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Interprofessional Student Training: An Evaluation of Teaching Screening, Brief Intervention and Referral to Treatment (SBIRT)

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A total of 478 students from 8 disciplines, including social work, participated in an interprofessional education (IPE) Screening, Brief Intervention, and Referral to Treatment (SBIRT) project. A mixed methods evaluation measured student performance and perceptions of the potential impact of the training. Over 90% of student participants indicated that the IPE SBIRT experience laid the foundation for developing interprofessional collaborative care relationships and served as a cornerstone to help understand one’s respective role as a member of a health care team. Furthermore, students believed the training enhanced their overall educational experience and interprofessional care would lead to improved patient outcomes.

**KEYWORDS** interprofessional collaboration, interprofessional education, interprofessional training, mixed methods, SBIRT

Health profession schools have integrated teamwork and team-based competencies within curricula in response to advancements in the delivery of health care and accreditation requirements. These curricular modifications have emphasized the need to thoughtfully integrate opportunities for students to develop interprofessional skills prior to graduation. Interprofessional education (IPE) is a practice of intentionally creating settings in which students from various disciplines can “learn with, from, and about each other” to effectively collaborate and improve health outcomes (World Health Organization, 2010, p. 7). Although there is a paucity of data, benefits of IPE in the current literature include improved attitude toward interprofessional collaboration (Pelling, Kalen, Hammar, & Wahlstrom, 2011),
communication (Bolesta & Chmil, 2014), team skills (Robben et al., 2012), clinical reasoning skills (Ward et al., 2016), and service care delivery (Awad et al., 2005). For students to have a positive IPE experience, health professions educators are tasked with designing and customizing meaningful interprofessional activities that reflect appropriate and relevant service delivery settings (Hammick, Freeth, Reeves, & Barr, 2007).

One health care and social issue that has recently received increased attention nationwide is substance misuse. The National Association of Social Work (NASW, 2013) views social work practice in the addiction arena to be in “a unique position to influence the delivery of services” (p. 6) and calls for the improvement of services to individuals and families through developing and applying approaches that integrate existing and emerging evidence-based interventions (NASW, 2013). Furthermore, the NASW (2013) promotes social workers understanding the roles and goals of other professionals and work toward effective collaboration “to support, enhance, and deliver effective services to clients with substance use disorders and their families” (p. 17).

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is a Substance Abuse and Mental Health Services Administration (SAMHSA, 2017) evidence-based program, used to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs. SBIRT is a process, easily taught to both students and practitioners across health professions. Although commonly taught independently in health-profession-specific programs, SBIRT lends itself to interprofessional learning as it incorporates common threads of population health, prevention strategies, motivational interviewing skills, and patient-centered care. As a result, this evidence-based program for identifying, intervening, and referring for treatment of substance misuse was selected as a fitting IPE topic for this project. Using SBIRT as the platform for an interprofessional activity, the aim of this study was to evaluate student perceptions of interprofessional learning through a mixed-methods research design with analyses of both quantitative and qualitative data.

METHOD

Sample

This phenomenologically oriented mixed-methods study used a purposive sampling method to recruit health care students via their instructors for participation in an IPE learning experience using SBIRT as a focus. The study follows a triangulation design. A total of 478 students from social work, nursing, pharmacy, medicine, physician assistant, dietetics, and occupational therapy programs from three universities participated in and
evaluated the SBIRT IPE experience. Across the seven participating programs, the majority of students were from the doctor of pharmacy program (291/478 = 61%) with the fewest students from the physician assistant program (6/478 = 1%). Fifty students (10%) were master’s in social work (MSW) students. Sixty-five percent of the participants were female. In terms of racial background, 61% identified as White, 22% Asian, 5% Black, 5% multiracial, and 2% American Indian or Alaska Native. See Table 1 for more participant demographics. Nine students preferred not to answer some or all of the questions, therefore these students were excluded from analysis.

The Office of Research Assurances at the host university determined this project satisfied the criteria for exempt research. SAMHSA required collection of program evaluation information, but did not have involvement in the study design, collection, analysis, or interpretation of data.

### Table 1: Demographics for the Interprofessional Training Using SBIRT Model

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Response</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender; n = 5 refused</td>
<td>Male</td>
<td>162 (34%)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>311 (65%)</td>
</tr>
<tr>
<td>Ethnic background (1 missing); n = 12</td>
<td>Non-Hispanic</td>
<td>436 (91%)</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>30 (6%)</td>
</tr>
<tr>
<td>Racial background; n = 28 preferred not to answer</td>
<td>American Indian or Alaska Native</td>
<td>7 (2%)</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>106 (22%)</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>24 (5%)</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>291 (61%)</td>
</tr>
<tr>
<td></td>
<td>Multiracial(^b)</td>
<td>22 (5%)</td>
</tr>
<tr>
<td>Degree program</td>
<td>Social work</td>
<td>50 (10%)</td>
</tr>
<tr>
<td></td>
<td>Pharmacy</td>
<td>291 (61%)</td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td>40 (8%)</td>
</tr>
<tr>
<td></td>
<td>Occupational therapy</td>
<td>29 (6%)</td>
</tr>
<tr>
<td></td>
<td>Dietetics</td>
<td>25 (5%)</td>
</tr>
<tr>
<td></td>
<td>Nursing</td>
<td>19 (4%)</td>
</tr>
<tr>
<td></td>
<td>Doctor in Nursing Practice (DNP)</td>
<td>18 (4%)</td>
</tr>
<tr>
<td></td>
<td>Physician assistant</td>
<td>6 (1%)</td>
</tr>
</tbody>
</table>

Note: N = 478. Participants were students who participated in an interprofessional training using Screening, Brief Intervention, and Referral to Treatment (SBIRT) as part of their program of study. Programs included: Eastern Washington University School of Social Work and Occupational Therapy Department; Washington State University College of Nursing, College of Pharmacy, Department of Nutrition and Exercise Physiology; University of Washington School of Medicine, Department of Family Medicine MEDEX.

\(^a\)Data were obtained through participant completion of a de-identified survey sent through Qualtrics Research Software Suite.

\(^b\)Participants selected multiple races.
Project Organization and Development

The development of an interprofessional SBIRT training was comprised of faculty from social work (one), nursing (five), pharmacy (three), medicine (one), dietetics (one), occupational therapy (one), and physician assistant programs (one). Six project faculty were certified by the Washington SBIRT Primary Care Integration Program to be local “train-the-trainers” for the SBIRT curriculum (Washington State Department of Social and Health Services, 2017). Faculty participating in this project had prior experience implementing IPE activities. After certification, these faculty trained the remaining grant staff as well as community practitioners serving as preceptors for health professional students.

Project faculty divided into planning teams, each tasked with a different focus: logistics, curating online resources, and case development. The logistics group coordinated how to effectively deliver the interprofessional SBIRT sessions across three campuses involving seven clinical specialties. The curating group developed a rubric to evaluate online resources, focusing on ease of registration and navigation, quality of the content and presentation, and applicability across all disciplines. Medscape’s SBIRT online training (Ahadpour, Froman, & Kleinschmidt, 2017) was initially used, then the Oregon Health Sciences University’s program (SBIRT Oregon, 2017) was used for subsequent trainings. The case development team worked on creating materials for a 2-hr face-to-face interprofessional training session.

First, cases were developed for interprofessional triads of students to use in role plays, with each student taking turns acting as a provider, patient, or observer to provide constructive feedback. Second, complex cases for use with a standardized patient (SP) were developed where each student in the triad was given the opportunity to practice the provider role. Once all cases were developed, all project faculty reviewed and edited for applicability across disciplines.

ROLE PLAY AND SP ENCOUNTER CASE DEVELOPMENT

Each case included the following elements:

1. **Brief background:** Information about the case (e.g., name, age, setting, and reason behind meeting with the provider) for the students to review as an introduction prior to beginning the encounter.
2. **Patient role:** Detailed case information, including a script for the patient’s history, thoughts and feelings on alcohol consumption, and readiness for change.
3. **Provider role:** A brief description of the patient’s chief complaint and a completed Alcohol Use Disorders Identification Test (AUDIT) and/or Drug Abuse Screening Test–10 (DAST–10) questionnaire, including

4. Observer role: A SBIRT brief intervention observation rubric used to provide formative feedback.

Although cases differed in terms of age, setting, and reason for seeking medical assistance, the use of alcohol was a shared focus. All cases were written so the patient role could be portrayed by a male or female student. Patient cases ranged in age from young adult to elderly. The encounter setting was either outpatient clinic or inpatient hospital at the time of discharge.

For the SP simulations, baseline scenarios were developed in which the SP portrayed three different behavioral responses, responding differently to each of the three participants. Readiness to change behavioral responses included being amicable to treatment, minimizing the severity of the problem, or being resistant to change. SP training focused on adequate knowledge of the role as well as ability to provide constructive feedback to students based on the SBIRT model.

Project Implementation: Live Training, Role-Play Cases, and SP Encounters

Faculty from each profession embedded the SBIRT training and evaluation into their respective course curricula. All students were required to complete 2 hr of online training prior to participating in a 2-hr interprofessional active learning experience involving student role play and SP encounters. Multiple small-group sessions were planned to accommodate diverse programmatic student schedules. Varied interprofessional faculty pairs shared teaching responsibilities for all sessions over the course of the semester. Thirty students participated per session and were further subdivided into predetermined interprofessional triads prior to the live training. At the beginning of each session, all student triads were provided a brief introduction and overview of the training. A 6-min video of an SBIRT patient encounter was then shown to the students to demonstrate and reinforce implementation of the SBIRT model (SBIRT Colorado, 2017).

For the student-directed role-play component, the student triads received preassigned roles (patient, provider, or observer) for each of the three cases, as well as the Washington SBIRT Primary Care Integration tool reference card as a resource (Washington State Department of Social and Health Services, 2017). This tool summarizes the low-risk drinking limits, risk levels, readiness ruler, and key SBIRT intervention steps. The student triads were allowed 10 min to review the case materials and role play the case, then an additional 2 min to provide feedback. Roles were then rotated.
following a color-coded system and students proceeded to the next case. After all three cases were completed, faculty debriefed the experience with the students as a large group and provided opportunities for participants to share successful strategies.

The SP encounter followed the role-play component and served as the culmination of the SBIRT learning experience. Students first reviewed background patient information and the corresponding completed AUDIT/DAST–10 tool for the SP scenario. Each student performed a brief intervention using the SBIRT format while the other two students in the triad observed. For each of the three interactions, the SP varied the level of readiness for change according to the script. After all three interviews were complete, the SP provided each student with feedback and encouraged the students to provide constructive suggestions with each other. After the SP encounter, students reconvened as a large group and completed an electronic program evaluation survey. Students were instructed that another questionnaire would be requested in 30 days, as required by SAMHSA. At the conclusion of the SBIRT training session, faculty conducted a large-group debrief, focusing on interprofessional collaboration.

Evaluation of Student Performance and Perceptions

Student perceptions regarding the use of SBIRT as an interprofessional learning modality were measured through an IPE evaluation survey that contained both quantitative and qualitative questions. Students completed the survey immediately after the IPE training. Gender, ethnicity, and degree program information were collected to characterize the sample of students. Based on a previous IPE project conducted by this team of faculty, a modified version of the Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education (SPICE) tool was used (Fike et al., 2013; Ward et al., 2016). The SPICE tool focuses on two of the four Interprofessional Education Collaborative (IPEC, 2011, 2016) core competencies including roles and responsibilities and teamwork. The SPICE tool includes 10 items divided among three subscales: patient outcomes from collaborative practice (SPICE–Outcomes), roles and responsibilities for collaborative practice (SPICE–Roles), and interprofessional teamwork and team-based practice (SPICE–Team). Using the SPICE tool, students rated their self-perceptions about the value or importance of working with an interprofessional team using a 5-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The SPICE tool was selected so that faculty from each discipline could identify areas for improvement of their students’ interprofessional learning.
Seven additional questions, developed for this study, were added to the modified SPICE tool. The first four questions were reported on a Likert scale: Two questions addressed two of the four IPEC core competency domains not addressed in the SPICE tool (communication and collaboration, values and ethics), one question focused on the use of SBIRT as an effective interprofessional learning activity, and one question asked students to rate how useful the activity was to their interprofessional development. Additionally, three open-ended questions elicited student perceptions related to the value of the SBIRT training and its effectiveness as an interprofessional training experience. These questions included the following:

1. Based on your experience, what do you believe are the benefits of an interprofessional team approach to caring for patients with substance abuse behaviors?
2. What about the training was most useful in supporting your work responsibilities?
3. How can the Center for Substance Abuse Training (CSAT) improve its training?

Responses to these three items served as qualitative data for this project. No field notes, focus groups, or audiovisual recordings were used.

Data Collection

Qualtrics Research Suite Software was used to create a Web-based electronic survey that included the modified SPICE tool and open-ended questions. The survey was completed by students at the end of the SBIRT learning activity later. Survey responses were deidentified and data were stored on a password-protected secure server located at the university.

Data Analysis

Quantitative data

Frequencies (percentages) were used to summarize the quantitative data. For each item on the SPICE tool, the percentage of students strongly agreeing or agreeing is reported separately for social work students and students from all other health professions combined, and compared using Pearson’s Chi-square test (two-sided, α = .05). Pairwise statistical comparisons of the agreement between health professions with each other were not performed due to variability that could not be controlled through the study design. The lead faculty member from each professional program independently decided the emphasis placed on the SBIRT training within
their respective courses, and students from different programs were at different points in their professional training. Also, there were large disparities in numbers of students participating from each discipline. The Statistical Package for the Social Sciences (SPSS, version 25.0) software was used.

QUALITATIVE DATA

Qualitative research provides a mechanism for understanding the phenomenon being studied from the perspective of the participants themselves (Jack, 2010). Qualitative methods were explored as a component of data interpretation, in part, by providing context for understanding the data and by helping to facilitate understanding of the context (Russell et al., 2016). In this study, qualitative data analysis was used to further understand the value of SBIRT training in an IPE context from the perspective of student participants enrolled in seven health-care-related disciplines. Applicable items of the 32-item COREQ (Tong, Sainsbury, & Craig, 2007) were applied as a means of ensuring comprehensive reporting of the qualitative data. Qualitative data analysis was conducted by a team of four researchers using principles of inductive reasoning until saturation was reached, which led to the development of conceptual codes and subcodes (Bradley, Curry, & Devers, 2007). Codes provided the basis for the generation of themes that support the resultant theories and outcomes. Importantly, best practice standards of reflexivity and triangulation were employed.

Reflexivity, an iterative process among qualitative researchers, was used as a method for reducing bias during the data analysis (Clancy, 2013; Darawsheh, 2014). Researchers acknowledged the importance of reflexivity and agreed that no comment was to be dismissed or otherwise denigrated, an essential element to minimizing bias. Triangulation, a process of data outcome comparisons across multiple data sets of a single study, which enhances internal validity (Turner, Cardinal, & Burton, 2017), was used to create a more balanced evaluation of this experience. The objective of using a mixed-methods approach was to maximize generalizability with respect to the topic and population studied (Turner et al., 2017).

Development of codes. Using a verbatim transcript of student surveys completed following the SBIRT training program, the iterative process of code development began with independent coding of the data set by four research team members. These four members were then assigned to pairs. The two sets of pairs worked independently of one another to reconcile the codes developed individually. Once consensus was achieved the pairs came together as a single team and reconciled the data once again. This final consensus then allowed for the development of themes.
RESULTS

Quantitative Findings

With the exception of one item on the SPICE tool, the percentages of students scoring items as agreed or strongly agreed were similar between the MSW students and the other seven health professions combined (Table 2). Ninety percent or more of MSW students agreed or strongly agreed with 10 out of 13 items. For the other seven health programs, 90% or more of students agreed or strongly agreed with 11 out of 13 survey items. Both social work students \((n = 38, 76\%)\) and students from the other seven health programs \((n = 335, 78\%)\) scored the item, “My role within the interdisciplinary team is clearly defined, SPICE2-R1,” from the roles and responsibilities for collaborative practice subscale below 90%. Similarly, both social work students \((n = 45, 88\%)\) and students from the other seven health programs \((n = 380, 89\%)\) scored the item, “SBIRT is an effective activity for interprofessional learning,” from the IPEC core competencies below 90%. A lower percentage of MSW students \((n = 39, 78\%)\) scored the item, “Clinical simulations are the ideal place within their respective curricula for health professional students to interact,” from the SPICE team interprofessional, teamwork, and team-based practice subscale compared to students from the other seven health programs \((n = 388, 90\%, p = .003)\).

Qualitative Findings

Three aspects of the interprofessional SBIRT training were analyzed via qualitative evaluation. A total of seven major themes were developed (Table 3). Themes are categorized into usefulness, evaluation, and benefit.

CATEGORY 1: SBIRT TRAINING AND USEFULNESS TO CAREER SPECIFIC RESPONSIBILITIES

Three themes emerged from data related to participant-identified value of the SBIRT training to career-specific responsibilities. These themes were the value of the SP, the role-playing opportunities, and the value of the tools provided by the faculty trainers to support the SBIRT learning activities.

Student participants expressed a high degree of value for learning experiences involving SPs. As one MSW student described it, “The session with the actress was informative and watching peers do it (SBIRT) was helpful.” Another participant noted SP encounters were “real world” in nature.
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Social work students(n = 50)</th>
<th>All other students(n = 426)</th>
<th>(p) value(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student’s Perception of Interprofessional Clinical Education (SPICE)(^c)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Patient outcomes improve from collaborative practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health outcomes are improved when patients are treated by a team of professionals from different disciplines. (SPICE3-O1)</td>
<td>50 100%</td>
<td>413 97%</td>
<td>.21</td>
</tr>
<tr>
<td>Patient satisfaction is improved when patients are treated by a team of professionals from different disciplines. (SPICE4-O2)</td>
<td>46 92%</td>
<td>401 94%</td>
<td>.50</td>
</tr>
<tr>
<td>2. Roles and responsibilities for collaborative practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My role within the interdisciplinary team is clearly defined. (SPICE2-R1)</td>
<td>38 76%</td>
<td>355 78%</td>
<td>.67</td>
</tr>
<tr>
<td>I understand the roles of other professionals within the interdisciplinary team. (SPICE7-R2)</td>
<td>45 90%</td>
<td>376 89%</td>
<td>.75</td>
</tr>
<tr>
<td>1. Team interprofessional, teamwork, and team-based practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with another discipline of students enhances my education. (SPICE1-T1)</td>
<td>48 96%</td>
<td>395 93%</td>
<td>.39</td>
</tr>
<tr>
<td>Participating in educational experiences with another discipline of students enhances my future ability to work on an interdisciplinary team. (SPICE5-T2)</td>
<td>47 94%</td>
<td>402 95%</td>
<td>.86</td>
</tr>
<tr>
<td>All health professions students should be educated to establish collaborative relationships with members from other disciplines. (SPICE6-T3)</td>
<td>48 98%</td>
<td>388 97%</td>
<td>.59</td>
</tr>
<tr>
<td>Clinical simulations are the ideal place within their respective curricula for health professional students to interact. (SPICE8-T4)</td>
<td>39 78%</td>
<td>388 90%</td>
<td>.003</td>
</tr>
<tr>
<td>Health professionals should collaborate in teams. (SPICE9-T5)</td>
<td>48 96%</td>
<td>414 97%</td>
<td>.49</td>
</tr>
</tbody>
</table>
During their education, students from different health care
disciplines should be involved in teamwork in order to
understand their respective roles. (SPICE10-T6)

<table>
<thead>
<tr>
<th>IPEC Core Competencies</th>
<th>50</th>
<th>100%</th>
<th>408</th>
<th>97%</th>
<th>.16</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBIRT is an effective activity for interprofessional learning. (CoreC-Overall)</td>
<td>45</td>
<td>88%</td>
<td>380</td>
<td>89%</td>
<td>.76</td>
</tr>
<tr>
<td>SBIRT is an effective activity for developing mutual respect and shared value among a team of professionals from different disciplines. (CoreC-VE)</td>
<td>48</td>
<td>96%</td>
<td>386</td>
<td>91%</td>
<td>.22</td>
</tr>
<tr>
<td>SBIRT is an effective activity for developing skills to communicate with other health professionals, patients, families, or communities in a responsive and responsible manner. (CoreC-CC)</td>
<td>45</td>
<td>90%</td>
<td>383</td>
<td>90%</td>
<td>.98</td>
</tr>
</tbody>
</table>

Note: N = 478 students; two students preferred not to answer any of the questions. IPEC = Interprofessional Education Collaborative; SBIRT = Screening, Brief Intervention, and Referral to Treatment.

* A 5-point Likert scale was used (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree).

b p-value corresponding to Pearson Chi-square test. c A modified version of the Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education (SPICE) tool was used to measure students' perception of the value and importance of working with an interdisciplinary team. d Three questions were added to evaluate students' perceptions about SBIRT as an effective activity for developing two of the four IPEC core competencies not addressed in the SPICE tool (communication and collaboration; values and ethics).
I thought the training provided valuable learning on how to communicate effectively with patients through different scenarios. Getting constructive feedback on how I counseled patients will help me polish up on my weaknesses in counseling. I also thought the impromptu scenario really helped me get a feel for the kind of interactions I will get in a real-life setting. (Pharmacy student)

Students appreciated the opportunity to practice SBIRT principles and noted these interactions resulted in improved self-confidence and improved self-awareness. This perspective was captured in the following quotes:

It showed me areas I need to improve on when working with clients in need of quick intervention. (MSW student)

Before this training, I would not know where to start with this kind of conversation. I would feel too nervous to do it and would fear losing my patient’s trust if I confronted them about drinking. This training reduced my fear and discomfort. It helped give me a better idea of how patients’ m[a]ly feel about me talking to them about their alcohol use. I am really grateful to have this training. (Pharmacy student)

**TABLE 3** SBIRT Qualitative Analysis Results

<table>
<thead>
<tr>
<th>Course evaluation questions</th>
<th>Aspect of training</th>
<th>Results/themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>What about the training was most useful in supporting your work responsibilities?</td>
<td>Career-specific responsibilities</td>
<td>Major themes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Value of standardized patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Value of peer role plays</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Value of tools</td>
</tr>
<tr>
<td>How can CSAT improve its training?</td>
<td>SBIRT program evaluation</td>
<td>Major themes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Preparation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Variety of learning experiences</td>
</tr>
<tr>
<td>Based on your experience, what do you believe are the benefits of an interprofessional team approach to caring for patients with substance abuse behaviors?</td>
<td>IPE approach to learn about SBIRT</td>
<td>Major themes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Enhanced patient care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Value of perspectives</td>
</tr>
</tbody>
</table>

Note: SBIRT = Screening, Brief Intervention and Referral to Treatment; CSAT = Center for Substance Abuse Training; IPE = interprofessional education.
Feedback from SPs following the simulated learning experiences prompted self-reflection among participants, which was also identified as a valued element of the learning experience. An MSW student said, “Talking and debriefing with the actress afterwards was helpful,” and a pharmacy student stated:

Learning how to effectively utilize motivational interviewing skills was most useful in supporting my work responsibilities. Specifically, I have always been turned off from being involved in patient care because I have not been good at helping patients who do not want my help. However, today I witnessed one of my teammates do an EXCELLENT job at communicating empathetically and compassionately with the standardized patient. This was very inspiring to me and I now have a goal to become a better motivational interviewer.

Students conveyed that interprofessional interaction during SBIRT training was beneficial because they could learn with, from, and about interprofessional peers when preparing for role-play activities and when observing these peers during role-playing tasks. Peer feedback was highly valued by participants and was viewed as reflecting that students appreciate opportunities to engage in meaningful education-based conversations with interprofessional peers. Participants further noted valuing role-play opportunities as practice for gaining skills in navigating difficult conversations with future patients.

Students valued SBIRT as a set of skills to use in their professional roles, noting it provides a structure for future work-related discussions with patients related to substance (mis)use. Appreciation of motivational interviewing skills as a tool for navigating these discussions was also highlighted. Student participants also expressed appreciation for handouts provided as part of the SBIRT training. These included a pocket card with cues for SBIRT steps and resource links for use before, during, and following the SBIRT training.

**CATEGORY 2: SBIRT PROGRAM EVALUATION**

Two themes were identified for focus areas of improvement. These included more preparation for an interactive training session and an interest in expanding the variety of learning experiences.

Despite being asked how CSAT could improve the training, students across professions provided positive comments in addition to constructive feedback. Many students felt having additional opportunities to work collaboratively with SPs would be beneficial to enhancing teamwork and communication skills. For instance, a physician assistant student suggested, “More time for role playing and feedback, specifically with the actor.” MSW
students made similar comments, including, “I liked collaborating with other professions” and “More instruction on how to start the conversation, experience with multiple types of clients ..., more information on resources/interventions available to different clients.”

Students across disciplines indicated that they wanted more orientation to preclass training opportunities, more review of SBIRT skills during the training, and use of more reliable distance technology. Although students completed a 2-hr online training prior to attending the group session, it was evident that levels of preparedness varied. Despite wanting more direction at the beginning of the didactic training, students expressed that they still felt more prepared after practicing the role plays and with an SP. One pharmacy student stated:

I think that it would have been helpful to have more of a review of the SBIRT concepts before we jumped right into practice. I felt unprepared at first, but after practicing I definitely feel more prepared to speak with an actual patient.

Students across disciplines indicated that they would like to have both more discipline-specific and a wider variety of role-playing scenarios. This was captured by statements such as, “The SBIRT training should have more motivational interviewing skills than just the ones that are there now” (Medical student) and “Making the scenario specific to our specialty” (MSW student). Students also requested to have trainers provide more resources to support the experience and provide more resources for referral options to use once in practice. Resources were identified as possible training quality improvement examples such as, “more information on resources/interventions available to different clients” (MSW student), and “Providing resources [locally] that we could give to our clients—that will increase our knowledge of resources as well as help us practice” (Nursing student).

Some participants also indicated that knowing how to refer patients to treatment would be helpful, commenting, “More training on how to refer a patient to treatment or offer other services” (Medical student), and “How to offer more to the patient after doing the SBIRT part” (Occupational therapy student).

Students wanted more information on SBIRT background, its effectiveness, and help with implementing it into practice. Students said, “It would be great to get copies of the guidelines and materials for future reference” (Pharmacy student), and, “I’d be interested in a little information on how this technique and training creates change—numbers or stories of its effectiveness” (Physician assistant student). Overall, students were satisfied with the training as represented by this quote: “I thought it was great. I wouldn’t change anything” (MSW student).
CATEGORY 3: BENEFIT OF INTERPROFESSIONAL LEARNING RELATED TO SUBSTANCE USE

Two themes formed from participant data related to the benefits of an interprofessional approach to learning. These themes encompassed enhanced patient care and the value of bringing the perspectives of others into the learning experience.

Students across disciplines identified that an interprofessional approach with collaboration and access to more disciplines would lead to improved delivery and quality of patient care. Students noted that an interprofessional approach supported more holistic care. For instance, MSW students described the importance and benefit of collaborative care as, “I think integrative care is really important and can benefit the client because they are being seen (w)holistically,” and, “Patients receive quality care from a variety of professionals. Different care providers are on the same page and can effectively treat the patient from all angles.” A pharmacy student stated, “I believe working together will give better patient outcomes every time. The patient will know that multiple people care about their health, which will motivate them to change.”

Using an interprofessional approach to the training helped participants learn about, and learn from, other disciplines and that profession’s approach to a difficult real-world problem. Students valued “facing challenges as a group and listening to different viewpoints” (Medical student) and incorporating multiple approaches to patient care. Students valued learning from peers, as it broadened their perspectives. For instance, an MSW student reported, “I loved having a pharmacy student in my group to hear another perspective and what else to look for that’s not in my scope of practice.”

Students across disciplines noted that the training enhanced their own role identity and improved their understanding of the roles of other disciplines. The training provided students the opportunity to directly observe how other health professions might approach and handle a difficult situation. A pharmacy student captured the impact of collaboration on enhancing patient care as, “Everyone has their strengths, [which may be] why they are in different programs. Being with a student [from another discipline] helped me learn how to be an effective motivational interviewer because of how GREAT she was at effectively counseling the patient.”

An MSW student pointed out, “Each team member sees only one snippet of an individual’s life. Working collaboratively would be effective because you would understand the client and their needs.”
DISCUSSION

SBIRT training and IPE represent two elements of current best practice across professional health education programs. Strategies for IPE are in the early stages of development. This study serves to illuminate the utility of SBIRT as an IPE platform for student learning. SBIRT training was used as a vector for training interprofessional students from three universities and across seven professional programs using a mixed-methods study design. Findings from this study support the effectiveness of using SBIRT as a strategy for delivery of IPE.

Quantitative and qualitative data triangulate to reveal that student participants across disciplines hold core beliefs that health outcomes will improve when care is provided via an interprofessional team. Additionally, data reveal that participants across disciplines believe their abilities to practice as members of an interprofessional care team will be enhanced as a result of the SBIRT training delivered in an IPE format. These findings align with improved attitudes about interprofessional collaboration and team skills as a result of IPE found in other studies (Pelling, Kalen, Hammar, & Wahlstrom, 2011; Robben et al., 2012). There is also data agreement regarding the high degree of value student participants placed in the SP model of simulation used in this project.

Study findings underscore the value of IPE experiences among health care students. Over 90% of student participants indicate IPE experiences enhance their overall education, lay the foundation for developing interprofessional care relationships in future practice, and improve the ability to understand the role of others on the team. Students overwhelmingly agree (97%) that IPE experiences are a cornerstone element in helping them to understand their respective roles. The qualitative data echoed these quantitative findings. These findings seem similar to increased perceptions of professional competencies, understanding of roles, and need for collaboration found in an interprofessional alcohol and drug screening study completed by Puskar et al. (2016). Although this study resulted in improved understanding of the role of others on the team, there is evidence to suggest that students would benefit from direct instruction regarding the role of each professional within an interprofessional care model and that such instruction occurring before the IPE training would enhance the training itself. Qualitative results indicate that using SPs contributed to interprofessional learning in meaningful ways.

Both MSW students and students from the other seven health programs scored the item “My role within the interdisciplinary team is clearly defined, SPICE2-R1” lower. Uncertain terminology (e.g., multidisciplinary team roles vs. interprofessional care team roles) might have contributed to lower agreement with this survey element. As a result, self-identification of one’s role or other professional roles might not be fully realized. Other factors that might have
influenced lower agreement include students working as peers rather than in specific health care roles during this training. Also, significant time was not dedicated to assist students with linking SBIRT screening specifically to each profession. Scenarios, likewise, were designed to be broad and not profession-specific. Because SBIRT is not extensively modeled in practice, students might be unable to see a direct link to a profession-specific role, as noted in the qualitative data. In addition, students in the early stages of their program might not have the context to self-identify their own role.

Although social work as a discipline scored similarly to the other disciplines in most areas measured, social work stood out in one subscale on team interprofessional, teamwork, and team-based practice, viewing the use of clinical simulations within one’s curriculum as the ideal place for interprofessional interaction. Compared to 90% of students across disciplines agreeing with this element, 78% of MSW students either agreed or strongly agreed. The participating MSW students began their practicum at the time of training. Thus, it is possible that they saw working with actual team members and clients as more beneficial than simulations with other students. Interprofessional clinical simulations prior to the start of practicum might be a better time to offer such trainings. A major challenge and opportunity for social work education could involve finding creative ways to infuse IPE contents into an existing curriculum when the existing curriculum is already full. A relatively short training such as SBIRT might be a feasible way to achieve the infusion of IPE in micropractice and health-focused classes.

Student participants across disciplines believed this IPE training effectively supported IPEC core competencies including interprofessional communication, and the importance of shared values and mutual respect (IPEC, 2011). Having multiple practitioners delivering the same message to a single patient enhances the probability the patient will ultimately follow through. Further, findings from this study suggest that IPE SBIRT training could improve a practitioner’s ability to refer to others on the interprofessional team as a function of improved understanding of the role of various team members.

STUDY LIMITATIONS

Most study limitations are related to the logistics and timing of this training. The online asynchronous training gave students a baseline level of knowledge, but time between online and in-person training varied, affecting the ability to remember and apply the information in the live training. Although students completed the same online training, there was variation in how close they were to graduation, creating differences in comfort level and performance in the live training sessions. The inability to conduct member checking represents a limitation of the qualitative data. Because of the large numbers of pharmacy
students, frequently each profession could only work with one other profession. Therefore, the generalizability of the findings might be limited.

CONCLUSIONS AND RECOMMENDATIONS

The aim of this study was to evaluate the perceptions of student learners regarding interprofessional collaboration when SBIRT, in conjunction with the use of SPs, is used as the basis for simulation-based learning experiences. Findings from this mixed-methods study suggest SBIRT is an effective vector for interprofessional learning, supports the foundation for the development of interprofessional relationships, and reinforces core beliefs that interprofessional care leads to improved patient outcomes. Based on this study, using a population health approach for IPE, such as SBIRT, provided a meaningful focus area of training. Using SPs, when feasible, is seen as a valuable component of interprofessional simulation-based trainings.

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