

Introducing First-Year Dual-Degree Medicine and Public Health Students to Ethics and Professionalism

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INTRODUCTION

Various medical governing bodies stress the role of the hidden curriculum in transmitting key ethics and professionalism topics in medicine and public health to learners.¹ A growing body of research suggests that more active forms of instruction, including case-based scenarios² and objective structured clinical examinations,³ may be useful in conveying such values. Given that ethics and professionalism are not standardized in all health-related curricula, more attention to interventions targeting these crucially important topics is necessary.⁴

Our resource focuses on the explicit instruction of ethics and professionalism values to first-year dual-degree medicine and public health students. While the foundations of ethics and professionalism are broad within both of these fields, we aim to highlight values and/or conflicts that are applicable to both areas of study. Previous studies report that small-group instruction is formative in exposing students to the hidden curriculum.⁵ Therefore, we aim to build on this knowledge to determine whether a team-based-learning (TBL) style is equally applicable.

METHODS

A group of clinician-educators, an ethicist, and an upper-level medical student implemented this TBL session during the first week of the medical

curriculum for dual-degree medical and public health students in a course entitled Introduction to Medical Professionalism (IMP). The IMP course introduced learners to various aspects of the medical profession, with a specific emphasis on ethics and professionalism. The course departed from the traditional TBL format, and did not require students to prepare prior to the session. The facilitators were familiar with some key concepts of bioethics instruction and were provided a faculty guide. We administered the TBL to an incoming class of 54 dual-degree medical and public health students. Some learners might have had previous instruction in ethics and professionalism topics (eg undergraduate bioethics study), but no learners had received any type of formal instruction in these topics from the University of Miami's graduate schools of health sciences. The study was reviewed and approved by the University of Miami Institutional Review Board prior to its initiation.

The session was allocated two hours. We administered a pre-test of three preclinical scenarios that highlighted key tensions in ethics and/or professionalism inherent to the fields of medicine and/or public health. The pre-test did not formally qualify as a Readiness-Assessment Test and did not require advanced preparation. The learners had 15 minutes to complete the pre-test, and then the facilitator used a PowerPoint presentation to instruct the learners on several key tenets of medi-

cal and/or public health ethics and professionalism for 45 minutes.

Learners were then offered three scenarios that alluded to tensions between medical and/or public health ethics in a preclinical context. Scenario 1 described a fellow dual-degree student who used stimulants in the library bathroom to prepare for an upcoming test. Scenario 2 focused on a student who routinely offered to drive his fellow classmates around, despite a history of seizure disorder and a decision not to inform anyone of that medical history. Scenario 3 examined a student's cell phone use while in a simulated clinical encounter.

The 54 learners were divided into six groups of eight and one group of six, and began the interactive portion of the TBL session. The groups were given 15 minutes per scenario to discuss their impressions of the cases, and to integrate their new knowledge from the PowerPoint presentation and confer with their colleagues regarding their own impressions (see table 1). Finally, group representatives shared their collective answers openly with the facilitator and the rest of the learners. Learners were asked to select one ethics and professionalism tenet and defend its applicability in a scenario.

The facilitator provided immediate verbal feedback to create links to the PowerPoint presentation, to ensure that each group's conclusions were considered by all of the learners in the classroom environment. For example, if a learner cited an ethics tenet without adequate supporting evidence from the scenario, the members of another group were asked how they might support that tenet. Once a cogent argument was presented by at least one representative from each group, the facilitator allowed discussion of the next scenario, until all three scenarios were thoroughly discussed. An example facilitation schema follows below.

OUTLINE FOR THE TBL SESSION

Session Objectives

1. Identify at least one ethics or professional value at play in preset clinical scenarios.
2. Describe the importance of an ethical or professional value.
3. Defend the group's choice to the facilitator with clear supporting evidence.

Notes to facilitators

Administer pre-test to students for 15 minutes, followed by delivery of the PowerPoint material for 45 minutes. Divide the learners into groups of six to eight students. Divide students by "counting off" to ensure that learners who are acquainted with

each other will be divided among the TBL groups.

Instruct the learners to discuss only the first scenario for 15 minutes and to pick a group representative.

The facilitator should then obtain a commitment from the group representative for the first question in the scenario that reflects the group's consensus before proceeding to the next question in the scenario. For the second question, the facilitator should ask the group representatives their thoughts on conflicting actions and/or ethics and professionalism tenets.

If necessary, the facilitator may refer to the PowerPoint presentation that immediately preceded the TBL to give learners examples of ethics and professionalism values they may use.

SCENARIOS WITH SUGGESTED TOPICS FOR DISCUSSION

Scenario 1: Adderall Use in the Library Bathroom

You walk into the medical school library bathroom and encounter another second-year medical student. She, like the rest of your classmates, is very anxious about the upcoming Respiratory exam. You see her pop an orange and white pill, which you recognize as Adderall, into her mouth and then wash it down with some water from the sink. She notices your presence and brushes off the encounter, declaring, "I swear I'd flunk this Respiratory exam if it weren't for Addy!"

What Do You Do in this Situation? This scenario is to facilitate discussion regarding the inappropriate use of medication for personal gain.

TABLE 1. Session outline (2 hours total):

Session portion	Duration
Pre-test	15 minutes
Didactic session (PowerPoint presentation) and creation of TBL groups	45 minutes
Scenario 1	
Break out	15 minutes
Discussion	5 minutes
Scenario 2	
Break out	15 minutes
Discussion	5 minutes
Scenario 3	
Break out	15 minutes
Discussion	5 minutes

Learners might express a variety of actions they might take in this scenario, including talking to the student, offering help with study habits, confronting the student, encouraging her to obtain services, or do nothing.

Which ethical or professional values must you take into consideration? Learners might name various values, including patient safety, professionalism, integrity, privacy/confidentiality, honesty, or duty to report. Unacceptable answers include more generic statements such as, “This is not a legal use of medication,” or “It’s just the right thing to do.”

Which ethical or professional values must you take into consideration? Learners might name various values, including public safety, duty to report, privacy/confidentiality, autonomy, or professionalism. Unacceptable answers include more generic statements such as, “This is the student’s decision at the end of the day,” or “I have to protect other drivers on the road.”

Scenario 3: Cell Phone Use During a Clinical Encounter While rounding with physician preceptors in the hospital, students take turns performing physical

Learners might express a variety of actions they might take in this scenario, including talking to the student, offering help with study habits, confronting the student, encouraging her to obtain services, or do nothing.

Scenario 2: Driving Classmates with a Seizure Disorder

While studying late one night in the medical school library, your study partner (a fellow first-year medical student) has a brief lapse of consciousness related to complex partial seizures, a form of epilepsy. You start packing up to take him over to the emergency room, but he insists on staying at the library. He admits to having had seizures in the past, but he has not had one in more than 18 months. He explains that, as soon as he was seizure-free for 12 months, he got his driver’s license back, and was not about to go back to a life of public transportation and Uber. Your friend insists that you stay quiet about the seizure, but you know that other classmates often catch a ride with him. You are uncertain about what to do. Should you uphold your classmate’s privacy or inform his friends and the medical school administration of the situation?

What Do You Do in this Situation? The scenario is intended to facilitate discussion regarding a perceived threat to public safety and a duty to warn, given knowledge of such information. Learners might express a variety of actions they might take in this scenario, including convincing the student to self-report, informing the student of the health risks of driving with seizures, explaining external effects such as liability to the student, seeking advice from friends and/or administration, or doing nothing.

exams on the volunteer patients and should be observing the exams conducted by peers. Although all students are informed that the use of cell phones or other personal devices is unacceptable during these sessions, a student routinely checks his email when other students are conducting their exams. He feels like this time is useful for him to catch up on email.

What Do You Do in this Situation? This scenario is intended to facilitate discussion regarding the demands of professionalism in a collegial environment versus distractors from “the real world.” Learners might express a variety of opinions about this scenario, such as a (dis)respectful, rude, or negative impact on others’ learning, as well as a variety of actions, such as give constructive feedback, report to the physician preceptor, or do nothing.

Which ethical or professional values must you take into consideration? Learners might name various values, including respect for patients, students, or the preceptor; professionalism; or honesty. Unacceptable answers include more generic statements such as “That’s just rude and I wouldn’t tolerate it,” or “This is acceptable as long as it does not affect me.”

RESULTS

We analyzed results from the TBL using Kirkpatrick’s pyramid level 1 (reaction). All six

TBL groups successfully fulfilled objectives one through three (as stated in table 1) in this TBL scenario, as demonstrated by their abilities to identify an ethics and professionalism value at play, describe its importance, and defend their choice with supporting evidence to the session facilitator. In addition to the immediate feedback provided by the facilitator, we collected students' evaluations of this TBL resource. Comments obtained from this feedback ranged from "excellent" or "good" (75 percent) to "poor" (8 percent).

We previously had conducted this TBL in a different format utilizing the same three scenarios as both a pre-test and a post-test. In this format, no group discussion took place by the time the facilitator delivered the PowerPoint presentation. Although the method of delivery was slightly changed year to year, we grouped the feedback of 94 learners in the course of two years of this TBL iteration. We analyzed and compared the learners' pre-test and post-test data quantitatively and qualitatively to determine the efficacy of the format before converting to the TBL model. Qualitatively, we observed that learners' reactions to the concept of "ethics principles" varied from the unfamiliar (eg ensuring a support system was present) to quite nuanced (eg no confidentiality was required, given the lack of a patient-careprovider relationship) in the pre-test. This differed from the post-test, during which most students successfully listed ethics

and professionalism values, such as those introduced in the PowerPoint presentation. There were numerous statistically significant changes when we used confidence intervals (CIs) to measure the magnitude of group changes, rather than *p* values, to detect significant differences in group means. Tables 2, 3, and 4 give examples of these changes in learning.

DISCUSSION

This TBL adds to the growing literature regarding ethics and professionalism instruction for medical and other health science students. Although there is no gold standard for ethics and professionalism instruction, discussion-based teaching, particularly in a TBL format, may be more effective than traditional didactic instruction.

Several domains achieved statistical significance throughout the students' performance. For example, some of the key themes that facilitators hoped to reinforce, such as patient safety in Scenario 1 (Adderall use), and patient autonomy in Scenario 2 (driving with seizure disorder), were successfully instructed, given the students' citation of these ethics principles in the post-test. These tenets are crucial in understanding an individual clinician's responsibility in treating a single patient, as well as a public health practitioner's competing goals while formulating population health goals. Unfortunately, not all of

TABLE 2. Scenario 1: Adderall use in the library bathroom (*n* = 94; 95% CI = +/- 2.01%)

Actions taken	Pre-test		Post-test		Ethics principles	Pre-test		Post-test	
	<i>n</i>	%	<i>n</i>	%		<i>n</i>	%	<i>n</i>	%
Seek to understand student's reason*	42	44.7	48	51.0	Patient safety/inappropriate use of medication*	31	33.0	37	39.4
Offer help with study habits	12	12.8	14	14.9	Professionalism	23	24.5	22	23.4
Confront the student	10	10.6	11	11.7	Integrity	14	14.9	15	16.0
Do nothing	11	11.7	9	9.6	Privacy/confidentiality	11	11.7	9	9.6
Approach nonjudgmentally	11	11.7	9	9.6	No principle cited	9	9.6	7	7.4
Counsel students on risks	5	5.3	8	8.5	(Patient) autonomy	8	8.5	7	7.4
Encourage student to seek help	4	4.3	2	2.1	Honesty	6	6.4	8	8.5
Submit physician incident report	4	4.3	2	2.1	Duty to report	5	5.3	8	8.3
Seek advice from administration*	4	4.3	0	0.0	Respect	5	5.3	7	7.4
Other	3	3.2	2	2.1	Other	4	4.3	3	3.2

* Indicates a statistically significant change between pre- and post-test according to the 95% confidence interval.

Other actions taken included ensuring the student had a support system and talking to others. Other ethical principles included paternalism.

the key themes achieved statistical significance, such as professionalism in Scenario 3 (cell phones in a clinical space). This could be the result of ineffective didactic emphasis, or perhaps might indicate cultural changes regarding technological adaptation in the clinical sphere. Future iterations of this introductory intervention might tackle these tensions more directly.

We recommend this TBL and other similarly dynamic ethics and professionalism instruction methods, given their broad applicability and high rates of positive reception by medical students. The hidden curriculum will remain one of the most fundamental methods of transmission of key

ethics and professionalism behaviors to medical students. Nevertheless, more explicit supplementation of these pillars of ethics and professionalism appears to be efficacious. Should future iterations of this TBL be studied, we recommend conducting these (or other previously studied) scenarios in a more “traditional” manner, such as comparison of case and control cohorts (ie, half of the learners receive the intervention and the other half does not). This might lend more credence to the efficacy of this intervention in molding dual-degree students’ attitudes and knowledge regarding key pillars of ethics and professionalism. We also recommend the inclusion of nontraditional docents, such as

TABLE 3. Scenario 2: Driving classmates with a seizure disorder ($n = 94$; 95% CI = +/- 2.01)

Actions taken	Pre-test		Post-test		Ethics principles	Pre-test		Post-test	
	<i>n</i>	%	<i>n</i>	%		<i>n</i>	%	<i>n</i>	%
Convince the student to self-report	40	42.6	40	42.6	(Public) safety	66	70.2	67	71.3
Inform of health risks	19	20.2	16	17.0	Duty (to do no harm) (to report)*	49	52.1	54	56.3
Explain external effects, including liability and dilemma*	10	10.6	22	23.4	Privacy/confidentiality*	29	30.9	36	38.3
Seek advice from administration*	20	21.2	7	7.4	Autonomy*	11	11.7	20	21.3
Seek advice from friends*	3	3.2	12	12.8	Professionalism	7	7.4	4	4.3
Do nothing	2	2.1	1	1.0	No principle cited	3	3.2	3	3.2
Other	4	4.3	2	2.1	Other	7	7.4	5	5.3

* Indicates a statistically significant change between pre-test and post-test according to the 95% confidence interval.

Other actions taken included telling the friends in question about the seizure disorder. Other ethical principles included integrity, honesty, and, interestingly, not confidentiality because there is no patient-provider relationship between the two students.

TABLE 4. Scenario 3: Cell phone use during clinical encounter ($n = 94$; 95% CI = +/- 2.01)

Actions taken	Pre-test		Post-test		Ethics principles	Pre-test		Post-test	
	<i>n</i>	%	<i>n</i>	%		<i>n</i>	%	<i>n</i>	%
Take action*	47	50.0	62	66.0	Respect for patients	43	45.7	45	47.9
Do nothing*	38	40.4	27	28.7	Respect for students*	39	41.5	44	46.8
Disrespectful	28	29.8	25	26.6	Professionalism*	38	40.4	29	30.9
Give constructive feedback	26	27.7	25	26.6	Respect for preceptor	16	17.0	19	20.2
Rude	9	9.6	10	10.6	Respect (in general)	12	12.8	9	9.6
Negative impact on others’ learning	6	6.3	5	5.2	No principle cited	6	6.4	8	8.5
Other	4	4.3	2	2.1	Other	11	11.7	11	11.7

* Indicates a statistically significant change between pre- and post-test according to the 95% confidence interval.

Other actions taken included issuing a physician incident report. Other ethical principles included altruism, the golden rule, honesty, and integrity.

hospital ethics committee staff, to conduct such an intervention.

There are a few limitations of our resource that merit discussion. Our TBL took place during a general introduction course that was placed at the very beginning of our dual-degree program's curriculum. Other institutions that have no such course or that launch more traditional preclinical courses immediately may have difficulty finding an adequate time and place to deliver such a TBL. We recommend partnering with other institutions to deliver this important TBL at an opportune session and location separate from the rigors of information-dense preclinical courses.

AUTHORS

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