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Following the Clues: Teaching Medical Students to Explore Patients' Contexts

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Abstract

Objective—Physicians often overlook important contextual clues that patients give during an encounter. The objective of our study was to increase medical students' knowledge and skills in identifying contextual issues.

Methods—Six consecutive learning experiences, including a standardized patient (SP) encounter and activities designed to trigger reflection, were implemented within a first year Introduction to Clinical Medicine course. Evaluation of the intervention was measured through self-confidence, attitudes, SP history checklist, and student and small group facilitator evaluations.

Results—Standardized patient encounters, coupled with activities designed to trigger reflection, can help students identify patients' contextual clues. Students' confidence in eliciting patient clues significantly increased after the intervention. Our results suggest that some contextual clues were more difficult for students to elicit.

Conclusion—Multi-faceted approaches that include activities to trigger reflection are effective in teaching students to recognize and respond to contextual clues, however, more research is needed.

Practice Implications—While students elicited most clues in this study, they struggled with identifying some clues. These results suggest the need for additional research and educational development in this area.

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1. Introduction

Knowledge of a patient's contextual circumstances, such as responsibilities at home, work or school, beliefs and values, medical history, and health concerns, is important for improving patient outcomes [1,2,3,4]. However, gaining insight into a patient's contextual circumstance can be challenging for physicians. Prior research has shown that rather than stating contextual issues explicitly, patients often communicate through "clues," or hints that offer insight into feelings and unresolved concerns [5,6]. Patients may provide clues verbally or non-verbally (e.g., through direct expression or body language), by attempting to explain their illness (e.g., suggesting their perception of the cause of their disease), providing speech clues (e.g., repeating an idea), sharing personal stories, or providing other behavioral clues (e.g., expressing reluctance to accept diagnostic or treatment options) [6].

Because "contextual clues" are usually provided indirectly, physicians often overlook the clues that patients give [5]. In fact, surgeons and primary care physicians positively responded to emotional clues only 38% and 21% of the time, respectively. Given these prior findings, we designed an educational intervention, "Context and Healing," to increase medical students' knowledge and skills in identifying contextual issues that impact clinical outcomes. The evaluation of the intervention is presented here.

2. Methods

2.1 Intervention

In the spring 2009 semester of an Introduction to Clinical Medicine course, first-year students were given the opportunity to gain knowledge and skills in recognizing patient's contextual issues through six consecutive activities of the "Context and Healing" intervention: 1) an assignment to review an on-line instructional module [7], 2) an interactive large group activity, 3) a standardized patient (SP) encounter, 4) a modified stimulated recall video review of the encounter by the student and SP to denote clues given by SPs and responses of the student, 5) a review of the merged SP and student bookmarks with a reflective writing exercise, and 6) a small group discussion of the entire intervention with emphasis on the SP encounter and video review. Three activities were designed to trigger student reflection [8], specifically: the stimulated recall video review, the review of the merged SP and student bookmarks, and the small group discussion. We discuss the six experiences in more detail below.

2.1.1 Assignment and Large Group Activity—Overall objectives for the intervention were provided to students electronically. The overall objectives expected of the students included: 1) Identify patient clues (both verbal and nonverbal) that can signify important contextual information, 2) Reflect on your ability to identify patient clues, 3) Recognize the importance of contextual issues in communicating across cultures, and 4) Articulate an understanding of the role of contextual issues in clinical care

The intervention started with an assignment to review an online instructional module from a widely available online resource devoted to patient-physician communication [7]. This was followed by a large-group activity that included A video review of the *World's Apart* © *Alicia Mercado* video case as well as a team-based learning activity. *Alicia Mercado* is a patient with poorly controlled diabetes mellitus, and her interaction with her doctor contains multiple contextual clues that relate to her health outcomes. These include economic concerns, treatment beliefs, and cultural concerns.

2.1.2 Standardized patient encounter—Following the video and team-based learning activity, each student conducted a 15-minute history with a standardized patient who was

trained to portray clues related to three embedded contextual issues in a follow up visit for headache and hypertension. The contextual issues were *Beliefs about treatment*, *Stressful environment*, and *Fear of what the symptoms mean*. Each contextual issue was paired with a unique communicative non-verbal or verbal clue. Each SP completed a history checklist at the end of each encounter.

The SP case was created by a skilled SP case writer (SMS). The case was vetted by an SP director and medical education evaluator/researcher (BMT), a community psychologist and medical education researcher (CRT), a general internist and medical education researcher (PH), a SP manager (SNM), a SP trainer (EG), and a health services research associate (RS) through three iterations of revision and review. The case synopsis that students were provided was the following:

Janet Li is a middle-aged patient who is suffering from headaches. About 1 month ago, she went to the emergency department because of her headaches and was diagnosed with hypertension. At that time, she was given medication for her hypertension. Today she has come to the private practice clinic for follow-up due to her continued severe headaches.

In addition to having a biomedical diagnosis of hypertension, Mrs. Li also had three contextual issues which could influence her health outcomes. APPENDIX 1 provides an overview of those contextual issues as well as how the issues link to clinical effectiveness.

SPs were trained to portray the case through multiple methods and two different sessions. SPs were expected to learn the script before the first training session. To begin the first training session, SPs were given an overview regarding contextual errors and patient clues. The *Worlds Apart* video of Justine Chritsen was then used as a training tool to help SPs identify clues (both verbal and nonverbal) that the patient gave and how the doctor picked up (or not) on the clues. The group then reviewed the SP case along with how to give contextual clues. The facilitators (PH and SMS) role played the case and the SPs were provided time to role play while trained facilitators observed (PH, SMS, BMT, SNM) and provided feedback. During the second session, SPs were given instructions on bookmarking and were provided time to practice.

2.1.3 Stimulated recall video review—After the encounter, SPs and students participated in a modified stimulated recall exercise [9]. Each separately reviewed the videoed encounter using a widely available standardized patient software package (WebSP, Lionis Software, Hungary). The SPs placed electronic “bookmarks” on each instance that they provided a clue to the student and also specified which contextual area it pertained. Similarly, each student reviewed the videoed encounter and “bookmarked” each instance when he/she thought a contextual clue was being given by the SP and whether or not he/she (the student) followed-up on the clue.

2.1.4 Review of the merged student and SP bookmarks—We then electronically merged the bookmarks from the SP and student within a single video. Students were then asked to re-review the combined bookmarked video encounter and complete a short reflective writing assignment by answering three questions: 1) How well did you pick up the patient clues during this encounter that could signify important contextual information? 2) What kinds of clues did you tend to pick up on? 3) What kinds of clues did you tend to miss? Students were also asked to identify a 30 second to 1 minute-long exemplar moment (either good or poor, from the student’s perspective) that they wanted to share during their small group discussion. **2.1.5 Small group discussion** Volunteer students in each group showed the video segment of his/her exemplar moment during the small group discussion. The small groups, which had been meeting together bi-weekly for the previous six months

as part of ongoing coursework, were facilitated by 1–2 MD faculty member(s). The facilitators then revealed the three contextual issues of the patient and discussed potential clinical outcomes associated with them (Appendix 1).

2.2 Evaluation of the Intervention

2.2.1 Attitudes and Confidence—Immediately before the SP encounter (but after the assignment and large group activity), students were instructed to fill out a five-item questionnaire regarding their attitudes towards and confidence in identifying and responding to contextual clues given by SPS (see Table 1). The four attitudinal items were rated on a 7-point Likert scale (Strongly disagree=1, Strongly agree=7). The confidence item was rated on a 7-point scale (Not very confident=1, Extremely confident=7).

2.2.2 Contextual history checklist—SPs filled out a history checklist with 9 closed-ended items on a 3-point scale (fully elicited, partially elicited, did not elicit). Two authors (CRT and RS) created the 9 items, 1 addressing the biomedical symptoms of the headache, 3 addressing the SP's "*Beliefs about treatment*", and 4 addressing the SP's "*Stressful Environment*". One item addressed the SP's "*Fear of what the symptoms mean*". For data analysis, we dichotomized the scale by collapsing "fully elicited" and "partially elicited" into "elicited"

To provide evidence of construct validity, we performed exploratory factor analysis. We noted 2 factors: 1 factor had 3 items that addressed *Beliefs about Treatment*; the other factor had 4 items that addressed the psychosocial issues of *Stressful Environment*. As expected, the overall item, "Elicited the overall symptoms of my headache", factored on both scales. The item "Elicited my belief that my headaches were related to a 'weak mind'/Alzheimer's" did not factor on either scale.

2.2.3 Program evaluation—After the intervention, students were asked to evaluate the effectiveness of each activity for improving their ability to identify patient clues on a 7-point Likert scale (Strongly Disagree=1, Strongly Agree=7). They were also asked how prepared their facilitator was to lead the small group discussion (Strongly Disagree=1, Strongly Agree=7). In addition, facilitators were asked to select the two activities that: 1) generated the most discussion within the small group, and 2) generated the most insight for the students. They were also asked two open-ended questions: "Describe the strengths of this activity for generating insight about the relevance of context in the medical encounter," and "Describe the weaknesses of the activity for generating insight about the about the relevance of context in the medical encounter."

Approval for the study was obtained from the Baylor College of Medicine institutional review board.

2.3 Data Analyses

Descriptive (mean, median, standard deviation, percent) and inferential statistics were used to analyze data from the close-ended items. To determine changes in attitudes and confidence before the SP encounter and after the small group session, we used parametric tests, or non-parametric tests when data violated statistical assumptions (e.g. normal distribution). We set our alpha at .05 and calculated effect size, or educational significance, using eta squared [10]. Following published recommendations, we set educational significance at $\eta^2 \geq 0.16$. We used SPSS 17.0 to conduct our analyses. To analyze qualitative data from the open-ended questions on the facilitator questionnaire, the constant comparative method was used [11]. Units of information were coded into categories, and categories were then transformed into themes.

3. Results

3.1 Participants

All (n=171) first-year medical students at Baylor College of Medicine participated in the “Context and Healing” activities; however, only 166 (RR=97.1%) of the students had complete data. Students with complete data were of Asian (n=66, 39.8%), White (n=53, 31.9%), or Latino (n=22, 13.3%) descent, with the remaining being either African American/Black, American Indian, or unreported. The gender of the participants was almost evenly divided (female = 47%). The demographics of the participants reflected this class and the typical student body at our medical school.

Twenty-two small-group leaders facilitated 19 groups, with 1–2 leaders per group. These faculty represented 6 specialties (Family Medicine, Genetics, Pediatrics, Medicine, Ob/Gyn, and Physical Medicine and Rehabilitation); 18 had been small group facilitators for the Introduction to Clinical Medicine course in prior years. When asked to rate their skill in facilitating the small group discussion about relevance of context in the medical encounter, most felt skilled (M=5.56, Md=6, SD=1.07 on a 7-point scale). Coinciding with the facilitator self-ratings, students agreed or strongly agreed that their facilitator had effectively guided the small group discussion (M=5.39, Md=6, SD=1.43 on a 7-point scale) and that the members of their group were engaged during the small group discussion (M=5.05, Md=5, SD=1.45).

Six middle-aged (M=52 years, Range=38–66) female Caucasian standardized patients participated in this study. All were women; most had been standardized patients for five years or more.

3.2 Process and Outcome Evaluation of “Context and Healing”

3.2.1 Process Evaluation—Overall, students agreed or strongly agreed that the “Context and Healing” experience was effective for improving their ability to identify patient clues (M=5.05, Md=5.5, SD=1.54) and for engaging them to reflect on the relevance of context in the medical encounter (M=5.29, Md=6, SD=1.36). Students reported that the most effective activity for improving their ability to identify patient clues was the SP encounter and the stimulated recall video review of the SP encounter. Students rated reviewing the online instructional module and the short reflective writing activity as least effective for improving their ability (Table 2).

Students were asked to rate how each of the three activities designed to trigger reflection engaged them to reflect on the importance of context in the medical encounter. The students indicated that the stimulated recall video review of their SP encounter was the most effective (M=5.13, Md=6, SD=1.60), followed by the small group discussion (M=4.88, Md=5, SD=1.50) and the review of the merged SP bookmarks (M=4.50, Md=5, SD=1.75). Students felt that “Context and Healing” activities were effective overall in promoting reflection on the relevance of context in the medical encounter (M=5.29, Md=6, SD=1.36).

Facilitators were asked to select the top two activities that had: (1) generated the most discussion and (2) generated the most insight for the students. We also asked facilitators to comment on the strengths and weaknesses of the intervention via two open-ended questions. Similar to the students, the facilitators indicated that the stimulated recall video review of the SP encounter video (n=11), the SP encounter itself (n=10), and the large group Context and Healing session (n=9) had generated the most discussion. The facilitators also felt that these same experiences had generated the most insight for students, with stimulated recall video review chosen most often (n=12), followed by the SP encounter (n=11), and large group session (n=4).

Facilitator open-ended comments (n=14) regarding the strengths of the intervention indicated that the intervention was effective in helping to improve students' abilities to communicate more effectively during a patient encounter by listening to the patient,

...It really made the students think about how contextual information changed the way they would communicate with the patient and come up with a treatment plan. It allowed them to view their own interactions after the fact. The students were able to practice eliciting contextual information without [having to worry about] the goal of treating a medical problem.

The remaining comments (n=5) indicated that this activity encouraged discussion and reflection among the group. One facilitator wrote:

Each of the students participated; I asked each of them to present their video. They learned from each other, and were quite open and forthcoming with one another in class about their experiences: what they felt, what they wish they would have done. The question that seemed to evoke the most conversation...was "What would you do differently if you could do this again?"

Facilitators also provided feedback on the weaknesses of the intervention. Codings (n=14) generally fell into one of four categories: discounting the activity (n=6), unclear goals for the activity (n=4), technical difficulties (n=2), and limited exposure (n=2). Facilitators wrote that the SP encounters were "*too predetermined. Knowing that they [students] are looking for clues changes the context of the visit.*" Others indicated "*it was sometimes hard for students to appreciate what the SP was referring to in a particular bookmark why it was important enough for the SP to choose, or what the specific moment was at the particular bookmark.*" Four comments indicated that the goals of the activity had not been well-defined:

The information that the students were given beforehand was confusing: they felt that they did not have enough time to prepare and/or understand what they were supposed to be doing. The confusion made it difficult for the students to understand that they were supposed to be gathering contextual information and not clinical information.

Two facilitators commented on technical difficulties such as non-working audio or video during the small group session, and two facilitators thought that a single encounter with the SP was a limitation: "...*only one encounter was performed, would have been better [to have] 2 or even 3.*"

3.2.2 Outcome Evaluation—We were not only interested in evaluating process measures, but in measuring the outcomes of our intervention. Students were asked four attitudinal items to assess their beliefs about the impact of context within the medical encounter. Before the encounter, students felt that context was important, with an average mean rating of 6.6 and a median rating of 7.0 (Table 1). We noted no significant change at the conclusion of the intervention. Students were also asked to rate their confidence in picking up on patient's contextual concerns. Before the SP session, students' mean ratings were 4.76 (Md=5, SD=1.05), while they reported a statistically significant increase in their confidence after the intervention (M=5.30, Md=5, SD=1.12, $p<.001$, $\eta^2=0.23$).

3.3 Contextual History

On average, most (85%) clues were elicited by students. Students elicited 89.4% and 81.8% of the items within *Beliefs about treatment* and *Stressful environment*, respectively. All but 6 – 8 students identified at least one *Beliefs about treatment* and *Stressful environment* clue. However, only 64.5% of the students "Elicited that my relationship with my husband is

strained”, and little more than half (60.5%) “Elicited my belief that my headaches were related to a ‘weak mind’/Alzheimer’s”) (Table 3).

We hypothesized that students who elicited the history clues from one contextual theme would be more likely to elicit the clues from the other contextual themes. Interestingly, we found no statistically significant correlations between themes. Correlation coefficients ranged from positive ($r=0.04$) to negative ($r=-0.12$). In addition, students missing all clues within one contextual theme tended to elicit clues within the other themes.

4. Discussion and Conclusion

4.1. Discussion

Multi-faceted approaches are effective in teaching students to recognize and respond to contextual clues. Training that includes reflection “triggers” such as stimulated recall video review of an SP encounter or small group discussion are important to the overall experience. [8] Students in our study indicated that the SP encounter, stimulated recall video review, and small group discussion had improved their ability to identify patient clues. Small group facilitators also indicated that the stimulated recall video review and SP encounter had generated the most discussion and insight during the small group session. Open-ended comments from the facilitators indicated that these activities had not only provided the opportunity for students to increase their ability to identify patient contextual clues, but also provided a basis for discussion during the small groups. To address difficulties with reviewing the merged bookmarks and completing the short reflective writing activity, we recently modified the SP bookmarking protocol to specifically address how and when to bookmark a clue or cue.

Students’ confidence, or self-efficacy, in their ability to elicit patient clues significantly increased after our multi-faceted intervention. While students’ attitudes towards the importance of context were initially high and remained high after the intervention, our data indicated that students’ self-efficacy increased. Studies in health behavior indicate that self-efficacy is a predictor of behavioral change [12]. Although we do not have data regarding behavior changes, these results provide positive initial outcomes.

Although students elicited most of the contextual clues, some clues were more elusive. These results may be due to factors such as timing, student ability, or SP standardization. Students may have run out of time during the encounter to fully elicit all clues. Alternatively, some clues may have been more difficult for students to pick-up (or follow-up on) than others, either because of the clue itself (e.g., verbal, non-verbal, affective clue) or the contextual area (e.g., beliefs, stress, fear). Although several researchers [5,6] have studied the types of clues that patients give, little is known regarding why some clues are elicited more readily by physicians than others. Finally, perhaps our results reflect variability in the SPs such as the number of clues they provided, the order in which they provided the clues, or their portrayal of the clues. We are using these findings to modify our sp training protocol to better understand these results.

A limitation of our study is that we were unable to assess students’ attitudes or self-efficacy prior to the assignment or large group activity, potentially confounding our initial attitude and self-confidence ratings. Additionally, while our results suggest that our intervention was effective in helping first year medical students elicit and respond to contextual clues, our results may not be generalizable to other learners, such as more senior medical students.

4.2. Conclusion

Multi-faceted approaches that include standardized patient encounters and opportunities for reflection allow students to identify patients' contextual clues. Our results suggest that students' elicit on some contextual clues more readily than others, and that there is little relationship between the ones that they elicit. Additional research is needed to determine the reasons for these findings, such as timing, student ability, or SP standardization.

4.3 Practice Implications

While students elicited most of the patient contextual clues in this study, our results indicated that they struggled with identifying some of the clues and reflecting on the merged bookmarking data. These results suggest the need for additional research and educational development in these areas. In addition, it is important to continue to standardize SPs' portrayal of contextual clues and their bookmarking of the clues.

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References

- Haidet P, Paterniti DA. "Building" a history rather than "Taking" one: A perspective on information sharing during the medical interview. *Arch Intern Med* 2003;163:1134–1140. [PubMed: 12767949]
- Weiner SJ. Contextualizing medical decisions to individualize care: Lessons from the qualitative sciences. *J Gen Intern Med* 2004;19:281–285. [PubMed: 15009785]
- Weiner SJ, Barnet B, Cheng TL, Daaleman TP. Processes for effective communication in primary care. *Ann Intern Med* 2005;142:709–714. [PubMed: 15838090]
- Weiner SJ, Schwartz A, Yudkowsky R, Schiff GD, Weaver FM, Goldberg J, Weiss KB. Evaluating physician performance at individualizing care: A pilot study tracking contextual errors in medical decision making. *Med Decis Making* 2007;27:726–734. [PubMed: 17898243]
- Levinson W, Gorawara-Bhat R, Lamb J. A study of patient clues and physician responses in primary care and surgical settings. *JAMA* 2000;284:1021–1027. [PubMed: 10944650]
- Lang F, Floyd MR, Beine KL. Clues to patients' explanations and concerns about their illness: A call for active listening. *Arch Fam Med* 2000;9:222–227. [PubMed: 10728107]
- Chou, C.; Pearlman, E.; Risdon, R. Understanding difference and diversity in the medical encounter: Communication Across Cultures. doc.com An interactive learning resource for healthcare communication. Novack, DH.; Clark, WD.; Saizow, RB.; Daetwyler, C., editors. *Academy on Communication in Healthcare/Drexel University College of Medicine*; 2005 [Accessed (3/27/2010)]. <http://www.AACHonline.org>
- Thompson BM, Teal CR, Rogers JC, Paterniti DA, Haidet P. Ideals, Activities, Dissonance, and Processing: A Conceptual Model to Guide Educators' Efforts to Stimulate Student Reflection. *Acad Med* 2010;85(5):902–908. [PubMed: 20520048]
- Zick A, Granieri M, Makoul G. First-year medical students' assessment of their own communication skills: A video-based, open-ended approach. *Patient Edu Counsel* 2007;68:161–166.
- Kline, RB. Beyond significance testing: Reforming data analysis methods in behavioral research. Washington, DC: American Psychological Association; 2004.
- Merriam, SB. Qualitative research and case study applications in education. San Francisco: Jossey-Bass; 2001.

12. Conner, M.; Norman, PM., editors. Predicting Health Behaviour: Research and Practice with Social Cognition Models. 2. Maidenhead, England: Open University Press; 2005.

Appendix 1: Janet Li's History: Critical Contextual Information

There are three pieces of contextual information that are important to the care of Janet Li. While these pieces of information may not be necessary for figuring out the 'correct' diagnosis for Janet's headaches, they are necessary for ensuring maximum clinical effectiveness in relieving Janet's headaches and ensuring her continued health. A physician's ability to get Janet to tell this contextual information is directly related to the communication processes that occur between Janet and the physician. Remember, like all patients, Janet will tend to have her own internal 'filters' that she applies to what she tells the physician (and that will often inhibit the telling of contextual information), and these filters are often either strengthened or alleviated by the physician's attention to and ability to deal with the verbal and nonverbal 'clues' that are present in Janet's communications.

Contextual Theme #1: Skepticism Toward Western Treatments

Janet's Perspective

Janet is skeptical about the effectiveness of the treatments that western doctors tend to prescribe, especially with respect to medications, injections, and other biomedical treatments. The origins of this skepticism trace all the way back to messages that she internalized during her childhood, when her parents (in Houston) elected to waive her childhood immunizations and had to fill out many forms each year in order for her to attend school. This skepticism is not so rigid as to make her refuse treatments automatically, but she will be likely to discontinue treatments on her own if she does not have the opportunity to ask her physician questions and hear about the physician's reasons for prescribing the med and explanation of how it is supposed to work.

How the Information Links to Clinical Effectiveness

The physician who understands Janet's skepticism about western treatments and acknowledges, respects, and takes into account this skepticism, uses it as a factor in his or her decision making, and tells or demonstrates to the patient their thinking about treatment in light of it, will be much more likely to earn Janet's trust. This trust will likely translate into greater adherence to such a physician's recommendations and prescriptions, because Janet will be more likely to believe that the physician is not taking her views lightly or 'blowing her off'. Greater adherence may translate into a better clinical outcome.

Cues for this Contextual Theme

Cues for this theme are given via verbal or tone inflection that reflects uncertainty such as long pauses.

Contextual Theme #2: Janet's Stressful Social Situation

Janet's Story

There are a number of issues going on simultaneously that are creating high levels of stress for Janet. The obvious issue is the recent death of her father and her ongoing grieving process. This event, however, has caused a cascade of events that each contribute to Janet's high levels of stress. These include:

- a. Her mother now lives alone in Houston, is elderly and frail, and needs daily help in order to adequately get by at home. She currently refuses to leave her home, and

does not want to move to either Oklahoma City (home of Janet's brother) or China (home of Janet's husband).

- b. Her brother lives at least 7 hours away in Oklahoma City, and cannot and does not visit often, leaving the major burden of care (both for her father when he was living, and for her mother now) to Janet.
- c. Her husband is originally from China, and is deeply unhappy living in the US. This stems not only from homesickness, but also from the fact that he and his brother co-owned a dry cleaning business back in China, and he has had to leave that and is now only able to find employment as a worker at a chain dry cleaner in Houston. This has caused a hit not only to her husband's self-esteem, but also to the family's finances.
- d. Janet herself prefers China to the US, and misses living there.

How the information links to clinical effectiveness

All of this stress contributes to her hypertension, which itself contributes to her headaches (see below). While most (but not all) physicians will not see it as their role to actually solve these problems, just understanding them and validating them as real problems for Janet can have therapeutic effectiveness. Because of her skepticism of western medicine (see #1 above), it is quite possible that the act of going to the doctor is stressful in and of itself. Having a doctor that understands and allows her to talk about the stressors in her life (without trying to 'fix' her in some sort of way) can reframe those visits into reprieves from the constant daily stressors, rather than adding to the daily stress. This will make Janet more likely to keep appointments, and ultimately will contribute to building of trust and adherence (see #1 above).

Cues for this Contextual Theme

Cues for this theme are given via non-verbal behavioral responses such as a discouraged look, looking down or away for the student doctor, or shifting positions.

Contextual Theme #3: The Meaning of the Headaches

Janet's Worry

Several of Janet's spouse's aunts and uncles (who suffer from dementia) complained often of headaches, and she has thought of them often when she gets the headaches. In fact, she has begun to think that the headaches might be an early sign that she is 'getting dementia', and this fear stays with her constantly. Sometimes it is a vague nagging fear that exists in the background, other times it is at the forefront of her mind. The fear tends to start a vicious cycle in that she will think about this possible connection between headaches, and that will cause a headache to start which will in turn invoke more fear, and so on. The fear keeps her from looking for information on the internet, or even talking about it with her husband or mother, and so she suffers in isolation with these thoughts of impending dementia.

How the information links to clinical effectiveness

This connection that Janet has between headaches and dementia is known as her 'explanatory model' for the cause and consequences of her symptoms. It is how she makes sense of the symptoms. It is critical for the physician to hear her describe it, to create space for her to talk about it, and to begin to sow seeds (when appropriate) of reassurance about it. Numerous studies have linked ongoing arousal to elevated blood pressure, and this fear is likely contributing to both her ongoing hypertension and her headaches. Addressing this fear will be essential to both helping alleviate her headaches, and to helping with long term blood

pressure control, but it is tricky business. Giving reassurance too fast without first building trust (see #s 1&2 above) will probably be perceived as the doctor 'blowing off my problem' or 'telling me that it's all in my head'. Timing will be critical, and the physician can only be effective if they understand the patient's explanatory model and show the patient that they understand that explanatory model before trying to explain their own biomedical explanatory model.

Cues for this Contextual Theme

Cues for this theme are given via non-verbal affect clues such as mild worry, blank or flat appearance, rubbing thumb in hand, and appearing more anxious the longer the theme is not addressed.

The Biomedical 'Back Story' to Janet's Symptoms

The most likely cause of Janet's symptoms in this scenario is a combination of stress (the diagnostic term is 'tension type headaches') and symptomatic moderately uncontrolled hypertension. These diagnostic hypotheses will need to be proven through a combination of a) tests or physical exam maneuvers to rule out other less likely causes, b) collection of physical exam evidence to support a diagnosis of tension type headaches, and c) bringing the hypertension under control and observing what happens to the headaches in order to assess the potential contribution of the blood pressure to her symptoms. In addition, she has had two elevated blood pressure readings by this point, and will likely need to take medication to lower her blood pressure and prevent long term risks of cardiovascular events and stroke. Achieving long term blood pressure control and symptom resolution for her headaches will be intimately connected to how the 3 contextual issues are handled.

Table 1

Changes in Medical Students' Attitudes and Confidence Pre SP encounter and Post Small Group Session.

Item	Pre	Post	Change	
	M (SD)	M (SD)	p	η^2
Contextual issues of patients that go unrecognized by a physician can have an impact on medical decision-making	6.47 (1.06)	6.35 (.96)	0.258	0.008
Contextual issues of patients that go unrecognized can have an impact on relationships with patients.	6.58 (1.02)	6.48 (.93)	0.315	0.006
As a physician, I should become more aware of my patient's contextual concerns.	6.66 (1.01)	6.50 (.91)	0.115	0.015
As a physician, I should elicit contextual factors in order to effectively communicate with patients with a background that is different from mine.	6.57 (1.10)	6.40 (.96)	0.131	0.014
How confident are you that you can effectively pick up on patient's contextual concerns?	4.79 (1.05)	5.30 (1.13)	<.001	0.205

Table 2

Medical students (n=166) Evaluation of the Effectiveness of Each Experience of Context and Healing for Improving Their Ability to Identify Patient Clues.

Experience	M	Md (SD)
Watching the doc.com module	4.08	4 (1.73)
Writing about my experience	4.16	4 (1.66)
My review of the SP's bookmarks of the SP encounter	4.38	5 (1.89)
The March 4th large group PPS session on Context and Healing	4.58	5 (1.57)
The small group discussion	4.62	5 (1.64)
My video review of my SP encounter	5.00	6 (1.79)
The SP encounter	5.17	6 (1.65)

Table 3

Results from Medical Students' Standardized Patient Checklist (n=166)

History Items	% of Who Elicited
Biomedical symptoms	
1 Elicited the overall symptoms of my headache	96.9
Beliefs about treatment	
2 Elicited that I am skeptical of Western Medicine	90.7
3 Elicited that I do not believe that the pills are working	86.6
4 Elicited that I was taking a traditional Chinese medicine for my headaches	91.3
Stressful Environment	
5 Elicited that my father had just died	93.6
6 Elicited that I am the sole caretaker for my mother	90.1
7 Elicited that I have had to re-adjust to life in the US	78.5
8 Elicited that my relationship with my husband is strained	64.5
Fear of what symptoms mean	
9 Elicited my belief that my headaches were related to a "weak mind"/Alzheimer's	60.5