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Professionalism and Communication Education in Pediatric Critical Care Medicine—The Learner Perspective

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Abstract

Objectives—Communication and professionalism are often challenging to teach, and the impact of employing a given approach is not known. We undertook this investigation to establish PCCM trainee perception of education in professionalism and communication and to compare their responses from those obtained from Pediatric Critical Care Medicine (PCCM) fellowship program directors.

Methods—The Education in Pediatric Intensive Care (E.P.I.C.) Investigators used the modified Delphi technique to develop a survey examining teaching of professionalism and communication. After piloting, the survey was sent to all 283 PCCM fellows in training in the United States.

Results—Survey response rate was 47% (133/283). Despite high rates of teaching overall, deficiencies were noted in all areas of communication and professionalism assessed. The largest

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areas included not being specifically taught how to communicate: as a member of a non-clinical group (reported in 24%), across a broad range of socioeconomic and cultural backgrounds (19%) or how to provide consultation outside of the ICU (17%). Only 50% of fellows rated education in communication as 'very good/excellent,' but most felt confident in their communication abilities. For professionalism, fellows reported not being taught: accountability (12%), conducting a peer review (12%), and handling potential conflict between personal beliefs, circumstances, and professional values (10%). 57% of fellows felt that their professionalism education was 'very good/excellent,' but nearly all expressed confidence in these skills. Compared with program directors, fellows reported more deficiencies in both communication and professionalism.

Conclusions—There are numerous components of communication and professionalism that PCCM fellows perceive as not being specifically taught. Despite these deficiencies, fellow confidence remains high. Substantial opportunities exist to improve teaching in these areas.

What's New—This investigation provides insight into the trainee perspective on both the effectiveness and areas of deficiency in teaching the domains of professionalism and communication in pediatric critical care medicine.

Keywords

communication; professionalism; graduate medical education; fellowship training; evaluation; competency; pediatric

Introduction

In order to provide optimal patient care in the multidisciplinary environment of the Intensive Care Unit, the pediatric intensivist must be adept at communicating not only with patients and their families, but with the wide variety of personnel who participate in the management of critically ill infants and children. These individuals include medical and surgical colleagues, nurses, advanced practice providers, respiratory care practitioners, pharmacists, and numerous others. In addition, a receptive and calm demeanor is critical for team performance in the high-stakes setting of the Pediatric ICU (PICU). Failure to demonstrate such professional behaviors and communicate effectively may negatively impact important provider relationships and adversely affect patient care ¹⁻³.

Many of the skills and behaviors that are central to professionalism and communication are not entirely innate. Consequently, professionalism and communication must be explicitly taught to trainees to be certain that there is understanding of the critical importance of these skills and behaviors and the techniques and modalities for ensuring optimal performance. In addition, interpersonal communication and professionalism are among the core domains of competence outlined by the Accreditation Council for Graduate Medical Education (ACGME) Outcomes Project, and these skills are critical elements for all medical professionals ^{4,5}. However, data are limited regarding the optimal methods to teach and evaluate both professionalism and communication ⁶⁻¹².

In a recent investigation, our education research collaborative reported the most common techniques utilized by Pediatric Critical Care Medicine (PCCM) program directors to teach professionalism and communication ⁹. That survey identified a significant number of

elements within both professionalism and communication in which PCCM programs provided little training⁹. These data were provided by program directors and it was hypothesized that trainees may identify more or different elements of communication and professionalism in which instruction is lacking. In the current investigation, we surveyed current PCCM fellows using questions that paralleled those used in a survey of PCCM program directors. Our goal was to identify opportunities to improve education in these domains of competence by determining whether PCCM fellows would identify the same or additional gaps in teaching communication and professionalism as those reported by fellowship program directors.

Methods

A multi-center education research collaborative, the Education in Pediatric Intensive Care (E.P.I.C.) Investigators, developed a 29 question survey using the modified Delphi technique to be administered to PCCM fellows. This questionnaire was adapted from a previously conducted survey of PCCM fellowship program directors which was based on ACGME and American Board of Pediatrics requirements for teaching of communication and professionalism^{4, 9, 13}. The final survey included 11 questions regarding specific elements of teaching and evaluating communication, 11 addressing elements of teaching and evaluating professionalism, 5 demographic questions and 2 qualitative questions concerning perceptions of teaching and evaluating communication and professionalism. The survey was sent to 25 non-PCCM pediatric subspecialty fellows for piloting to further address the clarity of the questions, along with the content, format, and length. To improve consistency of responses, specific definitions of the teaching techniques were included with the survey as described previously⁹. The anonymous survey was then sent electronically to all 283 PCCM fellows in training in the United States. After the original electronic mailing, two subsequent reminders were sent. Given the anonymous nature of the survey, these reminders were sent to all fellows. This investigation was deemed exempt by the Institutional Review Board at Duke University.

Statistical Methods

Questions were categorized into those relating to teaching and evaluation of either communication or professionalism. Standard summary statistics and graphing techniques were used to describe answers in each category. Fisher's exact test was used to compare fellow responses to those of fellowship program directors. Data are reported as median [range].

Results

Survey response rate was 47% (133/283). Respondents were from programs with a median (range) of 10 (2–20) fellows, 15 (2–40) faculty, and 44 (15–94) PICU beds. Respondents were almost entirely first, second, and third year fellows (29, 30, and 29%, respectively), with a small minority (12%) of fellows in additional years of training as part of training programs that combine PCCM with another pediatric subspecialty.

Trainees reported deficiencies in formal teaching in all 11 areas of communication assessed, as evidenced by their selection of the response: “No specific mechanism for teaching.” The largest areas of deficiency included lack of instruction in how to communicate as a member of a non-clinical group (identified as not formally taught by 24%), across a broad range of socioeconomic and cultural backgrounds (19%), with patients and families (15%) or how to provide consultation outside of the ICU (17%) (Table 1). A wide range of techniques used to teach communication were reported by fellows, with direct observation by faculty (65%), Clinical Case Review and Morbidity/Mortality conferences (64%), and faculty role modeling (63%) the most commonly cited activities. Of these teaching techniques, fellows perceived faculty role modeling (29%), direct observation by faculty (23%), and simulation (23%) as the most effective modalities to teach communication (Table 2). Only 9% of fellows perceived that their education in communication is excellent, but 30% felt ‘very confident’ in their ability to communicate effectively.

For professionalism, deficiencies with respect to teaching professionalism were similarly noted in all 11 areas assessed through selection of the answer option “No specific mechanism for teaching.” Largest areas of deficiencies were accountability (12%), conducting a peer review (12%), and handling potential conflict between personal beliefs, circumstances, and professional values (10%) (Table 3). The most commonly reported modalities to teach professionalism by programs were faculty role modeling (62%), direct observation by faculty (48%), and Clinical Case Review and Morbidity/Mortality conferences (44%). Fellows reported the most effective techniques to teach professionalism were faculty role modeling (38%), direct observation by faculty (22%), and formal faculty-fellow mentorship (17%) (Table 2). Only 8% of fellows perceive their education in professionalism as ‘excellent’ but 39% report being ‘very confident’ in their professionalism abilities and competence.

With regard to faculty role modeling specifically, fellows reported that faculty intentionally use role modeling ‘often’ or ‘very often’ to teach communication (52%) and professionalism (42%), but fewer than 1/3 of fellows perceived faculty role modeling as ‘very effective’ among strategies to teach communication and professionalism. While fellows perceive that many faculty do not intentionally teach by role modeling, prior data would suggest that faculty view this technique as a crucial technique⁹. Of note, over half of fellows reported that faculty role modeling behaviors observed were “mostly positive with some negative behaviors.” While observed role modeling behaviors are more often positive, fellows reported that faculty behaviors were negative as often as they were positive for both communication (25%) and professionalism (21%). More than 80% of fellows perceived that they do indeed learn from this ‘negative role modeling’ or observation of negative faculty behaviors.

Comparison to Program Director Responses⁹

Compared to responses from 67% of program directors of accredited PCCM fellowship training programs obtained in a survey completed one year prior to the current investigation⁹, fellows reported significantly more deficiencies in education in communicating and collaborating effectively with patients and families ($p = 0.0043$; Table

1), accountability to patients, families, physicians, society and the profession of medicine ($p = 0.047$), and the importance of professional standards ($p = 0.007$; Table 3). In all other areas of communication and professionalism evaluated, fellows and program directors reported similar rates of these elements being not formally taught (Tables 1 and 3). Both program directors and fellows perceived that faculty role modeling was the most effective modality to teach communication and professionalism (Table 2). In both domains, fellows valued formal faculty-fellow mentorship more than program directors ($p < 0.05$). In teaching professionalism, fellows perceived that direct observation of fellows by faculty was more effective ($p = 0.0242$) and division didactic less useful ($p = 0.0434$) than program directors (Table 2).

Discussion

The competencies of professionalism and communication are central to the patient-physician relationship and effective multidisciplinary care and remain cornerstones of graduate medical education (GME). This investigation provides insight into the trainee perspective of how these domains of competence are taught within PCCM. While the overall impressions of fellows demonstrate a range of teaching methods in most areas, PCCM fellows identify significant deficiencies in the educational curriculum for both professionalism and communication, despite a decade passing since the ACGME Outcomes Project first outlined guidelines for education in these areas⁴. Trainees report role modeling and direct observation as the primary educational techniques utilized in PCCM fellowship, although the majority of fellows ($> 60\%$) do not view these methods as the most effective techniques. As a result, only 30 and 39% of trainees report that they are “very confident” in their communication and professionalism abilities, respectively, which are core to the practice of medicine.

These findings are consistent with our prior investigation demonstrating similar reliance upon role modeling and direct observation as primary educational approaches by program directors⁹. In that investigation, nearly 82% of program directors reported faculty role modeling as the primary method of teaching communication and professionalism, with nearly 80% of the required elements of these two domains missing from the curriculum in these programs⁹. Similarly, in the current investigation, fellows confirm this reliance upon role modeling and direct observation as primary teaching methods, but only approximately 1/3 of fellows indicate these two techniques as the most effective methods to teach communication and professionalism.

While the importance of role modeling as a teaching method is quite clear based on this survey and a recent meta-analysis¹⁴, it is an important and interesting finding that all fellows did not report having observed faculty role modeling to teach these competencies. We would theorize that 100% of fellows have experience observing role modeling by faculty as part of the “hidden curriculum” to teach both communication and professionalism, however, this teaching by faculty may often be without either the faculty members’ knowledge or explicit intent to teach^{14–18}. While faculty may not be aware they are teaching in some circumstances, the importance of role modeling and this hidden curriculum to teach communication and professionalism has been described in several specialties and also across

the continuum of medical education^{14–18}. As we found in this survey, role modeling is frequently cited by trainees as an effective and important approach to their education¹⁴, but the current investigation suggests that these trainees may often not be aware of the ubiquitous nature of this teaching technique. Despite the recognition that explicit role modeling is important, the results of our survey would suggest that the “hidden” component of teaching these important competencies may indeed remain hidden in the minds of trainees, as many do not appear to be aware of the educational value of these experiences. Given these findings, the importance of faculty demonstration of desirable behaviors remains paramount, and role modeling as a teaching method, whether explicit or hidden, deserves further investigation and exploration.

It is clear that program directors rely heavily upon the modality of role modeling as the primary form of educational strategy to provide training, and while trainees value faculty experience and expertise in these domains, there appears to be an opportunity for improvement in the teacher-learner relationship. As reported by Park et al. and others, role modeling must be proactive and explicit to reach maximum benefit^{19,20}. The current investigation demonstrates that fellows perceive less than half the time that role modeling is intentional, with role modeling being perceived as ‘very effective’ by fewer than 1/3 of fellows, demonstrating a substantial opportunity for improvement in this educational approach. Direct observation as a teaching modality similarly suffers, in that it requires the faculty to explicitly evaluate the activities performed, provide direct feedback on areas for improvement, and address specific methods for improving performance. Faculty likely have variable experience and ability to provide such detailed instruction in an arena in which they themselves have had little formal education or training.

A lack of experience and training may impact the efficacy of any teaching strategy, even one that is appropriately selected, since delivery style and expertise of the educator affect student experiences^{21–23}. A key component in trainee education is modification of teaching methods to meet the needs of learners. There are circumstances in which teaching methods may be implemented that are not effective for trainees^{24–26}. In these situations, the lack of effectiveness may be related to the personality or style of the instructor, but more often reflects issues with the content or specific teaching method^{21–26}. The discrepancy between learner evaluation of the teaching strategy and the faculty perception of effectiveness represents an important opportunity for curricular improvement, and one specific strategy to bridge the dichotomy between perceived efficacy of role-modeling as an educational strategy is to provide systematic faculty development in this arena.

In regard to deficiencies, two of the three most prevalent areas of deficiency for communication education reported by fellows were also reported by program directors in our prior investigation⁹. While data generally are consistent between fellows and program directors regarding areas of deficiency, 15% of fellows, in comparison to 0% program directors, reported no mechanism to teach the most basic skill of communication and collaboration with patients and families. For professionalism, there was less consistency in identification of educational gaps between fellows and program directors. Peer review was noted as one of the three most prevalent areas of deficiency by both program directors (18%)

and fellows (12%). However, teaching in the area of accountability was perceived as deficient by 12% of fellows in comparison to only 1 (2%) program director.

These areas for potential improvement could be used to both build and investigate curricula since there are no clear data on optimal teaching methods or curricula in professionalism and communication published in the literature ⁶⁻¹². As greater emphasis is placed on outcomes based education, it will be important to define the most effective mechanisms to teach and evaluate these competencies ⁵. The current investigation demonstrates that there are numerous opportunities to investigate and better define optimal teaching methods.

The findings of this study must be interpreted within the boundaries of study limitations. First, the results are self-reported by trainees and are subject to a wide degree of measurement bias since the strategies included in this survey are subject to interpretation. Second, the survey focused on how trainees in PCCM perceive teaching methods and effectiveness in the areas of communication and professionalism without any direct objective measure of efficacy in behavioral outcomes. This investigation also did not address prior education in the areas of professionalism and communication. Clearly, PCCM fellows have significant prior exposure to these important concepts in medical school and residency programs, but regardless of prior knowledge, teaching in these areas is required of PCCM programs by accrediting bodies and governing boards. Finally, recall bias may have affected results as there is the potential for both over or under estimation of the availability and efficacy of specific educational strategies.

Despite these limitations, it is clear that substantial opportunities for improvement exist to ensure all elements of the domains of professionalism and communication are taught using the most effective methods possible. However, to bridge this gap, it will be important to define specific and measurable outcomes to be objectively used to compare teaching methods. Empowered with this information, it would be possible to define an ideal curriculum for teaching professionalism and communication among trainees. The data presented by this investigation in conjunction with our prior work provides the foundation of the needs assessment for curricular improvement and future educational research not only in PCCM but across specialties and subspecialties.

Conclusions

This investigation demonstrates that numerous opportunities exist to improve education in professionalism and communication within PCCM. These results likely have broad applicability to both graduate and undergraduate medical education, and further studies are warranted to determine the effectiveness of the various approaches to education in these important domains. In addition, another important future investigation is to examine the relationship between trainee confidence and competence in professionalism and communication.

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Table 1

Comparison of Program Directors' and Fellows' Perceived Deficiencies in Teaching Communication

	No specific mechanism to teach		
What specific mechanisms does your program have to teach the following elements of communication?	Program Directors ⁹ n = 44 N (%)	Fellows n = 133 N (%)	P value
Effective communication and collaboration with patients and families	0 (0)	20 (15)	0.0043
Effective communication across a broad range of socioeconomic and cultural backgrounds	5 (11)	25 (19)	NS
How to handle difficult conversations/interactions with patients, families, and colleagues	1 (2)	11 (8)	NS
To provide consultation outside the ICU environment	11 (25)	22 (17)	NS
To communicate and work effectively as a member or leader of a healthcare team	0 (0)	8 (6)	NS
To communicate and work effectively as a member or leader of a non-clinical group or committee	14 (32)	32 (24)	NS
To maintain and communicate through comprehensive, timely, and legible medical records	8 (18)	10 (7)	NS

Comparison of Program Directors' and Fellows' Perceptions of Which Modalities are Most Effective for Teaching Professionalism and Communication

Table 2

Most Effective Modalities Used To Teach:	Communication		Professionalism	
	Program Directors ⁹ N = 44 N (%)	Fellows N = 133 N (%)	Program Directors ⁹ N = 41 N (%)	Fellows N = 133 N (%)
Faculty Role Modeling	14 (32)	39 (29)	24 (59)	50 (38)
Direct Observation of Fellows by Faculty	10 (23)	31 (23)	3 (7)	30 (23)
Experiential Learning with Feedback	9 (20)	25 (19)	3 (7)	16 (12)
Simulation	9 (20)	30 (23)	0 (0)	7 (5)
Formal Faculty-Fellow Mentorship	1 (2)	21 (16)	2 (5)	23 (17)
Clinical Case Review (including Morbidity and Mortality)	0 (0)	7 (5)	0 (0)	10 (8)
Division Didactic	0 (0)	5 (4)	5 (11)	4 (3)
Department/Institution Didactic	0 (0)	4 (3)	3 (7)	9 (7)
Quality Improvement Activities	1 (2)	2 (2)	0 (0)	3 (2)
Journal Club	0 (0)	2 (2)	1 (2)	2 (2)
Web-Based Module	0 (0)	1 (1)	0 (0)	1 (1)
				NS

Table 3

Comparison of Program Directors' and Fellows' Perceived Deficiencies in Teaching Professionalism

	No specific mechanism to teach (%)		
What specific mechanisms does your program have to teach the following elements of professionalism?	Program Directors ⁹ n = 44 N (%)	Fellows n = 133 N (%)	P value
To be accountable to patients, families, physicians, society, and the profession of medicine	1 (2)	17 (12)	0.0471
Sensitivity and responsiveness to diverse patient populations, cultures, sexual orientations, religions, and patient disabilities	3 (7)	11 (8)	NS
Patient confidentiality/HIPPA	1 (2)	1 (1)	NS
Appropriate resource allocation	4 (9)	8 (6)	NS
Recognize risk factors and signs of stress, sleep deprivation, impairment, burnout, depression, drug and alcohol abuse and mental health disorder in his/her self or others and its impact on patient care	0 (0)	6 (5)	NS
Consider the potential conflict between personal beliefs/circumstances and professional values	4 (9)	13 (10)	NS
Maintain appropriate professional boundaries	6 (14)	8 (6)	NS
Effectively conduct peer review	8 (18)	16 (12)	NS
Legal and ethical issues in end of life decision-making	0 (0)	3 (2)	NS
Function of institutional ethics committees	2 (5)	6 (5)	NS
Ethical issues in research	0 (0)	6 (5)	NS
About informed consent	1 (2)	1 (1)	NS
Importance of maintenance of professional standards	11 (25)	11 (8)	0.0070
Importance of life-long learning and strategies to develop this practice	3 (7)	7 (5)	NS