Piloting an Online Module for Interprofessional Education to Introduce First-Year Students to Health Behavior Change

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ABSTRACT

Objective: *Online learning can be an effective learning approach, and provides one means to overcome scheduling conflicts for interprofessional education among students from multiple professions. One common topic for students from many health professions is helping patients contemplate and move towards their health behavior change (HBC). Change in a patient's health behavior can be an important outcome when examining chronic disease care, patient self-care and lifestyle management. Our objective was to develop and pilot an engaging online interprofessional education module focused on HBC by patients.*

Design: *Thirty-eight first-year health-professions students were introduced to HBC concepts using an online primer to motivational interviewing. This was followed by cases with questions where students were asked to provide HBC-consistent responses. An online discussion board facilitated students' participation and interaction, where they all could respond to case questions and to their peers. The discussion board was monitored by a faculty member skilled in the practice of HBC and another skilled in interprofessional education.*

Findings: *Students reported the course to be valuable and an acceptable way to begin learning new communication skills, and about other health-professions. Students' self-ratings of empathy and understanding of patients who do not readily commit to behavior change improved significantly from pre-module to post-module.*

Conclusions: *Online programming focused on HBC seems a feasible approach to interprofessional education, when designed carefully. Collaboration among interprofessional faculty may also harness expertise not necessarily available within one profession's silo.*

Keywords: interprofessional education, online, motivational interviewing

DESCRIPTION OF PROBLEM

The World Health Organization defines interprofessional education (IPE) as when students from two or more professions learn *with*, *about* and *from* one another.[1] Within this definition of IPE learning, it can be easiest to implement learning *with* one another (i.e., students listening to lectures together), but educators cannot leave out the more difficult implementation of students learning *about* and *from* one another; these may need more deliberate attention during IPE course planning. Simply said, IPE cannot be accomplished with only listening to lectures together; instead students need to be able to interact with one another and learn more about each other in the process.

One important outcome in healthcare is to affect changes in patient's health-related behaviors. This involves clinicians developing the patient's perspective on self-care, lifestyle and disease management, and may also involve interprofessional cooperation. Motivational Interviewing (MI) is one empirically-based intervention towards health behavior change (HBC). MI is a patient-centered intervention that seeks to elicit reasons, needs, and a desire for change from the patient.[2] While students from a variety of professions can learn about MI together through a lecture, that is not all of interprofessional education. Instead using the World Health Organization's definition, IPE also needs students from more than one profession learning *about* and *from* one another. Within the United States, core competencies of interprofessional collaboration include the areas of roles/responsibilities, teams/teamwork, interprofessional communications, and values/ethics.[1] In this perspective on IPE, none of these areas are course-content topics themselves, though any and all can be facilitated through various course content, such as HBC and MI.

While use of standardized patients is one effective active learning strategy for MI instruction,[3] this strategy demands resources that are not always available. An interactive online learning strategy for HBC could require fewer resources and, importantly, it could offer an interactive interprofessional learning opportunity for learners in different professional programs with busy, conflicting curricula schedules. Revisiting IPE (learning *with*, *from*, and *about*) using an online approach can take deliberate focus in order to facilitate learning *from* and *about*. In prior IPE reports of online offerings,[4,5] this has seemed a challenge.

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Interventions for HBC require a foundation in basic listening and communication skills to support the development of increasingly complex skills.[2] The spirit of MI involves interpersonal style using reflective listening, acceptance and affirmation; this spirit communicates four elements: collaboration, compassion, acceptance and evocation. As well, this spirit involves an underlying mindset within which clinicians use their clinical skills, and this mindset is considered foundational for every MI conversation (as well as being the first stage in developing MI skills[6]). Learning interventions for HBC can be classified into phases. The first phase, learning the communication style that MI refers to, is believed to be one critical component for MI's efficacy; it was thought that online learning was amenable with this first phase. As well, empathy has been reported as an essential element of providers' communication style, and contributes to MI's spirit and positive outcomes.[2] Instruction in the communication style underlying this spirit was the basis for the online module.

To our knowledge, HBC has not yet been reported in the literature for IPE. Herein, we describe an innovation to introduce interprofessional groups of first-year health-professions students to patient-centered health behavior communication via an online module.

INNOVATION

Participants

An Interprofessional Education Health Behavior Change (IPE-HBC) module was developed and offered as an elective to students from multiple health professions. It was in addition to required participation in standardized patient simulations. In this pilot module, 38 students from medicine (n=17; first-year), nursing (n=1; third-year), pharmacy (n=19; first-year) and physician assistant (n=1; first-year) professions voluntarily chose to participate. These students were divided interprofessionally into four groups of 9 or 10 members. For most of these students, this was before any clinical disease state instruction in any of their other coursework.

IPE-HBC Module

This four week online course included: Week 1 - introduction, an overview of MI demonstrating its application through both text and video vignettes; Week 2 - brief video and case presentation on medication adherence with emphasis on engagement, active listening and reflective listening; Week 3 - brief video and case presentation on smoking cessation with emphasis on working through ambivalence, identifying change talk and using reflections; and Week 4 - brief video and case presentation on physical activity with emphasis on eliciting change-talk and use of reflection (see Figure 1). Each case had 4-5 questions meant to elicit responses consistent with patient-centered communication within the spirit of MI (see Table 1).

As an introduction to HBC in Week 1, students completed the "Motivational Interviewing in Brief Consultations;" an online learning lecture available through the *British Medical Journal* [http://learning.bmj.com/learning/module-intro/.html?moduleid=10051582]. The lecture focused on the four processes of MI (i.e., engaging, focusing, evoking and planning) using text and video demonstrations of MI consistent skills, emphasizing a guiding-style of communication instead of a directive-style. It was self-paced and concluded with a self-assessment test (requiring 70% pass rate) and a certificate of completion that students were required to submit on Blackboard as evidence of task completion. This lecture was chosen for its availability and because it was developed by Stephen Rollnick, who together with William Miller initially developed and disseminated the MI approach to behavior change around the world.[2] Module faculty felt that Dr. Rollnick's expertise in both the training and practice of MI was evident in this learning experience. Importantly, this lecture was developed for a health-professions audience and provided video vignettes (with Dr. Rollnick appearing as the MI interviewer) demonstrating the MI processes and skills being described throughout the lecture.

In each of Weeks 2-4, a new written case vignette was introduced (Week 2: Medication Adherence, Week 3: Smoking Cessation, Week 4: Physical Activity). As well, a module faculty provided a brief summary video (<8 min) of pertinent information previously covered in the Week 1 *BMJ* lecture. Each case was followed by a set of questions designed to elicit patient-centered responses in a guiding-style (see Figure 1). Each case addressed a common health behavior and all were created by one of the authors, based upon similar cases used during MI training workshops. The format of presenting cases followed by patient statements and then a set of questions was adapted from the Video Assessment of Simulated Encounters – Revised (VASE-R), an instrument with validation evidence in assessing MI-proficiency among practitioners who had undergone MI-training.[7] While the VASE-R uses video presentations of simulated patients and asks learners to make MI-informed responses to the standardized patient statements and situation, within this IPE-HBC module the VASE-R was not directly used. Instead, its format of providing a clinical context along with patient statements of concern and ambivalence about change were used to engage students in the perspective taking and patient-centered communication style needed to engage patients in health behavior centered discussions (Table 1).

The case vignettes, student responses and faculty feedback were accomplished in entirety using the discussion board feature of Blackboard Learn (Blackboard Inc., Washington DC; the University of Toledo's learning management system).

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Students went online at their convenience, read the case, other students' responses to the questions, and formulated their own responses. All students in their particular interprofessional group could see and respond to all posts by other students.

Instructors

Two faculty members, one skilled in MI and one skilled in interprofessional practice monitored each of the four IPE-HBC groups. Faculty monitoring each discussion board did not respond to student comments individually, but instead responded at the end of the students' discussion. Faculty responded by affirming responses consistent with the spirit and practice of MI and interprofessional collaborative practice, providing constructive comments, posing thought-provoking questions to the group, and concretely linking student responses to the material presented in the online BMJ lecture. Consistent with the training philosophy of the facilitators, responses to learners were meant to be supportive. Awkwardly phrased or "slightly" paternalistic statements were not always highlighted, but that portion of the learner's statement consistent with a guiding-style was supported, while sometimes pointing out a better way to phrase a statement (Table 1).

Outcome

The health-professions literature suggests a significant decline in empathetic attitudes and behaviors through medical and postgraduate training.[8] Students can be socialized to have negative views of non-adherent patients or those who appear to be purposefully unhealthy. As has been mentioned, empathy is thought to be one essential element of a guiding-style of communication that is felt to contribute to the spirit of MI and positive health behavior outcomes.[2] Thus, herein we used the Jefferson Scale of Empathy—Health Professions Student (JSE-HPS) version,[9] before and after this module to assess students' overall attitudes related to empathizing with patients, which includes understanding each patient's experience and thinking like that patient.

CRITICAL ANALYSIS

This study was IRB-approved as exempt. The main quantitative assessment of this pilot was students' attitudes related to empathy. With internal consistencies of pre-module JSE-HPS =0.8 and post-module JSE-HPS =0.7, a paired-samples t-test was conducted to compare pre-module and post-module JSE-HPS scores. There was a significant difference between the pre-module JSE-HPS (mean=103, standard deviation=13) and post-module JSE-HPS scores (mean=121, standard deviation=10; $p<0.001$; Cohen's $d=1.5$). Practical significance can be described by effect size, and at 1.5 it was considered to be *very large* by Cohen's interpretation.[10] That is, practically-speaking these students appeared to substantially improve their attitudes toward empathy with this module. Similarly, this effect was also statistically significant using linear regression to analyze change with pre-module JSE-HPS regressed on post-module JSE-HPS ($p=0.004$).

In students' module completion evaluations, they were asked to evaluate their most favorite and least favorite parts of the learning module experience. These responses were coded into categories. Most responses fell into five most favorite categories and four least favorite categories. Of most favorite parts to students' experiences, 32% reported it enhanced their interviewing skills, 23% reported that it fit their schedule and was flexible, 13% reported reading the other student and facilitators comments, while 7% of students found the video demonstrations helpful, and 7% others reported liking the cases used. For the least favorite experiences, 35% found some of the timing of due dates confusing, 27% reported "not applicable" or "no problems", while 19% felt the discussion board felt forced and less natural then they would have liked.

Additionally, using an online module for IPE instruction had a further benefit. While It allowed learners from a variety of professional programs with different curricular schedules to more conveniently participate,[4,5] its development and implementation notably required interprofessional faculty collaboration, and thus exposed learners to experts in the fields of both HBC and interprofessional collaborative practice.

We did not track other learning experiences for these students during the study timeframe and so we cannot rule out confounding variables having a role to play in this change in attitude towards empathy. However, we believe the learning module (with its clinical vignettes) influenced students' views on what would traditionally be seen as "resistant" or "nonadherent" patients. The students being asked to respond with a guiding-style of communication, rather than directive-style, seeing how other students responded to the same scenario and receiving expert faculty feedback is believed to have contributed to a more empathetic, accepting and non-judgmental perspectives. We also acknowledge that role-playing and/or standardized patient interactions along with facilitator feedback is a gold standard for competence in developing communication skills and MI skills in particular; this introductory module did not offer that level of learner experience.

NEXT STEPS

Within our numerous health-professions programs, one challenge is to offer a more advanced module(s) for students. We envision an advanced module(s) that will have students develop actual MI skills with videos, standardized and actual patient interactions. Assessing fidelity to MI would be most appropriate at this next stage. With this small IPE module, we

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were able to overcome one common obstacle, scheduling, by using an online, asynchronous module for students to learn with, from and about each other's health professions.

In this educational research report, we have provided preliminary evidence suggesting an interprofessional approach to teaching health behavior change (with a focus on using a guiding-style, instead of directive-style for patient-centered communication) enhances attitudes towards empathy. Using our interprofessional colleagues with expertise in MI and IPE, we appear to have successfully created and implemented an online IPE module in which students from a number of health professions perceived it as helping them to learn *with*, *from*, and *about* one another.

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Table 1. Abbreviated Sample of Case and its Discussion Thread.

Week 2 – Medication Adherence Case (Lisa)
Lisa is a 42-year-old married woman with 2 teenage children. She is being discharged from the hospital after a hyperosmolar hyperglycemic state … During the hospital stay she was diagnosed for the first time with Type 2 diabetes. Part of the discharge plan is for her to take metformin at 500 mg orally twice a day … You are talking to her prior to her leaving to confirm elements of the discharge plan, specifically medication. She reports never being on any long term medications.
Sample comments made by Lisa and presented to learners in this online module (this is meant to provide the basis for student responses):
"I get why you are here, but I am anxious to leave and – no offense – but talking about this medication is not a high priority for me." "I'll be honest with you, I really don't like taking medications, I know it might help but I am not sure I believe in taking meds forever." "Wow, 2000 mg, that sounds like a lot, that's just too much and way to complicated, you don't get how busy my life is."
Questions for Learner Responses
1) Write "2" responses that would indicate you are listening to Lisa (coming from the VASE-R and meant to elicit reflective listening responses conveying empathy, compassion and patient autonomy) 2) Write a response that you think would be most helpful in this situation (coming from the VASE-R meant to elicit responses consistent with a guiding-style (spirit of MI) (suspending the paternalistic approach and exploring the patient's capacity rather than incapacity to make changes) 3) Select the question/statement below that you think would be most helpful to explore with Lisa now, if you wanted to increase motivation to adhere to her medications (five possible responses were provided to the learner from simple reflection/question ("Tell me why you do not want to take your medications) to one higher-level example of eliciting change talk ("You say the meds would probably help. Can you tell me more about that.") 4) Write what you would say to Lisa that might elicit support for making healthy changes (meant to elicit/support change talk) 5) (*Deliberate for IPE) Considering your professional perspective (medical, pharmacy, nursing, physician assistant, social work, another allied professional), what do you feel you have to offer Lisa that other professions may not? Why?
Sample Faculty Expert in MI Responses to Question 1 (Write 2 responses that would indicate you are listening to Lisa) [abbreviated; actual student names replaced]
"…I have had to cultivate my ability to listen effectively. If Lisa is communicating to me that she really does not want to take this medication and I do not acknowledge this – she may – become more persistent in trying to communicate this fact to me. By acknowledging her I can make room for more productive conversation…" "…Can you see where each of the statements will likely produce a different response from Lisa? John's response is likely to have Lisa talking about how busy she is and maybe the importance of being healthy to maintain that busy lifestyle … Mary hears the concern about lifetime meds … will likely get Lisa to talk about her fears/concerns… might lead Mary to share information (education) on this medication and illness."
Sample Faculty Expert in IPE Responses to Question 4 (Considering your professional perspective (medical, pharmacy, nursing, physician assistant, social work, another allied professional) what do you feel you have to offer Lisa that other professions may not? Why?) [abbreviated; actual student names replaced]
"These are good ideas from different perspectives. I like that we are thinking about educating Lisa, but this can become too much quickly. We need to identify one major item and work on that … Yes, a physician will be centrally-involved in Lisa's ongoing care—disease-state education and an overall patient-centered plan-of-care are needed; these are often within medicine's purview… I like this description about nursing and "time" opportunity… For pharmacy, we are focused on medications—but America's leading "other" problem with medications is adherence... and adherence is NOT a simple, one-size-fits-all issue to solve. The 2g is a key target for metformin; yes, we can ease the dosing schedule by switching to ER, good idea, but what else can we do for medication adherence? … changing to another medication should be very low on our list."

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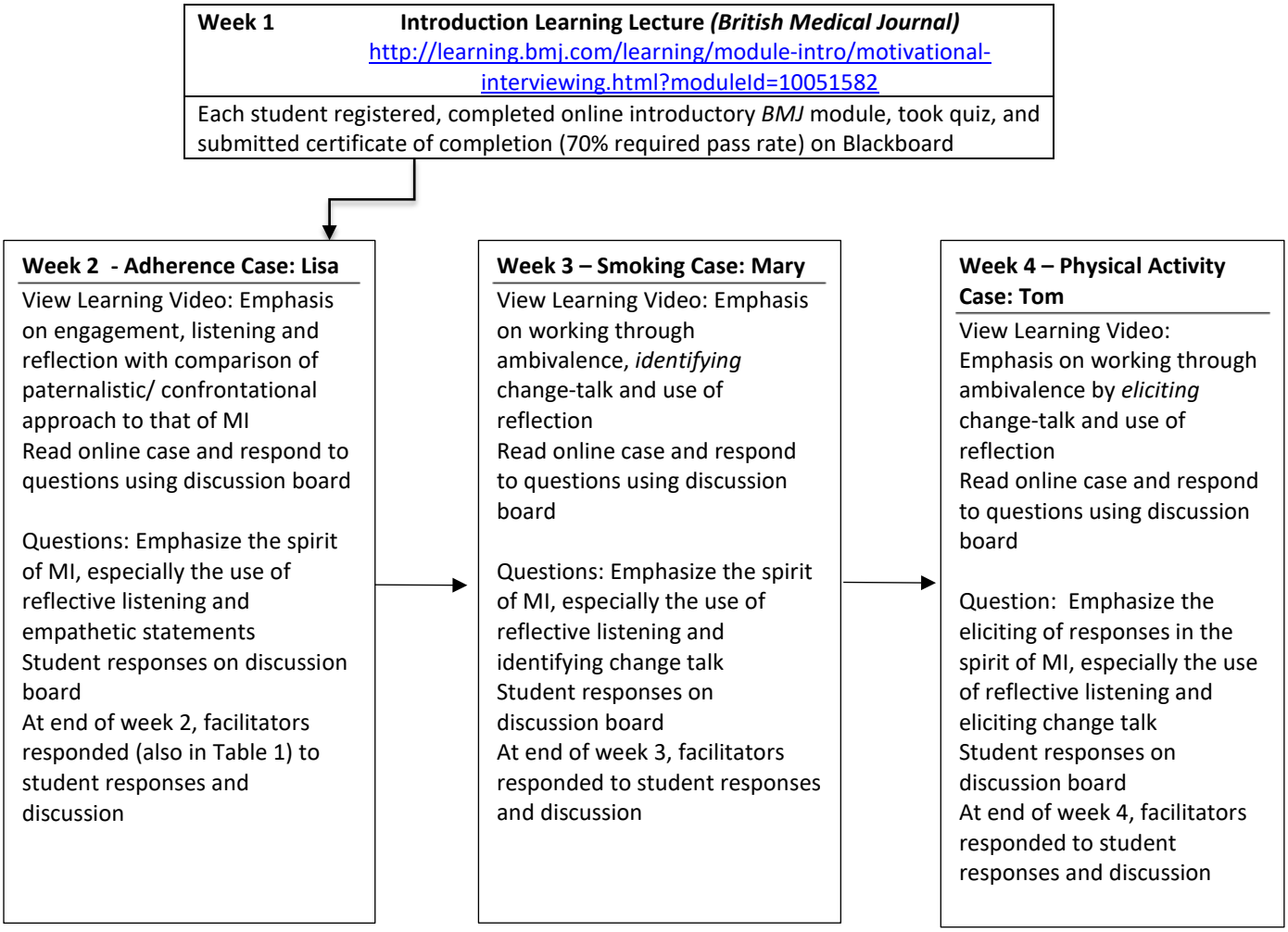
Figure 1. Diagram of IPE-HBC Course Content and Procedure



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