Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

HHS Public Access

Author manuscript

Acad Med. Author manuscript; available in PMC 2025 June 01.

Published in final edited form as:

Acad Med. 2024 June 01; 99(6): 613–617. doi:10.1097/ACM.0000000000005675.

Decreasing Stigma Toward People Who Inject Drugs: Harm Reduction Training for First-Year Medical Students

Tucker Avra, DVM,
David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, California.

Amanda Cowan, MSc,
Los Angeles Community Health Project, Los Angeles, California.

Joseph Friedman, PhD, MPH,
Center for Social Medicine and Humanities, University of California, Los Angeles, Los Angeles, California.

Jack Fukushima,
David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, California.

Andrew Nelson,
School of Osteopathic Medicine, A.T. Still University, Mesa, Arizona.

Kyla Truman,
David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, California.

Autumn Stevens,
Antioch University Los Angeles, Los Angeles, California.

Philippe Bourgois, PhD,
Center for Social Medicine and Humanities, Department of Psychiatry, University of California, Los Angeles, Los Angeles, California.

Helena Hansen, MD, PhD,
Department of Psychiatry and Biobehavioral Sciences, and interim director, UCLA Semel Institute for Neuroscience and Human Behavior, professor of psychiatry and biobehavioral sciences and co-chair of research theme in translational social science and health equity, David Geffen School of Medicine, University of California, Los Angeles, and interim physician-in-chief, Resnick Neuropsychiatric Hospital, Los Angeles, California.

Chelsea Shover, PhD,
Department of General Internal Medicine and Health Services Research, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, California.

David Goodman-Meza, MD, MS

Correspondence should be addressed to Tucker Avra, 855 Tiverton Dr, Los Angeles, CA 90024; tavra@mednet.ucla.edu.

Other disclosures: None reported.

Ethical approval: The project was certified exempt by the University of California, Los Angeles Institutional Review Board (IRB#22–001341, August 22, 2022).

Data: None of the data were acquired from outside sources. Data can be obtained by contacting the corresponding author.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

UCLA Division of Infectious Diseases, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, California.

Abstract

Problem—Stigma in health care toward people who inject drugs (PWID) is a well described, significant barrier to quality care, resulting in poor health outcomes. Harm reduction offers a person-centered counter-framework for minimizing harm for people who use drugs. Despite the evidence in support of harm reduction, medical students typically receive minimal training on harm reduction and the care of PWID.

Approach—To fill this gap, medical students at University of California, Los Angeles organized around the principles of harm reduction to improve the medical school curriculum related to PWID. Students screened lectures for stigmatizing language and collaborated with faculty to improve lecture materials. They partnered with a community organizer and hosted a mandatory 1-hour lecture and 30-minute discussion introducing the principles of harm reduction within an overdose prevention, recognition, and response training for first-year medical students during medical school orientation in August 2022. An anonymous online pre- and posttest survey, assessing student attitudes toward PWID, was used to evaluate the effects of the training.

Outcomes—A total of 156 students completed the pretest survey, and 107 students completed the pre- and posttest survey (68.5% response rate). The overall posttest mean stigma score was 1.8 (standard deviation [SD] = 0.5) and was significantly lower than the pretest mean of 2.1 (SD = 0.7; $P < .0001$), indicating a reduction in stigma among medical student attitudes after the course. There was statistically significant improvement in attitudes for 7 of 13 component measures.

Next Steps—This analysis demonstrated that the mandatory class has the capacity to improve medical student attitudes toward PWID. The authors plan to further evaluate the program's effectiveness through measuring and reporting outcomes for future student cohorts. The authors are working with curriculum directors to further incorporate harm reduction principles into other lectures and problem-based learning exercises.

Problem

Stigma in health care is a significant barrier for people who inject drugs (PWID), negatively affecting health care delivery and resulting in poor health outcomes.[1] It has been reported that some clinicians presume their patients who use drugs are deceptive in their pursuit of medical attention, which may lead the clinicians to withhold medications and interventions and provide less effective treatment.[2] Stigmatizing terms that imply moral weakness, such as "drug abuser," "addict," and "alcoholic," continue to permeate medical language instead of person-centered language, such as "person who uses drugs."[3,4] In addition, the overdose crisis has disproportionate effects on marginalized communities, further emphasizing the need for health care to address the structural racism and bias that have contributed to insufficient care for these communities.[5]

Harm reduction offers an evidence-based, person-centered counter framework for addressing substance use in health care and community spaces that minimizes harm for people who use drugs, increases their safety, and improves quality of care. Harm reduction, a social justice

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

movement built on respect for people who use drugs, is a set of principles and strategies aimed at reducing the negative consequences of drug use and has been widely adopted for its successes by federal, state, and local municipalities. A medical approach rooted in harm reduction places emphasis on understanding that a person's goals of care are embedded in a web of social, structural, and environmental struggles that collectively impact health.[6] Harm reduction practices and training in medicine may decrease clinician stigma.

It is reported that students have received training on overdose education, including use of naloxone, but not training focused on other harm reduction principles or have not been provided with an understanding of the downstream effects of clinician stigma.[7,8] Equipping students—the future of health care—with the tools to effectively address the many struggles PWID experience should start with countering harmful rhetoric and centering harm reduction principles in curricula. In this report, we describe a medical student advocacy initiative focused on revision of medical school curricula to counter stigmatizing attitudes toward PWID. We also outline a course introducing the principles of harm reduction through naloxone and overdose prevention training. We describe pre- and posttest survey results evaluating stigma among medical student attitudes toward PWID.

Approach

Intervention

As a response to stigmatizing curricula toward PWID at our medical school and an absence of harm reduction training, a group of medical students at the David Geffen School of Medicine, University of California, Los Angeles (DGSOM) began advocating for curricular changes. We centered our work on harm reduction philosophy, calling for medical education that was nonjudgmental and respectful in its approach to treating PWID. We started with a focus on the lectures presented to medical students, then met with section chairs and faculty to address language and concepts in their presentation slides. We screened lecture slides for stigmatizing language, including but not limited to terms such as "addict," "drug abuser," and "alcoholic," and provided instructors a style guide titled "Words Matter–Terms to Use and Avoid When Talking About Addiction" (https://nida.nih.gov/research-topics/addiction-science/words-matter-preferred-language-talking-about-addiction). We gained additional support from course chairs who facilitated these interactions with instructors. All instructors were amenable to these curricular recommendations and updated language in their educational materials.

In addition to requesting alterations in current lectures, we advocated for the inclusion of harm reduction principles and a naloxone training for all incoming medical students. Using existing relationships our students developed through community work, we partnered with a community organization. Through this community partner institutional relationship, we developed a harm reduction training for medical students and hosted a mandatory lecture introducing harm reduction principles within an overdose prevention, recognition, and response training that was part of medical school orientation for the incoming class of students at DGSOM in August 2022. Our course consisted of a 1-hour lecture led by our community harm reduction partner, introducing the history of harm reduction, highlighting the 4 waves of the overdose crisis in the United States, and providing framing to understand

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

how aspects of medical settings and decision-making can promote poor health outcomes for PWID. The course concluded with an overdose prevention, recognition, and response training and was followed by a 30-minute facilitated discussion by students, staff, faculty, and local harm reduction service providers. Students were separated into small groups of approximately 10 and paired with 1 of the aforementioned facilitators. Discussion questions were meant to elicit an understanding of the importance of relationships and expose the delicate position of a clinician. These questions included the following: “In your experience, how are people who inject drugs perceived and treated in healthcare settings?” “Do you have any stories you would feel comfortable sharing?” and “How can healthcare institutions change their models of care delivery to better embody the principles of harm reduction?” This course was intended to help provide students with the ability to see the complex interplay and root causes of substance use while also learning tangible direct interventions. Through support of the faculty directors and the director of medical student orientation course, this training recurs annually at DGSOM.

Survey

We administered an anonymous online pre- and posttest survey, modified from a validated survey, to all first-year medical students who attended the training to evaluate the effects of this training (see Supplemental Digital Appendix 1 at [WK INSERT LINK] and Supplemental Digital Appendix 2 at [WK INSERT LINK]). The validated survey was developed to measure attitudes toward PWID and people living with hepatitis C among undergraduate students and health care workers.[9] It obtained demographic characteristics and assessed attitudes and stigma toward PWID through 9 statements and 4 case-based questions measured on a 5-point Likert scale (“strongly disagree,” “disagree,” “neutral,” “agree,” and “strongly agree”) with the additional options, “I don’t know” and “decline to answer.”[10] The case questions were structured similarly to questions medical students use to prepare for board exams.

Data analysis

Survey answers were entered online by medical student participants and managed using Qualtrics (Qualtrics, Provo, Utah). For each question, the Likert scale was transformed to a numeric 5-point scale. As needed, responses were reverse coded so 1 corresponded to “least stigmatizing” and 5 to “most stigmatizing.” Mean scores were calculated for each student’s responses in the pre- and posttest. Responses of “I don’t know” and “decline to answer” were removed from the analysis. A Wilcoxon signed rank test was used to determine statistically significant within-person differences in the overall mean scores before and after the training ($\alpha < .05$). An unpaired *t* test was used to determine the statistically significant difference between the means for each response. We conducted statistical analyses in Stata (Stata 17, StataCorp LLC, College Station, Texas). The University of California, Los Angeles Institutional Review Board IRB) determined this study was exempt from IRB oversight.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Outcomes

The outcomes were measured only among first-year medical students with mandated attendance. A total of 156 students completed the pretest survey, and 107 students (68.5%) completed the pre- and posttest survey. Pre- and posttest responses were paired using a numbered identification card that was administered to each student at the beginning of the course. There were complete pre- and posttest results from 69 unique students (44.2%). See Table 1 for demographic characteristics of the participants.

The overall posttest mean was 1.8 (standard deviation [SD] = 0.5) and was significantly lower than the pretest mean of 2.1 (SD = 0.7) ($P < .0001$) (see Table 2 for survey results), indicating a reduction of 27% in the overall measurable stigma among medical student attitudes after the course, given the best score is 1.0. There was statistically significant improvement in attitudes for 7 of 13 measures: 4 of 9 statements and 3 of 4 case-based scenarios. The mean score improved for the following statements: “People who inject drugs have a lack of willpower”; “People who inject drugs have a right to their lifestyle, if that’s the way they want to live”; “Injection drug use is merely a different kind of lifestyle that should not be condemned”; and “People who inject drugs know what’s best for themselves” ($P < .05$). The mean score improved for the case-based scenarios that addressed inferring a patient is “drug seeking,” not leaving a patient who injects drugs alone in a waiting room out of fear they may steal, and documenting that a patient who injects drugs and refuses to seek treatment out of fear of withdrawal and judgment has poor compliance to treatment ($P < .05$). Future research should assess the degree to which attitudinal change results in meaningful behavioral change.

We note several limitations to our findings, including the evaluation was at a single time point, which means an inability to demonstrate the longevity of this attitude shift. Because this was a one-time training, we cannot determine which aspects led to the improvement in attitudes. Possible factors for this improvement include the course’s in-person setting, being led by community members and students, or mandatory attendance at the course. The response rate of 68.5% may not be representative of the attitude changes in the entire class. In addition, there is a risk of social desirability bias that may have affected the pre- and posttest findings. This study was performed with a single medical school class at a single institution, decreasing the generalizability of our findings.

Next Steps

We implemented a course with a 1-hour lecture and a 30-minute discussion on harm reduction and overdose prevention, recognition, and response for first-year medical students during their orientation. Our analysis revealed that the course had the capacity to improve medical students’ self-reported attitudes toward PWID. Although the survey of the students attending the course did not measure a resultant change in behavior, we believe that this statistically significant improvement in attitudes provides reasonable support for the educational value of this course. The course addresses gaps in harm reduction curricula and the need for an increased understanding of the negative health outcomes experienced by PWID caused by stigma in health care. It lays the foundation for medical students to

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

learn about patient-centered health services and root causes of substance use and gives a place to begin population health advocacy work in stigmatized communities. In addition, harm reduction education at the beginning of medical school ensures each medical student is equipped to combat stigma experienced throughout their medical training.

Our data further reinforces the support for training medical students on this evidence-based approach toward holistic care for PWID.[4] Harm reduction trainings should emphasize culturally competent language while addressing the discriminatory language that persists among medical lectures, journals, and federal government agencies.[3,4] The intervention lecture and discussion occur in the first month of medical school at our institution, which is centered on understanding the social and structural determinants of health and patient-centered care. We are working with the curriculum directors to further incorporate harm reduction principles into lectures throughout our medical school education, including problem-based learning exercises. Although we displayed how this intervention can improve first-year medical students' attitudes, we recognize that views and attitudes will continue to adapt and solidify throughout the 4 years of undergraduate medical education and also during residency training. It is vital to continue to provide health justice and equity training, including harm reduction, throughout all stages of medical education. We continue to collaborate with the faculty development department to implement similar curricula for medical school educators and graduate medical education.

In the future, we plan to further evaluate the program's effectiveness through measuring and reporting outcomes for future cohorts of students, and to repeat this posttest with the same cohorts to understand how attitudes may change throughout medical school training. The survey measures changes in attitudes and cannot predict changes in behavior; therefore, future research is needed to understand how introducing students to harm reduction influences their interactions in clinical and community settings.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments:

The authors would like to thank their community partner and presenter, Amanda Cowan, for participating in this innovation and sharing her invaluable knowledge and experiences with the team and the medical student class. In addition, they would like to thank the faculty for making this innovation a reality and the medical students for participating in the training and the survey.

Funding/Support:

Chelsea Shover was supported by the National Institutes of Health, National Institute on Drug Abuse (grant K01DA050771). David Goodman-Meza was supported by the National Institutes of Health, National Institute on Drug Abuse (grant K08DA048163). The funding organizations were not involved in the design and conduct of the study; collection, management, analysis, and interpretation of the data; or preparation, review, or approval of the manuscript.

References

1. van Boekel LC, Brouwers EPM, van Weeghel J, Garretsen HFL. Stigma among health professionals towards patients with substance use disorders and its consequences for

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

healthcare delivery: systematic review. Drug Alcohol Depend. 2013;131(1–3):23–35. doi:10.1016/j.drugalcdep.2013.02.018 [PubMed: 23490450]

2. Fischer MA, McKinlay JB, Katz JN, et al. Physician assessments of drug seeking behavior: a mixed methods study. PLoS One. 2017;12(6):e0178690. doi:10.1371/journal.pone.0178690
3. Botticelli MP, Koh HK. Changing the language of addiction. JAMA. 2016;316(13):1361–1362. doi:10.1001/JAMA.2016.11874 [PubMed: 27701667]
4. Robinson SM. "Alcoholic" or "Person with alcohol use disorder"? Applying person-first diagnostic terminology in the clinical domain. Subst Abus. 2017;38(1):9–14. doi:10.1080/08897077.2016.1268239 [PubMed: 27925860]
5. Friedman JR, Hansen H. Evaluation of increases in drug overdose mortality rates in the US by race and ethnicity before and during the COVID-19 pandemic. JAMA Psychiatry. 2022;79(4):379–381. doi:10.1001/JAMAPSYCHIATRY.2022.0004 [PubMed: 35234815]
6. Hawk M, Coulter RWS, Egan JE, et al. Harm reduction principles for healthcare settings. Harm Reduct J. 2017;14(1):70. doi:10.1186/s12954-017-0196-4 [PubMed: 29065896]
7. Berland N, Fox A, Tofighi B, Hanley K. Opioid overdose prevention training with naloxone, an adjunct to basic life support training for first-year medical students. Subst Abus. 2017;38(2):123–128. doi:10.1080/08897077.2016.1275925 [PubMed: 28027016]
8. Moses TEH, Chou JS, Moreno JL, Lundahl LH, Waineo E, Greenwald MK. Long-term effects of opioid overdose prevention and response training on medical student knowledge and attitudes toward opioid overdose: a pilot study. Addictive Behaviors. 2022;126:107172. doi:10.1016/j.addbeh.2021.107172
9. Brener L, von Hippel W. Measuring attitudes toward injecting drug users and people with hepatitis C. Subst Use Misuse. 2008;43(3–4):295–302. doi:10.1080/10826080701202627 [PubMed: 18365932]
10. Brener L, Cama E, Hull P, Treloar C. Evaluation of an online injecting drug use stigma intervention targeted at health providers in New South Wales, Australia. Health Psychol Open. 2017;4(1):2055102917707180. doi:10.1177/2055102917707180

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Table 1

Age, Gender, Race, and Ethnicity Demographic Characteristics of Medical Students Who Participated in the Survey

Variable	Participants (N = 69)
Age, mean (SD)	25.67 (2.98)
Gender, no. (%)	
Cisgender female	39 (56.5)
Cisgender male	28 (40.6)
Prefer not to answer	2 (2.9)
Race, no. (%)	
Asian	13 (18.8)
Black or African American	10 (14.5)
Multiple	13 (18.8)
Other	8 (11.6)
White	21 (30.4)
Prefer not to answer	4 (5.8)
Ethnicity, no. (%)	
Hispanic or Latino	19 (27.5)
Not Hispanic or Latino	39 (56.5)
Other	7 (10.1)
Prefer not to answer	4 (5.8)

Acad Med. Author manuscript; available in PMC 2025 June 01.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Acad Med. Author manuscript; available in PMC 2025 June 01.

Table 2

Pre- and Posttest Survey Results from First-Year Medical Students Who Attended a Harm Reduction Course, August 2022[a]

Statement/case-based scenario	Pretest, mean (SD)[b]	Posttest, mean (SD)[b]	*P* [c]
People who inject drugs have a lack of willpower.	1.8 (0.9)	1.4 (0.7)	.022
People who inject drugs should be incarcerated to protect society.	1.3 (0.7)	1.3 (0.6)	.595
People who inject drugs have a right to their lifestyle, if that's the way they want to live.	2.8 (1.1)	2.4 (1.1)	.048
Injection drug use is merely a different kind of lifestyle that should not be condemned.	3.2 (1.0)	2.6 (1.2)	.004
People who inject drugs are mistreated in our society.	1.5 (0.7)	1.3 (0.5)	.073
I avoid people who inject drugs whenever possible.	2.8 (1.2)	2.6 (1.1)	.193
Insurance plans should cover patients who inject drugs to the same degree that they cover patients with other conditions.	1.8 (0.8)	1.5 (0.7)	.119
Treating patients who inject drugs is an ineffective use of medical dollars.	1.7 (1.0)	1.5 (1.0)	.495
People who inject drugs know what's best for themselves.	3.4 (1.1)	2.6 (1.0)	< .001
A health worker is treating a patient who injects drugs who also suffers a painful medical condition. The patient insists on pain relief, but the health worker worries that the patient does not actually have bad pain but is "drug seeking". How likely would you be to feel the same way as this health worker?	2.4 (1.1)	1.8 (1.1)	.001
The workers at a health service which caters to many people who inject drugs decide that they will not leave a patient who injects drugs unattended in the waiting room and/or alone in the examining/treatment room. The worker is worried the patient may steal from the service or other patients. How likely are you to support this decision?	2.3 (1.0)	1.9 (1.0)	.029
A health worker has a client who has a need for regular and on-going medical care. However, the client continues to inject drugs. As a result, the health worker feels that she can't continue to see him until he completely stops his drug use. The client says they can't stop but will try to cut down; however, the health worker feels that they may not be honest about their reduction in drug use and decides to discontinue their treatment anyway. If faced with a similar situation, how likely would you be to do the same as this health worker?	1.4 (0.6)	1.3 (0.6)	.831
A patient who injects drugs suffers from a life-threatening medical illness but refuses to seek treatment because of the fear of withdrawal and judgment from medical staff. After a sudden ER visit, they leave against medical advice for these reasons. Their physician writes in their chart that they have poor compliance to treatment. How likely are you to do the same as this physician?	2.1 ± (1.0)	1.7 (0.9)	.029
Overall mean	2.1 (0.7)	1.8 (0.5)	< .001

[a] Adapted from Brener et al.[9]

[b] Students responded to survey questions using a 5-point Likert scale (1, least stigmatizing; 5, most stigmatizing) (n = 69).

[c] *P* compares pre- and posttest mean. Significant at $P < .05$.