

# Six Ways Problem-Based Learning Cases Can Sabotage Patient-Centered Medical Education

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## Abstract

### Purpose

Problem-based learning (PBL) cases tell a story of a medical encounter; however, the version of the story is typically very biomedical in focus. The patient and her or his experience of the situation are rarely the focus of the case despite a prevalent discourse of patient-centeredness in contemporary medical education. This report describes a qualitative study that explored the question, "How does PBL teach medical students about what matters in medicine?"

### Method

The qualitative study, culminating in 2008, involved three data collection strategies: (1) a discourse analysis of a set of PBL cases from 2005 to 2006, (2) observation of a PBL tutorial group, and (3) semistructured, in-depth, open-ended interviews with medical educators and medical students.

### Results

In this report, using data gathered from 67 PBL cases, 26 hours of observation, and 14 interviews, the author describes six specific ways in which PBL cases—if not thoughtfully conceptualized and

authored—can serve to overlook social considerations, thereby undermining a patient-centered approach. These comprise the detective case, the shape-shifting patient, the voiceless PBL person, the joke name, the disembodied PBL person, and the stereotypical PBL person.

### Conclusions

PBL cases constitute an important component of undergraduate medical education. Thoughtful authoring of PBL cases has the potential to reinforce, rather than undermine, principles of patient-centeredness.

They're not people in the cases. They're diseases or conditions, or conditions that need drugs.

—First-year medical student

**P**roblem-based learning (PBL) cases tell a story of a medical encounter; however, the version of the story is typically biomedical in focus. The patient and his or her experience of the situation are rarely the focus of the case<sup>1</sup> despite a prevalent discourse of patient-centeredness in contemporary medical education.

PBL is a particularly significant pedagogy<sup>2,3</sup> that has experienced a steady increase in popularity over the last 15 years.<sup>4</sup> Most U.S. medical schools employ PBL (or some version thereof), and many other medical schools in almost every country of the world are planning to

implement (or have implemented) PBL to a greater or lesser extent.<sup>4</sup>

PBL was developed to help health professionals learn to practice in a self-directed manner and in conditions of uncertainty.<sup>5,6</sup> Whereas traditional medical education focused on acquiring knowledge through the memorization of concepts,<sup>7,8</sup> PBL uses written descriptions—or cases—to stimulate problem solving, thereby promoting learning within a simulated clinical context.<sup>9</sup> The case is the archetype on which PBL is based; hence, it plays a key role in the education of future physicians.<sup>1</sup> PBL cases are intended to simulate "real life" medical situations.<sup>1,2,10–13</sup> They are laden with messages—both overt and covert—that produce a situated initiation into the culture of medicine.<sup>1,14</sup>

Currently, a large body of literature addresses PBL in medical education; however, comparatively little research has focused on the case—that is, the actual tool—that produces discussion and constitutes the PBL experience. Even less has focused on how PBL cases teach students about patients. Thus, this research aimed to make a contribution to the paucity of literature addressing PBL cases as conduits of medical culture or as means of influencing patient-centered medical education.

Patient-centered care (PCC)<sup>15–20</sup> is currently an important concept in medical education.<sup>21</sup> PCC acknowledges that a patient is more than her or his biology, symptoms, and/or body. Patient-centeredness is often defined by what it is *not*: "technology centered, doctor centered, hospital centered, disease centered."<sup>22</sup> A patient-centered approach constructs social concerns as a key aspect of the medical encounter—an aspect that is complexly entangled with the biomedical. This type of approach considers issues beyond specific medical conditions and focuses on issues such as communication and partnerships.<sup>16</sup>

Despite favorable constructions of PCC, the medical education literature shows that as students progress through the undergraduate curriculum, they become less empathetic and develop attitudes that are physician-centered, rather than patient-centered.<sup>23–25</sup> This phenomenon may be linked to the fact that a patient-centered approach, with its focus on the social aspects of medicine, is outside the privileged perspective of the medical gaze, outside the privileged discourses of the scientific and the evidence based. Yet, physicians and medical educators recognize that patient-centeredness has a role in medicine, and an ongoing struggle to make the space for exploring social issues in medical education has materialized.

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**Acad Med.** 2011;86:818–825.

First published online May 25, 2011

doi: 10.1097/ACM.0b013e31821db670

Supplemental digital content for this article is available at <http://links.lww.com/ACADMED/A53>.

Despite institutional attempts to focus on patient-centeredness, this approach remains underemphasized in medical education.<sup>15</sup> Medical education frequently concerns itself primarily with *disease* rather than *illness*,<sup>26</sup> which may be interchangeable concepts in everyday discourse but are distinct within the parlance of medicine.

Contemporary medical textbooks define *disease* as an objectively verified disorder of bodily functions or systems, characterized by a recognizable cause and by an identifiable group of signs and symptoms. *Illness*, by contrast, is used inside medicine to indicate the patient's subjective experience, which may or may not indicate the presence of disease.<sup>27</sup> [emphasis in original]

This disparate discursive construction of, and engagement with, disease as opposed to illness is also significant in medical education. The epistemological assumptions underlying this distinction reinforce a false binary and a dualistic sorting of knowledge into two main categories: objective (disease, evidence based, competence) and subjective (illness, social, caring).<sup>26,28</sup>

Traditionally, medical education has focused on the study of disease, understanding sickness as a breakdown or malfunction of the body (machine) that can be repaired by a skillful physician (technician).<sup>27</sup> Toombs<sup>27,29</sup> encouraged a shift calling for an approach that considers illness to be an interruption of participation in the social world. If so engaged in PBL cases, such an approach has the potential to refocus learners' attention, making the patient, not the disease, the focus of diagnosis and treatment.

Illness experiences are constituted through narrative.<sup>30</sup> PBL case authors design cases or scenarios to recreate these narratives, yet they frequently focus on issues of biomedical and clinical competence, while notions of caring, particularly with respect to social issues, are often absent. If PBL is designed to represent the complexities of medical practice,<sup>10</sup> and if medical education is moving toward a position of patient-centeredness,<sup>31,32</sup> then to consider how social issues, which are so pivotal to the practice of medicine,<sup>33</sup> are represented in teaching cases, is important. Likewise, keeping in mind that PBL cases are educational tools that teach medical

students what really "matters" in medicine is vital.

Thus, I conducted qualitative research to explore whether PBL cases emphasize disease or illness—that is, whether they undermine or reinforce the tenets of PCC—by asking the question, "How does PBL teach medical students about what matters in medicine?"

### Method and Philosophy

I conducted a Foucauldian discourse analysis of a set of undergraduate medical education curriculum documents (i.e., PBL cases). I also spent many hours observing a PBL tutorial group, and I conducted in-depth, open-ended interviews with medical students as well as medical educators. This report is based largely on data collected through the interview and document analysis components. The study occurred in Canada and culminated in 2008.

### Ethical considerations

The human research ethics committee of the University of South Australia and the social science and humanities research ethics board of Dalhousie University both reviewed and approved the research protocol for this project.

### Document analysis

I reviewed all the PBL cases used at a single medical school during one academic year (2005–2006). The cases were written by faculty members with expertise in the clinical and/or biomedical topic being covered. None of the cases were written by research participants. Likewise, I did not write any of the cases. I developed and used a form to review the cases. The form is available as Supplemental Digital Appendix 1 at <http://links.lww.com/ACADMED/A53>.

Documents do not stand alone. Although the discourse of PBL cases is an important point of analysis, documents such as PBL cases are, in a sense, "living things" that can be "produced and manipulated, used or consumed."<sup>33</sup> As living things, documents "can act back on their creators—very much as Dr. Frankenstein's monster sought to act back on his creator."<sup>33</sup> As Foucault<sup>34</sup> argued, the organization of artifacts—PBL cases in this instance—offers insight into basic elements of culture. Thus, my

goal was to examine the cases for insights into the culture of medical education.

As I read all the cases, I posed the general question "Is the patient the center of this case?" When I identified a case that was not patient-centered, I noted the issues that might have interfered, or even sabotaged, its patient-centeredness. Post hoc, I clustered these issues together and constantly compared them with, and considered them in the context of, the data collected through my observations and interviews, eventually developing six "themes."

The interviews and observations enriched my document analysis and enabled me to gain insight into how cases are produced, who produces them, how they are used, how students and tutors engage with them, and how the planning and delivery of PBL are socially organized.

### Observation

I observed a second-year PBL tutorial during academic year 2005–2006. My goal was to observe learners as they engaged with and worked through PBL cases. I paid particular attention to conversations about the PBL patient. I made brief notes during the tutorial; however, immediately following each tutorial, I translated these informal notes into field notes—more formal, detailed descriptions of the experiences and observations. The field notes included personal reflections that enhance interpretive and analytic processes, encouraging a new but situated appreciation and understanding of the events of the tutorial. Therefore, I did not ignore or deny strong reactions to particular events; instead, I treated these as key points of analysis, as advised by Emerson and colleagues.<sup>35</sup> However, I also took care not to judge the actions and words of tutorial participants according to personal standards and values but, rather, to focus on what the *participants* constructed as significant and important.

At the conclusion of the observation component, the data set included a set of informal notes, an electronic log of field notes, and a research journal containing my personal reflections on the events.

### Interviews

I conducted in-depth, open-ended, semistructured interviews with medical students and medical educators.

**Medical students.** I recruited medical students via an e-mail invitation. A message was sent, on my behalf, to all undergraduate medical students in years one through four at a single institution. The e-mail explained the study and the students' potential contribution to it, making clear that participation did not influence evaluation and was purely voluntary and strictly confidential. I offered no incentive or compensation for participation. I used a "convenience sampling" technique,<sup>36</sup> interviewing the first students who responded. Critics of this technique have found fault with it for lacking rigor; however, a Foucauldian position censures oversimplified notions of sample size.

To decompose the designated respondent into his or her (multiple) working subjects is to raise the possibility that any single element of a sample can expand or contract in size in the course of the interview, increasing or decreasing the sample's *n* value accordingly. Treating subject positions and their associated voices seriously, we might find that an ostensibly single interview could actually be, in practice, an interview with several subjects, whose particular identities may be only partially clear. Under the circumstances, to be satisfied that one has completed an interview with a single respondent and to code it as such because it was formally conducted with a single embodied individual is to be rather cavalier about the complications of subjectivity and of the narrative organization of sample size.<sup>37</sup>

I conducted these semistructured interviews face-to-face during a one-month period in 2007. The interviews were 45 to 75 minutes in length. All interviews were audiotape recorded and transcribed by a professional transcriptionist.

**Medical educators.** I purposely elected to interview medical educators because I was interested in speaking with people involved differently across the entire spectrum of medical education. Via e-mail I invited six physicians who were PBL tutors, and three staff members who were responsible for administering the PBL curriculum, to participate in an interview. The e-mail explained the study, including the voluntary and confidential nature of the research. Again, I offered no incentive or compensation for participation. All nine invitees agreed to participate. The face-to-face interviews took place during a

one-month period in 2007 and were 40 to 75 minutes in duration. These interviews were audiotape recorded and transcribed by a professional.

Traditionally, the interview has been considered a vehicle by which the knowledge of the interviewee passes on to the interviewer.<sup>38</sup> The two distinct parties barely interact except by means of a structured interrogation. I framed my research, however, with a postmodern construct and, thus, considered the interview to be a conversation with multiple purposes, the format of which evolved as the interview progressed.

### Discourse analysis

I analyzed the data using a Foucauldian discourse analysis approach. A Foucauldian analysis of medicine and medical education is well recognized as an effective method of critically analyzing educational processes.<sup>39–42</sup> The analysis was informed by Carabine's<sup>43</sup> description of a Foucauldian genealogical discourse analysis, which involves the following: identifying themes; looking for interrelationships; identifying discursive strategies and techniques; looking for absences and silences, resistances, and counterdiscourses; and identifying the effects of discourse.

Conducting a Foucauldian discourse analysis is not a straightforward, linear process, however. Foucauldian researchers scrutinize their data, looking for related assumptions, categories, logics, and claims—all of which are elements that constitute discourse. They also analyze the different (even competing) discourses that are present in social settings, the related social settings that may involve different discourses, the political positions of setting members within different discourses, and the discursive practices used by setting members to articulate and apply discourses to concrete issues, persons, and events.<sup>44</sup> A Foucauldian approach offered a critical and historical context from which to analyze privileged discourses, such as those of PBL and of biomedicine, and to consider how these discourses influence medical education.

## Results With Commentary

### PBL cases

I reviewed a total of 67 cases. Each case was 6 to 12 pages in length and generally

followed a prescribed format: title page, review of the PBL process, references and contact information, a few pages (3–8) of description with accompanying guiding questions, and a review of the case objectives. Each case had an accompanying guide designed to assist tutors who were not experts in the biomedical content covered.

### Observations

I conducted 26 hours of observation. The group I observed comprised seven students (five women and two men) and the PBL tutor (a man).

### Interviews

I interviewed the first five students, all women, who expressed interest in participating. I conducted nine semistructured interviews with educators. Of the nine participants, six were medical doctors who were also faculty members, and three were staff members who were not medical doctors. Five of these participants were women; four were men.

### Discourse analysis with commentary: Six ways PBL cases can sabotage patient-centered learning

[There is] so much emphasis on learning the physiology, and the pathology, and the pharmacology, that [social issues are] often forgotten, and I think it could be a strength of PBL if those kind of discussions were had.

—Fourth-year medical student

I describe six examples of how PBL cases, if not thoughtfully considered, can sabotage a patient-centered approach. The six examples derive from clustering into themes any language I identified through my discourse analysis, interviews, and observations as not patient-centered. The six "themes" or examples I present herein represent the full set of 67 cases I reviewed as well as the cases I observed during the observation component of the research.

**1. The detective case.** According to my observations of PBL tutorials, students frequently engaged playfully with the cases despite the serious health issues described therein, approaching them as they might a detective game. An educator noted that students not only enjoy approaching PBL cases as mysteries to solve but also expect a PBL case to unfold in such a manner.

Getting to the end of the case is like solving a mystery for them. And there



have been a couple of examples in years gone by where somebody, a professor, would stand up at the beginning of the week and say, “You’re going to have a case about acute appendicitis.” The students go, “Oh groan. We don’t want to know what the case is about. We want to figure that out on our own.”

—Staff medical educator

Engaging a PBL case as a detective game, however, contradicts the purpose of PBL cases commonly described in the literature, which is to simulate a real-life clinical encounter with a patient.<sup>1,2,10–13</sup> As one educator noted, although students seem to like solving puzzles, constructing the case as a mystery that can be solved rather than focusing on the patient trivializes the medical encounter.

I’ll tell them the diagnosis on the first day if they want and, especially if they get too tied up with the diagnosis. In that case, I’ll just drop the bomb and say, “Oh, well you know already that it’s whatever” and they’ll say, “Don’t tell us, don’t tell us!” and I’ll say, “I just told you—get off that topic. This is not a detective case.”

—Physician medical educator

Although having fun is recognized as an educational device that can enhance medical learning,<sup>45</sup> constructing the clinical encounter and diagnostic process as a detective game causes learners to focus on the clues, which are very often biomedical symptoms. This discursively constructs social issues—and the patient—as separate from, and unrelated to, the diagnosis even though markers of identity and determinants of health<sup>46</sup> are significant influences on the health care experience,<sup>44,46</sup> and factors that influence “illness behavior.”<sup>47</sup>

**2. The shape-shifting patient.** Some authors inadvertently write patients for PBL cases who are “shape-shifters.” Shape-shifting is a common theme in literature, mythology, and folklore, broadly referring to a transformation in the physical form or shape of a person or animal.<sup>48</sup> In the PBL cases I reviewed, shape-shifting included the physical modification of gender, race, or general appearance.

Medical educators have taken steps to be more inclusive of women patients in PBL cases; however, rather than carefully considering the complexities of health through a gender lens and developing cases that account for women’s health and the social construction of gender,

some authors used a shape-shifting technique. Cases were recycled, and men (or boy) patients were transformed into women (or girl) patients.

For example, in one case, even though a patient was a woman, possessing a biologically female body and a woman’s name (Susan), masculine pronouns from a previous enactment of the case remained throughout. Therefore, the case included such sentences as “*Susan* had a pain in *his* leg.” Although this is obviously an oversight, and most likely occurred out of good intentions to include women in the curriculum, the inclusion of shape-shifting patients is consequential.

These errors, on the surface, are attributable to insufficient editing and busy workplaces. However, the ways in which PBL is administered by the medical school can play an important, if unintentional, role in sabotaging patient-centeredness. In a medical culture that publicly subscribes to patient-centeredness, this carelessness is problematic and contradictory. The assumption that patients can be substituted one for another, man for woman, is troubling. In these cases, the patient’s biology is the primary concern and the social information, in contrast, is irrelevant—anybody will do. The patient in a PBL case is someone who can, without any consequences, shift shapes to be whoever the institution needs her or him to be.

**3. The voiceless PBL person.** PBL people—patients, physicians, family members, and others—rarely have a voice. Of 67 reviewed cases, I identified only 15 in which a PBL person spoke. In 13 of these 15 examples, the person spoke only one or two words to describe a symptom. Of the 15 cases that included participants’ voices, only 2 included more than one sentence spoken by a PBL person. In all instances, the person speaking was the patient or, in cases of babies or infants, a parent. I found no examples of physicians or other health care professionals speaking in the cases I reviewed.

In 67 cases, there were zero examples of dialogue (e.g., between the patient and physician, among contributing physicians, among physicians and other health care professionals, or between the physician and family members). Stated simply, in the

reviewed cases, no one speaks to, or consults with, anyone at any time.

In addition to PBL people who do not speak, the cases I reviewed were largely written in a passive voice; for example, “an uneventful ultrasound was performed.” This practice constructs the patient as even more invisible with respect to his or her input, decisions, and feelings.<sup>1</sup> As Anspach<sup>49(p367)</sup> originally noted, “Using the passive voice while omitting the observer seems to imbue what is being observed with an unequivocal, authoritative factual status.”

If simulating “real life clinical encounters” is one of the primary reasons for using a problem-based approach in medical education,<sup>10</sup> then rarely or never hearing a patient speak represents an interesting version of reality for the learners—one in which they hear only the voice of the medical establishment. The cross-cultural and interactive components of care, in their infinite complexity, are glossed over.

**4. The joke name.** Using humor is a long-standing tradition in medical education.<sup>25</sup> Building on this historical practice, humor was apparent, particularly with respect to naming the people in PBL cases. Table 1 provides 10 examples.

I identified a spectrum of names, ranging from privileged to neutral to derogatory. The names that were less derogatory, or even denoted privilege (i.e., Dr. J.F. Kennedy), were given to physicians and medical personnel. In some instances, health professionals were named to make an obvious play on words related to the person’s workplace function (i.e., nephrologist Dr. I.P. Freely) rather than to underscore the socially constructed privilege or power affiliated with her or his professional role.

Alternatively, authors tended to assign derogatory joke names (i.e., I.M. Dim-Witted) to patients. This tendency was particularly apparent with respect to overweight, working-class, or lower-middle-class men who were smokers and/or men who had alcohol addictions. Such patients were frequently written through discourses of self-abuse (e.g., a patient “refuses to enter a treatment program” despite the physician’s advice because “he doesn’t think he has a problem”), perhaps reinforcing that these PBL patients, by way of their unhealthy

Table 1

**Names and Roles of People in 67 Problem-Based Learning (PBL) Cases From the 2005–2006 Academic Year at One Medical School**

Name	Role in the PBL case
B. Transparent	An ultrasonographer
Fuming Larry	An overweight smoker and drinker who does not follow directions
Massey Ferguson (Brand name of heavy equipment)	An overweight farmer who smokes
I.M. Dim-Witted	An overweight, working-class man who smokes and drinks
I.P. Freely	A nephrologist
J.F. Kennedy	A physician
Jack Daniels (Brand name of an alcoholic beverage)	A patient who is an alcoholic
Ms. Jittery	A mother who is anxious
Roger Suicide-Wish	A man who drinks alcohol and drives
Suzie Fusspot	A girl who is anxious about going to school

lifestyles, lack of control, and dismissal of the advice of physicians, have earned their poor health.

PBL patients were also frequently named for their condition or disease (e.g., a patient who is an alcoholic is named Jack Daniels, a brand name of a type of alcoholic beverage), reinforcing the notion that a patient is *only* his or her condition. In assigning such a joke name, there is a risk that a PBL patient is constructed as nothing more than a list of symptoms and a means of comic relief. Through joke naming, students are taught that the patient need not be taken seriously. One third-year medical student commented on the names assigned to patients:

Ridiculous names ... kind of belittled the representation of the person, you think of them as ... characters, you know what I mean? You don't really feel a lot for, kind of a ridiculous character that's in a comedy.

—Third-year medical student

This naming is significant because, as Rolling<sup>50</sup> explained,

Within so certain a discourse, names are true; they are logical abstractions based on undistorted evidence. They are fixed representative models, reductive discourses. They are maps through which bodies are located and named or enumerated with certainty.

Thus, the naming of people in PBL is a noteworthy practice of power activated by case authors—who are almost always physicians and physician educators.

If PBL cases, and the construction of patients within them, teach medical students about the place of the patient in

the medical institution, then PBL joke names may reinforce the notion that patients “get what they deserve” and that a patient is *only* her or his condition. Students may learn that patients are jokes who do not need to be taken seriously.

**5. The disembodied PBL person.** The representation of people—both patients and health care professionals—in PBL cases is very limited with respect to any social factors, including social class, gender identity, ethnicity, age, place, health and development, material and cultural factors, psychosocial factors, social support, life events, and life course. This lack of detail may lead students and other readers of the cases to make assumptions about who the patient is (or who any other PBL person is) based on what is socially constructed as “normal.” As one educator noted, “Not all PBL cases can be about black, one-armed lesbians from Portugal, because that simply isn't realistic.” In other words, realistically, not even the totality of PBL cases can cover all the exceptionalities and particulars of every possible patient, but, seemingly, *none* of the cases provide such details. What, then, is realistic or normal in PBL cases? In the cases I reviewed, including very little social context was the norm.

Parallels exist between a typical patient in a PBL case and Acker's<sup>51</sup> “disembodied worker” in organizational logic. Acker wrote that “in organizational logic, filling the abstract job is a disembodied worker who exists only for the work. Such a hypothetical worker cannot have other imperatives of existence that impinge

upon the job.” The PBL patient also has an explicit job: teaching learners. The disembodied patient has little (or no) social context and no emotions. In other words, nothing can impinge on or interfere with the ability of the PBL patient to do his or her job of teaching learners to be biomedically competent.

Most authors choose to write PBL patients as strictly biomedical constructions—a body to which only physiological details and symptoms are attached. Social complexities are rendered invisible so that the PBL patient, a disembodied worker, can efficiently do the job of teaching medical students about what matters most in medicine (i.e., biomedical information) and what can be overlooked (i.e., social issues).

**6. The stereotypical PBL person.** Social information is not completely absent from cases; however, where detail is provided, it frequently falls within the domain of stereotyping with respect to race, gender, and social class.

*Race.* Race was mentioned explicitly in only 6 of the 67 cases. In 3 of these 6 examples, the race provided was “Caucasian.” Two cases specified that the patient was of Asian descent. A person of African descent was identified in only one case, which focused on sickle cell anemia, a genetic blood disorder seen most commonly in black people.<sup>52</sup>

Such constructions of race in PBL cases led to the assumption among student participants that if race information was provided, it was because it is a risk factor for a particular illness:

[Race] comes up ... with risk factors ... an African American woman who has sickle cell anemia, and just that association, because it's just one of the risk factors.

—Fourth-year medical student

Further, a student noted that a case involving people of Asian descent was focused on tuberculosis (TB), a bacterial infection that is more common among people who are Asian.<sup>53</sup>

The person was Vietnamese, so it's going to be TB, you know? We're prompted to think that only Vietnamese get it, which is misleading.

—Third-year medical student

The Asian TB patient, the black sickle cell patient, and other common

representations have become regular “learning tools” in medical education, as described by Kai et al<sup>54</sup>:

The experience of most students was that their training in relation to multicultural issues was likely to be inadequate. Teaching (and clinicians’ expectations of their competencies) emphasized ethnic differences in disease prevalence, for example sickle-cell anaemia among African-Caribbeans, Tay-Sachs disease in some groups of Jews, and TB in South Asians. A typical comment was: “Just think of TB and Asians’, that’s all I ever hear.”

This common construction from general medical education curricula has infiltrated PBL. Representations of race in cases are frequently directly linked to biomedical risk factors. The social complexities of race, however, are rendered invisible. The social determinants of health associated with issues of race (e.g., the additional health risks associated with being marginalized, stigmatized, and not having access to culturally appropriate health care and services) are not generally discussed, leading to the understanding that the race of a patient need not be considered unless testing for specific, race-related diseases. Yet, as Nuñez<sup>55</sup> described, making assumptions about a person’s condition based on her or his race leads to missed diagnoses and medical errors.

*Gender.* Although every PBL case identifies each patient’s biological sex, social relations of gender<sup>56</sup> are not a consideration in the cases I reviewed, even though gender is a well-recognized determinant of health. (Health issues related to gender-based social roles include the different opportunities and resources available to each gender, the different decision-making processes of women and men, the unique health risks that members of each gender face, and the differences in access to health information, care, and services between the genders.<sup>57</sup>) Phillips<sup>58</sup> noted:

The interactive, learner-directed model of problem-based learning is the hallmark of innovative medical pedagogy. However, within the content of the problems used, gender bias, including the traditional medical view of male as norm, female as other, can be insidiously reinforced. In many of the problems reviewed these stereotypes are the background “factual” material. They are there, but hidden, presented as the way things are.

Women patients in the PBL cases I reviewed were commonly mothers or

caregivers. As Phillips<sup>58(p498)</sup> noted, “The stereotypic, though perhaps all-too-real, role of women as responsible for parenting, and for the emotional ‘work’ in relationships, is reflected in ... PBL stories.” Women were also the only PBL people who ever became upset, being described as “tearful,” “feeling ugly,” and “worried that my boyfriend will cheat on me.” Men, on the other hand, were often reckless with respect to their health, frequently disregarding physicians’ recommendations and continuing with risky behavior. They were, in contrast to the women included, stoic, never becoming upset. Phillips<sup>58</sup> reported similar findings: “Generally, the men in the scenarios have no feelings, or develop anger and depression only in response to their illnesses.”

The synopsis of the role of women and men in PBL cases is noteworthy. PBL cases can, and do, effectively and implicitly reinforce gender stereotypes. There has been a significant move in medical education in recent years to be more inclusive with respect to issues of gender and equity.<sup>59</sup> Yet, the PBL case continues to be a site at which a binary gendered construction is reinforced.

*Social class.* Social class stereotypes were among the most common I identified in the cases reviewed. Of the 67 cases, 11 focused on working-class men who were overweight, smoked, and were addicted to alcohol. Generally, these patients did not follow the doctor’s advice, and, as a result, several died. These working-class men were also the patients most frequently assigned a “joke name,” as previously described, which reinforced the notion that working-class patients are uncooperative and do not follow doctors’ orders. The patients who could be considered middle or upper class, in contrast, were frequently more successful, managing to quit smoking and make lifestyle changes. These patients were thus discursively constructed as more “compliant” and hence more pleasing.

Beagan<sup>60</sup> noted that “health professionals often have considerable difficulty in understanding the assumptions, norms and values, and realities of low-income patients, resulting in significant miscommunication, which exacerbates health disparities between social groups.”

The PBL cases I reviewed did little to further understanding and communication or to end the inequality between members of higher and lower socioeconomic classes.

Further, as Beagan<sup>60</sup> observed, such representations can be upsetting to medical students, particularly those from working-class backgrounds:

Students also suggested that the cases used for tutorial learning—while intended to be inclusive and to reflect a diverse patient population—entrenched stereotypes about people living in poverty, always depicting them as drug-addicted, alcoholic or smokers. Students felt angry and defensive when patients depicted negatively could easily have been their family members.

Presenting PBL patients stereotypically with respect to race, gender, and social class has consequences. In the cases I reviewed, a range of patients was included—arguably, with the good intention of representing a diverse population and presenting a patient-focused, rather than disease-focused, model. Yet, PBL patients were constructed as knowable and predictable based on social markers of identity, leading to the possible assumption that black patients, women patients, and patients from a lower socioeconomic class, for example, can be expected to behave in particular ways based solely on their race, gender, and social class, respectively.

## Discussion

Rather than social human beings experiencing illness, PBL patients often serve as devices designed to teach biomedical information and clinical skills and to socialize students into the culture of medicine.<sup>1</sup> Therefore, although every PBL case includes a patient “character,” she or he is frequently removed from the clinical encounter and replaced with a list of symptoms that has a name (i.e., “Jane Smith, 34, chronic headache”). Despite claims that PBL is a patient-centered, rather than disease-centered, pedagogy,<sup>6</sup> both students and educators were aware that the patient was not the focus of most PBL cases. A first-year student observed, for example, “a tendency among my classmates to kind of forget about the person, forget about the patient.”



Similarly, a second-year student commented:

The cases were basically just there to name-drop drugs, and that was the focus, learning about the drugs. So the cases were almost inconsequential. They could have just given us a drug list.

Kenny and Beagan<sup>1(p38)</sup> noted that a PBL case “conveys attitudes, values, and assumptions that help to socialize new members into the professional culture of medicine.” The discursive elimination of the patient constructs the clinical encounter as a medicalized event, in which the patient could be replaced by any other patient and the physician would proceed in the same manner, as though social considerations did not count.

Eliminating patients from the PBL clinical encounter and replacing them with lists of symptoms serves to discursively construct the patient and her or his social considerations as unimportant and even negligible. If we, as medical educators, are committed to patient-centeredness, then being thoughtful about the role patients play in PBL cases is an essential step.

The patients in the PBL cases I reviewed were rarely seen or heard; they were more often lists of biomedical symptoms and test results. Sometimes they were the objects of derogatory humor, and sometimes they were disembodied workers with the job of professionalizing learners into the culture of medicine. Nonetheless, I want to conclude this report on a note of possibility: Yamada and Maskarinec<sup>14</sup> noted:

For students to become adept at caring for patients, they must learn to focus on more than gathering the relevant biomedical information. They must also listen to patients’ stories and place them within larger social contexts. To accomplish this successfully requires fluency in language games other than that of biomedicine, and we assert that PBL is a medium with *potential* to accommodate a wider view of medicine that includes “existential concerns and humane values, as well as . . . social commitments.” [Emphasis added]

### PBL going forward

Indeed, PBL cases do have the potential to be the basis of critical discussion and patient-centered education rather than “a linear categorization of obstacles”<sup>61</sup> that students must overcome or “solve.” The narrative form means that patient-

centered, richly complex and thought-provoking cases could be written and implemented. Composing and incorporating such cases will require commitment from the educational institution; however, the commitment need not be material- or resource-intensive. As Stephenson and colleagues<sup>6</sup> wrote, “Rather, professional development could require a change in focus that would in turn lead to *different* priorities for *existing* resources” [emphasis added].

Changing focus will require paying careful attention to writing, implementing, and using PBL cases, particularly with respect to the patients (but to the physicians, family members, and other health professionals as well) portrayed therein. PBL cases are important vehicles of professionalization<sup>1,62</sup> and should be conceptualized as more than a method of imparting scientific knowledge.

The PBL case-writing process would benefit from collaboration. The current focus on the clinical and the biomedical in the cases I reviewed has led to one-dimensional cases in which the patient becomes secondary to the clinical data. PBL cases that are patient-centered might best be developed by expanding the authorship to include other perspectives and other types of expertise.<sup>62</sup> Authors could include, for example, social scientists with insight into issues of culture, equity, and diversity; patients (and members of their support networks) who are currently facing a situation similar to the one in the relevant case; and storytellers who are able to help construct the case in a narrative form.

### Limitations

Certain limitations apply to this study. The study was conducted at one geographic location. Further, I interviewed a small number of both medical students and medical educators. Therefore, the results of the study are not intended to be generalized but, rather, to provoke thought.

### Conclusions

If we as medical educators are committed to patient-centeredness in our educational processes, then considering the patient and his or her portrayal in PBL cases is an important step forward. Increasing the patient-centeredness of cases does not mean eliminating the

biomedical, the scientific, or the clinical. Quite the contrary—If PBL cases represent the complexities of real-life medical practice, then surely such issues are critical; however, multiple and competing storylines are at work in any given clinical situation. PBL cases, if they are in any way to approach the complexities of medical practice or reflect the values of PCC, should reflect the intersecting, overlapping, and interwoven discourses that construct a patient’s experience of illness. As Hafferty<sup>63(p406)</sup> wrote, “Create structures that allow individuals to reflect on the larger structural picture of which they are a part.”

*Acknowledgments:* The author thanks Dr. Blye Frank, Dalhousie University in Halifax, Nova Scotia, Canada, and Dr. Sue Shore, University of South Australia in Adelaide, Australia, for their feedback and support.

*Funding/Support:* This study was funded by the Nova Scotia Health Research Foundation, Halifax, Nova Scotia, Canada.

*Other disclosures:* None.

*Ethical approval:* Ethical approval was gained by the human research ethics committee (HREC) of the University of South Australia and the social science and humanities research ethics board of Dalhousie University.

*Previous presentations:* The article is based on the author’s doctoral dissertation, “Problem-Based Learning and the Social: A Feminist Poststructural Investigation,” submitted to the University of South Australia in August 2008.

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