity of the community paramedic role from the perspectives and experiences of those engaged in or managing the role[17].

### *Setting*

The study took place over the two summers of 2012 and 2013 in Ontario, Canada and during 2013 in Colorado, USA where community paramedicine programs have progressively emerged to improve cost efficiencies for paramedic services and enhance health service delivery in disadvantaged rural communities[4,18]. These sites were selected based on the uncomplicated facilitation of ethics and institutional approval, the diversity of the programs and willingness of service managers to have researchers meet and observe their staff.

### *Ontario*

In Ontario, paramedic services are funded by and accountable to provincial and local government, with service delivery and clinical standards regulated through the provincial health system (*Local Health Service Integration Act 2006*). The paramedic service in the study has a rural population catchment of approximately 100 000 residents across 17 municipalities and 4969 $km^2$. It employs 150 primary care and advanced care paramedics who operate from seven stations located across the county[19]. This paramedic service identified that they could assist people to maintain health, wellness and independence through home visiting and community-based services not readily available to residents. A community paramedicine program was established with four components: ad hoc home visiting, ageing at home, paramedic wellness clinics and a community paramedic response unit[9]. In 2014, the provincial government announced an extension of financial support to expand community paramedicine programs across Ontario[20].

### *Colorado*

Colorado has an innovative history in rural community paramedicine development[6,7]. The paramedic service in this study employs over 40 full-time paramedics and emergency medical technicians, based at five stations, who provide emergency ambulance coverage to approximately 56 000 residents in 12 rural communities across 2723 $km^2$[18].

In 2010, in partnership with the county's Public Health Agency, local physicians and the International Roundtable on Community Paramedicine, the paramedic service implemented Colorado's first community paramedicine program. Five years of private health foundation grant funding was awarded to the program, which has two core components: physician ordered primary care home visiting services which incorporates chronic disease monitoring, early intervention and transitional care; and community-based prevention and educational services, which are planned and coordinated in liaison with the local public health department[18,21]. Due to the home care functions provided, the state EMS office determined in 2012 that the paramedic service needed to be licenced as a home health agency[22].

### *Study participants*

Paramedic service managers and community paramedics were invited to participate in this study prior to the researchers' visits on the basis that their individual identities would be protected as much as possible. Enrolment was voluntary and written informed consent was gained from participants after the study objectives, research methods and data collection techniques were explained and understood. Participants could withdraw at any time. To better appreciate the evolution of these two programs, investigators interviewed paramedic service managers to identify the organizational motivators, and practitioners to understand the attraction to community paramedic roles. Fifteen different participants (seven service managers and eight community paramedics) contributed to the study over two summers, with eight participants engaged in one-on-one interviews and seven involved in focus groups. Informal discussions were held with four community paramedics in the field complementing observation of practice with consumers in the program. Consistent with the recommendations of Bernard[23] and Bertaux[24] adequate saturation was achieved for this study with repetitive themes emerging from the data over 2 consecutive years of research.

### *Data collection*

In 2013, a graduate research student visited services in Ontario and Colorado and collected data through direct observation of practice, semi-structured interviews and informal discussions. This study expanded on findings reported by an Australian researcher who visited the same Ontarian paramedic service in 2012 and engaged 37 stakeholder participants through focus groups to investigate their understanding and perspectives of the community paramedicine program[25]. Data were collected over both summers and interpreted through the eyes of paramedic researchers who were advocates for international community paramedicine program expansion. To minimize researcher bias, open-ended questions and flexibility in conversational interviews were adopted to allow participants engaged in the interviews, to reflect and elaborate on their experiences and perspectives of the community paramedicine program. This enabled the interviewers to shift questioning in response to the natural flow of the conversation[16]. The interviews were conducted in private offices and meeting rooms, while informal discussions with participants occurred in the field, between home visits and appointments. All interviews were audio-recorded for later analysis.

Ethics approval was granted for the researchers to observe community paramedics practicing in consumers' homes, wellness clinics and health service settings, enabling the capture of in-depth data encompassing the richness and diversity of the engagement within a naturalistic setting[26]. Diverse perspectives and experiences of community paramedics and their managers involved in this study were captured through the adoption of this triangulation method of data collection[26]. Field notes recording informal discussions, personal feelings, behaviors and witnessed events were systematically documented in order to validate representation of participant accounts given during the interviews[27].

### *Analysis*

Thematic analysis techniques using manual methods consistent with the recommendations of Strauss and Corbin were adopted for transcribing, de-identifying and coding data[27]. These techniques allowed identification of common themes within the qualitative data, without the constraint of establishing how themes linked together[26]. Analysis of transcripts by a second researcher supported the reliability of coding[28].

### *Ethics approval*

Ethics approval was granted by the Human Research Ethics Committee of La Trobe University, Victoria, Australia (FHEC 12/8).

## Results

This article addresses the organizational and personal motivators influencing paramedics to engage in two independent community paramedicine programs and to explore their experiences and perspectives that are shaping the community paramedic role identity. Three themes emerged: *motivators* (organizational/paramedic), *challenges* (education/acceptance) and *characteristics* (professional identity).

### *Motivators (organizational/paramedic)*

**Organizational motivators:** These community paramedicine programs were largely influenced and driven by senior managers, while community paramedics were proactively supported by leaders to capitalize on opportunities to engage with communities.

> *Being a rural service with limited resources and a population in need, they were in crisis. I saw the opportunity to take ideas and programs … and tailor them to this community's needs … I had a Council that was supportive and staff who through their own visioning exercise, identified opportunities to engage the community in a more meaningful way. (Participant 1)*

> *A couple of dedicated medics identified individuals living in rural areas that would really benefit from being looked in on, having their vital signs assessed … an overall general health check, because they weren't getting that done. We talked as a group of leaders and thought this could also affect our call volume, which we're struggling with. (Participant 5)*

> *We are one of only three care providers. There are home health nurses, hospice and us. We are the last provider that can go to a patient's home. We are invited in, they want us to help them manage their health issue and they trust us, so we should capitalise on that and help them with their problems. (Participant 15)*

It has been established that community paramedicine initiatives are able to provide future health care savings in the hundreds of millions of dollars[3]. High occupancy of acute care beds by patients who are more suited to long-term care and home settings is an issue for governments and other funders, and a key driver in the development of some community paramedicine programs. Community paramedicine programs are fostering collaborative partnerships between disciplines, while the positive outcomes for patients and health cost savings are tangible motivators for paramedic services and funders.

> *This program came from the joint effort of our chief of paramedics and the heads of the long-term care facility. The hospital bed is always the most expensive. The longer you can keep someone in their home environment; the better off it is for them, society and the health care system. There are different models, but there's none that have the partnership of PSW's [personal support workers] and paramedics affiliated with long term care. (Participant 2)*

> *There's a reduction in 911 calls, ER [emergency room] visits, admissions and length of stay and an improvement in quality of life. It works out about [C]$60,000 per year for long term care. The goal is to keep people in their own community. It's costing about [C]$12,000 per person per year in the community paramedic program. With 32 patients you're into almost a couple of million dollars in savings. (Participant 3)*

A major motivator behind the implementation of programs is the growing utilization of ambulances for non-emergency calls and the associated need to develop strategies to combat this phenomenon. This has prompted paramedic service managers to engage stakeholders to explore ways they could be more proactive in health promotion and hospital avoidance[18].

> *Before we did anything, we conducted a needs assessment survey with public health and asked what are the needs of this community? We approached physicians, nurses and CEO and we got everyone on board. We went to Council meetings and got our commissioners on board. (Participant 6)*

> *We started with the basic premise that physicians were going to refer us into the home … Through meetings and telling people this is what we do, and someone suggests 'You could do this, or you could help us with this'. Our program has really grown that way. (Participant 1)*

**Paramedic motivators:** When exploring paramedics' motivations for undertaking community paramedic roles, participants demonstrated a genuine interest and desire to make a difference in their communities and were attracted to the innovative nature of a role delivering preventative care options for their patients. An online survey of 2000 Ontarians conducted by the Paramedic Association of Canada in 2014 indicated that consumers believe paramedics can play a larger role in healthcare delivery[29]. These findings are supported by a 2015 study that reported that consumers are highly receptive to the idea of community paramedics and appreciative of the role they played in supporting their health and wellbeing[10].

> *I've seen so many people who don't need to be calling 911, but they're doing it because they don't have any other options or don't have a primary care doctor. When [chief paramedic] approached me with the idea, it intrigued me to find another way to help people. (Participant 7)*

> *It's very much at the forefront of paramedicine. It's about keeping people in their homes. Because we are front line … we are the ones walking through the doors and realising at the scene this isn't a 911 call, but this person doesn't have anyone else to call. So how do we prevent this call from ever happening? If we can figure out a way to deal with that and prevent those calls from even happening, then everyone wins. (Participant 6)*

> *I genuinely saw it as the new face of paramedicine, being involved in avoidance. It's proactive rather than reactive, which is quite a paradigm shift for the ambulance profession. (Participant 8)*

***Challenges (education/acceptance)***

**Education challenges:** The two paramedic services in this study took different approaches towards education and training. The Colorado community paramedics undertook an extensive college-based training program.

> *Community paramedic school was a lot of theory because we are not doing a lot of skills that are different to what a normal paramedic does. We are just learning to take histories differently, to assess the patient, which includes social, wellness and wound assessment; socioeconomic and diet … There was also a lot of education on resources that patients might need. (Participant 2)*

In 2016, the Board for Critical Care Transport Paramedic Certification, guided by industry subject matter experts, launched the first Certified Community Paramedic exam in the USA[30]. This examination process was a priority identified by a participant at the time of this study.

> *Our medical director did a competency check for community paramedics operating in our service. There isn't really a standardised test to graduate yet. That's another piece to be worked through and that's on the college to determine they are competent and then we determine competency at service level. (Participant 2)*

The Ontario program took a more ad hoc approach to training, by formulating educational requirements based on social determinants of health and community needs. This posed future regulation and governance challenges for professional accountability and credentialing.

> *In the absence of regulation, it was up to us. We did an in-house orientation program and we encouraged staff to come forward with what they believe are the professional development needs. We are working with Centennial College to create a formal curriculum for community paramedicine. (Participant 10)*

> *We came into this completely blind. We determined our own training needs because there is no fixed, 'this is community paramedicine', till you know what your community needs are. (Participant 12)*

> *Education was based upon the needs of clients. As we became more familiar with the general needs of our clients, a list of training courses has been developed. (Participant 11)*

**Acceptance challenges:** Several challenges and barriers were identified by managers introducing programs and paramedics making the transition into community paramedic roles. Internal scepticism from peers and role boundary tensions with nurses were ranked highly[25].

> *You do run into barriers. I've heard it a hundred times from nurses. That's what nurses do. Generally, there's a lack of understanding about what we do. Everyone loves to hate someone and it's us. Derogatory comments are common. 'Brush granny's hair program' is often what it's called. (Participant 7)*

> *It's your co-workers [saying] 'Why are you doing that?' It's getting other medics to go along with it and accept what you're doing. (Participant 14)*

*The nurses at first, especially in our state, were very against us. Paramedics are interesting. Some of them get it; some of them don't. I never thought our biggest critics would be from within our industry. (Participant 10)*

*There was to be honest some back-lash from nurses especially the home health nurses because they thought we were trying to take their jobs away. Paramedics; some think it's interesting; some think it's ridiculous. They just don't understand. (Participant 5)*

*Surprisingly, patients have been the least resistant. Major barriers … we did not have a regulation that refers to community paramedicine or something that provides us with guidance. (Participant 6)*

***Characteristics of community paramedics***

**Professional identity:** Community paramedics in these programs were largely self-selected, genuinely interested in the concept and proactively engaged in the grassroots development of these programs.

*I've always believed in giving all the staff equal opportunities … Essentially, I left it open to self-selection. If it is something that you want to do, I want to have you in the program. (Participant 3)*

*The employer was looking for the right people. You don't want people out there who don't want to be doing it, coz they'll destroy any goodwill you've built up. (Participant 8)*

Key elements of paramedic professional identity include developing honest relationships with patients, focussing on patient benefit, and appreciation of timely treatments[31]. Excellent communication and interpersonal skills with an ability to form trusting relationships were enabling factors underpinning the emerging roles of community paramedics[9].

*It is certainly a role that requires good communication skills. You need to build trust, establish the relationship, determine their needs. (Participant 4)*

*As a community paramedic, I develop relationships. Paramedics don't develop relationships with people, only on a superficial level. You develop an episodic memory, so you can remember their name, address, blood pressure, meds, allergies, till the next one comes along. (Participant 6)*

Community paramedics must be team players and feel comfortable integrating and operating within multidisciplinary teams[25]. Participants indicated that careful selection of paramedics was a key to success, and essential characteristics identified for those most suited to the role included 'soft skills' and an ability to handle difficult conversations, good interpersonal skills, flexibility and the ability to 'think outside the box'[11]. A key theme indicated that paramedics with at least 5 years clinical experience were considered more suitable for community paramedic roles than their less experienced peers.

*If you expressed interest in it they looked at the reasons why we were applying for it, plus they wanted to make sure they had seasoned paramedics. (Participant 10)*

*We initially opened it up to everybody to get trained … big mistake. Only because we had some newer paramedics in the class that didn't get it. We needed to have a better screening tool to get the right paramedics that have [a] certain amount of years. We found that five [years] seemed to work really well. (Participant 2)*

*Pick your staff who want to do it for the right reasons because they have got empathy, not because it will get them out of work. When hiring, ask the employee about their grandparents … 90 percent of what we're doing is with people over the age of 65. I don't think the program is for somebody that's in their first five years of being a paramedic. They wouldn't have the insight into what half of these people are talking about. (Participant 7)*

It was noted that experienced paramedics had increased patient exposure, better understanding of social determinants of health and enhanced insight into the benefits of delivering integrated health care to improve patient health outcomes.

*It is not the sort of job that a new graduate would be lining up to do. It is more for those who have a reasonable amount of experience and can see the bigger picture. (Participant 5)*

*I think the value of an experienced paramedic is you recognise sick, not sick. You walk in and you think you look very healthy 'Why are you calling today?' and other people you look at them and say 'Why didn't you call before?' I think clinical experience is important because it gives you a level of confidence to interpret the findings of your assessments. (Participant 13)*

Consistent with this was the belief by some, that paramedics in pursuit of 'high adrenaline' advanced care or trauma practice might not be suited to community paramedic roles.

*A lot of your real high flyers, high skill set guys and girls, their interest level might not be as much as somebody that is more interested in community … paramedics that come through the [paramedic] program after the training are after lights and sirens; adrenaline junkies, because that's what the college has taught them. (Participant 6)*

Community paramedics in this study were content in their roles and received job satisfaction by making small differences to people's lives, despite often being misunderstood by their peers.

*I have a nice feeling at the end of the day, I have a good day. When I do the home visits that's my job satisfaction, because I can make a small difference in somebody's life and they're glad to see me. (Participant 7)*

*There are days when the job satisfaction is low because people don't get it and they don't understand what you are trying to*

*do and that's a frustrating thing. The patients get it! I have never yet met a patient who did not love our service! Ninety-nine percent of the time my job satisfaction is a ten out of ten. It's dealing with other people that is sometimes hard. (Participant 2)*

*I'd say one hundred percent job satisfaction. I'm engaged every day. I can do useful things for people, even if it's just showing them a website with a phone number or where to get assistive devices. (Participant 4)*

## Discussion

This study investigated paramedic perspectives and experiences of community paramedicine programs in North America. Previous research has investigated the emergence and integration of community paramedics into the primary healthcare sector[2,25,31,32]. Others have focussed on what motivates students to pursue careers in paramedicine, with intrinsic motives including 'wanting to help people', 'saving lives' and 'exciting career'[33]. This study has sought to investigate key priorities addressed at the National Agenda for Community Paramedicine Research conference in Atlanta, 2012[3]. It identified the motivators, challenges, characteristics and job satisfaction through the experiences and perspectives of community paramedics and their managers engaged in two North American rural programs. These findings provide paramedic services with some guidance when appointing community paramedics and an understanding of challenges faced by paramedics transitioning into these roles[34].

Defining alternative settings and roles is pivotal to supporting future planning and staffing of community paramedicine programs, complementing existing services and ensuring alignment with relevant policy goals[11]. Increasingly, the paramedicine profession is being recognized for its unique point of contact with consumers and its growing contribution to the continuum of patient centered care. The paramedicine community, associated councils and committees in the USA and other countries have actively campaigned for public policy change and recognition of community paramedicine with positive legislative outcomes[35]. In many countries, paramedics are shifting from strict protocol driven procedures to knowledge based and autonomous practice[36,37]. This is being supported through mandatory bachelor's degree qualifications for entry-level paramedics in the UK, Australia and New Zealand[38]. At the time of this study, limited formal education opportunities existed for community paramedic candidates in North America, with the onus of training and education generally resting with individual service providers. While this approach enabled providers to tailor education programs to suit local needs, it endorsed curriculum and competency disparities and promoted inconsistencies in policy and practice[39]. A National Curriculum and Career Pathway for community paramedicine has since been developed by Mobile CE which aims to standardize community paramedic roles, curriculum and certification processes in the USA[40]. The Paramedic Association of Canada is developing a National Occupational Competency Profile for the community paramedic role, which will help inform future educational programs[9], while the Canadian Standards Association expert technical committee has developed a standard encompassing a systematic framework to inform policymakers and paramedic services on program planning, implementation and evaluation[41,42]. A study that recruited paramedicine stakeholders to explore the emerging expectations of paramedic practice and education in Canada found that, while community paramedic programs are becoming more commonplace, there is substantial variation in the operational and educational requirements[43].

Developing a professional identity involves a clear understanding of one's expected knowledge, skills and motivations[44]. A lack of reflective literature examining paramedic roles, identity and place in society is a weakness of this emerging profession attempting to find its place in the health system[45,46]. Advancements in education and training, scopes of practice and increased participation in research over the past decade have seen paramedicine better aligned with other health disciplines and strengthened professional identity and status[37]. Community paramedicine adds another layer of complexity in defining a rapidly evolving professional identity, where role expectations can be unclear or unchartered[11,47,48].

A limitation of the study was an inability to follow up with paramedics in person to substantiate findings. Online follow-up has potential ethical implications and was not employed or approved in the ethics application[49]. All participants were invited to make further contact with the research team if they had further comments or wished to withdraw or amend any comments. While additional interviews might have strengthened or identified new themes in these data, the number of interviews and observations was constrained by the availability of potential participants during the time window of the field trips. Even though these results and conclusions are limited to two North American rural locations, and therefore might not be generalizable to other community paramedicine programs, they are consistent with the small number of other studies examining these issues.

## Conclusions

Transitional challenges facing community paramedics include navigating untraditional roles, managing role boundary barriers and a lack of self-regulation[50]. This study highlighted that scepticism, criticism and misunderstanding caused anxiety for participants transitioning into community paramedic roles, highlighting that improved education and communication from paramedic service management with internal staff and allied health partners might improve this transitional process.

The findings indicate that experienced and highly motivated individuals with excellent communication and interpersonal skills are desirable candidates for community paramedic roles. The evidence indicates that those who are proactive about community paramedicine and self-nominate for positions will transition more easily into the role – they tend to see the 'bigger picture', have broader insight into public health issues and social determinants of health, and have a stronger understanding of the benefits of integrative health care. These community paramedics are more

likely to achieve higher job satisfaction, remain in the role longer and contribute to better long-term program outcomes.

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