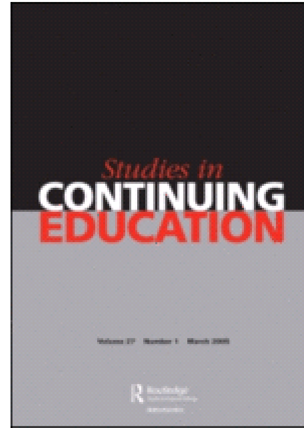

Experienced paramedics' navigation of and learning about ethical dilemmas in the field

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Experienced paramedics' navigation of and learning about ethical dilemmas in the field

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This research was approved for human subjects and IRB research protocols by the NC State University IRB (#23495) on November 10, 2020. The authors followed the informed consent, data collection and analysis protocols.

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Experienced paramedics' navigation of and learning about ethical dilemmas in the field

This case study investigated how experienced paramedics learn to navigate ethical decision making in the field. This research is aligned with workplace experiential learning and with evolving international discussions of the changing roles, professional identity, and educational and policy needs of paramedics. Twenty-five experienced paramedics were interviewed, and the data analysis applied situational mapping, thematic and guided framework coding techniques. Findings indicate that during emergent situations paramedics do not rely upon formal educational knowledge to develop judgment in navigating ethical dilemmas beyond applying and honing technical skills. Instead, they rely upon a combination of workplace experiences, self-directed learning including personal reflection, and their immediate environmental context. Participants conveyed the importance of supervisors and trusted partners in maintaining an alternative to consult or debrief during emergent situations or shortly after ethical dilemmas occur. Participants discussed use of integrated principles of empathy, beneficence, and accountability. Those participants who maintained an open awareness related to stress and trauma and towards integrating reflection and intentional practice into their work, exhibited more nuanced expertise in handling of ethical dilemmas and in their commitment to professional growth.

Keywords: paramedic; paramedicine; ethics; professional identity; decision making; experience

Introduction

Paramedicine offers pre-hospital emergency medical services. To the layperson it is often thought of as EMS or paramedics or perhaps as the ambulance and crew that

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respond to emergency medical situations in everyday life settings. As a fairly new profession, national establishment and growth of EMS in the United States occurred primarily in the 1970s and 1980s (Braithwaite & Barcinas 2020). According to Henderson (2013), in 2011 there were approximately 36 million national medical emergency response incidents with 26.6 million people transported to emergency departments.

In the international context, comprehensive discussions about the evolution of paramedic education, professional identity and policy are currently happening in the United Kingdom, New Zealand, Australia, and Canada at a faster pace than discussions in the United States (Collen 2017; Townsend and Luck 2020; Taveres, et al. 2021). Recent changes have broadened the discourse associated with paramedic credentialing, policy and performance, to include: increased substantive dialogue about the realities of paramedic emergency medical services; theorizing about professional identity, policy and its connection to learning and performance; expanded and innovative educational requirements including continuing medical education; attention to differentiation in roles and multiple career pathways; and new, evolving legislation and licensure expectations.

Much of the available literature on ethics in paramedic care focuses narrowly upon the efficacy of clinical practice and treatment protocols, with a gap in investigation of subjective paramedic ethical decision-making processes related to context or issues of professional judgment (Braithwaite 2014). Ethical decision making is a source of workplace stress and having the skills and capacity to navigate complex ethical dilemmas is important to everyone, particularly the communities that paramedics serve. Paramedics have increasing scope of professional practice, and there is

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insufficient empirical knowledge that explains how paramedics learn about and build expertise in navigating ethical situations or other situations requiring nuanced judgment.

The purpose of this research study was to learn about paramedic perceptions of how they acquire, grow and apply their expertise in encountering and navigating ethical dilemmas. To that end, we designed and carried out a qualitative case study investigating paramedic experiences with ethical decision making. This research will contribute to the larger scholarly and practice discourse about pre-hospital emergency medical services, and the subjective realities of paramedic learning, professions, and education.

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Background

Paramedics, education and ethics

In the United States, the National EMS Education Standards curriculum (NEMSES) for Emergency Medical Services (EMS) serves as a baseline for initial training programs. Students cannot test for the National Registry (NR) unless that have completed a program that is accredited and one of the conditions of accreditation is adherence to NEMSES. Nearly, but not all 50 states use NR as the examination process for providers to practice. Educational preparation programs are largely nested in community colleges, with some universities offering programs. Commission on Accreditation of Allied Health Education Programs (CAAHEP) certified credentials currently offered in the United States range in decentralized credentials with a culmination of certificates of completion (539 programs), associate degrees (381 programs), and baccalaureate degrees (13 programs). To a much lesser extent, graduate degrees are offered, although they are not designed as entry level preparation into the profession, and instead focus upon public safety, leadership, or research, and policy. Continuing Medical Education (CME) requirements are variable and decentralized. These requirements are dependent

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upon the credentialing and state in which a paramedic practices, with Nationally Registered Paramedic certification (NRPs) required to complete 60 hours of CME every two years. Currently, ethics is not listed as a suggested topic to prepare for in anticipation of taking the NR exam. There is also no current CAAHEP-accredited CME requirement regarding ethics, although the topic is available ad hoc to those interested.

Within paramedic preparation programs, there are several different textbooks used. One of the leading texts is *Mosby's Paramedic Textbook, Fifth Edition*, which is published by the American Academy of Orthopaedic Surgeons (Sanders, et al. 2019). Within the 2,087 page text, there is one eight page chapter that addresses ethical decision making in the field, and an additional three pages which briefly discuss futility and paramedic roles and presents a rapid decision making model.

With the chapter, a rapid decision making model developed by Dr. Iserson et al (Sanders 2019, 153) recommends using a process for navigating ethical dilemmas when a systematic lengthier process is not feasible. The model suggests that in emergent cases, that paramedics ask themselves a series of questions. The first step is to ask oneself about any prior dilemma that allows for an 'experiential rule' that can be applied. Next, consider alternatives that buy time for deliberation, providing there is not undue risk to a patient in delaying. If there is time, the model then suggests communication or consult with others, assuming, for instance, a Medical Director. Finally, the last steps are prompts regarding impartiality, universalizability and interpersonal justifiability. In lay terms, a paramedic would ask: Would I be willing to have this action performed if it was myself or a loved one? Is this what I would do in a similar situation? Can I explain or justify my choices to others? (Iserson 1995, 45).

Paramedics do have formal exposure to accepted professional norms and ethical decision making. NAEMT, the National Association of Emergency Medical

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Technicians, adopted a code of ethics in 1978 and revised in 2013, serving as a set of guiding principles. While the specific list of guidelines is fairly lengthy, stating that EMT practitioners should do no harm, provide services based on human need (implying race, status or personal views should not disrupt care), to be responsible in the use of social media, to maintain ongoing competence, and so on – there is an abbreviated version referred to as "The EMT Oath" (EMT 2021) and the extent of discussions of how to interpret or reflect upon the deeper meaning of the principles are not formalized.

Paramedic ethical decision making in the empirical literature

There is relatively scant literature addressing paramedic subjectivities in emergent situations. Iserson's recent work further explains why he advocates buying time as an essential element of his proposed decision-making model for situations fraught with chaos, urgent time constraints and competing interests – he argues that while ideally one could identify probative information to guide decision making, "withholding treatment is often irreversible, and any treatment instituted can later be withdrawn" (Iserson 2018, 141). This later work acknowledges the untenable situations that arise, and that in front line emerging situations, 'do no harm' may be defined quite differently, and in the eye of the beholder. Ezio Di Nucci (2018) frames health professions bioethical issues as ones of 'praise and blame' (p 137) saying that there are obvious and then less obvious ways that we determine who is responsible for what and how, and that we cannot understand responsibility without also analysing the role of mistakes, and what conditions are at play and who determines responsibility or justifications.

Using a different frame, Henderson's research on paramedics' rule abidance and deviation suggests that when deviations from protocol occur they are related to protecting patient need, for example when there is a contradiction between a protocol and the situation -- whether it be a protocol that isn't matching situational cues, setting

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up potential errors, or perception that the protocol may cause undue suffering, as is often the case in futile cases or in the confusion between legal paperwork and patient and family communication and agreement on the patient's wishes (Henderson 2013). Other research suggests that predominant paramedic values of clinical objectivity and compassion are most prevalent, and Henderson laments the idea that there is a '*cultural bias to do something'* (Sine & Northcutt as cited in Henderson 2012, 804), and emphasizes the importance of not overlooking what he describes as the powerful influence of street level bureaucracy and emotion in paramedic front line decision making. In scholarly investigations on paramedic decision making in cases involving elderly falls, the researchers found that paramedics made decisions relative to their role perceptions and perceived cultural norms surrounding elderly falls as low acuity (not as important or serious) as other types of emergencies, which shaped their judgment, especially on whether to transport. They also found that paramedics in subordinate positions tended to go with keeping more senior partner preferences (Simpson, et al. 2017). Additionally, they argued that paramedic culture is not geared towards meta-cognition, and that future training focused upon building capacity to critically reflect upon their underlying dispositions are recommended.

This resonates with findings by Eaton (2019) who specifically researched the practicum phase of paramedic education and findings indicated EMS students are able to differentiate between text and theoretical learning and practical or experiential learning about ethics, and they are strongly oriented towards practical learning (post-graduation) as the mechanism that works for them in honing decision making skills. In a different approach encouraging connection to community members, a recent experimental program positioned paramedics as community health advocates, balancing the intentional building of trusted community rapport with maintenance of a role as

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emergency services providers (Brydges, et al. 2016). All of this raises an interesting question – whether and how we teach or prepare someone embedded in defined professional paramedic cultures to effectively disengage from human anguish in emergency situations and to balance integrated prehospital care standards with autonomy, compassion, and meta-cognitive reflection? Henderson (2012, 800) raises this issue, pointing to Mastracci, Guy and Newman's (2012) research on EMT coping with emotional intensity. In considering paramedic subjectivities and how they shape judgment, researchers indicated that emergency medical responders "may be treating minority patients differently" (Foden-Vencil 2019, 1), with Black patients 40% less likely to receive pain medication than White patients. Similarly, another national study found after reviewing 59,915 records that Black patients were significantly less likely to receive any pain analgesia compared to Caucasians, even when adjusted for injury, gender, and age (Lord & Kalsa, 2019).

In Iran, research on the barriers to ethical decision making in pre-hospital care services report paramedics' navigation of ethics is situational, and findings indicated that paramedics balance input and output knowledge such as the expectations and awareness of patients and families; the role of futile care, and their decision making relates strongly back to these conditions. Their evidence suggests that if a paramedic has low trust in the quality of hospital care, it influences their decision process. In other words, if paramedics are not confident in the care that a patient may receive upon entering the healthcare or community systems, they are more likely to deviate from protocols to problem solve independently in response to the ideal of putting patient well-being first (Torabi, et al. 2019).

Patient illness information and other information such as Do Not Resuscitate orders (DNR) were crucial factors in decision making, according to focus group

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research in the United Kingdom (Brandling, et al. 2017). Quantitative survey research in Ireland also suggests that paramedics reported that, in their experience, beneficence, non-maleficence, and respect for autonomy were crucial to paramedics' decisions process. Similar to other studies, they also strongly relied on evolving practical or applied workplace knowledge (Bury, et al. 2019).

Townsend and Luck's (2020) work in Australia and New Zealand argues that a strong sense of professional identity, recognized internal and external to the profession, offers a necessary foundation for paramedics to make difficult ethical decisions based upon the strength of their professional standards rather than any employer-driven factors. In the United States, our previous research on ethics (Braithwaite & Barcinas 2020) investigated paramedic use of preparatory and CME learning and whether and how there was any intentional applied use of an EMS ethics models in their practice. Our previous findings, consistent with existing literature (Braithwaite 2014; Braithwaite & Barcinas, 2020; Collen 2017; Bury, et al. 2019), indicate that EMS study participants did not overtly apply formal learning; rather, they relied upon evolving self-directed and experiential learning. Other findings were that paramedics articulate and value a sense of community service and responsibility, and a general commitment to patient beneficence and accountability (with variable definitions) as important elements of their decision-making processes.

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Relevant literature on learning, experience and expertise

Developing occupational expertise and judgment via everyday work activities and interactions is well studied. Ericsson et al. (2018) theorize that expertise is a dynamic that is a reflection of knowledge of what is accepted or 'known' within a given field or occupation, combined with a continual cycle of reflection and refinement. Ericsson (2018) further argues that expert knowledge is uniquely integrated with environmentally

situated factors, rather than boiler plate driven. There are some accepted empirical truisms that scholars who study expertise and workplace learning agree upon. For instance, experts are consistently able to "impose meaning on ambiguous stimuli" (Ericsson 2018, 5). Researchers studying expertise acquired through dynamic practice in 'real life' often rely upon naturalistic decision making (NDM) as a way of understanding learning and performance in moving situations (Mosier et al. 2018). NDM does not solely rely upon replication based on consistency combined with narrow tracking and measurement of decision pathways. Instead, it reframes the process by engaging in analysis of situational dynamics, complexity, and the appropriateness of a given course of action (Mosier et al. 2018, 454). Taking into account the variable level of expectations for education and credentialing and the high stakes, emergent environment, NDM aligns well with the study of how paramedics nurture expertise while making decisions in emergent conditions. Academic studies in NDM include focal points such as expertise acquired through establishing and using routines and refinement cycles, the use of deliberative practice, and managing uncertainty. The integration of NDM approaches for self-directed and guided learning are relevant to the study and application of paramedic expertise in ethical decision making, in that professionals may be entering and growing within the field with vastly different levels of educational, credentialing and organizational support.

When considering CME design, factors of expertise reversal effect in relation to cognitive load suggest that understanding how paramedics become experts and the nuances of that journey requires intentionality and care in designing and facilitation of CME (Kalyuga and Sweller 2018). For instance, those learners without executive, accumulated knowledge may substitute external instruction while scaffolding new information, and intermediate and expert level learners may require different learning

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and facilitation experiences to support their accumulation of self-directed professional growth. This general attribution of scholar practitioner integration has been a central idea in the adult and continuing professional and medical education literature since the early 1990s, with Cervero (1992) making the argument that a model of learning 'from practice' should be an integral part of continuing professional education.

Many of the mastery learning models used in emergency medicine formal and continuing education events rely upon intentional capacity building of all learners to an expert level, rather than aiming for a bell or distributed curve in learning and performance. To illustrate, recent best practices in mastery learning offer emergency clinical care learning that includes deliberate practice with targeted feedback, rapid cycle deliberate practice (RCDP) and use of meta-cognition is considered highly effective for emergent care health settings (Issa, Salzman and Adler 2020). It integrates initial learning, experience, and reoccurring or layering of distributed learning. This approach makes sense as a tool for teaching specific use of medical protocols, technology, or treatment protocols. Arguably, we need individuals' margin for error or professional judgment to be far above the average expectations. In that sense, we (as a society) expect, or at least hope, for our emergency medical personnel *to be that good*. This makes understanding how paramedics informally engage in expertise development and its potential relationship with future aligned CME an important strategy.

Research Design

This qualitative research investigates how experienced paramedics perceive and articulate their navigation of emergent ethical dilemmas in the field. Sub-questions include intentional exploration of the paramedic informal experiential learning and reflective practices that support the understanding of paramedic development of expertise in ethical decision making.

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Qualitative Case Study Method

Qualitative case study is conducive to exploration, analysis and description with various units of analyses and boundaries (Yin 2009). Case study method lends strength to analysis of daily experience, taking into account the situational context. The study design is focused upon *how* and *why* paramedics navigate emergent ethical decision making situations in the ways that they do, and to investigate these perspectives within context. The choice of case study method design allows for analysis of complex experiences and the relationship of those experiences to paramedic learning, and professional identity. While we are spotlighting individual actors (in this case paramedics), the dynamic larger context and the role (of paramedics) acquiring experience, learning and acting, is the unit of analysis.

Data Collection and Analysis

Participants for this IRB-approved study were drawn from a sampling method as defined by Saldaña & Omasta (2018), where participant presence was intentionally spread across multiple locations, units, or organizations. Inclusion in the study was based upon two criteria. Participants were currently practicing, licensed paramedics with at least three years of experience. This experience allows for an adequate time period of professional practice, and time for participants to have developed awareness of connections between education, context, learning and experience. Second, paramedics were licensed and practicing within one large Southern state, thus sharing common licensure, foundational and/or continuing professional education standards, while still allowing for contextual variations.

Via Zoom, we conducted 25 semi-structured individual participant interviews of 45 to 120 minutes in length, with interviews averaging 75 minutes long. The interview framework included specific topical areas on ethics, decision making, experiential and

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expertise learning, and navigation of emergent environments. Participants were asked to share general information about their reasons for becoming paramedics, and about their educational journey to date. They discussed responses to the context, pressures and rewards of their work. Next, participants were asked to share in-depth examples of ethical dilemmas that they had faced, including exploration of how they defined or framed a situation as an 'ethical dilemma or situation'. Moments of framing, ambiguity, stress, and indecision were explored. Interview prompts included discussions around whether and how they consulted with others, accessed resources, drew upon previous learning (experience and education), the role of repetition and practice, the influence of situational variables, their personal and organizational sense of accountability, and descriptions of the nuances of personal, organizational and professional expectations and processes. Further, participants were asked to discuss whether and/or how they utilized any reflective or meta-cognitive learning or communicative approaches to make sense of or cope with stress related to experiences with ethical dilemmas.

The videos of interviews were viewed multiple times by both researchers, and coding was conducted via (1) *in vivo* open coding, allowing for participants' data to generate naturally (as an example, *participant* definition of ethics, ethical dilemmas), (2) by the use of Clarke, Friese and Washburn's (2018) situational mapping diagrams to better examine situational dynamics and categories developed via supporting empirical literature on subjective paramedics' ethical decision making. We fluidly cross-referenced the zoom generated transcripts with the video transcripts for analysis purposes. We used the software generated transcripts 'as is' and did not edit them to eliminate or refine pauses, repetitions or distractions that are typically part of a generated transcript, in keeping with Evers (2011) definition of *gisted transcripts*.

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Finally, the data was analysed with descriptive and then analytic thematic coding concepts. The researchers repeated cycles of independent coding, alternating with four structured discussions to clarify, align and reliably arrive at shared understanding and agreement of codes.

Data expression

The data set is of a sensitive nature, and the researchers made an intentional decision to judiciously use quotations or specific situational narratives in order to avoid inadvertent disclosure or identifiers.

Findings

Participant definitions of ethical dilemmas were organized around participant patterns of response. Participants reported that they did not explicitly define ethical dilemmas as a matter of learning or reflection. Implicitly, their definitional responses fell along into categories: 1) No clear or obvious choice about what to do, or 'all the alternatives are bad'; 2) A heavy situation that 'stays' with you for a long time, if not permanently; 3) It could have turned out differently – did I have the right knowledge, judgment, timing, situation? 4) Protocols, resources or training don't adequately address what to do; and 5) Confusion or conflict about who is really the patient – the patient, the family, or others?

Participant perceptions of 'being on your own' and 'being together' makes a difference

Participants in this study discussed their feeling of 'being on their own' literally, concretely, or subjectively - and an assessment of this condition during emergent situations. Participants discussed their awareness as tied to whether they were in a rural isolated area, which made the response time intervals such as transport, time to transport or quality of transfer facility a challenge influencing decision making and treatment.

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Experienced paramedics' navigation of

Paramedics responding to a call in an area with uneven or poor cell phone reception described a heightened feeling of having to solve an issue 'on their own' or in certain ways. Those who worked in an urban context also reported confounding situations such as availability of advanced treatment facilities, heavy traffic, lack of ease in parking in relation to the site, high crime areas and personal safety influencing their response choices. Paramedics, rural and urban, described how not always having all of their gear/equipment available or perhaps not being comfortable with the specific truck, room or gear bag/equipment was an important factor in their decision making. These constraints influenced how they approached, framed and responded to certain types of calls. Participants also discussed their hesitations if they did not have a sense of confidence in the treatment that a patient might receive, and how that posed a unique situation and influenced choices about treatment or transport. This underlying awareness of situational constraints was something that they carried into all situations, and it shifted them from 'auto pilot' or universal approaches. As ethical dilemmas emerged, it specifically influenced participant responses.

When faced with difficult situations, participants discussed how critical the role of supervisors served as a potential positive resource in their situational decision making. They described how that their relationship with a supervisor and ability to candidly discuss an emergent situation was an important, at times critical resource, especially an option to talk through ethical situations *while they were emergent or very soon thereafter*. For many, they discussed how they may not have chosen to make the call, but knowing it was available offered an undercurrent of confidence, support as they proceeded independently. For others, the ability to make that call allowed the participant to think through alternatives and resolve uncertainty. On the other hand, paramedics also discussed how their decision-making capacity was at times impeded or

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constricted, due to a perceived defensive posture in terms of ability to communicate with a supervisor about their course of action during or after ethical dilemmas.

Describing asking about availability of a night shift consult:

> *"We felt you could figure this out on your own"*

> *"When asked about calling for a consult: "Fool, you could have figured this out…why did you wake me at 2 a.m.?"*

Describing choosing not to consult:

> *"I think autonomy is one of the things that drives a lot of us to do this profession over nursing."*

Describing response to calling for a day shift consult:

> *"Why did you call me?"*

Reflecting on consults:

> *"You do not feel comfortable reaching out for somebody else to help, you make it, you are the one that is expected to make it."*

> *"I would not mind consulting with other people it is just I know at the end of the day, I'm always going to be the one that answers for it anyway."*

> *"I have a good education and had good preceptors, when I deviate from protocol my medical director and supervisors know it was in the best interest of the patient. They support me and let me make decisions."*

> *"When I am told, "We wish you would have thought about this before you thought of that…it makes me feel like I killed somebody."*

> *"Most of us are in this line of work to help people…as to when they ask us what [happened]. Did you do this? It's like an ambush."*

> *"I have been called on the carpet. It was immediate. I think agencies use it as a tactic to get rid of you. You are upset, tired and haven't had a chance to think."*

> *"EMS called to a scene with a behavioural health crisis patient. The patient was a danger to himself and crew. They called a patient family member and waited 30 minutes until the family member arrived and was willing to assume responsibility. We know that the ER is the last place that we need to take behavioural health patients. It is just a 72 hour hold with paper scrubs and Turkey sandwich and that's not what people need and we knew that, and the patient knew that. So, we know that doing our job is not going to benefit the patient in any capacity. We documented it as a 'patient assist'… but, it was best for the patient. It was really an ethical problem. We wound up explaining it to the Medical Director because the patient was agitated, and we could not approach to get a refusal."*

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Similarly, paramedics are sensitive to the degree of rapport and trust with their partners and this was frequently explored and discussed as an element of their decision making or reflective learning process. The data indicated that there is a degree of salience– having a feeling of 'being together' rather than alone meant that paramedics were more generally confident during an emergent event, fully considering alternatives and cues in the environment. At times, a decision about how to handle a tough call rested with an assessment of whether their actions would align with their partner's perspective. The ability to do this without direct observation of patients or their families was offered as an example of 'meta' communication – an ability to communicate through a glance, a 'feeling' or understanding, especially because stepping aside for private conversation was not always feasible. When a partner was present, one member of the team could also consult resources to double check their planned course of action without patient or others' observation. Participants reported that their later reflections of what occurred and consideration of how they might approach similar future situations were more exploratory and nuanced if they believed they had shared understanding with a fellow professional – a mentor, a peer, or their partner or supervisor and could choose their own time and place for initiating discussions about their experiences.

"I have been lucky to have fixed partners where you get to build a relationship. Learn and grow from each other."

"We hash things out, good and bad… {and} decide if we would do anything differently."

Discussing a 70-year-old local resident (inebriated), described as a cry wolf situation:

"She called frequently and was fine. Once she called and had aspirated and could barely breathe- but refused car." [The crew tried to convince her to go. They called family, no one would help. The crew waited for her to pass out, so they would have implied consent.] Partner discussion "we cannot leave her, but we cannot take her either, so we left. We cannot make her go." I told my partner, "'you know she will be dead in the morning." "We got off at 7 am. The tones went off and it was for a fall at the house. I said by God ...dammit, she's dead, because we knew!" …. "I wish had followed back up. If I could do it over…. Call has always stuck with me…. It was horrible."

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"We try to immediately debrief about bad calls. Personally, I try to work my shift, go home, and be off. Do the things I want to do."

Describing a call where a parent survived, and two children drowned in vehicle, they were swept away in swift water:

"After the call with the kids drowning. I remember one of the medics that transported the parent also had to transport a deceased child. I reached out to him to make sure he was ok."

Participant reflections indicated a strong belief that when it is right and well timed, supervisor or partner rapport, trust, and ability to consult made a positive difference and they wished that was the case more often than it is. The analysis revealed many participants worked hard to leverage their experience, and explicitly wanted to maintain autonomy due to the emergent nature of their work, yet wished for improvements and consults in the area of trusted support.

Role of foundational education and CME remains as untapped potential

None of the participants reported or stated that there was little to no point of specific recall or connection back to their foundational education or licensure regarding ethics. Most participants stated that the general culture of their profession did not currently support openly questioning ethical decision pathways beyond discussion of technical protocols.

Nearly all participants stated that they saw a real value in developing and sustaining high levels of excellence/competence in treatment protocols as a necessary step towards excellent ethical judgment. One could not happen without the other. They spoke in detail about their general use of learning tools and aides and memorized questions or steps in a protocol to engage in treatments through 'auto pilot' or rehearsed models. This meant having a highly skilled (even under pressure) ability to act -- totally ready to go -- once a difficult ethical decision was made. Paramedics felt that their decision-making skills needed to be supported in a continuous manner – via a

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supportive, well-resourced work environment, their work experience, self-directed learning, and CME opportunities.

Participant Discussion of Individual Guiding Principles

There was rich discussion during interviews about ethical guiding principles that were important or relevant to them as individuals. The areas that cued difficult dilemmas for participants were questions regarding futility of care, administering treatments that caused or prolonged suffering, navigation of fuzzy or competing views of family members, patients, and medical professionals, underlying trauma associated with bearing witness to suffering, anger with participants who caused injury or death, or reflecting upon the healing experience of survivors. They often described their experience as a source of 'knowledge' and how they know (while patients or families may not) what is coming next and they wrestled with whether or how to share that detailed, often painful knowledge so that families or patients could factor their [paramedic] perspectives into their care decisions. These were the moments when 'would I want this done to a loved one or to myself, if I were in a similar situation' or projections about the recovery process or memories that surviving loved ones might carry imparted a strong sense of responsibility and empathy, and a sense of holding back out of respect for patients' (or families) right to decide.

"If I had just been in an accident and I am being rushed around and talked down to… treated like a number. I would wonder about my value as a patient. I have to remind myself. 'Whoa- slow your roll there ten-speed. At the end of the day it is not just numbers, it is a patient'."

"The things we are doing to people, I don't ever want that done to me"

"Participant [crying] describing a multiple casualty incident, "How do you go to someone else, you just to figure out, you are playing God. You are in charge. The dilemma is how you effectively treat the most people you can treat without being hyper focused on one."

"I had a pediatric abuse victim. We responded to a home with 2 young children, a 2 year old and an 18-month old. The 2 year old was critical…rushed her to the unit and began transport. She was taken to the nearest ER because the crew couldn't secure an airway and needed the ER doc…the patient was taken to a trauma center where she spent 8 months…Later, it was determined that the grandmother (babysitting) had beaten her for crying with a table leg. The

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child is mentally challenged with seizures. My partner still keeps up with the family, this was 8 to 10 years ago. Powerful call. Something wasn't right there. I still feel bad that I was so focused on the child that I didn't realize the 18-month old was also abused."

Describing a case with a pediatric gun-shot victim. It was very hard for first responders who wanted to take the child to the hospital:

"Preteen shot his younger sibling in the chest. Nothing can be done- point blank range with high caliber gun. "We had to put our foot down and say 'no'. It was heart breaking for my partner. The patient is now the family and the youngster that shot his sibling…[long pause]… We took the child and mother."

Responses to pandemic related dilemmas:

"Telling a patient 'No' they cannot go to the hospital". "Every hospital was full. No one taking COVID. Staff was low. "That really hurt. We are the help, we show up and we cannot help. We wanted to take them. They called 911- they didn't understand." The patient as grey, pale, cool and clammy- the family pleads, "Please, you gotta do something" "I cannot take him." "We treated him at home for nausea and dehydration and left him. It hurt my soul."

"I called the hospital to beg them to take the patient and they said, 'what do you want us to do?" and I yelled, 'I want you to take the patient!'…leaving patients at home that are bad off and explaining, 'I can't take you, we'd just wind up driving around for hours.'…This isn't like anything we've been taught or ever done in EMS"

Surprisingly, few participants were comfortable with the use of the term, *empathy,* or with describing themselves as an empathetic person. We found ample evidence of expressions and reflections of empathy as an element of decision making, yet there was consistent discomfort with open acknowledgement of deep emotion. The significance of this pause appeared to be mixed – for some participants they valued an appearance and practice of objectivity or a need to compartmentalize in order to treat. For others, their reactions during interviews appeared almost jarred/surprised by their own empathy juxtaposed with a self-concept of holding themselves distinctly apart from others.

The participant reflections, more often than not, blurred accountability, beneficence and empathy in ways that made it difficult discussing them as separate ideas, even when prompted. Instead, the discussions reflected a sense of self-described heaviness and stress regarding ethical situations that were *all as one* for participants.

Perceptions of the role of repetition, practice, reflection and experience in learning

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"If you can do the most mundane things by rote- do them. When things get bad, you'll have them. When you are stressed you make automatic decisions. That's what training is for. When you make bad decisions under stress, they are usually very bad decisions- some career ending."

It is not possible to overstate the participants' attribution of experience and workplace learning 'on the job' to their ethical decision making and growth in this domain. Situational mapping helped us to describe a concept of experience connected with learning and performance, interwoven with glimpses of the changing professional awareness and professional identity.

Reflecting upon when they were students preparing for their roles in contrast to being in the field, participants discussed how they were forming professional identities in relation to their role as a paramedic. Many described a transition in their first job to a realization that they were a paramedic professional, yes, but the decision making at the end of the day resided within them as individuals.

"If you give me time to think… I can include what I saw. The patient AND the environment. I can approach the whole call and explain myself. I write it all down. What was I thinking?"

"The greatest teacher is experience"

"The hardest thing I ever did was transition from student to professional practitioner."

This early professional transition was often described as associated with stress, fear of harming others or not knowing what to do, having no choice but 'to do it' and a focus on independent skill building by applying knowledge previously learned within an environment with a 'safety net'. Early on, the role of repetition and practice were to perform – to pass an exam, licensing, or the scrutiny of a supervising clinician, and then to have a (sigh of relief) good outcome on a call. Later, it became a part of a lifelong professional learning process.

Over time, identity shifted and for many, aligned with the specific employer or organization. This was explained as important because the context, not the paramedic, dictated the rules, the resources, and the 'feel' of the environment. In the analysis there

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were distinct mid-career pathways – some focused upon the organization as a source of identity, and others upon their individual professionalism.

Incrementally, the role of repetition shifted and became one of focused, intentional practice and refinement – as cognitive margin and load was reduced, participants described easing into a process where they could seek out feedback, information, and reflect and adapt. For example, participants discussed how learning from discussions and observing health professionals in other specialties (physicians, nurses, other hospital professionals) was very useful to them not only in technique and new knowledge, but in thinking through 'the other side' of dilemmas in care that they consider prior to or after transporting a patient. In the words of one participant:

"One person, one truck. It is a big echo chamber. It is easy to tell yourself you are doing the right thing when you are the only one talking.

Another type of learning experience (which didn't appear to emerge until paramedics acquired significant experience) was deep reflection about poverty, criminality, drug use, race/gender dynamics and how they might need to personally acknowledge or reconcile these issues in order to navigate situations.

The participants in this study who showed an open stance to self-directed learning, who explicitly acknowledged the stresses and mistakes of the job, appeared to also have more comfort in reflecting upon ethical situations. They described the process as instances of lifelong or continual learning. Those who adopted a 'closed' stance towards the heaviness and related stress of the job tended to be less intentional in building their informal learning, and less focused on seeking out learning opportunities specifically related to ethics. Further, those participants that analysed and discussed the dynamics of their environment appeared to demonstrate a stronger and more nuanced sense of professional identity.

Concluding Discussion

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Paramedicine in the United States is an evolving profession and there is scant empirical research that connects the subjective, front-line decision making to learning and to the evolving professional developments in the paramedic profession. The findings present evidence that informal workplace experience served as a primary mechanism for developing ethics decision making capacity in the field, and this suggests that supporting ethics CME needs to be carefully timed to align with paramedic workplace experience, environmental, and professional identity benchmarks. While the principles of beneficence, empathy, and accountability were evident, they were not necessarily articulated by participants as specific or distinct principles that they used during emergent situations. Participants who were aware of the progression of their own experiences and the intensity of job-related stress appeared more likely to seek out the kind of self-directed and meta-cognitive knowledge and learning that would move them towards more nuanced ethics and generalized professional expertise.

The complexity of this research topic necessitates multiple future lines of inquiry to deepen and broaden scholarly inquiry. It was our research goal to contribute findings that contributed to the understanding of paramedic realities of practice and to the opening of informed lines of questioning for others, and finally, to continue our own future research about paramedics' learning and subjective knowledge and decision making.

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