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Policies versus Practice: “Grey” Areas and “Organized Chaos” in Emergency Response

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Abstract: Paramedics and firefighters work in unpredictable and often dangerous situations. Organizational policies can help in guiding their decision making processes, but learning in practice and relying on experience is most helpful in their daily work. This paper explores how paramedics and firefighters learn to understand their practice through legitimate peripheral participation.

Introduction

Formal education and training are often perceived as the foundation of workplace learning. However, research has shown that much of workers’ learning occurs outside formal situations (Hansman, 2001; Lave & Wenger, 1991; Marsick & Watkins, 2001; Wilson, 1993). This paper therefore explores how emergency response personnel learn in the practice of their everyday work. Our research uses the theoretical approach of legitimate peripheral participation (Lave & Wenger, 1991) to focus on learning in practice and understanding versus directive documentation (Brown & Duguid, 2000). Legitimate peripheral participation “concerns the process by which newcomers become part of a community of practice” which “subsumes the learning of knowledgeable skills” (Lave & Wenger, 1991, p. 29). Understanding practice conflicts with the directive documentation, which can be described as a linear flow chart that “wasn’t designed for sense making. It was designed for rule following” (Brown & Duguid, 2000, p. 102). Our research was guided by the question: How do paramedics and firefighters learn their practice?

Methodology

Our research sites included a paramedic organization with approximately 900 paramedics; and a firefighting department with approximately 400 firefighters. The key components of our research with both organizations included in-depth, semi-structured interviews with senior administrators, training staff, and front line personnel; observations of training sessions; and, ride alongs with paramedics and firefighters in the field. The quotations to which we refer below are direct statements from paramedics and firefighters from our various interviews, focus groups, and observations. In the course of our research, we learned that each organization had recently instituted new policies (paramedic protocols and firefighting incident command respectively). The implementation of these policies became the focus of our discussions with participants, as they identified the policies as integrated with their learning and practice.

Research Findings

Grey Areas

Medical protocols are a set of predetermined criteria that define appropriate interventions in the administration of emergency patient care and are a means of authorizing the medical actions of paramedics in the field; the protocols govern the practice of paramedicine. Although some paramedics see these protocols as strict rules that must be strictly followed, many others

see protocols merely as a guide that helps them to navigate the grey areas of their work. The latter group argues that protocols are written only for the straightforward, uncomplicated case. Paramedics state, however, that “you’re not going to meet a classic textbook case” outside of the classroom and “there is a great amount of grey area in our protocols...they’re not cut and dry.” Paramedics also agree that formal clinical knowledge must be combined with less formal “street smarts” in order to do the job effectively. This type of situation reflects the tension between understanding and “directive documentation” (Brown & Duguid, 2000, pp. 101, 102). If organizational workers do not truly understand why they should take a particular action, and instead rely solely on documentation, they are less likely to problem-solve and effectively respond to emergent situations.

Compounding this reality is the fact that each paramedic has a specific way of doing things depending on training, experience, personality, and each particular situation. One paramedic compared the individual styles of paramedics to that of carpenters.

I don't think it's any different than having two different carpenters build a house although they've probably gone to the same school or...[have] the same education. Through practice, they've probably adopted different skills, or different tricks of the trade to build that same house, and one does it more efficiently than the other or one does it better than the other, so it comes down to efficiency with practice and...pride in your work, it comes down to aggressiveness versus passiveness; so, your personalities work into how you are as a paramedic.

It seems that there can be a wide variation in both the understanding and practice of protocol use. Grey areas necessitate the use of critical thinking and problem-solving skills, combined with common sense. Paramedics state that they need to think for themselves instead of blindly following protocols. For instance, you “do a better service to the general public” if you don’t necessarily follow the protocols exactly but make your own judgments. “If you have a critically thinking paramedic you can adapt the protocol to fit....And that’s something you learn with experience through paramedicine...not every case is going to be the same, because you have to adapt your treatment.” Furthermore, “you are constantly adapting your pathway, choosing your protocol” (senior paramedic).

Paramedics agreed that one’s depth of experience and knowledge is the key to success in their profession. Their comments often reflected a “learn as you go” philosophy that suggests the more experience and understanding paramedics gain, the greater their comfort working within the grey areas of established protocols. The reality is that “not every patient fits into a nice little column” (paramedic). In the field, you have to use your “clinical judgment” and “common sense” (paramedic).

From our research, it also seems clear that paramedics who are more senior are more adept at keeping the balance between policies and practice. Paramedics, like those in other professions, “continuously wrestle with the problem...[of] adapting the particulars of the world so that they fit within the schemas of the organization” (Brown & Duguid, 2000, p. 108). Less experienced paramedics are often not as flexible adapting to this reality, however. They appear to function largely in a linear way, following an “if A happens, do B to get C” (paramedic) philosophy. Newer paramedics seem to focus more on the first two components, concentrating less on the final outcome and more on the protocols that govern procedure. These paramedics tend to become fixated on the “A and B,” which may negatively affect their practice. In contrast, their senior colleagues keep patient outcome—the “C”—at the forefront and do not necessarily

become preoccupied with the “A and B.” They seem to have a better capacity to utilize many sources of information concurrently, unencumbered by protocols.

On rare occasions, textbook-type examples involving a linear approach to treatment do occur. For example, during one of our observations, the paramedics were dispatched to treat a sports-related injury. The senior paramedic directed his 22 year old partner, who had only two years of paramedic experience, to treat the patient. Although the injury was a severe ankle dislocation, the required treatment was undemanding and the decisions that the paramedic had to make seemed uncomplicated. This may have been because such calls are fairly basic, or because the process of treating fractures is sequential, fitting nicely into a protocol-based system. As well, this call had no extenuating circumstances. It could have easily been taken from the pages of an introductory textbook or replicated in a classroom setting and was therefore perfect for someone with limited field experience. Later, when asked, the paramedic said that the treatment was “straightforward” and his actions “by the book,” suggesting that he was focusing on the process of established protocols throughout the call. But what happens when paramedics “fall off the maps that process provides” (Brown & Duguid, 2000, p. 103)?

One such instance occurred during another call. The paramedics were dispatched in response to a 911 call that simply stated a man was “stuck in the bathroom.” Upon arrival, the paramedics discovered the patient on his bathroom floor, pinned between the toilet and the bathtub, barely conscious. The volunteer fire crew who were first on the scene could not free him and there was no information as to what had led to this situation. According to accounts from neighbours, the patient had not been seen for days and it was surmised that he had been stuck to his bathroom floor for three days or more.

Although confronted with this exceptional situation, the senior paramedic quickly and calmly took the lead, making almost instantaneous treatment decisions. He simultaneously delegated tasks to both his younger partner and volunteer fire personnel, began preliminary treatment, contained a growing crowd of bystanders, and summoned assistance from the building superintendent. There had been some discussion about physically removing the toilet from the premises, but upon noticing that there was no water shut off valve connected to the toilet, the paramedic directed a bystander to retrieve a bucket, and used a simple solution of water and dish detergent found nearby to lubricate and ultimately free the patient. The senior paramedic then led a group of four people in the transferring of the patient to ambulance, where he provided advanced care all the way to the hospital.

When paramedics find themselves in non-textbook situations like the bathroom example above, judgment and critical thinking can lead to actions extending beyond the limits of standard protocols. There are no roadmaps available to navigate through such territory. The main observable difference (other than the obvious difference in medical circumstances) in the two cases was in the clinical approach of the paramedics. As paramedics gain more experience, it seems that their approach is driven less by protocols and more by an overall understanding of paramedicine, while younger paramedics are more likely to follow protocols by rote, without a sense of the larger picture. The different experience levels and attitudes of paramedics can be analyzed with reference to Lave and Wenger’s (1991) concept of newcomers and old-timers, and learning in practice through legitimate peripheral participation

¹. Newcomers often operate in a linear fashion, from one protocol to the next, processing consecutive bits of information. Old-timers perceive their work in a broader manner, relying on their experience and their understanding of their practice. They simply “practice medicine out there” (senior paramedic), processing complicated, one-of-a-kind calls with an ease and confidence that comes from experience. Despite regularly “travelling off road and without maps...they got to where they needed to go, nonetheless” (Brown & Duguid, 2000, p. 104). Paramedic partners learn from their experience and from each other; as the newcomers work with the old-timers, they gain a better understanding of their practice, and are able to holistically apply medical protocols. Newcomers gradually take on more complicated tasks, and are able to handle the complex calls that their old-timer partners may have originally had to handle.

Organized Chaos

Fighting fires is dangerous, challenging, unpredictable work, which firefighters describe as “organized chaos.” They continuously refer to the fact that regardless of their level of training or previous experiences, they do not see any call as routine – anything can happen. Looking ahead, preparing for the worst and being ready to adapt is key in firefighting due to its unpredictable nature. “You have to be the biggest pessimist on the scene...what possibly could go wrong and do I have the resources to cover that in case things do go bad” (officer).

The department works within an incident command (decision-making) system that is distinctively suited to the emergent nature of firefighters’ work, assisting them in responding to small, large, or developing incidents. The incident command system (ICS) provides a framework for responding to a variety of emergencies, providing steps to follow so as to manage an emergency situation. It is a policy that combines guidelines with flexibility and lays out the standard method to carry out actions once a decision has been made, allowing firefighters to adapt to any situation as required. In order for ICS to work properly, department members explained that they must fully understand the system as well as the nature of firefighting itself, and use their own experience as a foundation in their work.

When firefighters were asked for their understandings of ICS and how it affects their work, their answers were quite similar. They emphasized that ICS was a flexible, effective way to “organize chaos” and coordinate action, helping all firefighters work as a team with one goal and assigned tasks. Although ICS can be expressed in flowcharts and Standard Operating Guidelines (SOGs), its implementation more closely resembles a living organism than a static policy. “Every call is unique” (officer) and the responses to each call change depending on the situation and the personnel involved.

It is this human element that takes a linear model and makes it adaptive because “everything’s great on paper, but nothing ever goes that smooth” in reality (officer). Therefore, firefighters must “organize chaos” and “adapt, adjust, adjust, adjust” (officer). Officers are responsible for commanding incidents, and each officer handles incidents in different ways, even though they work with the same system. Two officers explained this with references to different ways of flowing down the same river, and also acting like MacGyver [a 1980s TV character who applied extremely creative, often improvisational scientific solutions to difficult and dangerous situations]. In addition, different officers have different strengths in handling

¹ Lave & Wenger (1991) also discuss how members learn “to be” members of their communities, and learn the culture of their organizations. We found the same dynamic in our research, but space precludes such its discussion here.

calls. Officers explained that those who are more efficient at a call have a better understanding of how ICS works and have had more practice working with it. Sometimes, however, officers have a tendency to over-rely on the ICS checklists, hitting the requirements merely by rote, without applying them to each particular situation.

Introduced within the last decade, incident command is a relatively new policy for this firefighting department. Firefighters who have joined the department since ICS's implementation have a better grasp on ICS than do their older counterparts. These newer members of the department think and act differently in relation to the task of firefighting because of their continuous exposure to incident command. Incident command is integral to newcomers' work, whereas it may be seen as more of an add-on to old-timers who did not progress through the ranks with ICS. In this role reversal, it is more often the new firefighters who have a better understanding of ICS, although old-timers have a better understanding of firefighting itself, due to their years of experience with the department. New firefighters have had continuous exposure to ICS, and it is "practically seen all the time" (new firefighter) while some of those who were firefighters before ICS don't really understand it. They grasp parts of it, but "don't quite grasp the whole thing" (officer). One officer said of himself, "In the overall time of my career, it still is relatively new.... I guess what I'm saying, you still have to actually think about all the aspects of it."

Referring again to Brown and Duguid's (2000) concept of understanding versus directive documentation, it is apparent that firefighters must have a deep understanding of the nature of incident command, and draw on their experience in the field. An officer who simply follows the steps or goes through checklists will not be as effective as one who thoroughly understands the policy and makes judgments based on what is best, rather than what the manual lays out.

Some of what firefighters learn can be explicitly taught, but much is also learned in practice and through legitimate peripheral participation (Lave & Wenger, 1991). One officer stated that what they do is impossible to describe, and must be experienced personally to be understood. It is therefore very difficult to pass on these understandings to new firefighters. The ability to tackle problems and adapt is key, and the only way to adapt is through experience. Firefighters must learn by doing, with jobs of increasing skill, decision-making, and complexity. As a member of a crew, new firefighters are never alone at a call, but may often be attending to duties without the immediate physical presence of a colleague.

Furthermore, rookie firefighters learn some things only briefly during their recruit training, such as auto extrication, and are therefore given "helping jobs" when they first encounter these situations with their crew. They start with simple tasks and gradually take on more complicated roles; "hands-on" practice is very important. This is similar to how firefighters work with specialty teams such as trench rescue. For instance, an officer encouraged his crews to take the time to observe trench team training in order to increase their understanding of trench rescue in the event they needed to support the team in a real situation.

Learning is also affected by the differences between rookies and more experienced firefighters due to differing experience levels affecting the actions of crews, their perceived capabilities, and mentoring opportunities. When there is an ideal mix of newcomers and old-timers, there are increased learning opportunities within the crew. Newcomers learn from old-timers through questioning and observation, and old-timers learn from mentoring the newcomers. However, the department is experiencing rapid growth with the addition of many new recruits, resulting in a dilution of experience levels. It is becoming increasingly difficult to

evenly disperse new recruits to more experienced crews, reducing the rich learning opportunities that are created through the interaction of newcomers and old-timers. Nonetheless, the department strives continuously to support the learning of its firefighters, through formal upgrading and requalification, mandatory training, observation, discussion, and debriefing. As one officer stated, “everybody is always looking at how we can do it better...this is what I like about” our department.

Conclusion

Paramedics and firefighters encounter extreme variables in their work, while facing life and death situations. Both organizations require extensive formal training and frequent professional development/upgrading sessions, but their formal education is only a beginning; it is in their practice that they truly understand their professional work. Our research indicates that developing understandings through experience is paramount to the success of these emergency response personnel. Paramedics and firefighters have developed ways to adapt to the medical protocol and incident command systems. By fitting the reality of their practices into the policies of their respective organizations, they “do a better service to the general public” (paramedic). Through learning in practice and from each other, these paramedics and firefighters have developed the ability to respond to emergent situations, adapt policy into practice, and navigate through the grey areas and organized chaos of their professions.

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