

RESEARCH ARTICLE

Interprofessional Ethics Simulations and Debriefing to Develop Collaborative Skills

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Abstract

The Interprofessional Education Collaborative's (IPEC's) core competencies are accreditation standards of most, if not all, healthcare professions (Interprofessional Education Collaborative Expert Panel [2016, *Core Competencies for Interprofessional Collaborative Practice: 2016 Update*. Washington, DC: IPEC]). Limited literature exists on interprofessional (IP) learning outcomes in healthcare ethics; even fewer studies include debrief sessions. Interprofessional education (IPE) case discussion using web-based technology is a promising way to incorporate ethics content. This article summarizes a model for healthcare programs to create, conduct, and assess synchronous IPE ethics discussions and debrief sessions. Specifically, this article highlights debrief sessions that followed a standardized patient (SP) IP interaction with students from pharmacy and advanced practice nursing. Qualitative analysis of debrief comments identified four themes: the benefit of IP collaboration, the importance of patient-centered care, the need to adapt clinical recommendations with ethical challenges, and the importance of trust among team members. The findings indicate web-based, synchronous IP/SP ethics simulations and debrief sessions are an effective, albeit laborious, method for collaboration and reflection.

Keywords: advanced nursing practice; debrief sessions; ethics education; interprofessional collaboration; pharmacy; standardized patients; web-based discussion

Introduction

In 2001, the Institute of Medicine (renamed the National Academy of Medicine) recommended health professionals in interprofessional (IP) care teams require enhanced capability to address patients' challenging needs.¹ As the call for IP collaboration spread in health policy and accreditation constituencies, the Interprofessional Education Collaborative (IPEC) formed and developed related core competencies for prelicensure/pre-credentialed health professionals. Today, most or all healthcare professions have adopted the IPEC Core Competencies for Interprofessional Collaborative Practice in their accreditation standards. The aim is effectively preparing students to function as entry-level members of the IP care team.² The World Health Organization defines interprofessional education (IPE) as an education program in which "students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes."³

Values and Ethics is one of the four core competencies for collaborative practice, and thus should inform IPE activities. One benefit of discussing ethics is that it is "a shared concern among healthcare professions and discussing ethical issues is an ideal vehicle for learners of different professions to gain understanding of their own and other professions."^{4,5} Concomitantly, health professions' aim of service provides fertile ground for addressing ethical concepts and issues in IPE.⁶ Also, an overarching IPE strategy is promoting conflict in the learning activity interaction and the process of reflection. Such activities promote not only important student insights about both their own professions, as well as others, but also valuable personal issues and needed teamwork abilities.⁷

Clinical simulations are now an established learner-centered method in health professions, teaching clinical skills in an environment closely representing reality.⁸ As a learning strategy, simulation is broadly defined as:

A dynamic process involving the creation of a hypothetical opportunity that incorporates an authentic representation of reality, facilitates active student engagement, and integrates the complexities of practical and theoretical learning with opportunity for repetition, feedback, evaluation, and reflection.⁹

Simulations also provide the opportunity to practice skills where learners can make mistakes without patient harm. Standardized patient (SP) methods, a well-validated technique that involves actors who portray patients, are often part of simulations. SPs provide authenticity to simulations that increase student engagement and encourage them to take the experience seriously as they would an interaction with a patient and colleague in a clinical setting. Students can then develop many clinical skills including physical assessment and communication strategies with trained and experienced actors who portray a patient role.¹⁰

Debriefing after clinical simulation is considered the most important feature of simulation-based education.¹¹ Debriefing is a facilitated reflection of the simulation experience and is performed to uncover relationships among the (1) events, (2) actions, (3) thought processes, and (4) outcomes with the intention of improving future practice.^{12,13} Debriefing is intended to provide a safe discussion environment, so learners can share their perspectives. Without proper debriefing, erroneous critical thinking, decisionmaking, and clinical judgment may go uncorrected and potentially have a negative impact on patient care.

All these previously described elements—IPE, clinical simulation with SPs, inclusion of ethics content to address core competencies, and a structured debriefing—were incorporated in the design of this synchronous, web-based learning activity. The underlying purpose of this IPE ethics synchronous, web-based simulation project was to contribute to achieving accreditation standards on core competencies and ensure IP collaboration for various professions, especially for those institutions that are the only health science programs in their college or university. From now on, the learning activity will be called the IP/SP activity. Additionally, Doctor of Pharmacy students will be referred to as P3s and advanced practice nursing students as NPs.

Participants in IP/SP activity

The IPE curriculum in the health sciences at Creighton University (CU) for campus and distance learners is coordinated through the CU Center for Interprofessional Practice, Education and Research (<https://www.creighton.edu/healthsciences/interprofessional>). Pharmacy and Nursing are two of nine CU healthcare programs that require IPE participation. Participants specific to this activity were CU third-year distance and campus pharmacy students and NP students from CU and Bellarmine University in Louisville, Kentucky.

For pharmacy students, this IP/SP activity is especially important because it assesses readiness for collaborative care before starting advanced pharmacy practice experiences. Such readiness is required for starting clinical rotations by the American Council on Pharmaceutical Education accreditation standards.¹⁴ For Bellarmine students, the IP activity is part of a primary care course, the semester before graduation. In the CU NP program, the mandatory IP activity is in the residency course at the end of the program.

Methods

The literature reports few IPE activities including IP/SP synchronous, web-based interactions with large numbers of students except for those at CU.¹⁵ To address common encountered challenges to IPE, such

as geographical distances, scheduling, and logistics, we designed a structure for synchronous, virtual interaction between two students from different disciplines and an SP like the one Begley et al. described.^{16,17} We used the Zoom video conferencing tool to record and transcribe sessions.¹⁸ Two faculty developed a “waterfall” schedule, a project development model where each task in the project flows into the next through several stages sequentially, for example, pre-interaction briefing, IP/SP interaction, debriefing, similar to a previous IPE activity.¹⁹ The 1-day schedule included two sessions: one with 69 P3s, 25 NPs, and 9 faculty moderators participating, and the second with 71 P3s, 30 NPs, and 10 faculty moderators. NP students participated in three different cases each, and pharmacy students participated in one case. After the pre-interaction briefing instructions and 20-minute IP/SP interaction, moderators closed the meeting room. Students then went into a designated breakout Zoom Debrief Room in groups of 18 or 20 comprised of P3 and NP pairs. Recorded debrief sessions lasted 20 minutes.

Development of ethics scenarios, moderator guide, student guides, and scripts

A simulation-based educational model usually comprises three phases. (1) The briefing phase provides information on how the simulation will proceed. (2) The actual simulation involves participant engagement as if the scenario was an authentic clinical interaction. The specific clinical interaction in an ambulatory setting includes NP, pharmacist, and patient. (3) In the debriefing phase, participants reflect.²⁰ The debriefing’s focus centers on description, analysis, and application.²¹ Thus, phases (1)–(3) ensured that P3 and NP students experienced working together with a patient. They partially addressed an ethical issue and jointly developed a plan of care, followed with time for reflection on their collaboration.²²

Faculty developed an IPE Ethics Case Training Manual containing the waterfall schedule, moderator case copies, student case copies, and detailed process instructions. Moderators were charged with observing the IP/SP interaction and required to (1) complete a Creighton Interprofessional Collaborative Evaluation (C-ICE[®]) tool that measures IP student teamwork performance,²³ (2) move the students and SPs in and out of the virtual room, (3) keep time, and (4) instruct the students to leave and sign into the Zoom debrief session after the interaction was completed.

Four cases were adapted from an ethics case studies textbook coauthored by a faculty member who also led the debriefing sessions.²⁴ The cases focus on ethical issues common in pharmacy practice. Example scenarios included patient’s best interests versus respecting the patient’s autonomy, patient concerns about the cost of drugs, disagreements about appropriate drug therapy between patient and providers, and questions about a patient’s decisionmaking capacity. A fifth original case involved the use of drug samples (see [Table A1](#) in the Appendix for summaries of all five cases). Gender neutral names for patients such as “Sam” or “Kyle” were chosen to allow for latitude when assigning actors to the cases. Student guides were developed for each case and discipline (NP, P3). Supplemental drug and clinical information reduced student concerns about knowledge deficits, so they could focus on the ethics content. Students were only informed about some case aspects to motivate working together for a complete patient picture.

Moderators met with faculty who developed the simulations to go over the information in the Moderator Guide and discuss what to expect. SP scripts guided SPs on how to voice their concerns and respond to anticipated student questions. The faculty who developed the simulation also met with the SPs before it to answer questions and address concerns.

Development of debriefing questions

A semistructured set of seven questions guided the debrief session emphasizing reflection. Questions 1 and 2 addressed pre-encounter concerns, ethical issues in the encounters, and experiences in the SP interaction. Questions 3–6 covered IP interactions, the patient’s role, reflection on decisions/actions, and collaboration. Question 7 stressed areas for improvement in future practice. An example is how/when

they did/should have intervened with their profession-specific knowledge to contribute to optimal patient care.²⁵

Results

This article's focus is on students' responses to structured questions in debriefing. The data encompass 1 year of a multiyear study approved by the Creighton University Institutional Review Board (#854991-1). Other findings including quantitative data from the C-ICE[®] tool are reported in Haddad, Begley, and Ryan Haddad.²⁶

Zoom audio recordings were transcribed verbatim and thematically analyzed. Data analyzers (the primary authors, three PharmD faculty, and two NP faculty) iteratively and collaboratively read transcripts to identify codes. Themes were then identified per student responses by patterns and relationships between codes. The group adjudicated disagreements in emergent findings, revising themes accordingly. The analytical goal was elucidating students' (1) ability to identify ethical concerns and issues, (2) perceptions of working with IP team members to address such issues, and (3) contextualizing learning experiences in an IP/SP interaction. The thematic analyses are next summarized, sorted by Question responses. The various cases will be referred to by case number as in [Table A1](#) in the Appendix if a specific case is mentioned.

IPE Question 1: What worries or concerns did you have before the interaction? What problems did you anticipate?

The students' top three concerns prior to the interaction related to clinical issues, uncertainty whether their "partner" knew information that they did not, and medication costs. The IP/SP cases stressed ethical issues, but responses rarely mentioned ethics problems. The primary concern was about missing information on items like diagnosis, prognosis, and comorbidities that would critically influence comprehensive care plans for patients. For example, regarding Case 3, an NP stated:

Just not knowing, not being able to anticipate what the real problem was and being able to come up with a solution that fast. You don't exactly know, you just have a little bit of an idea of what you know the patient's coming in for, but you don't know the whole story.

A P3 expressed concerns about what her partner knew, "I think what I was most worried about was just the kind of information that the NPs would have instead of us. And how we would have to kind of adapt and because it's kind of more of a quick interaction and you'd have to adapt pretty quickly." The final concern centered on prescription cost. One NP reacted to the cost of a drug in this way, "Yeah, I mean if it's \$200 who's going to pay for that?" indicating that this is a commonly encountered barrier to selecting medications.

IPE Question 2: What were the ethical issue(s) you encountered in the case? Describe them

The main themes were the use of ethics principles and concepts, collaboratively preventing ethical problems, and doing what is best for the patient. Compared to Question 1, responses varied more among cases. Context, involved individuals, and the ethical problems differed.

Regarding Case 3, a P3 contrasted doing good and respecting patient choices: "Respecting the patient's autonomy which is hard to do because we want to keep her protected and make sure she's on the best therapy." Also, regarding Case 3, another P3 stressed patient decisionmaking capacity: "The mental status of somebody is kind of also an ethical issue here because at what point do we decide that they need a caregiver or that they need somebody to be making these decisions?" Also, Case 1 raised other ethical concerns for an NP: "Because as a patient, he has the right to know what is going on with his care and why he is prescribed medication." Several students emphasized the "right to know."

Recognizing collaboration needs and avoiding blame in problem prevention was another theme of working together. An NP reflected on Case 1, “I don’t know if I am the person who prescribed it, but if I am, step one, that shouldn’t have happened. You should never prescribe something to a patient without explaining to them to the best of their knowledge. Okay, this is where we are, how do we fix this?” That is, focus on correcting the problem instead of a blame concern that diverts from meeting the patient’s need.

Students frequently mentioned that patient good guided their problem solving. Regarding Case 4, an NP expressed the long view about drug therapy, patient outcomes, and the ethics of giving samples to patients:

You know samples are good, but you have to think beyond that first sample that you have given the patient; you have to think beyond what happens in a month. Okay, I’m starting you on Drug A today because I have free samples, but in a month, you won’t be able to afford it.

Finally, students stressed better IP communication as an ethical issue. An NP noted how to have avoided miscommunication in Case 2, “I probably should have asked. It would have been helpful if I asked the pharmacy student. Because she spoke with him first, I could have asked, ‘Is he taking it?’”

IPE Question 3: How did working with a colleague from a different profession contribute to the care of this patient? Resolving the ethical issue?

The three emergent themes were the recognition of P3s’ and NPs’ different knowledge bases and how those combined skill sets helped patient care planning, the importance of working together, mutual reliance, and demonstrating collaboration to the patient.

As is common at basic reflection levels, students’ Question 3 responses described what happened when the two professions worked together. An NP explained:

I think it helped because she (the P3) had a different, a little bit more and different knowledge base than mine. We were able to work together with what we both know, like she was able to help confirm contraindications with some of the herbals (Case 3) that I could look up on my phone, but she could help me with my knowledge base.

A P3 recognized that each had complementary information that enhanced collaboration, “I thought it was extremely helpful to kind of bounce things off each other; he (the NP) had more information about kidney function. He’s able to monitor that kind of stuff and we don’t usually have that information.”

As several students noted, for IP collaboration participants must recognize they are interdependent. A P3 noted, “I went into the case having no idea what was going on, which was very much like real life. So was able to rely on my prescriber.” At simulation outset, NP students were placed in a more dependent position because the P3 students spoke to the SP first in each case. However, the NPs could sometimes answer questions from the background patient information provided to them but not to P3 students. For example, a P3 who did not ask the patient about lab data when she had the chance reflected, “I was able to get the labs (Case 4) from the nurse practitioner that I worked with, which was good because I didn’t ask those questions. I didn’t ask the patient himself what his blood glucose was or what his A1C was, so I talked to the NP about that.” Also, an NP shared that, “Without the pharmacist’s involvement, I wouldn’t have realized that it (the medication in Case 5) was unobtainable for the patient. So, it’s important to work with the pharmacist.”

Lastly, students described the importance of collaboration for patient benefit. A P3 concluded, “I would say that it made it easier. Being able to show the patient that we’re collaborative and that we want them to be successful in their overall health and that we are going to work together.” Some P3s stressed working with the NP when speaking to the SP:

My nurse practitioner told the patient if you ever in the future have any questions about your side effects or pricing or anything like that, always reach out to us because we want to work together to make sure that you’re getting the best care. I feel like that’s what this is all about.

Additionally, students stressed patient cost reduction advantages of working together. An NP emphasized, “The pharmacist that I was speaking with was awesome and had a list of medications that were covered under insurance. Not only that, but he also had some other programs that the patient could utilize that would bring the cost of the medication down. We considered the patient’s preferences.”

Question 4: What role did the patient have in your collaboration or resolution of the ethical issue?

An area often overlooked in reports of IP collaboration is patient involvement. Three themes emerged in student responses to this question. First, they considered patients “team” members and shared decisionmaking with them. Second, was their perception that a “real” patient in the interaction changed the two professionals’ language and encouraged patient goals consideration. A P3 recognized in Case 4 that, “They have to agree to the medication and be willing to take it once or twice a day and comply and have adherence with the medication.” Regarding Case 2, a P3 comparably noted, “I think the patient was the center of our collaboration. What the patient wanted is what we needed to give the patient or else he wouldn’t be taking the medication.” Also, several students again mentioned the medication costs, a recurring problem in several scenarios.

Students emphasized speaking in ways patients could understand. One NP reflected regarding Case 5, “I thought the patient did a good job and asked pertinent questions even though to us it was, ‘well, duh’. But not for her. It’s not so much.” The students had time to get their act together, as they often put it, to use technical language when discussing their plan of care while the SP was held in a Zoom “waiting room.”

Question 4 response’s final theme was the need to work toward mutually agreeable goals. A P3 commented regarding Case 3:

It was nice to be able to work with “C” (the NP) and really try to figure out what we can do to help her (SP) and not just completely brush off a suggestion, laugh it off, or completely shut her down but help lead her into a better, healthier, and safer way to go.

It is surprising that these inappropriate possibilities were even noted in this student’s response.

A theme in Question 4 responses was honoring patient choices. In contrast, Case 1 raised student concerns. Here the patient asked questions about his/her Alzheimer’s disease diagnosis. Common student questions were: How do you involve a patient who might not understand what you are trying to tell them? Who has decisionmaking authority? What and how is the best way to break bad news to a questionably capacitated patient?

Question 5: What other members of the interprofessional team would be important to include in future planning for this patient? Patient’s family or significant others?

Responses were dependent on case specifics. Since the prompt included family or significant others, the students mentioned spouses, siblings, adult children, and so forth. The patient’s health history influenced suggestions for including other team members such as a dietician, social worker, psychologist or psychiatrist, or chaplain. Thus, when prompted, students had various appropriate suggestions.

Question 6: What do you wish you had done differently? At the outset? Resolution?

All students wanted to ask more questions to get missing information such as the patient’s general physical and mental health with a focus on medication history and compliance. A P3 reflected, “I should have asked about the patient’s mood (Case 3) and how she has been feeling outside of just experiencing her HIV+, like ‘what else is going on in your life?’” An NP succinctly stated, “Dig deeper into the patient’s (Case 3) family history.” A P3 elaborated about medication history, “Not just asking them, ‘are you taking your medications?’ but also asking can they afford the medications? I think that’s the question we need to incorporate.”

The second theme in this question's responses regarding different approaches involved reflections on patient education. A P3 noted that, "Educate the patient and make sure that he understands that (HIV is not a death sentence) but also try to respect his wishes and add-ons that he wanted."

Finally, students focused on treatment decision costs. Referring to Case 3, a P3 stated, "I kind of wished I would have asked more questions like, 'do you have the means to pay for this?' Having this interaction for me was kind of like an eye opener, like you need to work on this." An NP also noted drug cost is a frequent problem for patients, "I would have asked what other medications they were taking because maybe we could find some alternative on the \$4 list because I see this a lot."

IPE Question 7: Did you collaborate with your colleague to resolve the ethical/clinical problem or just exchange information? What is the difference?

Students' comments revolved around two themes: sharing ideas from different professional perspectives and developing a plan for patient well-being. One NP summarized their collaboration thus: "He made suggestions, and I made suggestions and we both looked up a few things about interactions, then we agreed on a plan." This response that includes duplication of efforts is worth exploring as it could be an indication of a lack of trust between the students or lack of clarity about overlap in their responsibilities. A P3 noted that the P3s' and NPs' comments were positively complementary, "I think we collaborated, and it wasn't just sharing information because 'S' (NP student) brought up some good points. It's like she brought what she had to the table, and I brought what I had. They were kind of the same things."

Students' mutual focus on patient well-being promoted effective collaboration. A P3 explained their decisionmaking process as follows: "She would ask what suggestions I had for the medication therapy, and I would throw out options. 'I've got this and this and what do you think?' We were able to talk together and find a solution that would help the patient."

Discussion and implications

One overall measure of this learning activity's merit is if it meets the relevant health disciplines' accreditation standards. This activity is among several in the PharmD and NP programs that contribute to achieving the accreditation standard of readiness for collaborative care. Even though the scenarios were designed to highlight ethical issues, the core competencies of values and ethics were not specifically identified according to foundational ethical principles. Instead, the students focused on patient well-being, finding the best drug therapy while assuming patient's autonomous rights to set their own goals in collaboration with members of the healthcare team. All these aims are simultaneously clinical and ethical concerns.

The participating P3s in the IP/SP simulations were all concurrently enrolled in their program's required ethics course. The required course text, *Case Studies in Pharmacy Ethics*, is organized according to foundational ethical principles, that is, beneficence, nonmaleficence, justice, autonomy, veracity, fidelity (promise-keeping), and avoidance of killing.²⁷ Consequently, the P3s should have recognized these principles and their application to clinical reasoning in the IP/SP interaction. Yet the P3s did not use ethics terminology any more than the NPs. However, a few specific principles such as autonomy and truth-telling did appear in their responses to Question 2, Case 1. Students also expressed concerns about the cost of drugs but did not connect their concerns to the principle of justice. Rather, the students spoke about drug costs in terms of compliance with therapy that trumps the underlying, abstract ethical concerns. However, a possibility is students assumed core ethical principles. Thus, they might reasonably have then focused on practical measures to improve patient outcomes. Or, they might have folded core principles into their clinical judgments but saw no basis for enunciating them.

Focus on the patient

The SP's presence highlighted the importance of patient education and patient involvement in developing the best care plan. Patients are commonly omitted from the professional loop when

clinically appropriate options are discussed, and professionals choose the “best plan.” Health professionals rarely converse with patients without a plan, especially when a conflict exists. In contrast, several students mentioned the importance of the patient witnessing their collaboration. They also noted the negative impact of using confusing language with patients and that professional jargon is often a barrier to patient understanding. For all these reasons, patients should be involved in discussions about drug therapy, whether in a simulation or actual clinical practice, especially when ethical issues or conflicting values exist. Students emphasized that mutual agreement was essential for drug recommendation adherence.

Learning about each other

The secondary overarching theme was the importance of learning about each other, which included elements of working together to prevent problems, the need to learn more about each other’s knowledge base and overlapping contributions, sharing different perspectives, and mutual reliance. The debrief responses emphasized the P3s’ and NPs’ uncertainty about each other’s professional roles and competencies beyond traditional discourses of professional identities, that is, pharmacists dispense and monitor medications while nurse practitioners provide direct patient care and manage treatment adherence.²⁸ In other words, the students knew truly little about each other’s professional capacities and work.

Most of the pharmacists practice in community settings as ad hoc members of health professional teams. Practice interactions between pharmacists and prescribers are usually by phone. A positive element in the simulations was that the P3s could see the prescriber and patient while they spoke that helped improve their communication.

Finally, the students had difficulty discerning the difference between collaborating and exchanging information. Admitting dependence on colleagues is difficult for many health professionals; it requires significant humility and self-awareness. Collaboration requires shared accountability, interdependence between individuals and clarity of roles/goals for tasks that are generally predictable, less urgent, and not as complex.²⁹ Learning more about each other’s potential contributions is a necessary step to mutual reliance in most medication management situations.

Lessons learned and future directions

Significant feedback came from moderators, students, and SPs involved in the IP/SP activity. This IP/SP activity will repeat in the future with updates and tweaks to existing cases and new cases. To avoid rushed discussions, either the number of debrief questions will be reduced or the allotted time increased. To enhance debrief discussions further, more than one facilitator should be arranged to allow smaller groups of 8–10 students and reduce facilitator fatigue. The investment in paid SPs enhances session authenticity compared to when peers or faculty portray the patient. Repeated simulations and debriefing can induce participant fatigue thereby reducing learning. Thus, forewarning students who participate in multiple cases about this side effect may help them anticipate the energy they need to fully participate.

The IP/SP activity was not without limitations. Future iterations should prevent student information sharing or crosstalk, so all can have a novel experience. Creating authentic and clinically accurate scripts, instructions for moderators, and multiple ethics cases took considerable faculty time. Also, faculty simulation participation itself required entire mornings or afternoons. The limitation is that such faculty commitments may discourage multiyear participation. Further, although complex synchronous simulations are also a cost intensive teaching modality, the knowledge gains, some unexpected, are valuable and impactful.³⁰ As the findings showed, reflection time during a guided debrief can lead to new learner interpretations.³¹ However, more studies should assess whether this or any other IPE activity successfully provides students with specific IP skills.³²

Conclusions

This unique simulation provides health professions students the opportunity to interact with an SP and another colleague in an IP collaboration that includes ethical issues drawn from practice. Implementing IPE ethics synchronous, web-based simulations can contribute to achieving accreditation standards on core competencies and ensure IP collaboration for various professions, especially for those institutions that are the only health science programs in their college or university. Students reported positive outcomes from the IPE activity in the areas of collaborating with colleagues from different health disciplines to deliver patient-centered care and developing greater understanding of the contributions of other health professions and self-awareness that is an essential component of mutual reliance.

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Notes

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Appendix

Table A1. Case summaries

Case number	Case summaries
1	<i>Asked not to tell:</i> Daughter wants to withhold diagnosis of moderate Alzheimer's disease from patient. Physician has agreed to do so. Patient brings up news article that states the Aricept [®] that s/he has been taking is for Alzheimer's disease. Patient asks student about diagnosis. ^a
2	<i>A matter of priorities:</i> Retired couple on a fixed income both being treated for hypertension but on different medications. Neither has liver or kidney impairment and their electrolytes are stable. The wife/husband calls the pharmacy to ask that only the least expensive prescriptions be refilled as they have decided to share the medication. They cannot afford the two prescriptions anymore and pay for their utilities. ^b
3	<i>Going natural:</i> A patient with HIV disease is on maintenance therapy for several years. S/he is doing well and asymptomatic. Patient tells the pharmacy student that her support group has suggested "going natural." S/he has decided to stop taking the combination antivirals and switch to vitamins and other supplements. ^c
4	<i>Thrifty therapy:</i> A patient who was being treated for type 2 diabetes when s/he was employed and insured stops seeing her/his primary provider for 3years after losing her/his job and insurance benefits. A month ago, the patient returned to the primary provider with concerns about changes in vision and heart disease. Primary provider offers a month of free samples of empagliflozin and a prescription. Patient uses the samples then presents the prescription at the pharmacy. S/he is shocked at the price. The patient is still unemployed and cannot afford the drug but wants to continue taking it to avoid vision loss and heart disease. (Original case developed for IPE simulations.)
5	<i>Formulary:</i> Patient with pneumonia is emphatic about not taking a medication, clarithromycin, that caused loose stools in the past. Primary provider assures patient that the drug prescribed, moxifloxacin, is less likely to cause loose stools. When the patient picks up the prescription, s/he notes that it is not the drug the primary provider ordered but levofloxacin because of formulary restrictions. Even though the primary provider approved the substitution, the patient is having none of it. S/he wants the drug prescribed but does not want to pay the additional cost for the off-formulary drug. ^d

^aSee note 24, Veatch et al. 2017, at 121.^bSee note 24, Veatch et al. 2017, at 61.^cSee note 24, Veatch et al. 2017, at 98–99.^dSee note 24, Veatch et al. 2017, at 246–247.