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Substance Use Disorder Training Workshop for Future Interprofessional Health Care Providers

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Abstract

Introduction: Rates of substance use disorders, including opioid misuse, continue to rise despite national initiatives. Because of this, health professional schools from Rhode Island joined together to design and implement a single-day interprofessional education workshop on substance use disorder training. **Methods:** This workshop consists of four sessions. The first is a patient panel featuring both patients recovering from substance use disorders and their health care providers. Next is a naloxone administration training session. This is followed by a standardized patient session featuring an individual who requires nonopioid options for chronic pain treatment and in which health professional students work together to take a history, perform a physical examination, and develop a treatment plan. Finally, the last session is a complex paper-based case study focusing on a homeless individual with diverse medical problems requiring multifaceted care. **Results:** A total of 540 students from a variety of health care professions participated in the workshop. Students were asked to evaluate each component of the workshop, as well as the workshop overall, on a 6-point Likert scale (1 = *poor,* 6 = *outstanding*). Students rated the overall workshop at 76% (4.54 out of 6), and the sessions received ratings ranging from 67% (4.01 out of 6 for the case study) to 83% (4.96 out of 6 for the patient/provider panel). **Discussion:** This curriculum can be adapted and implemented at other medical schools to provide opportunities for future health care professionals to learn how to work effectively in interprofessional teams to manage substance use disorders.

Keywords

Interprofessional Education, Substance-Related Disorders, Opioids, Health Care Students, Naloxone

Educational Objectives

By the end of this session, learners will be able to:

1. Participate in an interprofessional team to elicit a focused history and brief physical exam identifying a substance use problem (screening).
2. Develop, implement, and evaluate an interprofessional care plan including behavior change counseling (brief intervention), referral to treatment, and nonopioid options for treatment of chronic pain.
3. Reflect on student/learner perceptions of patients who suffer from substance use disorder.
4. Identify, discuss, and document factors that may impact the patient's health, including diverse medical problems, active substance misuse, and social challenges such as homelessness, stigma, and lack of social support that impede medical care.
5. Demonstrate knowledge of overdose prevention, including risk factors for an opioid overdose, clinical presentation of an opioid overdose, correct use of naloxone, and who can receive a prescription for naloxone.

Appendices

A. Patient Provider Panel Materials.docx
B. Naloxone Training Session Materials.docx
C. How to Use the VA Intranasal Naloxone Kit .mp4
D. Standardized Patient Activity SP Case Guide .docx
E. Standardized Patient Activity Faculty Facilitation Guide.docx
F. Standardized Patient Activity Rubric.docx
G. Case Study Session Faculty .docx
H. Case Study Session Student.docx
I. Student Agenda Rotations .docx
J. OOKS Pre- & Posttestpdf
K. GPRA Training Baseline Survey.pdf
L. Assessment Plan.docx

All appendices are peer reviewed as integral parts of the Original Publication.

Introduction

Across the United States and particularly in Rhode Island, the rate of opioid-related deaths has increased significantly over the last decade.[1] In response to this widespread public health crisis, medical schools across the country are implementing curricula dedicated to training future health care providers in opioid misuse treatment. According to the Liaison Committee on Medical Education's 2014-2015 annual medical school questionnaire, nearly 97% of surveyed medical schools reported that "content on substance abuse was included in required course(s)." Similarly, nearly 97% of medical schools indicated that they incorporate content on "pain management," through either their preclinical courses or clerkships.[2]

The Warren Alpert Medical School of Brown University has worked to facilitate substance abuse disorder education in both its preclinical and clinical curricula and has been supported in part by an SBIRT (Screening, Brief Intervention, and Referral to Treatment) grant. Other health professional institutions across Rhode Island have likewise worked to integrate opiate training and awareness into the general curriculum. Biannually, the Warren Alpert Medical School hosts an interprofessional education (IPE) workshop in collaboration with the Rhode Island College School of Nursing, the Rhode Island College School of Social Work, the University of Rhode Island College of Pharmacy, the University of Rhode Island College of Nursing, the University of Rhode Island Physical Therapy Department, and the Salve Regina University Department of Nursing. This workshop attempts to simulate the real-world situations in which preclinical and clinical health professional students will encounter patients with substance use disorders, and the communality of this training encourages consistency and collaboration among providers dealing with patients throughout the various stages of intervention and recovery. Our medical students were in their second year of undergraduate medical education training, just prior to entering the clinical years, with limited previous experience working in interprofessional teams. We believe it is important to provide this training at the beginning of their third year, prior to the time when students will be working alongside nurses, pharmacists, social workers, physical therapists, and other health care professionals.

Several curricular initiatives have used an interprofessional approach as a means to most closely replicate real-world situations. Because physicians will rarely be the sole provider caring for patients with opioid use disorder, bringing learners together in a collaborative interprofessional environment to focus on substance use disorder treatment is both pertinent and necessary. For example, one such module teaches internal medicine residents, pharmacy learners (both residents and students), and psychology graduate students how to manage chronic pain collaboratively in an outpatient setting.[3] Another module examines the interprofessional care of adolescents and substance abuse.[4] Finally, the University of California, San Francisco, School of Medicine created a module wherein social workers are trained to teach emergency medicine residents SBIRT in the workplace.[5] However, to our knowledge, there are no modules integrating medical, nursing, pharmacy, social work, and physical therapy students in the diagnosis, treatment, and prevention of opioid use disorders published in MedEdPORTAL or elsewhere. In addition, for the modules that do exist, the focus, at least for medicine, is on residency training, rather than undergraduate medical education. Our module is thus unique in both the breadth of health professionals trained and the earlier clinical stage at which we target these learners. The workshop sessions are also designed to address the Interprofessional Collaborative Practice four core competencies[6]:

1. Work with individuals of other professions to maintain a climate of mutual respect and shared values.
2. Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.
3. Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.
4. Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

Methods

We created a 4-hour workshop in which we organize health professional students into small, interprofessional teams of four to five students comprising representatives from the health care disciplines of medicine, nursing, pharmacy, and social work, with some teams also having a physical therapy student. As a team, students participate in a series of activities intended to both provide training and simulate realistic multidisciplinary treatment environments. The workshop consists of four distinct curricular elements; the session materials are included in Appendices A-H, along with logistics provided in Appendix I and an evaluation plan in Appendices J-L. These elements are intended to highlight specific aspects of opioid misuse, along with what each profession contributes to the care of patients with this disease. All teams rotate through stations designed to address each of these components.

Patient Panel

In this session, the health professional students attend a 45-minute patient panel presentation and discussion. Individuals with a history of substance use disorders present their personal stories and experiences with addiction and recovery. The patients should all have a history of substance use disorders and be currently undergoing treatment with either buprenorphine or methadone. The goal of this panel is to attempt to decrease the stigma associated with substance use disorders and to expose students to real-life experience with successful treatment options. In this session, patients first tell their story, and students are then able to ask questions. The session should be moderated by an attending physician or physician assistant with experience in caring for patients with substance use disorders. At the conclusion of the session, students are asked to provide a rapid reflection regarding their experience (Appendix A). Students are given 3 minutes to complete the rapid reflection prompts. We do not elicit themes of working in interprofessional teams. The prompts do not ask students to reflect on this aspect of the training but rather to focus on how their individual attitudes have been impacted by the patient panel. Four administrators then read the responses and code them based on underlying themes. After our implementation, themes among the students were similar across professions and reflected qualities that we aim to address in the workshop. Major themes included being compassionate, empathetic, and humanistic.

Naloxone Training

In this 50-minute session, students learn how to identify an opioid overdose and how to properly administer intranasal naloxone. An expert in naloxone training shows a brief video (Appendix C), then demonstrates to the students how to assemble a multistep intranasal naloxone device. Interprofessional teams of students then practice counseling each other for approximately 25 minutes, using appropriate cues to administer and demonstrate the use of naloxone in the presence of an experienced trainer who also informally evaluates the pairs. Multistep intranasal naloxone demonstrator kits can be used to allow pairs to practice and demonstrate kit assembly. A health professions faculty member should be assigned to each small group; a faculty guide (Appendix B) is provided to facilitate the interaction.

Standardized Patient Case

In the clinical skills suites, a standardized patient simulates a patient who is misusing oxycodone. Each standardized patient is provided with a case guide (Appendix D). In this 50-minute case, each team of health professional students (including medical students, nursing students, pharmacy students, social work students, and, in some teams, physical therapy students) is asked to obtain a history, perform a brief focused physical examination, and demonstrate the appropriate use of the SBIRT approach. For each team, a faculty member from one of the participating health professional schools observes the team interaction with the standardized patient and provides feedback at the conclusion of the case. Each faculty member is provided with a facilitation guide and a rubric (Appendices E & F, respectively).

Case Study

During a 50-minute session, each team is asked to work together on a paper-based complex patient case focusing on a homeless individual using heroin. As a team, health professional students are asked to develop a care plan that incorporates the unique perspectives from each of their disciplines. We do not

provide probing questions to guide the discussion so as to allow the discussion to remain as naturalistic as possible. The teams debrief with faculty in a large-group session after individual teamwork has been completed. Both faculty facilitators and students are provided with handouts for this session (Appendices G & H, respectively).

Logistics

Student teams are split into three large rooms, referred to as academies (named Red, Green, or Blue). Each academy has a separate common-room area that serves as a meeting place for students between sessions. Each academy has 18 student teams, and students rotate by academy, as outlined in Appendix I. Each student is provided with a personal agenda with his or her name and academy assignment (e.g., Blue 10). Upon arrival, all students report to their assigned academy for introductions and a brief orientation to the workshop. Students then travel to the first workshop component listed on their agenda. After the first session ends, students return to their assigned academy before going to the patient panel. The patient panel is held in three separate rooms during the same time block; therefore, all students attend the patient panel at the same time (each room has an attending physician or physician assistant moderating and two to three patients). After the patient panel, students return to their assigned academy and await instructions to proceed to the second session. Students attend the second session, return to their assigned academy, and then move to the third session. In short, students should finish a session, return to their assigned academy, and be guided by an administrator to the next session location listed on their agenda. At the end of the last session, students leave the medical school.

Evaluation

Direct assessment includes a pre- and posttest adapted from the Opioid Overdose Knowledge Scale[7] that are administered to medical students to measure knowledge of opioid overdose at baseline and at 12 weeks postworkshop (Appendix J), respectively. Indirect assessment includes a standardized satisfaction survey (Appendix K) administered to medical, nursing, pharmacy, and social work students complicit with the Government Performance and Results Act (GPRA).

At the conclusion of our workshop, a number of evaluations are administered to student participants. Students from all specialties are asked to report on their satisfaction with the training through a deidentified survey, with terminology complicit with the GPRA as required by the Substance Abuse and Mental Health Services Administration grant funding. Additionally, medical students are required to complete a pretest and posttest, created using a revised version of the Opioid Overdose Knowledge Scale, to measure baseline knowledge and retention. In addition, medical students are surveyed about their experiences in this workshop by rating the overall workshop and the individual workshop components on a 6-point Likert scale, with 1 = *poor* and 6 = *outstanding* (Appendix L).

Results

A total of 540 students participated in the single-day substance use disorder training at the Warren Alpert Medical School of Brown University. This included 120 second-year medical students (from the Warren Alpert Medical School of Brown University), 118 pharmacy students (from the University of Rhode Island College of Pharmacy), 209 nursing students (from the University of Rhode Island College of Nursing and the Rhode Island College School of Nursing), 33 physical therapy students (from the University of Rhode Island Physical Therapy Department), and 60 social work students (from the Rhode Island College School of Social Work).

In addition, across the 2 half-days, the workshop incorporated many faculty members from a variety of institutions and professions, including the following:

- Eight physicians affiliated with the Warren Alpert Medical School of Brown University.
- Eight nurses from the Rhode Island College School of Nursing.
- Eleven social workers from the Rhode Island College School of Social Work.
- Seven nurses from Salve Regina University Department of Nursing.
- Nine nurses from the University of Rhode Island College of Nursing.

- Two pharmacists from the University of Rhode Island College of Pharmacy.
- Eleven pharmacy residents from the University of Rhode Island College of Pharmacy.
- Thirty-four fourth-year medical students serving as teaching assistants at the Warren Alpert Medical School of Brown University.
- Fifteen registered nurses.
- Four nonclinical volunteers.
- Two health technicians.
- One physician assistant.

Thus, there was great diversity in professional specialty amongst the faculty facilitators. Most of the faculty members from the seven partner institutions had some experience with IPE, either through the implementation of their individual curriculum or from previous iterations of this workshop.

On the Opioid Overdose Knowledge Scale, medical students (N = 120) scored a mean of 40.84 out of 54 points (SD = 5.36) at baseline and a mean of 47.94 out of 54 points (SD = 3.20) at a 12-week follow-up (N = 72, approximately a 60% response rate), demonstrating a significant increase in knowledge from pretest to posttest ($p < .001$). Student satisfaction data from medicine, nursing, pharmacy, social work, and physical therapy (N = 272) were gathered through the GPRA training satisfaction survey. The results revealed a high degree of satisfaction regarding the overall quality of the training (4.47 out of 5, SD = 0.75), the quality of instruction (4.53 out of 5, SD = 0.73), the quality of training materials (4.46 out of 5, SD = 0.77), the training experience (4.52 out of 5, SD = 0.75), and the organization of the training (4.50 out of 5, SD = 0.73). Further analyses of both the GPRA survey and the Opioid Overdose Knowledge Scale are summarized in Monteiro et al.[8]

A majority of medical students (79 out of 120, a response rate of 65.8%) provided evaluations of the IPE Day workshop. Students were first asked to select their favorite and least favorite sessions of the IPE Day. Nearly half of the students (46.84%, n = 37) indicated that the standardized patient session was their favorite component. Of the other options, 27.85% of respondents (n = 22) selected the patient/provider panel, 18.99% (n = 15) selected the overdose prevention/naloxone session, and 6.33% (n = 5) selected the case study activity as their favorite session.

The students were then asked, “What about this session made you choose it as your favorite?” This gave students an opportunity to clarify the highlights of the workshop and which aspects should be preserved in future iterations of this event. The patient panel received much positive feedback, including the following commendation:

> It was an eye-opening session to hear the first-hand experiences and narrative of patients, not only enduring challenges with addiction but also about their experiences with the healthcare system. It opened my eyes, it humbled me, and it made me realize the importance of compassion in caring for this population.

In general, students felt that the sessions they enjoyed were enhanced by the team dynamic, as evidenced by the following commentary: “[I liked that] I did hands on interaction and goal-oriented teamwork with other health professional students. It was the best glimpse into what it looks like when we all work together.”

Attendees were then asked to identify their least favorite component of the IPE Day. Over half of the students (51.90%, n = 41) indicated that the case study activity was their least favorite component. Of the other options, 22.78% of respondents (n = 18) chose the overdose prevention/naloxone session, 16.56% (n = 13) chose the standardized patient session, and 8.86% (n = 7) said that the patient/provider panel was their least favorite activity. There was again a follow-up question that asked respondents, “What about this session made you choose it as your least favorite?” Many of their grievances were unavoidable, such as objections regarding timing and the logistics of working on interprofessional teams. However, some comments were constructive, including suggestions asking for more structure/guidance during the case study discussion. One student commented, “We need more time to effectively address the complex

problem of opiate addiction. More direction for specific roles for the various team members would also be good." These sentiments were echoed in other comments, and thus, should this event be recreated elsewhere, the session could benefit from additional instructive material beyond that which we provide.

The next section asked medical student attendees (*N* = 120) to evaluate each session individually and the workshop overall using a 6-point scale (1 = *poor,* 6 = *outstanding*). The overall quality of the workshop was rated at 76% (4.54 out of 6, *SD* = 0.94). The standardized patient session was rated at 79% (4.75 out of 6, *SD* = 1.13), the patient/provider panel at 83% (4.96 out of 6, *SD* = 1.07), the case study at 67% (4.01 out of 6, *SD* = 1.12), and the overdose prevention/naloxone session at 76% (4.54 out of 6, *SD* = 1.08).

Discussion

We designed an interprofessional workshop focused exclusively on substance use disorders, about which medical students reported high levels of satisfaction. Although medical students had already been exposed to substance use disorders and SBIRT techniques prior to their participation in the workshop, the positive feedback indicates the workshop was not redundant but rather positively reinforced previous education while also highlighting the importance of interprofessional practice. Aligning the workshop with the core competencies for interprofessional collaborative practice provided opportunities for students to identify their role in an interprofessional team, identify the duties and responsibilities of other health care professional students' roles, and employ a team dynamic that best addressed the needs of the patient in the standardized patient case and the complicated case study. The patient panel provided students with an opportunity to experience in a climate of mutual respect the real-life personal histories of individuals who suffer from addiction. Finally, the naloxone session allowed students to explore their own role and knowledge in dealing with a patient who may have experienced an overdose and is in need of naloxone, as well as how to educate patients and their families on using naloxone.

Limitations

This curriculum is limited by its very definition. It is a single-day, isolated simulation session. To continue developing knowledge, skills, and attitudes, students need repeated exposure to the topics and methodologies. Such repeat training would best be done in actual clinical settings in order to more closely mimic the future interactions for which students are preparing. Our results are also limited in their scope since we surveyed only medical students in the knowledge measure. While it is possible to extrapolate that other health professional students gained knowledge about opioid misuse from this workshop, we cannot say so definitively. Assessing the longitudinal impact of this educational intervention by surveying these students at the end of their third year may shed light on how their experiences in clinical rotations interact with the knowledge, attitudes, and skills our workshop sought to encompass.

Conclusions and Reflections

Reflecting on the implementation and evaluation of our workshop, we plan to keep the patient panel and the standardized patient case similar for the next iteration due to high ratings of satisfaction. Moving forward, we will likely adapt the naloxone training to focus more on indications for, and counseling patients on, naloxone rather than the actual mechanism of administering naloxone (which will become less important as new naloxone products are approved and introduced to the market). The complicated case was rated lowest by our students in the curriculum evaluation; thus, we are currently exploring new pedagogies to increase student engagement in the session. In addition, building a longitudinal aspect into the program, where health professional students continue to work together beyond the workshop, is a goal of ours, perhaps centered around helping to navigate patients who are dealing with opioid misuse. Though logistically challenging, assessing knowledge as demonstrated on the Opioid Overdose Knowledge Scale among all health professional students would be comprehensive.

We believe this curriculum was effective in allowing students from a number of different health professions the opportunity to think about and work on opioid misuse disorders. This workshop allows students from a variety of health care professions and with varied levels of prior exposure to and knowledge of opioid misuse to gain practical experience in a low-stakes setting. While we hosted the workshop as a single half-day session, other schools may divide the four areas into modules that can be

completed on different days. However, given the complexity of organizing students across multiple schools and professions, holding all sessions in a single half-day was most reasonable in our circumstances. With that in mind, we believe that this resource is adaptable and transferable to other health care education institutions. Furthermore, it can be a valuable educational tool to introduce students to substance use disorders and interprofessional health care or to supplement previous exposure to these topics.

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Ethical Approval
Reported as not applicable.

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