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Using Medical Students to Enhance Curricular Integration of Cross-Cultural Content

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We hypothesized that an interested medical student group would be helpful in reviewing tutorial cases and giving relevant feedback on the curricular integration of cross-cultural content using case triggers in a preclinical gastrointestinal pathophysiology course. Self-selected student leaders ($n=9$) reviewed pre-existing problem-based learning tutorial cases ($n=3$) with cross-cultural triggers, and provided narrative feedback to course faculty. The cases were modified and used for the entire class in the following 2 years. Participating course students' comments and teaching faculty feedback were also noted. Outcomes were a change in case content, student global evaluations of the course, and self-reported faculty comfort with teaching the cases. All three tutorial cases were reviewed by a separate group of 2–3 students. Major and minor revisions were made to each case based on the student feedback. These cases were used in 2007 and 2008 and were the major change to the course during that time. Overall course evaluation scores improved significantly from 2006 to 2008 ($p=0.000$). Tutors ($n=22$ in 2007; $n=23$ in 2008) expressed relief during tutor meetings that students had reviewed the cases. A general framework for eliciting student feedback on problem-based cases was developed. Student feedback, consisting of self-selected students' case reviews and solicited course and tutor comments, added value to a curricular reform to improve the integration of cross-cultural content into a problem-based learning curriculum. Our study underscores the fundamental link between teachers and students as partners in curricular development.

Key Words: cross-cultural care, curriculum development, medical education, pathophysiology teaching, problem-based learning, student feedback
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The integration of clinical material and basic sciences across the preclinical and clinical years continues to be the subject of challenge and innovation in medical education [1]. An additional challenge is the incorporation of cross-cultural care concepts into the undergraduate basic science medical curriculum. Problem-based learning (PBL) cases serve as important vehicles to raise students' awareness about individuals from diverse backgrounds that they may not otherwise have interacted with or may harbor pre-existing conceptions toward [2–4]. However, complaints about racial stereotyping and the "hidden curriculum" have indicated the need for a thoughtful and deliberate approach to developing appropriate cases and triggers [5].

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Several studies have recommended using medical students to help create or assess the curricula before they are used in the preclinical or clinical setting [6–8]. The role of students in medical education has been the subject of discussion and debate, particularly in light of ongoing initiatives around curriculum reform [9]. D'Eon and Harris have argued that a student-centered approach to medical education, engaging students in "identifying and solving problems" is to be encouraged [9]. We designed this study to incorporate student feedback regarding cross-cultural content in tutorial cases for a preclinical PBL course, gastrointestinal pathophysiology, and to assess the impact of the revised tutorial cases on course evaluation and faculty satisfaction.

The PBL tutorial was chosen as the target for the integration of cross-cultural care because of the unique opportunity for small group discussion. PBL tutorials with 7–9 students and one tutor are routine in each of the 1st and 2nd year preclinical courses at our medical school and are the only required educational exercise during these years. Triggers, which are defined as case factors prompting the discussion of racial, cultural, ethnic or socioeconomic themes, were inserted into the existing PBL cases in 2006 [10].

In 2006, the Gastrointestinal Pathophysiology Course was invited to become the first preclinical science course at Harvard Medical School to integrate racial, cultural, ethnic and socioeconomic issues into tutorial discussions [10]. Although the discussion of cross-cultural care increased as a result of this effort, the degree of improvement was not significant by evaluation strategies (student global evaluation scores) that have been traditionally utilized for analysis [11]. We sought to make the triggers more relevant to pathophysiology and cultural issues by asking an interested student group to recommend changes to the cases. We hypothesized that student-generated case changes would lead to improved tutorial discussions of cross-cultural material and would be reflected in positive course evaluations and increased faculty satisfaction.

Methods

Context and setting

The gastrointestinal pathophysiology course is a required Human Systems course in the second half of the 2nd year of a 4-year medical school curriculum. The course includes 13.5 hours of small group tutorials (1.5 hours each) with 7–9 students and one tutor occurring over a 3-week period. Twenty-two to 23 tutors receive 6 hours of rigorous standardized faculty development before tutoring in this course. Three strategies adopted from the case method of teaching at Harvard Business School, the use of questions to guide the discussion, end-of-discussion summaries and diagrammatic synthesis of the discussion, are utilized by tutors in this course [12]. Tutors attend a 1-hour faculty development meeting each week during the course to discuss the tutorial dynamics, case content, and cross-cultural care themes, as previously described [10,13]. Details of the tutorials' structure and logistics are listed in Table 1. At the end of 2006, the medical student Subcommittee of the Cross-cultural Care Committee consisting of nine self-selected students was invited to assess the revised case triggers.

Table 1. Gastrointestinal pathophysiology course tutorial structure

- Three cases (*Louis Garrison*, *Laura Chen*, *Wally Zimansky*)
- One tutor with 7–9 students
- Discussion of cases across eight 90-minute tutorial sessions over 2.5 weeks
- Tutor acts as discussion leader, asking questions to promote discussion
- Tutor given focused questions to highlight case triggers
- Five-minute summary at the end of each 90-minute tutorial session
- Directed tutorial model based on Harvard Business School Case Method

Student subcommittee case reviewers

The student case reviewers were nine 1st or 2nd year medical student volunteers (2 men, 7 women; aged 22–27 years) who represented a range of ethnic and racial diversity (African-American, Asian, Caucasian, and Hispanic). None of the students had previously participated in tutorial discussions of the cases for review. Each student was assigned one case to review as part of a 2–3 person group.

Synopsis of cases given to students to review

Case 1

Louis Garrison is a 39-year-old obese building custodian who complains of gastrointestinal reflux symptoms, occasional dysphagia and recent onset of early

satiety [14]. He is a smoker, drinks about 12 cans of caffeinated soda per day, and is experiencing job-related stress. He was a heavy drinker of alcohol, but stopped 3 years ago. On endoscopy, the patient is found to have *Helicobacter pylori* gastritis and Barrett's esophagus. The endoscopist tells him that he will need surveillance endoscopies in the future.

Case triggers are: (1) obesity and its effects on the lower esophageal sphincter; and (2) inability to pay for medications, specifically proton pump inhibitors for the Barrett's esophagus.

The highlighted questions and objectives relating to the triggers are: (1) discuss your response to Mr Garrison's obesity, excess caloric and caffeine intake in the form of sodas and his heavy smoking, and try to imagine how these factors might affect your relationship with him as a patient; and (2) what would you say when Mr Garrison complains about the cost of his medication?

Case 2

Laura Chen, a 42-year-old East Asian travel agent, becomes ill with abdominal pain, diarrhea and nausea [15]. Small bowel series and colonoscopy diagnose Crohn's disease with a dilated small bowel proximal to a tightly strictured segment of distal ileum measuring 100 cm. She agrees to have surgery. Postoperatively, her course is complicated by the use of a herbal preparation containing senna, which causes diarrhea. Once recognized, this preparation is stopped. One year later, she develops oxalate kidney stones and is placed on a diet to minimize oxalate intake.

The case triggers are: (1) use of an interpreter to enable the gastroenterologist to communicate with the patient's family; (2) the patient's surreptitious use of herbal pills; and (3) culturally appropriate dietary therapy for oxalate stone prevention.

Highlighted questions and objectives relating to the triggers are: (1) discuss the patient's use of herbal pills and their significance in this case; and (2) discuss the role of interpreters and their contributions to patient care.

Case 3

Wally Zimansky is a pipe fitter presenting with jaundice and hematemesis due to chronic hepatitis C and alcohol abuse with resulting cirrhosis and portal hypertension [16]. The hepatitis C may have been acquired through blood transfusion or tattoos during army service in the Korean War. The patient resumes drinking alcohol after his son is killed while repairing a railroad track.

The case triggers are: (1) primary social support for a group of veterans who drink alcohol daily at a local Veterans of Foreign Wars post; and (2) dietary indiscretion with salty snacks.

The highlighted questions and objectives relating to the triggers are: (1) discuss the importance of dietary salt in the management of patients with cirrhosis, ascites and portal hypertension; (2) discuss and/or diagram the pathophysiology of alcoholic liver injury and fatty liver, and understand the contribution of fatty liver and alcoholic hepatitis to the evolution of portal hypertension; and (3) understand the resources available for aiding alcoholics to stop drinking.

Student case review process

Cross-cultural content was bolded in each of the cases provided to students. In addition, case objectives and questions related to cross-cultural content were emphasized. Students were given instructions by the student leader (VEN) to: (1) read the cases and identify relevant issues regarding cross-cultural care; (2) highlight both effective and ineffective triggers; and (3) list and explain suggested changes and improvements to case content.

The students were given the full cases and case objectives that focused on cross-cultural triggers.

The written responses of each student reviewer were compiled (VEN) and submitted directly to the course director (HMS). The course director and a teaching fellow (DAL) summarized and interpreted the findings, combined the findings with course comments from students and faculty in the 2006 class, and then finalized the case revisions for the 2007 class. The three revised cases were used in both 2007 and 2008. No other major changes were made to tutorial content during this period.

Outcome measures and data analysis

We used a combination of descriptive methods (individual case reviews and narrative feedback) and global course scores from 2006, 2007 and 2008 for the question "Issues of culture and ethnicity as they affect topics in the course were addressed". Students' anonymous rating of a tutorial's contribution to their learning from 2006, 2007 and 2008 were collected. The evaluation scores were summed and a mean score calculated for

Table 2. Louis Garrison

Case content	Student feedback
• Opening line makes no reference to patient's ethnicity • Case states "patient is told by endoscopist" he will need follow-up procedures • Passing mention of patient's financial status impeding access to medication • Case mentions patient's daily consumption of soda and alcohol	• Consider placing patient ethnicity in first line of the case to set the students' understanding • Consider "patient is advised" instead to decrease suggestion of subservient patient–doctor relationship • Provide more information and emphasis on patient's low-income status and how this affects his care • Explore the possibility of providing more information about his diet, relevant to the case

each class. Both sets of data were analyzed using one-way analysis of variance with Bonferroni's test for multiple comparisons. Narrative comments from selected students and faculty solicited at the end of 2007 and 2008 were selected.

Institutional Review Board approval was obtained from Harvard Medical School in 2006, 2007 and 2008.

Results

Three gastrointestinal pathophysiology PBL tutorial cases with triggers were revised after student feedback.

Course enrolment

Course enrolment in the Gastrointestinal Pathophysiology course differed slightly from 2006 to 2008. The number of students in the Gastrointestinal Pathophysiology Course is as follows: 2006, 172 students; 2007, 166 students; 2008, 173 students. The number of students completing the course evaluations each year is as follows: 2006, 144 students; 2007, 117 students; 2008, 115 students.

Case review

Nine students reviewed the three cases with an average of 2–3 student reviewers per case. Student input was compiled over a period of 3 weeks and was transmitted to the course director. Individual case feedback is shown in Tables 2, 3 and 4, with the case content juxtaposed with student feedback.

Case revisions after review

The cases were then changed (HMS and DAL) to reflect the student comments. As a result of the Student Subcommittee feedback, minor changes were made to Cases 1 and 3. In Case 1, *Louis Garrison*, the patient's race, as well as a better description of his diet were added and the patient is "advised" rather than "told" he will need future endoscopies for Barrett's surveillance (Table 2). In Case 3, *Wally Zimansky*, the patient's ethnicity is added to the first line of the case, and a greater description of his drinking habits when he resumes drinking after his son is killed is added. The family acknowledges his heavy drinking to the physicians (Table 4).

Major changes were made to Case 2, *Laura Chen*, after student feedback (Table 3). Both the use of an interpreter and the presence of Laura Chen's parents at the bedside were deleted after students criticized these triggers as forced, artificial and unrealistic. Instead, the case was changed so that a nutrition consultant noted during Mrs Chen's dietary interview with the patient that she was taking the complementary but harmful medication containing senna [17]. The nutritionist calls the gastroenterologist who asks the patient to stop taking the herbal medication. Students also asked that culturally sensitive dietary recommendations for the patient be incorporated.

Specific examples of case triggers from all three cases before and after student-driven revisions are given in Table 5.

Student narrative comments on course evaluation forms from 2006, 2007 and 2008

Prior to student case revisions, the following question was part of the 2006 anonymous end-of-course evaluation form: "Was the culturally competent care that was piloted in this year's gastrointestinal cases helpful to your tutorial discussions?" The Likert scale responses ranged from "Very Helpful" to "Not Helpful at All". The 2006 students responded to this question as

Table 3. Laura Chen

Case content	Student feedback
• The patient presents with recurring diarrhea and within 2 weeks undergoes a colonoscopy	• Consider discussing why the gastroenterologist performs the procedure and what the indications were for doing so
• The patient undergoes relatively long course of medical management of Crohn's disease before undergoing surgical resection	• Provide additional detail regarding the patient's choice. Does she get second opinions, and do these conflict? Whose advice does she take into account? What resources are available/how does she access them?
• The patient's parents visit from Hong Kong during the time of her surgery	• Clarify the role of the patient's parents in the case. If the physician simply wants to include them in the conversation, state that. Seems strange to bypass a 42-year-old patient to get information from her parents
• The patient's parents report they are providing her with herbal supplements containing senna	• The use of herbal medicine is presented abruptly. More validation of the patient's rationale for its use would be helpful. Disclose earlier in the case the patient's use of herbal medicine and integrate a discussion of the patient's explanatory model of disease, tied to her heritage, demonstrating cultural competency by the physician • It is important to send a message that the patient's beliefs in other modalities of medicine are legitimate. Consider balancing negative effects of herbal medicines with earlier positive remedies. Avoid impression of physician's job as rejection of patient's remedies
• Case states that patient and her parents agree with physician's recommendations	• Consider adding some degree of conflict between patient's or family's values and those of her physicians. For example, disagreement over stopping the herbal medicines
• Patient's parents do not speak English and an interpreter is called to translate	• Consider adding dialog between the physician, interpreter and parents. This meeting can serve as a learning opportunity to understand how these conversations are handled, including tone and balancing different parties' perspectives and responses • The role of interpreters could be expanded. The case frames interpreters as a method for physicians to extract information, as opposed to function as a channel through which patients and physicians can have real dialog • Consider the discussion of appropriate/inappropriate uses of interpreters (such as using family members as interpreters) and their availability • The interpreter can also convey culturally sensitive information that will improve the physician's understanding about the broader context of the patient and facilitate mutual decision-making
• After the development of nephrolithiasis, the patient is told to avoid chocolate, spinach and tea in her diet	• The choices should reflect more culturally appropriate diet advice specific to the patient in this case

follows: 29%, Very Helpful; 29%, Somewhat Helpful; 28%, Average Helpfulness; 11%, Not Very Helpful; and 3%, Not Helpful at All.

Two verbatim comments specifically related to cross-cultural content follow from students who experienced the tutorial in 2006 using cases prior to the Student Subcommittee review:

1. "Regarding the piloted cultural competency component, I must honestly admit that I do not really remember the content to which you are referring. This may not be a bad thing though: I believe that issues of "cultural competency" and psychosocial sensitivity in general are probably best internalized when infused into the curriculum. In the moment when something stands out as blatantly directed towards improving cultural competency, it becomes much more likely to be a focus of ridicule and dismissal. I also find that the responses of the tutorial leaders in these situations are of the utmost importance; when a practicing clinician takes an issue seriously, it validates it as important more powerfully than almost anything else can."
2. "I feel badly that I cannot remember the specific content of which you speak, but if I have more

Table 4. Wally Zimansky

Case content	Student feedback
• First page of case references patient's age, but no mention of race/ethnicity	• Consider placing patient ethnicity on the first page with age. Providing ethnicity with basic patient information encourages students to think about when race/ethnicity might be relevant to cases
• Case emphasizes details about patient's personal life, such as interaction at Veteran's Center and location of tattoos	• Details like these were great and made the case seem more real
• Death of patient's son described as precipitating factor for alcohol abuse	• Son's death as a factor leading to return to alcohol presents a good way to encourage a dialog about social issues within the case
• Patient is deemed to no longer be a candidate for liver transplantation	• Add additional information regarding the patient's recent alcohol use and the association with being denied the liver transplant

Table 5. Examples of case triggers before and after revisions

Original version	Final version with changes in italics
Louis Garrison case	
• "He has recently been told by his boss that the building he supervises may be sold and this would probably eliminate his job."	• "He has recently been told by his boss that the building he supervises may be sold and this would probably eliminate *the job he has had for 10 years. He worries about his financial state because he already has significant debt due to helping his mother with her apartment rent and food bills.*"
• "In the recovery room, the patient is told by the endoscopist that he will need future surveillance endoscopies…"	• "In the recovery room, the patient is *advised* by the endoscopist that he will need future surveillance endoscopies…"
Laura Chen case	
• "The interpreter learns from Mrs Chen's parents that they brought special herbal pills from Hong Kong for their daughter. Mrs Chen has been taking them since shortly after her surgery. The gastroenterologist asks to see the herbal pill bottle and is surprised to notice the herbal pills contain senna. The patient is then told to stop taking them immediately. She and her parents reluctantly agree."	• *"As the nutritionist questions Mrs Chen, she obtains the history that Mrs Chen has been taking Chinese herbal pills sent from Hong Kong by her mother shortly after her surgery. Mrs Chen brings the label from the herbal bottle to her next visit. The nutritionist immediately pages the gastroenterologist to tell him that the pills contain senna. The patient is told by the gastroenterologist over the phone to stop taking them. She reluctantly agrees."*
• "Calcium supplementation is prescribed and she is told to avoid foods such as chocolate and spinach and beverages such as tea."	• "Calcium supplementation is prescribed and she is told to avoid *high oxalate foods such as pea pods, soy sauce, and green beans, and substitute low oxalate foods such as mung bean sprouts, cabbage and water chestnuts.*"
Wally Zimansky case	
• "Wally Zimansky is a 75-year-old retired pipe fitter…"	• "Wally Zimansky is a 75-year-old retired *Polish* pipe fitter…"
• "Mrs Zimansky states that Mr Zimansky continues to drink and believes that it is due to his grief about their son's death."	• *"After his son's death, the patient seeks comfort from his buddies at the Veterans of Foreign War post and resumes drinking at a much higher level than before (240–360 mL of vodka a day followed by beer chasers)…" "Arrangements are made for a substance abuse counselor to visit him in the hospital."*

comments after I look at the material again, I will send them to you."

No other comments specific to cross-cultural content within the cases were found in 2006.

Student feedback from 2007 and 2008 following the introduction of student-reviewed and revised cases was also collected. Two verbatim anonymous students' comments specifically pertaining to Cross-cultural

Care discussions in the tutorial were found in the evaluations:

1. "He actually did an effective job of intermingling social/ethical/doctor–patient relationship-related issues into tutorial discussion. I do not think I have ever had another tutor who did that as effectively (often it has seemed forced/artificial in other settings). I am actually sad that the tutorial is over!"
2. "Tutorial cases were written to really demonstrate the concepts being taught in lectures. What I liked most about the gastrointestinal tutorial cases was the extent to which they integrated basic sciences, clinical medicine, and psychosocial themes. I do not know how to explain it, but the amount of integration that was in these cases was just right."

No other comments specific to cross-cultural content within the cases were found in 2007 or 2008.

Observational comments regarding tutors' experience

Tutors' informal comments indicated their relief and approval that students had assessed the cross-cultural care triggers. Significantly, more tutors actively discussed cultural issues in 2007 and 2008 compared with prior to student assessment in 2006 [10].

Overall course evaluation data

Overall course evaluation scores are based on a Likert scale, where 1 = excellent and 5 = poor. The overall scores improved significantly in 2007 (1.40) compared with 2006 (1.65) ($p = 0.018$), and for 2008 (1.24) compared with 2006 (1.65) ($p = 0.000$). No significant difference was noted in overall course scores between 2007 and 2008.

Contribution of tutorials to student learning

At the end of each year's course, students were asked, "Please rate the tutorials in terms of their contribution to your learning". The Likert scale score for this statement improved in 2007 (1.35), and in 2008 (1.39) compared with 2006 (1.51) but, using analysis of variance, the difference for this improvement was not significant ($p = 0.200$).

Development of a cross-cultural triggers worksheet

The students' work on the cases led to the development of a worksheet used to assess cross-cultural triggers' relevance, realism and appropriateness. The worksheet is targeted to help faculty enhance integration of cross-cultural care material into preclinical and clinical courses. The worksheet consists of four objectives/questions:

1. Identify the social and cultural factors that would trigger the discussion of cross-cultural care.
2. Which of these factors seem most relevant to integrating cross-cultural care with pathophysiology?
3. Do any of these factors or case elements seem irrelevant, artificial or confusing?
4. How would you modify the case triggers to make the discussion of cross-cultural care more useful and effective?

DISCUSSION

Cross-cultural care triggers are designed to stimulate discussion of cultural, ethnic, and socioeconomic issues in PBL cases. These discussions may not only help raise the awareness of medical students to the diverse patient population they will serve, but also lead to a better understanding of science through a more complete appreciation of all of the factors that can impact one's health [18,19]. However, it can be a challenge to introduce these triggers into cases in a relevant and effective manner. Our study demonstrates that student input is a valuable addition to the process.

In 2006, we introduced cross-cultural care triggers into preclinical gastrointestinal pathophysiology PBL tutorial cases [10]. However, tutorial discussion of cultural and ethnic issues did not significantly improve [10]. We hypothesized that interested medical students would be helpful in assessing case triggers for their relevance, realism and appropriateness and invited the Student Subcommittee of the Cross-cultural Care Committee to review the cases and the preliminary triggers for 2007.

Our experience with the process of having selected students provide case reviews for curricular integration has led us to three insights. The first insight is that medical students are helpful in identifying triggers as relevant, realistic and appropriate and confirms our hypothesis. Students recognized the realism and relevance of the triggers in the *Louis Garrison* obesity case and the *Wally Zimansky* alcoholism case, but had major questions about the parent and interpreter triggers,

which seemed irrelevant, artificial, forced and confusing, in the *Laura Chen* case [14–16]. Deleting these two triggers allowed the tutors to focus on the surreptitious use of herbal medicine and the need for culturally sensitive dietary recommendations [17]. The students' lack of clinical background was actually not a detriment, but rather an asset to the case review process, because they were able to focus their attention less on the medical intricacies of the cases and more on the sociocultural factors.

The second insight is that tutors are more relaxed and enthusiastic about discussing cross-cultural triggers when they know that medical students have already assessed them as reasonable and realistic. Having student feedback in the case-generating process served as an implicit "seal of approval" that gave faculty members more confidence in presenting the cross-cultural material as integral and relevant to pathophysiologic concepts.

The third insight was that having students participate in case and trigger review allowed the development of a framework for evaluating cross-cultural care triggers in the future. The cross-cultural trigger worksheet we designed, consisting of four key objectives/questions for evaluating cases, evolved from the student assessment process. The worksheet will help a reviewer (student or faculty) to identify the triggers in the case, assess their relevance, delete those that may be irrelevant or artificial, and modify, if necessary, the remaining triggers to be more effective and useful to improve case effectiveness.

Two recent examples of successful involvement of students in the creation and assessment of cultural and socioeconomic features of the curriculum have been reported [7,8]. For example, Tang et al examined the role of 4th-year medical students as peer-educators for 2nd-year students in a case-based instructional program to teach sociocultural and diversity issues during which both cohorts of students reacted positively to the learning environment and format [7]. Leeper et al looked at a student-developed sexual-history taking module for 2nd-year students at Rosalind Franklin University of Medicine and Science in Illinois [8]. Students took the initiative to introduce both large- and small-group teaching sessions into an introductory history-taking class, under the support of faculty guidance. Faculty noted that the participation of students in the initial training sessions contributed positively to their overall feeling of their being prepared when faced with teaching the material themselves [3]. Our experience agrees with other studies suggesting that selected students can be astute evaluators of the curriculum and may have a significant positive impact on teaching effectiveness with their critiques [6–8].

The student review process used in this study has several strengths. Participation of the students in this process was voluntary and an enthusiastic cohort of students was able to rapidly and thoroughly review the material. They brought additional perspectives and knowledge about cultural sensitivity issues from their own experiences that broadened the horizon of the tutorial faculty [20]. They were able to share candidly both positive and negative opinions about case material. Finally, the historical tracking and storage of computer-generated global course evaluation data provided a useful resource for retrospective analyses of student satisfaction. Our study also has several areas for possible improvement. The students who participated were a small self-selected group whose responses may not represent the entire class. The role of student diversity in the review process, which has been shown to influence the way medical students perceive their curriculum [21] and residents' abilities to deliver cross-cultural care [22], was not adequately examined. Exploring this contribution may add additional insights into the role of student cultural identities in the assessment of case triggers. Ultimately, a student-led focus group may be appropriate to shed light on the link between individual students' cultural perspectives and their case recommendations, as has been studied previously [23].

A major challenge in the integration of cross-cultural material in the curriculum is that it should be done in a seamless manner that is meaningful to the goals of the course. In preparing the next generation of physicians, it is important that cultural factors are not perceived as irrelevant, stereotypical, add-ons that trivialize their use and detract from the goal of improving cross-cultural care [24]. We speculate that involving students from the initial phases of cross-cultural care curriculum development in the future may lead to a superior final product because of the excellent knowledge base, enthusiasm and commitment the students showed during this pilot project. Accordingly, we are beginning studies that will address the role of students in creating new curriculum materials, starting with the planning and design

phases, for preclinical and clinical teaching exercises emphasizing multiple aspects of cross-cultural care. The studies will address the existing challenges of integrating cross-cultural care issues throughout the 4-year curriculum to adequately prepare the next generation of physicians [25–27].

In summary, we invited a subset of interested and knowledgeable medical students to candidly review tutorial case triggers for cross-cultural care and suggest changes prior to implementing the cases for the wider student body. The model piloted in this study, using student feedback to enhance cross-cultural care cases, not only allowed for the development of richer content with appropriate and realistic triggers for discussion, but also fostered the tutors' enthusiasm for actively integrating cross-cultural care into discussions. The students' efforts resulted in a trigger worksheet that is a useful tool for faculty wishing to successfully integrate cross-cultural care into their preclinical and clinical courses. Future studies may more adequately explore the role of student diversity in the development of realistic case triggers. Our study underscores the fundamental link between teachers and students as partners in the process of educational content development.

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