Oregon Health & Science University
School of Medicine

Scholarly Projects Final Report

Title *(Must match poster title; include key words in the title to improve electronic search capabilities.)*

Using the Transtheoretical Model to Address Substance Use Disorders: A Short Course for Postgraduate Medical Education

Student Investigator's Name

Michael Dehn

Date of Submission *(mm/dd/yyyy)*

XX/XX/XXXX

Graduation Year

2022

Project Course *(Indicate whether the project was conducted in the Scholarly Projects Curriculum; Physician Scientist Experience; Combined Degree Program [MD/MPH, MD/PhD]; or other course.)*

Scholarly Projects Curriculum

Co-Investigators *(Names, departments; institution if not OHSU)*

Jeanne Rosner, P.A. Evergreen Treatment Services

Mentor's Name

Ashley Valentine, M.D., Ph.D.

Mentor's Department

Anesthesiology

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Concentration Lead's Name

Mark Baskerville, M.D., J.D., M.B.A.

Project/Research Question

To create a simple and practical framework for medical residents based on the transtheoretical model to improve provider comfort with treating patients with substance use disorders

Type of Project *(Best description of your project; e.g., research study, quality improvement project, engineering project, etc.)*

Educational Curriculum

Key words *(4-10 words describing key aspects of your project)*

Substance Use Disorders, Transtheoretical Model, Resident Education, Stages of Change, Addiction

Meeting Presentations

If your project was presented at a meeting besides the OHSU Capstone, please provide the meeting(s) name, location, date, and presentation format below (poster vs. podium presentation or other).

This educational seminar will be offered to residents and fellows in the Anesthesiology and Perioperative Medicine Department as part of the didactic lecture series

Publications *(Abstract, article, other)*

If your project was published, please provide reference(s) below in JAMA style.

N/A

Submission to Archive

Final reports will be archived in a central library to benefit other students and colleagues. Describe any restrictions below (e.g., hold until publication of article on a specific date).

No restrictions

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Next Steps
What are possible next steps that would build upon the results of this project? Could any data or tools resulting from the project have the potential to be used to answer new research questions by future medical students?

A before-and-after survey was created to assess the efficacy of the curriculum, but scheduling did not permit inclusion of these results and suggestions in this report. Use of these results will provide guidance in improving future iterations of this course. Furthermore, it may be possible to assess whether participation in this curriculum improves health outcomes such as AMA discharges, IMPACT team consults, referrals to recovery centers, or prescriptions for medications to aid recovery (methadone, suboxone, naltrexone, etc.)

Please follow the link below and complete the archival process for your Project in addition to submitting your final report.

https://ohsu.ca1.qualtrics.com/jfe/form/SV_3ls2z8V0goKiHZP

Student's Signature/Date *(Electronic signatures on this form are acceptable.)*
This report describes work that I conducted in the Scholarly Projects Curriculum or alternative academic program at the OHSU School of Medicine. By typing my signature below, I attest to its authenticity and originality and agree to submit it to the Archive.

X _____
Student's full name

Michael Dehn

Mentor's Approval *(Signature/date)*

X _____
Mentor Name

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Report*: Information in the report should be consistent with the poster, but could include additional material. Insert text in the following sections targeting 1500-3000 words overall; include key figures and tables. Use Calibri 11-point font, single spaced and 1-inch margin; follow JAMA style conventions as detailed in the full instructions.*

Introduction *(≥250 words)*

Substance use disorders are one of the most important causes of morbidity and mortality in the United States. Even surveys reliant on self-reporting by non-incarcerated individuals, and which excluded tobacco use, found that about 7% of Americans met criteria for some use disorder. Morbidity and mortality is significantly higher in this population, with some studies suggesting alcohol and tobacco alone account for almost 30% of all mortality in this country. Though clinicians are trained extensively in managing sequelae from these behaviors, we receive very little training in addressing the behaviors themselves and thus avoiding their often disastrous consequences. Because patients may be hesitant to seek specialized care, and because substance use disorders frequently interfere with addressing other medical issues, it would be advantageous for clinicians to be familiar with and have a framework to recognize and address these disorders. Furthermore, such a framework could reduce the frustration, cynicism, and burnout that treating this population can sometimes lead to among physicians. Residency represents an ideal time to introduce such a framework, as learners are building the skills and habits that will serve them throughout their careers.

In designing this course, I used elements of a training I received in substance use disorder counseling which distilled elements of the transtheoretical model to provide a simple, actionable, and memorable framework. While there is no evidence to support this model's superiority to others, it has the benefit of widespread use and a large body of research behind it. At the core of this framework is the transtheoretical model's "Stages of Change," a lexicon often adopted by clinicians which will thus be recognizable to many learners and those they interact with. I also included sections on basics of addiction medicine, understanding the unique biopsychosocial characteristics of these populations, and working toward a 'therapeutic relationship,' as these are also key to effectively treating patients with these disorders.

Although it would be desirable to assess the efficacy of this course, and to use participant feedback to improve further iterations, no classes had been offered by the time of this report. A before-and-after survey has been created, and assessments and improvements will be made based on this feedback.

Methods *(≥250 words)*

All of the materials for this course were authored by myself, with constructive input from both my mentor and a practicing addiction medicine specialist with whom I worked in the past. While the intended audience is anesthesiology residents at OHSU, and some of the material is site-specific, it could easily be altered for other learners or learners at other sites.

The course is broadly split into two parts- a prereading assignment and a participatory seminar using patient vignettes to illustrate points from the reading. Because the prereading is somewhat long (15 pages), some sections are marked as being optional for participation in the seminar and are intended to serve as reference for those who wish to learn more.

The first section of the reading, "**Background**," gives an overview of the course and provides general information about substance use disorders as well as specific information about specific substances which may be abused. Rather than focusing on specific criteria for diagnosing specific substance use disorders, I describe the "*Four C's*," an approach often used to summarize substance use disorder diagnosis. I also give basic information about options and algorithms for managing various drugs of abuse.

The second section of the reading, "**Facilitating a Therapeutic Relationship**," outlines how to create a relationship with patients that can facilitate their recovery. This term, often used in psychotherapy, describes a relationship of mutual understanding, mutual trust, and shared goals. To improve understanding, I included information about biopsychosocial characteristics that are common among patients with substance use disorders, including legal, social, and psychological considerations. I also discuss strategies for engendering trust, as well as learning to trust our patients, even when we cannot necessarily trust their words.

The third section of the reading, "**Stages of Change**," outlines the stages from 'precontemplation' through 'maintenance' while providing simple strategies for recognizing and working with patients in each stage. Interventions are intended to be limited in scope, skill requirement, and time investment, as the intended audience is medical physicians and not addiction specialists. Many of these strategies aim to prevent use disorders from interfering with medical care, recognize and encourage incremental changes, and understand when and how to offer specialized resources for recovery.

The final page of the reading is a "**Summary**" intended for reference, both during the seminar and afterward with patients.

The seminar is designed to be led by anyone who has read the material, with the first three seminars scheduled to be led by Dr. Valentine and myself. Participants will read 6 patient vignettes, and the facilitator will ask a series of questions for discussion by the group. Facilitators will have a page of suggested questions and answers, prompts for eliciting understanding, and suggested activities for participants to deepen their understanding of what they have read.

Results *(≥500 words)*

As previously stated, no classes have been offered at the time of this report, so no results can be reported. When performed, the before- and after- surveys will be nearly identical, with 15 questions which use a 7-point Likert scale (strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, and strongly agree) to assess various aspects of participants comfort and familiarity with treating substance use disorders. The after- survey will include another 7-point Likert scale question about whether they now feel more confident in their ability to treat patients with substance use disorders, as well as a 'free-answer' question to provide feedback and suggestions. To maintain a modicum of anonymity while still being able to link before-and-after surveys, participants will be assigned a random number by the facilitators which will be entered in both surveys. Although facilitators would have the theoretical ability to link participants to their assigned numbers, this would at least require additional steps. The questions focus mainly on participants' comfort and knowledge about treating substance use disorders. By comparing these answers, the efficacy of this course in educating and engendering confidence in participants can be assessed. Furthermore, free answers can provide valuable advice on how to improve the educational value and improve the experience for participants.

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Discussion *(≥500 words)*

The goal of this project, first and foremost, was to create an educational program for use within an existing educational program. The scale and parameters of the educational gap was known and acknowledged by the educators I approached from the outset. My role was to find a way to synthesize the missing information into a format which was thorough enough for clinical application, yet concise enough to be offered within a schedule with little room for additional curriculum. To accomplish this, I relied on research, conversations with providers, and my own professional experience to essentially provide an overview of addiction medicine that could be read over a weekend and reinforced in a one-hour seminar. The intent was not to replace substance use providers, but rather to facilitate more effective and well-informed interactions between providers and patients when substance use disorders arise in clinical practice. My goal is for participants to be able to identify substance use disorders, identify a patient's specific stage of change, and to have a readily available set of concerns, considerations, and strategies when treating these patients. Because my proximal goal is to make participants more knowledgeable and comfortable treating substance use disorders, it makes sense to assess the efficacy of this course by assessing the knowledge and familiarity of providers and looking for perceived improvement.

That said, a major limitation of this project is that the overall *intent* of this project is to change clinical outcomes for patients with substance use disorders and not the experience of their providers, and nowhere is this measured. Assessing clinical outcomes of medical education courses poses significant challenges for a number of reasons. First, those changes are likely to occur much later in the careers of participants, and these careers may occur at distant sites, making follow-up challenging. Second, a great many confounding factors can affect participants between the intervention and the outcome, both due to time and changes in setting between the learning and the application, necessitating the inclusion of many participants to show significance. Finally, there is no obvious way to measure "better therapeutic relationships" or "enhanced recovery processes" for future patients, even were we able to reach them. One possible future avenue of study would be to measure rates of patients leaving against medical advice, since this is known to be more prevalent in patients with substance use disorders and thought to be at least in part due to breakdowns in therapeutic relationships. Ideally, such a study would occur in a single setting in which some clinicians had received a specific substance use disorder training and others had not, as this would significantly decrease confounding factors and allow more direct comparison. Neither I nor my mentor are aware of any previously existing trainings of this type, but the inclusion of this course in the OHSU anesthesiology residency curriculum does make such a study an eventual possibility in this setting.

Overall, I am satisfied that this course provides educational value primarily because I trust the judgement of the educators who feel it is worth adopting, and I am optimistic that it can improve clinical outcomes because that has been the consensus among the providers I shared it with. In the absence of clear and objective data, I will accept the opinions of these experts.

Conclusions *(2-3 summary sentences)*

Substance use disorders are an important cause of morbidity and mortality, and physicians receive little training on how to address these behaviors. The transtheoretical model, along with background information about addiction and an understanding of how to foster a therapeutic relationship, offers an appealing framework for addressing this gap. This framework can be learned in a short period and will be offered to residents as part of the anesthesiology residency didactic curriculum.

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References *(JAMA style format)*

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