Leading on the edge: The nature of paramedic leadership at the front line of care

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Background: Health care organizations are considered complex systems that represent both formal leadership as well as more informal and shared leadership models. Implementing these models is essential for optimizing care and patient outcomes. The paramedic profession specifically, although considered informally, leads out of hospital patient care.
Purpose: To date, few empirical studies investigate shared leadership in health care settings. In paramedicine specifically, studies of leadership are scarce, despite paramedics' essential role in leading on the front lines of care. Using an exemplar of paramedics, we examine what it means to informally lead on the front lines of patient care with the emphasis on paramedics responding out of hospital.
Methodology: We employed a qualitative, semistructured interview methodology with 29 paramedics from a group of companies in central/eastern Canada to explore the conditions and practices surrounding shared leadership.
Findings: Paramedics argue that, despite their job title, they classify themselves as informal leaders who share the leadership role. More specifically, the paramedics discuss the precursors, practices, and structural conditions surrounding shared leadership within the realm of emergency medical services. They note that they often face out-of-hospital care without a formal manager, requiring them to collectively lead. The leader will shift in times of urgency, and this is contingent on their skills and competence. Furthermore, managers routinely called upon paramedics to lead in their absence.
Practice Implications: It is shown here that, although informally enacted, paramedics view leadership as a necessary competency for clinical practice. We argue that leadership development of paramedics must begin during their formal education and training as part of the core curriculum. As well, direct managers can promote an environment of shared leadership and encourage paramedics to practice leadership with quality of patient service in mind.

Key words: health care, informal leadership, paramedics, shared leadership

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[1]These data were collected by the second author for her PhD dissertation before her untimely death because of cancer. We hope we have done justice to her memory in our write-up of her work.

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A radio transmission urges all emergency medical services (EMS) to respond to a call for a multiple vehicle crash. Within seconds, ambulance sirens are roaring to the scene of the accident. Paramedics are the first to arrive and must assess the situation as quickly as possible. One of the paramedics who was quite senior says, "they were basically able to take themselves…and come up with the bigger plan (Respondent 13)." The paramedics broke into subgroups and began treating the patients. A paramedic realized they were missing a vital piece of equipment and was distraught; another paramedic said, "ok we'll move on to plan B and use the equipment when we get it (Respondent 6)." Throughout the call, there are countless situations where different paramedics step forward to influence the group and then step back. Some paramedics had very little on the job experience, others had over 20 years, and still others had additional formal training, but none of these paramedics had an official position of authority/leadership. Despite this, paramedics' leadership composition shifted repeatedly throughout the call.

As evident in the compilation of interview responses above (i.e., Interview responses 6 and 13), paramedics rotate through various roles to ensure the best standard of patient care. Each call is unique, uncertain, and often chaotic, requiring paramedics to be able to assess and make decisions instantly and, more importantly, to engage in interdependent and influential relationships. The paramedic field is a vital component of the health care sector and often forms the gateway into the hospital system for victims of illnesses and accidents (Patterson, Probst, Leith, Corwin, & Powell, 2005). Traditionally, leadership theories have focused primarily on a management paradigm and examined the skills, traits, and actions of a sole leader in a formal position of authority (Ensley, Hmieleski, & Pearce, 2006). More recently, distributed models of leadership (e.g., informal or shared leadership) are also being examined, and the interactions of multiple individuals (Yammarino & Dansereau, 2008) who emerge and collaborate as leaders are both formally and informally evaluated. Health care organizations specifically are complex systems that represent both formal and traditional leadership as well as the more informal and shared models. Downey, Parslow, and Smart (2011) stated:

> Every [healthcare] facility and unit has a formal organizational chart that delineates responsibilities and identifies the chain of command. However, the manner in which work is truly accomplished often follows an undocumented and unacknowledged path, guided by…the informal leaders. (p. 518)

At the core, health care represents bureaucratic and top–down leadership (Penprase & Norris, 2005). However, health care professionals (e.g., paramedics, nurses) on the "front lines" are often given the "flexibility" to enact informal leadership for the purpose of patient care.

To date, there are few empirical studies that examine informal and shared leadership models within health care settings (e.g., Boak, Dickens, Newson, & Brown, 2015; Chreim, Langley, Comeau-Vallee, Hug, & Reay, 2013). However, there have been calls for the implementation and practice of shared leadership models in organizations in general (e.g., Kokolowski, 2010) and health care specifically (e.g., Weberg, 2012). We argue that, in investigating the presence of shared leadership of health care professionals, paramedics are a prime exemplar because they respond on the front lines without a formal manager and lead out-of-hospital patient care (Stanley, Cuthbertson, & Latimer, 2012). Furthermore, studies of leadership related to paramedics are scarce despite their essential role in ensuring emergency care standards.

The purpose of this study is to examine what it means to informally lead on the front lines at the point of care with an emphasis on paramedics responding out of hospital. Our objective was to understand the conditions and practices surrounding shared leadership using a sample of health care professionals who are not formally classified as leaders. To capture this phenomenon, qualitative, semistructured interviews took place with paramedics in an emergency response system in central and eastern Canada.

Theoretical Framework

Shared Leadership Models

The roots of shared leadership models are unknown, but theoretical contributions in the leadership literature began appearing in the mid-1990s (Miller, Walmsley, & Williams, 2007). There are several notable conceptualizations of unconventional and shared leadership models including distributed leadership (Bolden, 2011), informal leadership (e.g., Downey et al., 2011), collective leadership (Denis, Langley, & Sergi, 2012; Friedrich, Vessey, Schuelke, Ruark, & Mumford, 2009), collaborative leadership (Rosenthal, 1998), and emergent leadership (Beck, 1981). Inherent in all of the above studies is the view that multiple individuals are participating in leadership (Contractor, DeChurch, Carson, Carter, & Keegan, 2012). According to Bolden (2011), shared leadership appears to be the most commonly used conceptualization for studies within health-related journals.

The most commonly cited model of shared leadership was developed by Pearce and Conger (2003) as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievements of group or organizational goals or both" (p. 1). Pearce (2004) extended the definition to being characterized by the "serial emergence" of leadership by

two or more team members. There have been several other contributions in defining shared leadership (e.g., Yammarino, Salas, Serban, Shirreffs, & Shuffler, 2012), and all discuss in one form or another that the concept is represented by all team members (e.g., Carson, Tesluk, & Marrone, 2007; Ensley, Pearson, & Pearce, 2003) both informally and formally (Yammarino et al., 2012) who emerge as leaders when their knowledge is required (Bergman, Rentsch, Small, Davenport, & Bergman, 2012; Yammarino et al., 2012) and have the capability to influence and direct team members to maximize team effectiveness (Carson et al., 2007; Pearce, 2004). Shared leadership is interactive, equal and/or unilateral (Yammarino et al., 2012, p. 390), and interdependent between peers (Fletcher, 2004).

Non-Health-Care Sectors

Initial empirical research on shared leadership in the organizational team-based literature found that it is an important predictor of team processes and outcomes (Bergman et al., 2012), positive team functioning (Bergman et al., 2012; Pearce, 2004), team performance (Ensley et al., 2006), and team effectiveness (Ensley et al., 2003; Pearce & Sims, 2002). Wang, Waldman, and Zhang (2014) conducted a meta-analytic study of shared leadership and team effectiveness using 161 articles and found an overall positive relationship between the two constructs. More importantly, the authors found that what is shared among team members is a predictor of team effectiveness (i.e., the sharing of leadership roles focused on change processes).

Other empirical studies have focused on the antecedents that allow shared leadership to emerge or exist. For example, Carson et al. (2007) examined the shared leadership of 59 Masters in Business Administration consulting teams and concluded that there are certain antecedent conditions for shared leadership to arise within a team environment. These precursors for shared leadership include the team's internal environment (i.e., a shared purpose, social support, voice) and coaching by an external leader. Similarly, Small and Rentsch (2010) investigated the antecedents and outcomes of shared leadership in relation to team performance. Using undergraduate business teams, the authors conducted a longitudinal study using social network analysis and found that not only was shared leadership positively related to team performance but also team collectivism (i.e., "a person's inclination towards group interests as opposed to personal pursuits" [Small & Rentsch, 2010, p. 205]) and trust increased shared leadership over time.

Health Care Sector

Recent advances in leadership theories have called for the examination of leadership as a collective and shared process that permeates through all levels of health care organizations (i.e., Shared Leadership for Change, The Health Foundation UK; LEADS Collaborative, Canadian College of Health Leaders). Preliminary studies discuss the characteristics of informal and shared leadership and improvements in patient outcomes (i.e., Boak et al., 2015) and the boundaries surrounding areas conducive to shared versus formal leadership (Chreim et al., 2013).

A few studies have attempted to operationalize shared leadership within the realm of health care. Downey et al. (2011) conducted informal interviews with nurse managers in acute care settings to develop components of informal leadership. The authors found that the key characteristics that define informal leadership include the ability to communicate, building strong relations, and actively listening as well as speaking out. Similarly, Miller et al. (2007) sought to examine the outcomes of encouraging shared leadership. Using six teams from diabetes clinical networks (as part of the Health Foundation's UK Shared Leadership for Change Initiative), Miller et al. found that individuals encouraged to practice shared leadership felt empowered to take on more responsibility for patient care, were more willing to stand up for what they saw as effective patient care, and were more confident to act as leaders. Specific to the paramedic field, we were able to find one published empirical article (i.e., Stanley et al., 2012) that addressed (informal) clinical leadership qualities and characteristics of paramedics. Respondents stated that their paramedic role allowed them to engage in leadership because they had the ability to influence others, were informally mentors, and saw themselves as setting high standards regarding out-of-hospital care.

Other studies suggest that the role of hierarchical structure may hinder or support shared leadership practices in health care. According to Martin and Waring (2013), managerial hierarchies and institutional structures and norms constrain leadership practices of those not in formal management positions. In an effort to alleviate this constraint, other researchers have argued for boundary conditions surrounding formal and shared leadership. Opening boundaries that allow skill sharing, empowerment, collaboration, and decision making and closing boundaries related to the scope of health care practices and specialized tasks (Chreim et al., 2013). Boak et al. (2015) have argued for a "hybrid" leadership approach between management and professionals whereby some leadership functions are retained by management but those related to patient outcomes are shared among the team. The current study extends shared leadership research by exploring the precursors, practices, and structural conditions that allow such models to flourish.

Methods

Sample

To explore our research topic, we utilized a qualitative interview technique. We conducted semistructured interviews

with 29 paramedics from EMS in central and eastern Canada. Qualitative research aims to understand the lived experiences and the social settings that comprise people's lives (Bryman & Bell, 2003); thus, it was particularly relevant for exploring the real-life encounters of paramedics leading on the front lines of patient care.

Participants were recruited using a purposive sampling technique whereby all paramedics in this EMS group of companies were invited via e-mail to nominate a paramedic peer whom they believed exemplified outstanding leadership at the front lines of care (e.g., in the field). Although several more men than women were interviewed, the percentage of women in the sample is representative of the paramedic field in general (e.g., 75.7% male and 24.3% female; Service Canada, 2011). The participants' level of experience in paramedicine ranged from 3 to 30 years, suggesting a wide range of leadership experience. Participants' formal training and certification included primary care paramedic (PCP), advanced care paramedic, and intensive care paramedic. Selection of interview participants was made based on factors such as the reason given for the nomination, geographic diversity, gender, years experience, and certification (to ensure diversity). Having such a diverse sample of participants improved our chances of capturing the most fruitful data. The demographic details of our participants are found in Table 1.

Twenty-nine paramedics were interviewed for this study. Because of the geographic dispersion of our participants, it was not possible to conduct interviews face-to-face; thus, telephone interviews were conducted. The interviews were loosely structured and open ended and designed to encourage personal relevance and context (Holloway & Wheeler, 2002). Our goal was to focus on the participants' rich experiences in relation to, and within the context of, leading on the front lines of care.

Table 1

Demographic information for the study respondents

	n	%
Gender		
Female	6	21
Male	23	79
Years of experience	Mean = 13	
Paramedic certification		
Primary care	19	66
Advanced care	7	24
Intensive care	3	10
Geographic location		
Province 1	2	7
Province 2	12	41
Province 3	15	52

The interviews were semistructured in the sense that some questions were developed before collecting data, but we altered these questions and provided different questions depending on the direction of the interview (Fontana & Frey, 2005). All interviews were initially guided by the statement: "We are interested in examining the kinds of leadership that happens on the front lines, not organizational or formal leadership positions but the kind of leadership that paramedics do all of the time as part of their everyday work." Interview prompts included "I am trying to understand what leadership looks like for paramedics at the front line of care, can you describe leadership from your perspective?", "Can you think of a time when you saw or experienced effective or exceptional leadership?", and "Can you describe the qualities or characteristics needed for leading in EMS?".

The length of the interviews ranged from approximately 20 minutes to 1 hour. We taped recorded and transcribed all of the interviews, which resulted in approximately 250 pages of interview text. We conducted interviews until we felt that sufficient data were collected and reached theoretical saturation (Glaser & Strauss, 1967) in the sense that no new data were emerging in our interview responses.

Data Analysis

In analyzing the interview data, we followed Miles, Huberman, and Saldana (2014) by iterating between data collection, data analysis, and theory conceptualization. During the interview and transcription process, we took notes on potential themes that could be explored in future interviews as well as generating the initial series of codes to be used for the open coding stage of our study. During this process, the authors spoke several times a week to discuss the interpretation of the data, the codes and themes, and the relationship of the findings to the current literature.

For the interpretation of the transcripts, we used a hybrid approach called "blended grounded theory" (Locke, 2001). Grounded theory (Glaser & Strauss, 1967) is aimed at developing a new theory, which is grounded in the data, rather than testing existing theories and uses an inductive (e.g., bottom–up) investigation of the interview data. Blended grounded theory, on the other hand, is used when the research is meant to "bring a new perspective and new theorizing to an established theoretical area" (Locke, 2001, p. 97). Although paramedic leadership is a new area of exploration, there is a history of research related to shared leadership models in general. Therefore, we wanted to utilize this literature and theory as our starting point.

For the actual coding, we followed Strauss and Corbin's (1990) guidelines for grounded theory research. First, the authors read the transcripts related to the topic of informal/shared leadership making notations and open codes related to the conceptualization of paramedic leadership specifically. In this step, we broke down the data, compared

similarities and differences, and grouped responses in specific initial codes to be identified for further analysis. Throughout this process, new open codes were developed, and certain codes were dropped or combined under different codes. Some of the following were utilized as initial codes of paramedic leadership: knowledge, experience, accountability, prioritizing, coaching, calm demeanor, counseling, collaborating, leading without hierarchy, trust, communicator, and so forth. We hired a research assistant to develop tables and taxonomies with instances of each of the initial codes. The research assistant was provided with a definition of each open code (i.e., calm demeanor was described as controlling emotions so that it appears that you are confident and in control regardless of how you feel on the inside) and was asked to read the transcripts, code all relevant examples in the responses, and then create a table for each code. Once initial open coding was completed, which occurred when all responses relevant to informal and shared leadership were captured by at least one code, we grouped these codes into higher-order codes. This was composed of axial and selective coding as outlined by Strauss and Corbin. For example, our "knowledge," "experience," and "accountability" codes were grouped together as "competence." Our "collaborating," "leading without hierarchy," "trust," and "communicator" codes were combined to form "collaboration." Upon completion of transcribing, the higher-order codes consisted of four main themes (i.e., leadership as a collective sense of responsibility, shifting leadership roles based on urgency and competency, informal leadership in the absence of formal management, and informal leadership practices promoted by formal management) related to the precursors, practice, and structure of informal/shared leadership.

Findings

Four distinct themes emerged from the data concerning the ability of paramedics to engage in leadership on the front lines of care. A summary of these themes is presented in Table 2. In examining the themes, they seem to represent the precursors of shared leadership, the practices of shared leadership, and the structural conditions allowing shared leadership to emerge. We will discuss each theme in greater detail below.

Precursors of Shared Leadership

Theme 1: Leadership as a collective sense of responsibility. Given previous arguments in the literature, one might assume that traditional (i.e., hierarchical) leadership models work better in times of crisis (Pearce & Manz, 2005), but several of the respondents highlighted the importance of leadership as being a shared responsibility between all team members. As exemplified below, leadership is a collective team-based norm between paramedics used to maximize patient outcomes.

> R25: What's different about EMS in our field, we don't have captains, we don't have lieutenants, we don't have chiefs, we are all just individuals that, I guess we just assume the role [of leadership].

> R14: You definitely need a working relationship…we always discuss things prior to getting on scene, we'll try to picture the crash as we're seeing in our heads as we're seeing our computer…we're trying to play it out prior to getting there…we're a team.

Similarly, the respondents shared the belief that leadership relates to synergy. For example, Respondent 20 stated, "well leadership is first of all looking after each other, it's taking care of yourself and your partner…." The following respondents further support the idea that leadership is a mutual partnership based on professional development:

> R12: …I'm working with a newer person or if they're not quite that confident. I like to let them

Table 2

Paramedic leadership themes

Theme	Theme summary
Leadership as a collective sense of responsibility	Defined as the importance of leadership being viewed as a shared responsibility between all team members. Leadership based on synergy.
Shifting leadership roles based on urgency and competency	The sense of urgency and immediacy paramedics face in emergency situations when deciding to delegate an active leadership role. This leadership role is based on tangible and observable skills/competency required to treat the patient.
Informal leadership in the absence of a formal leader	The natural tendency to step up and emerge as leader(s) when a formal supervisor was unable to be present in the decision-making task.
Informal leadership practice promoted by formal leaders	Support and encouragement from formal supervisors in using a variety of unconventional leadership practices by paramedics.

kind of take the lead, but they're taking the lead knowing I'm right there to back them up….

Theme 2: Shifting leadership roles based on urgency and competency. Another noteworthy precursor influencing the paramedics' perception and practice of shared leadership was the sense of urgency they faced in emergency situations to ensure patient-centered care. For example, one respondent discussed the importance of being able to rapidly delegate an active leadership role in times of trauma:

R4: Ultimately the finest leadership is during heightened emergencies, like mass casualties, I've been to car accidents…and I've seen effective leaders who can control the scene, and effect a plan and orchestrates the plan for everybody….

As shown in the exemplars below, the respondents also coordinate and transfer the leadership role between (inter) professionals when patient health and/or safety are at stake. This leadership status was contingent on the task at hand.

R23: All of a sudden we heard a call…tree on top of a car, two patients trapped…. We had to determine which patient was best to get out of the car first…before we got the more serious out…so we kind of had to coordinate and show some leadership in that sense as to direct the fire department on which patient we want out first.

The respondents described the nature of one's skill base as a precursor to whether a paramedic would share and/or transfer the leadership role in situations requiring immediacy. These skills are tangible and observable and relate to the practice of paramedicine and ensuring the best standard of patient care:

R13: We both had a couple of things that personally didn't go well for us on that call, but we were able to pick up the slack for each other…like I couldn't get the IV and she couldn't get the endo-tracheal tube, so she got the IV and I got the endo-tracheal tube.

As well, there seemed to be a unanimous understanding between all paramedics that leadership was supposed to shift. Leadership is not viewed as a rotating disposition but rather as a position that any paramedic unit could enact. For some, this was a natural and unspoken exchange based on competence as described below:

R11: …when somebody isn't capable of doing the call, it's almost like there isn't any conversation, the other person just steps up and does it…. We don't talk about who's in charge, it just happens.

Shared Leadership Practices

Theme 3: Informal leadership practices in the absence of formal management. In the absence of a formal supervisor, paramedics have a natural tendency to step up, take charge, and effectively engage in leadership. The mentality that someone should informally assume a heroic or shared leadership role in a chaotic situation was voiced by many respondents:

R11: There are times when we have had mass casualty things, and when a supervisor shows up on scene, they are expected to lead, but when there is no supervisor on scene, there is a natural selection, for lack or a better term, that happens, when a leader will emerge, in the dynamic call, and lead the call.

Other respondents highlighted the value in viewing leadership as a relational process. The paramedics considered any individual who had the ability to influence, motivate, communicate, and lead by example to be defined as "leaders" in their eyes:

R1: They didn't wear any stripes, or have any rank to be a leader, but just how they interacted, diffusing situations…. I think that's a tremendous skill for anyone to have.

R4: He shows, he can paint a vision, and you are often motivated to become a part of that vision, and if you act on it, he will empower you to do something, although it may not be in the realm of his authority, but within the area of his competence.

Most notable in this theme is that the respondents understand that leadership extends beyond "figureheads at the top" (Fletcher, 2004). Furthermore, the paramedics felt that, to successfully achieve patient care, one must rise to the occasion in the absence of a supervisor and engage in specific behaviors enacting an informal but influential leadership role.

Structural Conditions Surrounding Shared Leadership

Theme 4: Informal leadership practices promoted by formal managers. Respondents reported that their formal paramedic supervisors supported and encouraged the use of informal leadership practices. In the exemplar below, the respondents described the importance of trust, confidence, and support:

R2: No he's kind of letting us spread our wings and fly, but always, always in the background, whenever we need him, like personally, medically, anything.

Because a few of the respondents in the study were formally ranked as supervisory paramedics, they too spoke of the crucial role in engaging in less structured leadership behaviors to allow for informal and shared leadership to emerge among fellow paramedics. This not only gives paramedics the freedom to act independently but also promotes the idea of leading by example.

> R12: I found that with my leadership style, you have to be able to make yourself step back a little bit, let that person kind of develop themselves, let them push their boundaries a little.

> R26: So one of the best things for us is to lead by example…. If you have somebody who can step up and take charge, maybe the person behind you will do the same thing.

Although much leadership research has been concentrated on individuals in formal positions of authority, paramedics in this study clearly illustrated the conditions enabling informal/shared leadership models to thrive. The respondents show that not only do front line paramedics enact leadership but supervisors' behaviors also play a role in encouraging these practices.

Discussion

In this study, we explored the antecedents and conditions surrounding shared leadership practices among paramedics leading on the front lines of patient care. Although we cannot extend our findings to the general population of health care professionals, we argue that our article contributes to the virtually nonexistent literature on informal and shared leadership of paramedics. We hope that our findings will inspire other researchers to question traditional assumptions about hierarchical models of leadership at the front lines of care.

Paramedics argue that, by engaging in informal leadership practices, they can capitalize on individual strengths in different situations to maximize successful patient outcomes. Klein, Ziegert, Knight, and Xiao (2006) conducted a grounded theory semistructured interview study with extreme action teams in an emergency room and found that respondents reported the existence and importance of using a hierarchical, de-individualized system of shared leadership. The hierarchical leadership piece related to an understanding of who to defer to in moments of uncertainty. In the current study, paramedics continually emphasized the importance placed on competence, judgment, and intuition when determining whether to enact a leadership role or to take a step back. As paramedics received higher certification levels, their scope of practices increased, and this may have been a factor in who stepped up and took the leadership role in a given situation. In Canada specifically, there are three different levels of certification—primary care paramedic, advanced care paramedic, and intensive care paramedic. As the level advances, the paramedics are given a broader scope of practice as it relates to medication administration, defibrillation, advanced airway management, and other invasive treatments. However, our interview respondents did not specify formal paramedic certification levels as the primary means of determining a leadership role. Urgency of patient care on the other hand influenced the shifting of leadership between paramedics. The paramedics had a mutual understanding that, in times of urgency, whoever had the highest competency in a given skills would assume the position of a leader.

The findings in this study also show the importance of paramedic supervisors in promoting and encouraging models of informal and shared leadership. Yes, traditionally, paramedics follow the leadership of supervisors, but when no supervisor is present on the front lines—who leads in such a situation? If no supervisor is present, who tells the paramedics what to do? These questions extend beyond the paramedic literature because organizations in many industries are becoming more decentralized and team based and there is the realization that a single individual cannot possess all of the traits and skills necessary to make every decision. As shown in this study, informal leadership is one way to help cope with organizational complexity. Informal leadership encourages anyone to influence the behaviors of others to achieve a particular goal. However, for informal leadership practices to be successful, formal management must be supportive. The respondents argued that their managers sought to engage the leadership capabilities of all levels of paramedicine. VanVactor (2012) noted that, in an effort to promote leadership outside traditional bounds, health care managers should take a proactive step in recognizing that all team members have the ability to be leaders dependent on the context. Implicit in this perspective is not a disregard for formal management positions but recognition of the importance of supporting and encouraging leadership distributed throughout the organization (Fletcher, 2004). The current study shows that formal and informal leadership are two interdependent entities supported by managers and paramedics. The paramedics voiced the belief that any paramedic could emerge as a leader, and managers recognized and appreciated this perception. A top–down hierarchical leadership model is often viewed as the most effective in crisis situations (Pearce & Manz, 2005), but the respondents here explain the difficulty in a manger being present in every situation and thus question the effectiveness of focusing on singular leadership models (Weberg, 2012). Perhaps, most noteworthy is the consideration and promotion by managers of informal and shared leadership practices. These data suggest that managers in complex and dynamic health care environments can capitalize on the leadership strengths of all organizational members to most effectively reach decisions and meet demands. We argue that many health care fields

can learn from this as a model in taking a more proactive stance on the promotion and distribution of leadership capacity throughout their organizations.

Limitations

This study also has limitations. The primary focus of this study explored paramedics and their perceptions of leadership; therefore, we cannot assume that the informal/shared leadership models and management support will shift to other health care professionals. Our study was meant to capture how informal leadership practices are beneficial and could be encouraged by management across situations. Although the paramedics argued that they are "leaders" and that their supervisors encourage them to enact leadership, we did not interview formal supervisors to gather their input on the implementation of informal leadership practices. Future research might consider an in-depth case study with both paramedics and their managers to strengthen credibility.

Practice Implications

The findings outlined in this study indicate that, although informally practiced, paramedics perceive leadership to be a necessary competency for clinical practice. According to the National Occupational Competency Profile of the Paramedic Association of Canada, there are eight competency areas required for all levels of paramedics. These include professional responsibilities, communication, health and safety, assessment and diagnostics, therapeutics, integration, transportation, and health promotion and public safety. Currently, leadership is not recognized as a major area of competency. However, the lack of attention paid to leadership development among paramedics extends beyond Canada and is a global issue (O'Meara et al., 2010). In 2007, the EMS chiefs of Canada released a report entitled, "The Future of EMS in Canada: Defining the Road Ahead." In this report, they discuss six key strategic directions including leadership support. They discuss the lack of formalized leadership programs for managers in EMS. We argue that leadership development should extend beyond managers and include all levels of paramedics. In practice, paramedic associations and organizations might consider developing and implementing leadership modules as part of their core curriculum and training upon entrance to the paramedic program (i.e., in Canada, the first certification is the PCP Program). Canadian paramedic schools currently offer elective short training courses and may benefit from offering a targeted leadership certificate course that develops the knowledge and skills in paramedic leadership.

Specific to those health care organizations that employ paramedics, managers can also promote an environment of shared leadership and encourage paramedics to practice leadership with quality of patient services in mind. Informal leadership practices can be constrained by barriers such as boundary conditions and formal hierarchical control. As we have shown, supportive management that promotes internal shared leadership between paramedics allows them to maximize their scope of clinical practice in times of uncertainty and during urgent calls. Health care organizations specifically can benefit from having a culture of shared leadership to bolster patient outcomes and satisfaction. At the formal policy level, organizations can provide education and training to all levels of employees as a foundation for the practice of informal and shared leadership throughout their organizations.

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