

A Teach-the-Teacher Module for Human Trafficking Bedside Instruction

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Abstract

Introduction: Human trafficking (HT) is a public health issue that adversely affects patients' well-being. Despite the prevalence of trafficked persons in health care settings, a lack of educational modules exists for use in clinical contexts. We developed a 50-minute train-the-trainer module on HT. **Methods:** After piloting the workshop for faculty, fellows, and residents ($n = 19$) at the Society for Academic Emergency Medicine (SAEM) national conference, we implemented it in medical students' curricula during their emergency medicine clerkship at the University of Iowa ($n = 162$). We evaluated the workshop by (a) a retrospective pre-post survey of self-reported ability to (1) define HT, (2) recognize high-risk signs, (3) manage situations with trafficked persons, and (4) teach others about HT, and (b) a 3-month follow-up survey to assess longitudinal behavior change. **Results:** In both contexts, results demonstrated improvement across all learning outcomes (pre-post differences of 1.5, 1.3, 1.9, and 1.7 on a 4-point Likert-type scale for each learning objective above, respectively, at the SAEM conference and 1.2, 1.0, 1.3, and 1.3 at the University of Iowa; $p < .001$ for all). In the 3-month follow-up, we observed statistically significant changes in self-reported consideration of and teaching about HT during clinical encounters among learners who had previously never done either ($p < .001$ and $p = .006$, respectively). **Discussion:** This train-the-trainer module is a brief and effective clinical tool for bedside teaching about HT, especially among people who have never previously considered HT in a clinical context.

Keywords

Human Trafficking, Labor Trafficking, Public Health, Sex Trafficking, Train-the-Trainer, Case-Based Learning, Clinical Teaching/Bedside Teaching, Emergency Medicine, Human Rights, Intimate Partner Violence, Social Determinants of Health

Educational Objectives

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

1. Describe different types of human trafficking.
2. Identify high-risk signs that can be used to identify trafficked patients.
3. Employ interactive learning methods in the clinical environment to instruct others on recognition and care of trafficked patients.
4. Describe an effective approach towards assessment and management of trafficked patients.

Introduction

Human trafficking (HT) is a global public health and human rights issue defined as the exploitation of individuals through force,

fraud, or coercion to provide labor or commercial sex.¹ The International Labour Organization estimates that 27.6 million people are victims of forced labor every year.² Survivors may suffer from numerous acute and chronic health conditions related to reproductive health, transmissible infections, dental conditions, musculoskeletal injuries, exacerbations of chronic illnesses, post-traumatic stress disorder, anxiety, depression, substance abuse, and suicidality.³ Health care providers are uniquely situated to intervene in this human rights and public health issue, as studies indicate that between 68% and 88% of trafficked persons have had at least one interaction with health care providers during their trafficking experience.^{4,5} Nevertheless, many health care providers have not been trained or do not feel prepared to identify and work with survivors of HT.⁶⁻⁸

Currently available HT trainings for health care students and providers include lectures, bullet-pointed guidelines, infographics, self-directed online modules, simulated patient experiences, and multiday seminars.⁹⁻¹³ To our knowledge, there are no accessible train-the-trainer materials on HT for health

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care professionals. Train-the-trainer is a form of instruction that teaches learners subject content while simultaneously equipping them with the tools to teach others. Train-the-trainer is particularly useful for the widespread dissemination of information in a busy clinical context since it allows for a quick transition from the role of learner to teacher.

We developed a 50-minute train-the-trainer workshop consisting of a brief didactic presentation, three case-based role-play scenarios, and subsequent facilitated discussion, the detailed development of which is described in our previous publication and summarized here.¹⁴ To address key aspects involving the identification and clinical care of trafficked persons, we used cognitivism as the primary educational theory guiding the development of this workshop. Although clinical encounters with trafficked persons are rare, the clinical complaints they typically present with are common (e.g., abdominal pain, low back pain). Cognitivist theory is useful for addressing this because of its focus on creating connections between new content and prior common experiences to provide context and increased meaning for the learner.^{15,16} Another important factor is that dedicated instruction on trafficking is uncommon in health professional education, leading to a knowledge gap among clinicians. The use of cognitivism helped us address this by informing the development of scripted, instructional guides for learners that would provide scaffolding and organization to support their processing of novel material.¹⁷ This knowledge gap also informed our use of the learning principles and instructional techniques outlined below to provide learners scaffolding and illustrative aids aimed at creating a more impactful learning experience.

Guided by cognitivist learning theory, we employed Knowles' principles of adult learning and cognitive load theory to inform the sequencing of content in the scripted guides and facilitate learning of the material while also practicing a method for teaching this material to others.¹⁵⁻¹⁷ Case 1 highlights building trust with trafficked patients, employing an educational model known as a teaching script. Teaching scripts are guides that outline a topic's essential teaching points, connecting these main points with sample explanations intended to be personalized or adapted as the instructor becomes familiar with the topic's content.¹⁸ Case 2 highlights the identification of trafficked patients, focusing on high-risk signs using an educational technique known as concept mapping. Concept mapping is a technique used to visually connect related ideas, and this case uses figures to visually connect the broad range of signs and symptoms trafficked patients may experience.¹⁹ Case 3 discusses what to do after

a trafficked patient is identified and likewise employs a teaching script format.

Methods

We piloted the training module and its retrospective pre-post survey at the Society for Academic Emergency Medicine (SAEM) National Annual Meeting in 2018.¹⁴ We then updated the module according to participants' feedback and implemented it at the University of Iowa Roy J. and Lucille A. Carver College of Medicine (CCOM) for medical and physician assistant students in their core clinical year, with the intent that they teach other students or faculty about HT on the wards. In the latter context, we implemented the module during a half-day didactic at the beginning of students' emergency medicine rotation, flanked by lectures on a variety of fundamental emergency medicine clinical topics. Students had previously received a lecture on HT during preclinical years, so we intended this module to be application based to reinforce learning. Approximately five to 10 students rotated through the clerkship every 2 weeks. Though we tested this module in an emergency medicine curricular context, the material was designed to be usable in numerous medical specialties because the chief complaints were common medical presentations. We ran the module for 1 year with corresponding data collection. The project was reviewed by an Institutional Review Board at the University of Iowa and deemed not to be human subjects research.

To execute the module, prior to each workshop we uploaded the cases (Appendices A-I) to an easily accessible and transmissible online location. We added a short URL and QR code to each printable case, linking it to the online repository. We recruited emergency medicine faculty and fellows to facilitate the workshop, one facilitator for every 10 anticipated participants. Facilitators required no formal experience with HT, though many had encountered real-life situations of abuse and exploitation that served to enrich case discussions. Facilitators prepared for the session by reading Stoklosa and Beals' "Human Trafficking in the ED—What You Need to Know,"²⁰ obtaining local and statewide statistics and resources on trafficking from the Office on Trafficking in Persons website,²¹ and identifying local mental health resources for students, given the topic's sensitive nature. Facilitators also reviewed the materials for each case (Appendices A-I) and prepared to lead the cases' structured debriefs (provided within Appendix J). The average preparation time was 2-3 hours, depending on prior education and training in HT. For each workshop, one of these facilitators delivered the opening presentation (Appendix J). Presenters rehearsed the presentation to ensure

fluid delivery using the presenter notes section of the PowerPoint for guidance.

Each workshop took place in a single meeting room equipped with a projector and enough space to allow participants to work in pairs. To begin each workshop, the lead presenter delivered the introductory presentation (Appendix J), which reviewed definitions of HT, emphasized the scope of the problem, and discussed ways providers could recognize HT (about 5-10 minutes). Participants then paired off to role-play the three cases (about 10 minutes each), alternating roles of instructor and learner. Facilitators guided participants through the materials for each case in succession.

The participants followed the instructions on their papers to enact each teaching-learning scenario. For case 1, facilitators handed out the instructor guide (Appendix A) to the instructor and the learner instructions (Appendix B) to the learners. For case 2, facilitators distributed the instructor guide (Appendix C) and the filled-in instructor stick figure (Appendix D) to the instructor and the learner instructions (Appendix E) and blank learner stick figure (Appendix F) to the learners. For case 3, facilitators gave the instructor guide (Appendix G) to the instructor and the learner instructions (Appendix H) to the learners. When the instructor reached step 4 in case 3, participants were allowed to use a laptop or mobile device to go to the Office on Trafficking in Persons website and access their state-specific trafficking statistics.²¹ When the instructor reached step 6, students raised their hands, and facilitators distributed Appendix I. The session closed with a question-and-answer period facilitated by the lead presenter (about 10 minutes).

Before implementing the curriculum at CCOM, we considered feedback from participants at the SAEM conference and made the following changes to the module. First, we added a short debrief after each case to highlight important points and answer questions. During the case 3 debrief, we emphasized the importance of involving social workers in identifying and addressing any food, housing, work, and financial needs of trafficked patients rather than attempting to enumerate the wide range of highly specialized local resources available. Finally, we emphasized that these cases fit the profiles of many real-life persons encountered by the authors in clinical settings.

Facilitators distributed a retrospective pre-post survey (Appendix K) to participants online via Qualtrics at the conclusion of each session to assess learning.²² The survey asked participants to rate their abilities before and after the session on a 4-point scale (1 = *Not at all*, 2 = *A little*, 3 = *Moderately*,

4 = *Very*). The retrospective pre-post evaluation method has been shown to save time, reduce survey burden on participants, and demonstrate equal accuracy in identifying student learning compared to the traditional pre-post method, as summarized by Bhanji and colleagues.²² The survey items were developed by an expert in evaluation methodology, and we revised them for content and response process validity. For between-groups comparisons, we used independent-samples *t* tests for continuous variables and chi-square tests for binary variables, and for longitudinal data, we used McNemar's test, as described below.²³ We set the alpha level at .05 for all analyses, and all hypothesis tests were two-sided. We used SPSS version 28 (IBM) for all statistical analyses. In addition to the pre-post questions, we asked participants to qualitatively describe what could be changed to improve learning.

We added an additional evaluation during implementation at the CCOM to assess learners' self-reported longitudinal behavior change. This consisted of a 3-month follow-up survey (Appendix L) with the following questions:

1. "In the last 3 months, I have considered human trafficking while performing clinical care on average: [*Never, Once in 3 months, Once per month, Once per week, More than once per week*]." Due to the low frequency of responses, we collapsed these items into binary variables with 0 = *Never* and 1 = *At least once in the last 3 months*.
2. "In the last 3 months, I have taught other health care workers about human trafficking: [*0 health care workers, 1-2 health care workers, 3-4 health care workers, 5+ health care workers*]." Since no participants reported 3-4 health care workers or 5+ health care workers, these items were treated as binary variables with 0 = *0 health care workers* and 1 = *1-2 health care workers*.

We added these same two questions to the immediate pre-post survey for comparison. We used the McNemar chi-square test to compare paired binary variables in this longitudinal analysis of self-reported behavior change.²³ The survey was conducted in Qualtrics and sent to learners via email with an automated reminder email at 1 week. For the final 5 months, we instituted a monthly \$5 raffle for respondents to the follow-up survey to improve the response rate.

Results

SAEM conference: Nineteen participants attended the SAEM workshop,¹⁴ including faculty, fellows, and residents in emergency medicine from multiple states. The results of the retrospective pre-post survey showed large and statistically

significant improvements in self-reported perceptions of participants' own abilities to (1) describe different types of human trafficking, (2) identify high-risk signs that could be used to identify trafficked patients, (3) employ interactive learning methods in the clinical environment to instruct learners on recognition and care of trafficked patients, and (4) describe an effective approach towards assessment and management of trafficked persons, with pre-post differences of 1.5, 1.3, 1.9, and 1.7, respectively, on a 4-point Likert-type scale for each learning objective (Table 1).

In response to the question "What contributed to your learning from the workshop?", several themes appeared in the participant responses. These included the interactive format, the role-plays, the case-based scenarios, and the different teaching techniques (e.g., the teaching scripts and the worksheet to fill in). When asked, "What could be changed to improve your learning?", participants suggested debriefing between each case on the major points, more specific strategies on how to help, additional teaching scripts, and more real-life examples.

CCOM: Over the course of 1 year (January-December 2022), 162 medical and physician assistant students participated in the curriculum during their emergency medicine clerkship. Of these, 154 students fully completed the retrospective pre-post survey (response rate = 95%), and 53 students completed the 3-month follow-up survey (response rate = 33%). The results of the retrospective pre-post survey at CCOM showed statistically significant improvements in all four measured categories, with pre-post differences of 1.2, 1.0, 1.3, and 1.3, respectively, on a 4-point Likert-type scale for each learning objective (Table 2).

In response to the question "How can this training be improved for future learners?", several representative responses included "no suggestions," "enjoyed the interactive model," "role-playing is cheesy," "cases were difficult to follow," "include more real-life stories," and "focus more on management/local resources."

Using the 3-month follow-up survey, we also conducted analysis of longitudinal behavior change by comparing self-reported

behaviors before and after the workshop. Regarding participants' consideration of HT in a clinical context, we performed a pooled analysis between *Never previously considered HT in clinical care* and *Considered at least once in 3 months*. Statistically significant increases in self-reported behavior change were observed ($p < .001$). Results showed the greatest behavior change occurred among learners who had never considered HT prior to the workshop, with 75% of these learners ($n = 24$) considering HT during clinical care at least once postworkshop. Among learners who had previously considered HT, consideration of HT remained relatively stable, that is, about 86% ($n = 18$) also reported consideration of HT at least once postworkshop.

Regarding participants' teaching of other health professionals about HT, most had not taught others prior to the training (92%), and among these learners, 22% responded that they had taught one to two health care workers about human trafficking on the posttest (increase; $p = .006$). Among learners who had previously taught others about HT ($n = 3$), the frequency of self-reported teaching of other health professionals about HT did not significantly change ($n = 2$).

Discussion

This train-the-trainer module promises to be an effective way of disseminating information about HT in a busy clinical context. Among a host of current training modalities ranging from infographics to multiday seminars, this instructional method is unique for its ability to simultaneously teach learners and equip them with materials to train others. Other salient attributes include its interactive nature, low implementation cost, minimal facilitator-training requirements, and versatility for use in multiple learning environments with learners in all stages of medical education. We piloted the module at an annual national emergency medicine conference and subsequently implemented it full-scale in the CCOM's core curricula. Learners in both contexts demonstrated statistically significant improvement across all four measured outcomes on the immediate retrospective pre-post survey. The module was well received for its interactive nature, its case-based

Table 1. Results of Retrospective Pre-Post Evaluation at the Society for Academic Emergency Medicine Conference

Item ^a	Pre M	Post M	Difference	p
Please rate your ability for the following skills:				
Describe different types of human trafficking.	2.0	3.5	1.5	<.001
Identify high-risk signs that may be used to identify trafficked patients.	2.2	3.5	1.3	<.001
Employ interactive learning methods in the clinical environment to instruct learners on recognition and care of trafficked patients.	1.5	3.4	1.9	<.001
Describe an effective approach towards assessment and management of trafficked persons.	1.6	3.3	1.7	<.001

^aRated on a 4-point Likert-type scale (1 = *Not at all*, 2 = *A little*, 3 = *Moderately*, 4 = *Very*).

Table 2. Results of the Retrospective Pre-Post Evaluation at Carver College of Medicine

Item ^a	Pre M	Post M	Difference	p
Please rate your ability for the following skills:				
Describe different types of human trafficking.	2.5	3.7	1.2	<.001
Identify high-risk signs that may be used to identify trafficked patients.	2.5	3.5	1.0	<.001
Employ interactive learning methods in the clinical environment to instruct learners on recognition and care of trafficked patients.	1.9	3.2	1.3	<.001
Describe an effective approach towards assessment and management of trafficked persons.	2.0	3.3	1.3	<.001

^aRated on a 4-point Likert-type scale (1 = *Not at all*, 2 = *A little*, 3 = *Moderately*, 4 = *Very*).

scenarios, the common nature of the chief complaints, and its adaptability to bedside teaching in the emergency department.

Our curricular evaluation method is unique among the HT literature in its attempt to measure participants' longitudinal behavior change via a 3-month follow-up survey. These longitudinal data had mixed results. Learners who had never considered HT during clinical care prior to the workshop showed a self-reported increase in HT consideration, while those who had previously considered HT did not report a change in their consideration frequency. A similar pattern emerged regarding teaching others about HT. This may suggest that the curriculum is particularly suited for participants with relatively little prior training in HT, but more likely, it reflects the relatively short follow-up period of 3 months. Since many clerkships are only a couple of months long, students may not have had sufficient opportunity to rotate into specialties where the signs and symptoms of trafficking might be more prevalent, except for their 2-week emergency medicine rotation, during which this didactic was implemented.

Despite this limitation, longitudinal analysis showed a statistically significant increase in HT consideration and teaching, and future studies may show a broader impact by extending the follow-up period. One potential reason why students with prior consideration of HT did not increase their frequency of consideration is that they may have possessed a more refined way of thinking about trafficking—whether before or resulting from the training—such that they were less likely to suspect any isolated irregularity as a sign of HT. Another explanation for why some students did not demonstrate an increased frequency of teaching other health care workers is that students may have been hesitant to teach their superiors during clinical rotations, as students primarily assume the role of learner during clerkships. Moreover, students may have less experience overall with teaching in the health care context. It would be helpful for future studies to see if participants who are actively in teaching roles as attendings, fellows, and residents are more likely to show an

increase in teaching others about HT. Our longitudinal analysis had several additional limitations, including a small sample size ($n = 53$), a low follow-up response rate (33%), and the self-reported nature of responses subjecting them to recall bias. While a response rate of 33% is concerning because it allows for significant nonresponse bias, it is not atypical for web-based surveys of health care professionals.²⁴⁻²⁸

One challenge to curriculum development was difficulty with case formatting. About 15% of participants (primarily CCOM students) noted that the cases were difficult to follow due to the large amounts of text within each script and the number of papers handed out. We attempted to mitigate this by offering a brief overview of the structure of each case and giving partners their own packets, with one starting as the learner and the other starting as the instructor. Additional implementation challenges included carving time within a busy curricular schedule, identifying classrooms with enough space for students to spread out, and recruiting facilitators. In our experience, fellow and faculty facilitators were able to bring unique personal patient experiences that enriched discussion of the cases, whereas medical students and residents may have more limited real-life experiences encountering abuse and exploitation. Regardless, the benefit of the train-the-trainer model allows individuals with basic medical knowledge and human trafficking familiarity to facilitate discussion on important background information and identification. Finally, future implementers may wish to collaborate with local lived experience experts and anti-trafficking nonprofits with expertise on labor and sex trafficking to incorporate elements of the cases and their management to reflect local context.

Appendices

- A. Case 1 Instructor Guide.docx
- B. Case 1 Learner Instructions.docx
- C. Case 2 Instructor Guide.docx
- D. Case 2 Instructor Stick Figure (Filled In).pdf

- E. Case 2 Learner Instructions.docx
- F. Case 2 Learner Stick Figure (Blank).pdf
- G. Case 3 Instructor Guide.docx
- H. Case 3 Learner Instructions.docx
- I. Case 3 Instructor Step 6.docx
- J. Teach the Teacher.pptx
- K. Workshop - Immediate Pre-Post.docx
- L. Workshop - 3-Month Follow-up.docx

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

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Disclosures

Dr. Shannon Findlay reports the following conflicts of interest: EB Medicine—reviewed human trafficking article for journal (<\$250); University of Mississippi—gave a lecture on human trafficking (\$251-\$500); Iowa Attorney General—gave a lecture on human trafficking (<\$250).

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Ethical Approval

The University of Iowa Institutional Review Board deemed further review of this project not necessary.

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