Medical Students' Professionalism Narratives: A Window on the Informal and Hidden Curriculum

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Abstract

Purpose
The aim of this study was to use medical students' critical incident narratives to deepen understanding of the informal and hidden curricula.

Method
The authors conducted a thematic analysis of 272 stories of events recorded by 135 third-year medical students that "taught them something about professionalism and professional values." Students wrote these narratives in a "professionalism journal" during their internal medicine clerkships at Indiana University School of Medicine, June through November 2007.

Results
The majority of students' recorded experiences involved witnessing positive embodiment of professional values, rather than breaches. Attending physicians and residents were the central figures in the incidents. Analyses revealed two main thematic categories. The first focused on medical–clinical interactions, especially on persons who were role models interacting with patients, families, coworkers, and colleagues. The second focused on events in the teaching-and-learning environment, particularly on students' experiences as learners in the clinical setting.

Conclusions
The findings strongly suggest that students' reflective narratives are a rich source of information about the elements of both the informal and hidden curricula, in which medical students learn to become physicians. Experiences with both positive and negative behaviors shaped the students' perceptions of the profession and its values. In particular, interactions that manifest respect and other qualities of good communication with patients, families, and colleagues taught powerfully.

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Many medical educators have observed that students' experiences in the environment of the academic health center or other clinical venues are the most powerful determinants of future physicians' perceptions of what pass for acceptable behaviors and values in the practice of medicine.[1,2] The supposition is that these critical incidents, not exposures to didactic experiences in the classroom, are the more formative influence.[3,4] Some years ago, Hafferty[5] divided critical incidents and experiential learning exposures into two broad domains. The *hidden* curriculum is the physical and workforce organizational infrastructure in the academic health center that influences the learning process and the socialization to professional norms and rituals. The *informal* curriculum is the student's immersion in the interpersonal *processes* in the academic health center, including interactions between students and their teachers, interactions among the interprofessional participants in medical care processes, and interactions that students experience with patients and their family members. These terms refer to the everyday learning experiences outside formal teaching exposures. Hafferty observed that all these elements of structure and process in our educational institutions have heuristic content; that is, our exposure to them teaches us something about medicine and the medical profession.

Most literature on the hidden and informal curricula is theoretical, not grounded in empirical evidence from measures of students' experiences.[6,7] As educators, we have focused far more attention on how competencies in the domain of technical skills depend on students' experiences than we have on the roots of professionalism and professional values in students' experiences.[8] However, we think it is important to build a significant body of evidence about what students experience in critical incidents that shape their understanding of professionalism and professional values, because these particular kinds of experiences seem to have maximal learning potential.[1,9] There is also a need for deeper understanding of the institutional environment and organizational culture within which such incidents arise.[10,11]

In an effort to add one thread of evidence to the larger fabric of information that needs to be woven, we undertook the present study to focus on a systematic qualitative analysis of what medical students on a third-year clerkship in internal medicine see and experience in their day-to-day lives and what they

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report as professional critical incidents, events that taught them something about professionalism and professional values. Our intent in gathering and analyzing such data was to "open a window" on the hidden and informal curricula.

Background and Method

Tools and participants

Since February 2004, third-year students on their internal medicine clerkships at Indiana University School of Medicine (IUSM) have been asked to heighten their awareness of professionalism by recording descriptions of events during the clerkship that they believe express professionalism (or the lack thereof). They were asked to write their descriptions online in a password-protected IUSM educational Web site.[12] Each student is required to submit two such narratives during his or her medicine clerkship. The internal medicine clerkship at IUSM is two months in duration. One month is a required hospital, inpatient-based rotation at either the Veterans Affairs (VA) or public (Wishard) hospital. In the second month, students have an option to select either an additional inpatient-based rotation or an outpatient rotation. Approximately half of the students select an additional inpatient-based rotation.

In instructions to students for recording professionalism narratives, no special emphasis is given to recording either positive or negative incidents. In fact, the framing instructions are quite simple and general: reflect on and write about events, either positive or negative, that "taught you something about professionalism and professional values." To ensure that the students are protected from any potential reprisals, students are given assurance at the start of the clerkship that their stories will not be shared with anyone until after they have graduated from IUSM. The clerkship director—the only person with complete access to these stories—reviews students' entries to make edits needed to ensure anonymity of all involved parties in these narratives. The edited narratives are printed and distributed to students at monthly small-group reflection and discussion sessions facilitated by faculty. The further use of these narratives for the present study and the use of focus-group-based activities to establish trustworthiness of the analysis were approved by the IUSM institutional review board.

The analyses we report here are based on the thematic, qualitative examination of 272 written narratives collected from 135 third-year medical students during a six-month period from June through November 2007. In this period, 137 students rotated through their medicine clerkships. Most students recorded two narratives; 10 students recorded one narrative, 12 students submitted three narratives, and only 2 students did not submit any.

Analysis

The analysis of the stories included the application of two different coding schemes.

The first, *a contextual descriptive analysis* of the stories, involved coding a systematic sample of 63 (23%) students' stories in a chronologically ordered file (the first seven stories as a training set and every fifth story thereafter). This analysis was conducted by two of us who have a medical background (T.R.V. and T.S.I.), using a coding sheet that had been developed by a larger group of clinician–educators at IUSM. This analysis focused on the setting in which the events took place (hospital versus outpatient care setting), the participants in the story (the "characters" in the narrative in addition to the student narrator), and any emotions explicitly described by the student in the text of the narrative. The first attempt was to search for descriptions of so-called basic emotions (happiness, surprise, sadness, fear, anger, and disgust).[13] Because of the low frequency of these explicitly stated basic emotions, this coding was expanded to include other emotional descriptors explicitly found in the narrative texts (e.g., admiration, disappointment, embarrassment, pleasure, and guilt).

The second analysis, and the primary focus of this study, was a *thematic content analysis* of the stories focused on identifying, through close reading and interpretation of the narratives, the main themes that played a significant role in the students' learning about professionalism and professional values in their day-to-day work environment. This analysis was performed using an immersion/crystallization method (a thematic narrative analysis framework,[14,15] in which we immersed ourselves in the data and then reflected with "intuitive crystallizations until reportable interpretations" were reached). This qualitative research method requires cognitive and emotional engagement, with reading and rereading of the narratives, until the themes emerge. Emergent themes were recorded in a codebook and refined after each batch of coding.

The codebook for the thematic analysis was largely formed after analysis of the first 50 students' stories. Analysis of this initial body of narratives resulted in the identification of 13 major themes that included a variable number (0–10) of subcategories. While coding the remainder of the narratives, the language of the codebook was refined, and a few subcategories were added when new themes emerged. It should be noted that stories with multiple thematic factors presented a special challenge when trying to decide which single, core theme was being articulated. Whereas the vast majority of students' narratives expressed a clearly dominant theme that allowed for a one-to-one coding (one story coded under one theme), about 10% of the narratives expressed two major themes, each of which played significant roles in the narrative dynamic. Each of the latter stories was coded under two or three separate themes to minimize the loss of the breadth of data from these rich narratives (this resulted in a total count of 300 stories coded).

Ensuring trustworthiness of coding

We took three major steps to ensure the trustworthiness of the coding scheme for thematic content. First, while one of us (O.K.M.) was the primary coder and developer of the coding scheme, two others (T.R.V. and T.S.I.) independently reviewed the coding scheme and the coding of the first 50 students' stories to confirm the suitability of the coding for these narratives. We resolved any lack of agreement that arose in this independent review by dialogue to achieve consensus among all three of us regarding the suitability of the codebook and of the coding of each of the narratives. Second, in cases in which the primary coder was uncertain to any degree about the classification of stories, all three of us read these stories and arrived, through

discussion, at a consensus on final coding. Third, after all analysis was completed, we conducted a "member check" process to test the face validity of the themes identified and to learn whether these themes captured students' experiences. This last process entailed convening four focus groups of IUSM medical students for discussion of factors in their environment that influenced their growth and development as future professionals in medicine—two sessions with 17 third-year medical students (MS3s) and two sessions with 15 fourth-year medical students (MS4s). The student participants in these groups were volunteers available when solicited from a larger random sample of all MS3s and MS4s in January and February of 2008. The MS3 focus group included some students who had completed their internal medicine clerkships already and others who were in their clerkships at the time the focus group was convened. We convened MS4 focus groups to learn whether those students' points of view and perspectives would be different than those of the MS3s, given that the students in the former group were one step closer to postgraduate training than were their less experienced colleagues.

The focus-group member-checking process was conducted as the last segment of a longer group discussion of the educational environment. The member-checking process itself had three components. First, the outputs of the context and content analyses cited above were presented to the focus-group students. We presented the names of the main narrative themes with verbal examples of subcategories and stories in these themes, but without reading actual narratives. Next, the students were invited to engage in open dialogue on whether these main themes "seemed right" to them (reflected their own experiences) and whether something in their experiences was missing. Finally, each student was asked to multivote by choosing the three most important educational influences (among those presented) in his or her day-to-day experiences.

Results

We first report our findings from the contextual analysis, to provide an overview of the narratives' contexts. Next, we present findings from the thematic content analysis, along with some representative quotes from the students' professionalism narratives, to illustrate the core themes that emerged. Exemplar narratives for all subcategories are available on request from the corresponding author. Finally, we present the findings from the member-check feedback and the students' choices of the three most important educational influences.

Context

Most of the students' stories (48; 77%) described experiences in the hospital (inpatient) setting, whereas a fifth of the stories (13; 20%) were based on their experiences in the ambulatory clinic (outpatient) setting—a distribution roughly proportionate to the time students spend in these settings during the clerkship. In the remaining two (3%) stories, the setting was not stated and could not be inferred. The vast majority of stories involved more than one participant in addition to the narrator. The other individuals in the narratives were patients (53 stories; 84%), attending physicians (23; 37%), residents (16; 25%), interns (16; 25%), family members (12; 19%), nurses (11; 17.5%), consultants (10; 16%), "the team" (9; 14%), other physicians (5; 8%), other students (3; 5%), and all other individuals combined (e.g., physical therapists, laboratory technicians) (10; 16%).

In our attempts to identify the students' emotions in their narratives, we found that only 12 (19%) of the stories' texts included any emotional content that could be coded.

Thematic content

The 272 experiences described by the students were coded as positive in 172 (63.4%) of the stories and as negative in 80 (29.1%). The remaining stories were "hybrid" narratives that included both positive and negative elements (20; 7.5%). One kind of hybrid story included descriptions of two events that contrasted one person's positive professional behavior with another person's unprofessional behavior. The other hybrid story type was the "damage and repair" narrative, in which a participant initially acted in an unprofessional manner but then took responsibility and corrected the situation in a positive professional manner (e.g., took responsibility and discussed the situation with the patient and/or student).

Thematic analysis of the students' stories revealed two main domains, one focused on the medical–clinical interaction (244; 81.3% of the stories) and another focused on the teaching and learning environment (56; 18.6% of the stories). Stories focused on medical–clinical interaction included narratives in which the students described observations of various role models who interacted with patients, families, coworkers, and colleagues. The stories about the teaching and learning environment focused more on the students' experiences as learners in the clinical setting. The entire taxonomy with distribution of stories to major themes, subcategories, and positive, negative, and hybrid stories is presented in Tables 1 and 2.

The medical–clinical interaction domain (Table 1) consisted of six key thematic categories, with as many as 10 subcategories. Each theme and subcategory included both negative and positive stories describing either unprofessional or professional behavior. Parsing the narratives into major themes was based on the main issue and/or challenge described in the narratives. For example, in some stories, the focus was on *managing communication challenges*; in some other stories, the focus was on *spending time taking care of patients and patients' education and understanding* (a related but discernibly different narrative emphasis). In some theme titles, the actual participants were mentioned. Some stories were exclusively about interactions with patients, others were about patients and family members, and yet others were about interactions with other health care professionals.

The most common theme in the students' stories was denoted *manifesting respect or disrespect in clinical interactions with patients, families, colleagues, and coworkers*. Descriptions of respectful behaviors included actual face-to-face interactions with patients or colleagues (conversations and acts in the presence of others) as well as descriptions of behaviors and conversations that referenced patients or colleagues in their absence (behind closed doors). Here is a sample narrative illustrating the subcategory of respecting patients' decisions:

Table 1

Thematic Content of Students' Professionalism Narratives Within the Medical–Clinical Interaction Domain, Internal Medicine Clerkship, Indiana University School of Medicine, 2007*

Theme	% of 272 stories	Subcategories	No. of positive stories	No. of negative stories	No. of hybrid stories	Total no. of stories†
Manifesting respect or disrespect in clinical interactions with patients, families, colleagues, and coworkers	26.8	Respecting patients'/families' decisions, wishes, or needs	9	3	0	12
		Acting respectfully with patients/families in challenging situations	9	2	0	11
		Having disrespect toward/from colleagues	0	10	0	10
		Treating patient as a person and not a disease carrier	5	3	1	9
		Using appropriate language/interaction with a patient / colleague	6	4	1	11
		Being respectful to stigmatized populations	3	2	1	6
		Using inappropriate humor/comments (behind the patient's back)	1	4	0	5
		Criticizing others	1	3	0	4
		Showing disrespect toward the profession/ negative attitudes	0	1	0	1
Managing communication challenges with patients and families	18.6	Handling difficult situations/conversations with patients / families	18	2	2	22
		Communicating in a caring and compassionate way	12	2	0	14
		Communicating with angry/resistant patients or families	12	1	0	13
Demonstrating responsibility, pride, knowledge, and thoroughness	16.2	Displaying responsibility, honesty, and integrity	17	11	3	31
		Acquiring updated knowledge/lifelong learning	4	1	0	5
		Thoroughly investigating patients' problems	4	0	0	4
		Striving toward excellence	2	0	0	2
		Acknowledging your limitations	1	0	0	1
		Having pride in work	1	0	0	1
Spending time taking care of patients, patients' education, and understanding	16.2	Spending time to talk and answer patients'/ families' needs for information and support	19	5	3	27
		Spending time with patients, listening respectfully, learning their history and concerns	6	2	0	8
		Communicating in a level/language that patients can understand	4	0	2	6
		Taking full responsibility for patient care and informing health care providers and caregivers	4	0	0	4
Going above and beyond, caring, and altruism	8.0	No subcategories	19	3	0	22
Communicating and working in teams	4.8	No subcategories	6	7	0	13
Unclear stories	2.9	General comments without a specific story				8

* This table's information is based on findings of a thematic analysis of 272 professionalism journal entries written by 135 students in 2007 describing experiences in their internal medicine clerkships that "taught you something about professionalism and professional values." The table displays themes and thematic subcategories identified under the medical–clinical interaction domain, which included 81.3% of all the journal narratives.

† The total number of stories exceeds 272 because sometimes a single story was classified more than once across themes.

A patient was in need of a rectal exam to test for occult blood due to a recent history of black stools. The physician explained the need for the test. The patient refused the rectal exam. The physician offered to have a male physician come in to do the exam in case the male patient would be more comfortable. The patient also refused this. The physician

Table 2

Thematic Content of Student Professionalism Narratives Within the Teaching-and-Learning Environment Domain, Internal Medicine Clerkship, Indiana University School of Medicine, 2007*

Theme	% of 272 stories	Subcategories	No. of positive stories	No. of negative stories	No. of hybrid stories	Total no. of stories
Creating an (un)welcoming environment	6.6	Respecting colleagues/learners from lower hierarchies	2	7	2	11
		Being tolerant to mistakes, providing constructive feedback and evaluations	3	2	0	5
		Included and acknowledged as a medical student	1	1	1	3
		Judgmental environment	0	1	0	1
Capitalizing on teaching opportunities	6.6	A leader who teaches—asks questions, explains, spends time, learns	14	0	0	14
		Using opportunities to teach values and manners	3	0	0	3
		Giving safe and structured responsibilities	1	0	0	1
Learning from peers	3.7	Fellow student teaching and helping other students (demonstrating teamwork)	3	0	1	4
		Fellow student relating to a patient as a person	5	0	0	5
		Taking care of fellow colleagues	1	0	0	1
Dealing with attending/staff or self expectations	1.1	Unclear expectations from attending and staff	0	2	0	2
		Self expectations as a professional	0	1	0	1
Paying attention to students' needs	0.7	Attuned to students' personal needs/life situation	1	0	0	1
		Caring for students	1	0	0	1
Having space to conduct private conversations	0.7	No subcategories	0	1	1	2
Demonstrating honesty and integrity	0.4	No subcategories				1

* This table's information is based on findings of a thematic analysis of 272 professionalism journal entries written by 135 students in 2007 describing experiences in their internal medicine clerkship that "taught you something about professionalism and professional values." The table displays themes and thematic subcategories identified under the *teaching and learning environment* domain, which included 18.6% of all journal narratives.

† The total number of stories exceeds 272 because sometimes a single story was classified more than once across themes.

> did not push the patient and respected his decision without showing anger or frustration.

This story focuses on respecting a patient's right to make a decision regarding his or her care. There is no evidence of pseudoshared decision making and no coercion. This physician tries to understand and respond to her patient's possible concerns by first offering to step aside and ask a male physician to do the exam and then by accommodating the patient's refusal. Whether or not this action was medically preferable, the patient's autonomy was respected and supported.

The second-most-common theme focused on *managing communication challenges with patients and families*. These stories were about the way conversations in various situations proceeded. Most of the stories in this category were positive; that is, students were impressed by the positive manner in which professionals handled these communicational challenges. However, some of the stories focused on unsatisfactory ways of handling sensitive conversations.

> An 85-year-old male with lung cancer and prostate cancer came into the ER and was placed on our team. It was obvious he and his family were unaware of his grave prognosis. After being on our service for days, one of our team members decided it was time to make sure he (the patient) understood how grave his prognosis was. He didn't ask if the man would like some privacy or if he wanted his family in the

> room at the time. Our team member started the conversion with "I am surprised you are still with us. I thought you would be dead after the first two days." Needless to say the family became very upset and the patient wasn't too pleased with the comment as well.

This example documents the student's awareness of challenging communication situations (e.g., communicating a grave prognosis) as critical incidents in medical care and also of some of the consequences of handling these challenges inappropriately.

The third-most-common theme named *demonstrating responsibility, pride, knowledge, and thoroughness* included descriptions of the actions of role models that demonstrated either poor or exemplary behaviors. Most of these stories focused on such matters as taking responsibility for your own mistakes, being honest with others (patients, students, and colleagues), and manifesting integrity in completing paper or computer work. Other stories in this theme focused on excellence in patient care. The following is a partial narrative that was classified in this thematic category as a breach of excellence in patient care:

> I've been surprised by some of the poor technique of my private doctors and also some of their medical decisions.… A new patient had come in for a physical exam and also for a referral to see an orthopedic surgeon because she had a history of hip fracture/repair. She was ready to have children and wanted to get checked out. This private doctor did not agree with the patient's getting a referral because he didn't find it very important at the moment. He told her to get pregnant, then he would send her to orthopedics. I could tell that this patient was very concerned about her hip and really wanted a referral. He still denied her request. He felt like this patient was difficult and decided that he did not want to be her doctor. He asked her to find a new doctor and left. I felt very bad for this patient. She had tears in her eyes. I apologized and she left.

This narrative reveals the complexity of the coding task and the richness of students' reports. It contains elements that touch on physician responsibility, acknowledging limitations, sensitivity to patient needs, accepting patient preferences, and dealing with disagreement. Though the narratives infrequently included explicit information about how the student protagonist actually felt in a situation, in this exceptional narrative, the student expressed his or her own feelings of helplessness. It is also noteworthy that the student felt the need to apologize for the nature of the interaction and an apparent act of abandonment.

Narratives in the fourth-most-common theme category focused on *spending time taking care of patients and patients' education and understanding.* These stories were about professionals taking time to understand their patients' concerns and needs and making certain that patients understood what was being said about their illnesses. In the following narrative, a student reported a fellow student taking responsibility for a patient's education.

> Another student relayed a story about one of her patients. Apparently, nobody had ever discussed with the patient why they were having certain symptoms, what her diagnosis might be, and what her medications and tests were for. She stated that she sat down with the patient for 30 minutes and explained everything to her. Not only does the patient deserve this, but it will help with medication compliance and decrease readmissions. The medical student recognized this and showed initiative and responsibility by taking this time for the patient.

This narrative underlines the importance of spending time with patients. Time was mentioned often in the students' narratives, usually in appreciative stories that reported people who took time to teach, explain, or listen. Spending time was presented as a positive act (a kind of altruism) meant to fulfill patients' needs, and it also was presented as a physician's behavior that improved the quality of patient care and increased the likelihood of patient compliance to treatment recommendations. One of the common observations of students was that the time spent in patient education was a worthwhile professional investment.

Narratives in the fifth-most-common theme category focused specifically on *going above and beyond,* caring and altruism in taking care of patients and/or family members.

> This month, I had my first encounter with an HIV patient who also had AML with neutropenia, was bipolar, and likely had a very finite amount of time left to live. His seeming "last wish" was to make his airline flight approximately two weeks from his DOA so that he could attend his daughter's college graduation. This patient had several consulting physicians looking after his health. I was impressed by the "going beyond the call of duty" that the VA staff displayed on this patient, with everything from saying "treat this person as if it were your parent trying to attend your graduation" to contacting the airline service for arrangement of a wheelchair and special services during his flight. Each physician involved showed genuine compassion and caring for this person in more aspects than his current medical status. From this experience, I really got a sense of the multidisciplinary cooperation required for complete patient care.

The last theme category in the medical–clinical environment domain included stories concerning *communicating and working in teams* and about the issue of teamwork.

> The attending, residents, and interns on my service ignored the pharmacy student on rotation with our team. I don't know if it was arrogance, pride, vanity, or a combination of them, but they never praised the student for anything he suggested that was correct nor did they ever take the time to teach or learn from the student. I was embarrassed for myself and everyone involved.

Teamwork and relationship with colleagues and coworkers was a latent or subdominant topic in almost 10% of the stories (in different themes).

The remaining 18.6% of the students' stories focused on the teaching and learning environment (Table 2). Almost half of these narratives were classified under the theme named *creating an (un)welcoming environment.* The following is a hybrid narrative that includes both a negative and a positive experience in the teaching environment:

> Throughout this month, I had the opportunity to work under two different physicians. The first had a great attitude at all times. He would pimp us [i.e., put us on the spot] on a regular basis; however, I never felt uncomfortable missing a question, or saying "I don't know the answer." I often spent long days on his service, but I enjoyed every day and learned an incredible amount about medicine, how to treat patients compassionately, and how to be a real leader who made each team member feel appreciated. Unfortunately, the second physician was quite different. Her business-like and cold attitude made the rest of my service much less enjoyable—and the rest of my team, previously with

> constant smiles, now looked irritated at being at the hospital. In addition, when pimped, we were made to feel inferior if we did not know the correct answers. I'm glad that we had the prior staff, because I believe that if I had had the latter physician during the whole service, I would not be considering medicine as a career choice.

The feelings of being actively taught, appreciated, and cared for seemed to be extremely important to students. They are greatly affected by the quality of environment that the attending physician creates, one that makes them feel motivated or discourages them as learners. So powerful is this teaching and learning microsystem that a particular behavior—denoted by students in their vernacular as *pimping* (i.e., deliberately putting trainees on the spot to highlight the limitations of their knowledge)—may be acceptable or not to them depending on the relational dynamic and context. This narrative illustrates the power of these experiences in shaping a student's perceptions of an entire medical specialty and his or her suitability for a career within it.

The other large theme category in this domain focused on educators' *capitalizing on teaching opportunities*: situations in which a leader encouraged learning and taught by asking questions and providing explanations, using all opportunities to teach values and manners. All stories in this theme were positive. Students seem to appreciate these behaviors and opportunities:

> A staff physician had a patient in the ICU who was not doing well and needed a lumbar puncture. The physician sought out a resident physician to do the procedure since he/she had never performed one. I thought this extra effort and dedication to teaching was fabulous. Additionally, the staff asked me—the student—to gown and glove to help, rather than he doing it personally. It was nice to be put in a position to be part of the team and help. Plus the staff doctor was incredibly patient in talking the resident through the procedure, taking time to answer questions and give advice without hopping in to help physically or take over the procedure. His patience was truly remarkable and his dedication to teaching and sharing experiences is an example I will certainly hope to emulate. He is well read and well trained and wants us to be as well. Kudos to him.

When faculty members spent time on teaching skills, values, and manners, their efforts were noted and greatly appreciated by students. Here, the learner appreciates the opportunity he or she received to learn from active participation, rather than from observation only. Students also expressed great satisfaction and appreciation when they were included and treated as junior colleagues who were part of the team.

Other, smaller thematic subcategories focused on fellow students' roles in demonstrating teamwork and professional behavior with patients, dealing with attendings' and staff members' expectations, students' expectations regarding their role, paying attention to students' needs, and having space to conduct private conversations.

Member check

In their respective focus groups, both the MS3s and MS4s recognized and positively affirmed the major themes and thought the domains and themes reflected and fairly described the content of their experiences. No themes were disavowed or seen as irrelevant. No additional themes were suggested. The summary results of the multivoting, and a comparison of the MS3 and MS4 votes, are presented in Table 3. By Fisher exact test, it seems that the relative importance ratings by MS3s and MS4s of their educational experiences differed ($P = .04$). Nearly two thirds of the participating MS3s rated "manifesting respect" as very important (12 of 17 students included this theme among their three most important themes), followed by "creating a welcoming environment." By contrast, MS4s stressed the "importance of taking (and being given) responsibility for patient care" and "capitalizing on teaching opportunities."

Discussion

The analyses described above suggest that the hidden and informal curricula are rife with events and experiences that students see as "teaching them something about professionalism and professional values." In our institution, inviting students to record narratives of their experiences in a personal professionalism journal has created a rich vein of reflective journaling for small-group facilitated student dialogues, residents' training, faculty development, and systematic qualitative assessment of the professional environment of the school of medicine. If experiential learning in the informal curriculum is the most powerful determinant of future professional behaviors, our students are learning across a broad spectrum of content. We are struck by their attention to the quality of interactions and relationships in the environment—both clinical and educational. Judging by their narratives, our students attend closely to the respectfulness of these interactions, the extent to which people's (patients' and students') needs are met, the appropriateness and supportiveness of the microenvironments for these interactions, the comprehensiveness and sensibility of communication in these environments, the generosity with which people commit their time in the interest of others, and the attitudes (positive or negative) with which people make their choices and take their actions.

We have honestly been surprised by the balance of positive and negative narratives, with a greater proportion of positive narratives than have been found in similar collections of reflective writing in other settings.[16] We had thought students might use the professionalism journals to record their complaints. With no instructions in this regard from supervising faculty, however, our experience shows that students reflect and write at least as often about positive exemplars and their actions as they write about negative ones. It is exciting and encouraging to think that they are hungry for these kinds of positive experiences with others.

We are also struck by the relative paucity of language in these narratives that explicitly records the students' emotional responses to the events they have seen unfold. Because we were able to code only explicit student affect in less than a fifth of the stories, this element of the analysis failed. As coders, we had believed we might infer how a student "must have felt" in a situation, but the students themselves did not record this information. It is as though medical education socialized students to quell their emotions so thoroughly that feelings simply would not rise to consciousness, even when they were reflecting on an experience with special meaning for the students. That the emotional challenges of becoming a physician are a taboo topic in medical training has been noted as an important element of the hidden

Table 3

Comparison Between Third- and Fourth-Year Medical Students' Choices of Three Most Important Themes, Indiana University School of Medicine, 2007*†

Domain with themes	Third-year students' absolute votes: No. (%)	Fourth-year students' absolute votes: No. (%)
Medical–clinical interaction domain		
Manifesting respect or disrespect in clinical interactions with patients, families, colleagues, and coworkers	12 (27.9)	6 (15)
Managing communication challenges with patients and families	2 (4.7)	0 (0)
Demonstrating responsibility, pride, caring attitudes,† knowledge, and thoroughness	4 (9.3)	6 (15)
Taking responsibility for patient care, patients' education, and understanding	3 (7)	8 (19.5)
Communicating and working in teams	3 (7)	0 (0)
Going above and beyond for patients‡	2 (4.7)	0 (0)
Teaching-and-learning environment domain		
Creating an (un)welcoming environment	7 (16.3)	2 (5)
Capitalizing on teaching opportunities	6 (13.9)	8 (19.5)
Learning from peers	0 (0)	0 (0)
Dealing with attending/staff or self expectations	2 (4.7)	2 (5)
Paying attention to students' needs	2 (4.7)	0 (0)
Having space to conduct private conversations	0 (0)	0 (0)
Demonstrating honesty and integrity	2 (4.7)	6 (15)

* This table displays multivote data from four focus groups: two groups of third-year students (17 students) and two groups of fourth-year students (15 students) as they responded when asked to vote for "the three most important factors that affect your professional growth and development."

† The relative-importance ratings of the third- and fourth-year students differ significantly (Fisher exact test, $P = .04$).

‡ When presenting the themes to the focus-group students, the subcategory of caring attitudes was a part of the larger theme of demonstrating responsibility, pride, caring attitudes, knowledge, and thoroughness, and not of going above and beyond for patients. Later on, while finalizing the manuscript and further analyzing the data, caring attitudes was moved to the theme of "going above and beyond, caring and altruism."

curriculum,[17,18] reflecting the culture of Western biomedicine's tendency to objectify disease to the neglect of the subjective experience of illness and healing.[19,20] Students feel enormous pressure to prove themselves worthy of the profession, and tacit signals from classmates and faculty very often convey the message that inadequate emotional control can lead to academic and professional failure.[17] Students' reflections on critical professional events, without acknowledgement of the accompanying "emotion work"[21] those events demand, suggest that norms against displaying or even perhaps feeling and/or acknowledging emotion are as powerful as ever. When students are too successful at closing off, blunting, and suppressing their emotional reactions to training, they lose a measure of their humanity and sensitivity to their own experience.[18] Encouraging students to work through their emotions "out loud" (such as group discussions and reflective writing) may help them develop greater resilience to absorb the positive messages and resist the negative messages to which they are exposed.

From our findings, we observe that there is both good news and bad news for faculty attending physicians—the most prevalent figures in the present study's student narratives—about how and when students are learning about medical professionalism. The good news is that students are learning continuously. Both medical–clinical care interactions and learning and teaching interactions are significant in evaluating faculty members' professionalism. Students observe and learn from their mentors' behavior in different kinds of situations, both those that are visible to the participating people and those behind closed doors; in particular, they observe how their mentors interact with various others (patients, family members, nurses, other physicians, and fellow students). The bad news for faculty is the same as the good news—students *are* learning *all* the time and expect us, their faculty, to act in a professional manner at all times. They focus, in some important respects, on the *consistency* of our behaviors, which they think reflects our character and our integrity. In this regard, they agree with H. Jackson Brown, Jr,[22] who wrote that "our character is what we do when we think no one is looking." It is for these reasons that student narratives, in certain respects constituting a "360-degree" measure of faculty behavior, may have special value as a resource for faculty development as well as for student learning in the medical school environment.

The feasible aim for faculty behavior is not perfection. Negative critical incidents, which will occur in the real world we occupy, may themselves play a constructive role in shaping students' perceptions of their faculty and the choices students make in future circumstances. In our study, students' negative narratives included reflections on learning how not to do things as well as noting the adverse consequences of negative behaviors on themselves and on others. As many have noted, when a breach or a lapse comes to light within our organizations, we need to deal with such events in a manner that will enhance learning, repair what can be repaired, and maximize the likelihood of future positive professional behavior. Encouraging mindfulness to these kinds of situations, reflecting on them, and understanding what went wrong, their emotional content, and their negative influences on the self and others are the first steps of the learning process toward changing the environment. Students' narratives can serve as an instrument for such learning.

The findings of this study, as well as of an earlier study,[23] emphasize the importance of a positive teaching and learning environment, especially the need to

create a "welcoming" atmosphere that is interpersonally safe and capitalizes on teaching opportunities as they arise. Themes in our student narratives suggest that key elements in such an environment include respectful relationships, eagerness to teach, tolerance for mistakes, constructive feedback, and teamwork among the students.

Though learning and teaching environment stories were discussed in only 55 (20%) of the written narratives, in the multivote regarding their importance they were rated almost as frequently as were stories within clinical–medical environment themes: 19 votes (45%) among MS3 and 18 votes (55%) among MS4 students. Conversely, an unwelcoming and unsafe learning environment may truly be toxic. An earlier study suggests that an environment that elicits students' negative emotions has long-term negative effects on learning and relationships with other professionals and patients.[24]

The difference in the relative importance ratings of our themes by MS3s and MS4s is noteworthy. It seems that the MS4s paid more attention to clinical processes and the character of the professionals with whom they work, expecting them to act as role models and demonstrate responsibility, honesty, and integrity. The MS3s were more focused on the general environment created: whether it is welcoming, respectful, manifests good team work, and is attentive to students' needs. The MS3s seemed to expect their role models to teach them, but the MS4s expected to take (and to be given) more direct responsibility for their learning. From the discussions and importance ratings at the focus groups, we could surmise that maturing students become more experienced and confident and in their fourth year expect more of themselves, in terms of actually relating to patients in a professional manner. They expect faculty to provide them with the opportunity to practice their skills. Another way to characterize the difference between the years is that the MS3s were primarily functioning as observers of others' behavior, whereas the MS4s were becoming more active participants in clinical and educational work themselves. This evolution in the student's role, expectations, and perceptions requires a coevolution in the student's relationships and interactions with faculty. Although we are tempted to assert this finding as an effect of student maturation, we should also note that our focus groups, as it happened, had a gender mix that differed. There were twice as many women (11) in the MS3 group than men (6), and twice as many men (10) in the MS4 group than women (5). Although we have been unable to document gender professionalism theme propensities in other (unpublished) analyses, this topic deserves further exploration.

This study has important limitations that we should note. The data were collected from only one institution, and the narratives were based on students' experiences in only one clerkship. There is a need to further explore students' experience in more diverse institutions and clerkships. We are able to comment only on the experience of third-year and partially on fourth-year students in this particular environment and not on the broader process of socialization of students through the longer educational process—or even on how prior experiences on other clerkships might influence their reflections when they rotate through their medicine clerkship. Finally, it would be helpful to know whether particular student experiences have more impact than others as time passes and the immediate effects dissipate.

With all these caveats, we nevertheless conclude that reflective narratives reporting professionalism critical incidents are a rich source of new information about the content of the hidden and informal curricula and the environment in which medical students learn to become physicians. Experiences with both negative and positive behaviors shape students' perceptions of the profession and its values. Many of the formative experiences focus on interpersonal relationships and interactions within these relationships that manifest respect and other qualities of communication with patients, families, and colleagues. Such narratives may constitute an important resource for faculty development as well as student learning.

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References

1 Inui TS. A Flag in the Wind: Educating for Professionalism in Medicine. Washington, DC: Association of American Medical Colleges; 2003.
2 Hafferty FW. Professionalism and the socialization of medical students. In: Creuss RL, Creuss SR, Steinert Y, eds. Teaching Medical Professionalism. Cambridge, UK: Cambridge University Press; 2008:53–72.
3 Newton BW, Barber L, Clardy J, Cleveland E, O'Sullivan P. Is there hardening of the heart during medical school? Acad Med. 2008;83: 244–249.
4 Reddy ST, Farnan JM, Yoon JD, et al. Third-year medical students' participation in and perceptions of unprofessional behaviors. Acad Med. 2007;82(10 suppl): S35–S37.
5 Hafferty FW. Beyond curriculum reform: Confronting medicine's hidden curriculum. Acad Med. 1998;73:403–407.
6 Arnold L, Stern DT. What is medical professionalism? In: DT Stern, ed. Measuring Medical Professionalism. Oxford, UK: Oxford University Press; 2006: 15–37.
7 Haidet P, Hatem DS, Fecile ML, et al. The role of relationships in the professional formation of physicians: Case report and illustration of an elicitation technique. Patient Educ Couns. 2008;72: 382–387.
8 Cottingham AH, Suchman AL, Litzelman DK, et al. Enhancing the informal curriculum of a medical school: A case study in organizational culture change. J Gen Intern Med. 2008;23:715–722.
9 Ackerman A, Graham M, Schmidt H, Stern DT, Miller SZ. Critical events in the lives of interns. J Gen Intern Med. 2008;24: 27–32.
10 Inui TS, Cottingham AH, Frankel RM, Litzelman DK, Suchman AL, Williamson PR. Supporting teaching and learning of professionalism—Changing the educational environment and students' "navigational skills." In: Creuss RL, Creuss SR, Steinert Y, eds. Teaching Medical Professionalism. Cambridge, UK: Cambridge University Press; 2008:108–123.
11 Fryer-Edwards K, Van Eaton E, Goldstein EA, et al. Overcoming institutional challenges through continuous professionalism improvement: The University of Washington experience. Acad Med. 2007;82:1073–1078.

12 Inui TS, Cottingham AH, Frankel RM, et al. Educating for professionalism at Indiana University School of Medicine: Feet on the ground and fresh eyes. In: Wear D, Aultman JM, eds. Professionalism in Medicine—Critical Perspectives. New York, NY: Springer; 2006:165–184.

13 Ekman P. Are there basic emotions? Psychol Rev. 1992;99:550–553.

14 Borkan J. Immersion/crystallization. In: Crabtree BR, Miller WL, eds. Doing Qualitative Research. Thousand Oaks, Calif: Sage; 1999:179–194.

15 Crabtree BR, Miller WL. Doing Qualitative Research. Research Methods for Primary Care. Vol. 3. Thousand Oaks, Calif: Sage; 1992.

16 Fischer MA, Harrell HE, Haley HL, et al. Between two worlds: A multi-institutional qualitative analysis of students' reflections on joining the medical profession. J Gen Intern Med. 2008;23:958–963.

17 Hafferty FW. Cadaver stories and the emotional socialization of medical students. J Health Soc Behav. 1988;29:344–356.

18 Smith AC, Kleinman S. Managing emotions in medical school: Students' contacts with the living and the dead. Soc Psychol Q. 1989;52:56–69.

19 Fox RC. Cultural competence and the culture of medicine. N Engl J Med. 2005; 353:1316–1319.

20 Kleinman A, Eisenberg L, Good B. Culture, illness, and care: Clinical lessons from anthropologic and cross-cultural research. Ann Intern Med. 1978;88:251–258.

21 Hochschild AR. Emotion work, feeling rules, and social structure. Am J Soc. 1979;85: 551–575.

22 Brown HJ Jr. The Complete Life's Little Instruction Book. Nashville, Tenn: Rutledge Hill Press; 1997.

23 Haidet P, Stein HF. The role of the student–teacher relationship in the formation of physicians. The hidden curriculum as process. J Gen Intern Med. 2006;21(1 suppl): S16–S20.

24 Seabrook MA. Intimidation in medical education: Students' and teachers' perspectives. Stud Higher Educ. 2004;29:59–74.