

enCompass: evaluation of a community-based substance use disorder stigma intervention

Valerie A. Earnshaw, Ginnie Sawyer-Morris, Braeden Kelly, Zachary K. Collier, Xueli Qiu, Aimee Shadwick & Jessica Hulsey

To cite this article: Valerie A. Earnshaw, Ginnie Sawyer-Morris, Braeden Kelly, Zachary K. Collier, Xueli Qiu, Aimee Shadwick & Jessica Hulsey (19 Dec 2024): enCompass: evaluation of a community-based substance use disorder stigma intervention, Journal of Addictive Diseases, DOI: [10.1080/10550887.2024.2431374](https://doi.org/10.1080/10550887.2024.2431374)

To link to this article: <https://doi.org/10.1080/10550887.2024.2431374>



View supplementary material [↗](#)



Published online: 19 Dec 2024.



Submit your article to this journal [↗](#)



Article views: 41



View related articles [↗](#)



View Crossmark data [↗](#)



enCompass: evaluation of a community-based substance use disorder stigma intervention

Valerie A. Earnshaw, PhD^a , Ginnie Sawyer-Morris, PhD^b, Braeden Kelly, BA^c, Zachary K. Collier, PhD^d, Xueli Qiu, PhD^a, Aimee Shadwick, MA^e and Jessica Hulsey, BA^c

^aDepartment of Human Development and Family Sciences, University of Delaware, Newark, DE, USA; ^bFriends Research Institute, Baltimore, MD, USA; ^cAddiction Policy Forum, North Bethesda, MD, USA; ^dNeag School of Education, University of Connecticut, Storrs, CT, USA; ^eRecoveryOhio, Office of the Governor of Ohio, Riffe Center, Columbus, OH, USA

ABSTRACT

Introduction: Stigma within communities is pervasive and a barrier to substance use disorder (SUD) treatment. The current proof-of-concept study evaluated *enCompass*, a community-based SUD knowledge and stigma intervention.

Methods: In 2021, 22 *enCompass* trainings were offered to community members in partnership with the Ohio Governor's RecoveryOhio initiative to 22 Ohio counties with high numbers of overdose deaths. Participants of the current study included 492 individuals who completed surveys measuring knowledge of SUD treatment and medication, and SUD stigma (i.e., stereotypes, prejudice, discrimination), before and after the intervention. Implementation-related outcomes (i.e., acceptability, appropriateness, feasibility) were also measured after the intervention.

Results: Participants' knowledge increased, and their SUD stigma decreased, from before to after the intervention. Participants strongly agreed that the intervention was acceptable, appropriate, and feasible.

Discussion: Although more testing with longitudinal, randomized designs is needed, preliminary results suggest that *enCompass* is a promising community-based SUD knowledge and stigma intervention.

KEYWORDS

Addiction; intervention; knowledge; stigma; substance use disorder

Introduction

Substance use disorder (SUD) stigma prevents people with SUD from accessing and staying in SUD treatment,¹ acting as a key barrier to addressing SUD within communities. Despite evidence of pervasive SUD stigma across the United States,² there are few evidence-based universal SUD stigma interventions (i.e., interventions that target the general population).¹ The few that do exist typically employ single intervention tools, such as light-touch educational approaches (e.g., distributing factsheets), with mixed results.^{1,3} Yet, experts recommend that stigma interventions incorporate multiple tools (e.g., education, contact, and skill building) to most effectively reduce stigma.¹

Goals of the current study were to determine whether community members' knowledge and

stigma changed from before to after participating in *enCompass*, a universal, community-based SUD knowledge and stigma intervention that incorporates multiple stigma reduction tools. The current study further explored whether *enCompass* was viewed as acceptable, appropriate, and feasible by community members.

Materials and methods

enCompass was tested in Ohio in 2021, in partnership with the Governor's RecoveryOhio initiative. Ohio experienced record-high drug overdose deaths in 2020 ($n = 5,017$), with Black, non-Hispanic males disproportionately impacted, and fentanyl was involved in 81% of these deaths.⁴ Prior to testing *enCompass*, programs addressing stigma (e.g., public awareness campaigns) had been

CONTACT Valerie Earnshaw  earnshaw@udel.edu  Department of Human Development and Family Sciences, University of Delaware, 111 Alison Hall West, Newark, DE 19716, USA.

 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/10550887.2024.2431374>.
Xueli Qiu: Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, USA.

© 2024 Taylor & Francis Group, LLC

implemented in Ohio with funding from State Targeted Response grants.⁵ Although naloxone knowledge and treatment access improved over this period, stigma remained stable at moderate levels.

enCompass trainings were prioritized in the 21 counties (out of a total of 88) that experienced 80% of the drug overdoses in Ohio between 2015 and 2020.⁴ Trainings were advertised by local Alcohol, Drug Addiction, and Mental Health Boards, and adults (18 years and older) were eligible to participate. This evaluation includes data from 22 trainings (i.e., 21 county trainings and one statewide training) that collectively reached $n=843$ participants. The 21 county trainings reached $n=686$ participants and attendance ranged from 1 to 51 participants (median = 10). The statewide training reached $n=157$ participants. Four of the trainings were facilitated by the creator of the intervention, including the state-wide training. As recommended by the Obesity-Related Behavioral Interventions Trial (ORBIT) model for social-behavioral studies at this proof-of-concept stage,⁶ the evaluation consisted of a within-subjects design with a pre-post comparison. Participants provided informed consent, were assured of confidentiality, and then completed online surveys before and after the training. Identifying information that was used to link participant responses from the pre- and post-tests was removed prior to analysis. All evaluation procedures received approval from the University of Delaware Institutional Review Board in Newark, Delaware (protocol #1730248, approved 3/4/2021).

Intervention procedures

enCompass: A Comprehensive Training on Navigating Addiction was developed by the Addiction Policy Forum (North Bethesda) with expert feedback from researchers, physicians, and people with lived experience with SUD. The intervention consists of an eight-hour, synchronous online group training guided by a facilitator. It incorporates several stigma intervention tools, including education (e.g., addiction basics, treatment, medication, recovery), contact with people with lived experience with SUD, skills building (e.g., develop an action plan for communication),

and the use of non-stigmatizing language. The intervention is delivered *via* standardized modules incorporating scripted didactic presentations, skills-building exercises, and brief discussions. Videos animate complex concepts and feature experts (e.g., neuroscientists, addiction psychiatrists, emergency medicine physicians, psychologists). Participants receive a workbook including content that reinforces the modules and exercises.

Measures

Participants indicated their sociodemographic characteristics. They reported whether they were a professional in the SUD field, were a friend or family member of someone with a SUD, or had a personal history of SUD. We adapted stigma measures^{7–9} because there were no known validated measures of stigma toward people in recovery from SUD at the time of this study. We additionally developed SUD treatment and medication knowledge scales in collaboration with our expert panel, and used a validated measure of implementation outcomes.¹⁰ See Supplemental Appendix 1 for all measures.

Analyses

To determine whether changes in knowledge and stigma occurred from pre- to post-test, t-tests and multivariable regression change score models were conducted (see Supplemental Appendix 2 for the change score equation). The data are hierarchical, with participants nested within groups. Because our intraclass correlations were low (i.e., less than 0.01), our change score models did not need to control for the effect of training group and were estimated using ordinary least squares. To explore whether the intervention was viewed as acceptable, appropriate, and feasible to participants, mean scores for implementation outcomes were examined.

Results

A total of $n=843$ individuals participated in *enCompass* trainings and $n=492$ (58%) responded to the pre- and post-test (see Supplemental Appendix 3). There were no socio-demographic

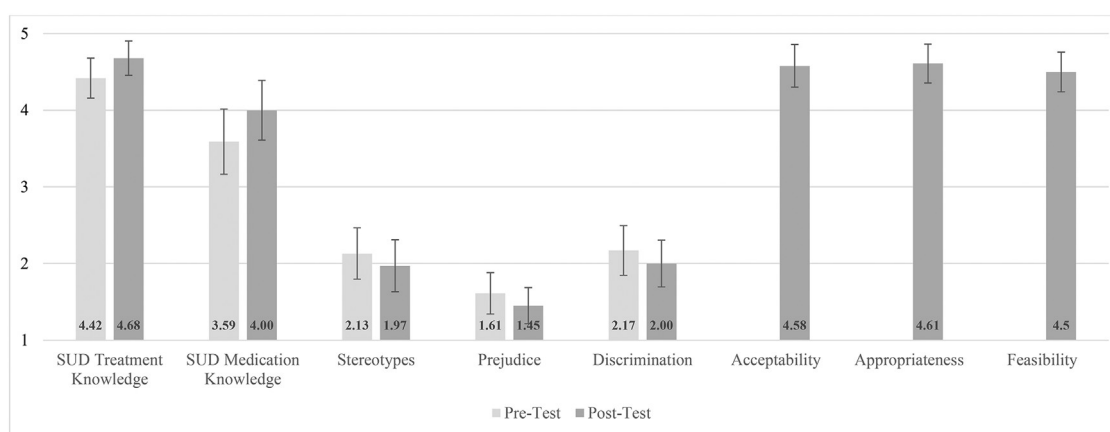


Figure 1. Bar graph representing pre- and post-test mean (standard deviation) scores on stigma, knowledge, and implementation-related outcomes.

Note: All differences between pre- and post-tests are statistically significant, including for SUD treatment knowledge ($t[491]=11.52, p<0.001$), SUD medication knowledge ($t[491]=13.92, p<0.001$), stereotypes ($t[491]=-6.40, p<0.001$), prejudice ($t[491]=-8.66, p<0.001$), and discrimination ($t[491]=9.53, p<0.001$). Acceptability, appropriateness, and feasibility were asked at the post-test only.

Table 1. Multivariable regression models predicting change scores for knowledge and stigma outcomes.

	SUD treatment knowledge	SUD medication knowledge	Stereotypes	Prejudice	Discrimination
Predictors	Estimates (CI)	Estimates (CI)	Estimates (CI)	Estimates (CI)	Estimates (CI)
(Intercept)	0.27 (0.11–0.43**)	0.21 (–0.01–0.44)	–0.06 (–0.27–0.14)	–0.08 (–0.22–0.05)	–0.20 (–0.35–0.05*)
Pre scores (centered)	–0.62 (–0.69–0.55**)	–0.39 (–0.45–0.33**)	–0.33 (–0.40–0.26**)	–0.42 (–0.48–0.36**)	–0.27 (–0.32–0.21**)
Age					
18–29	Ref	Ref	Ref	Ref	Ref
30–44	–0.04 (–0.16–0.08)	–0.09 (–0.27–0.09)	0.11 (–0.04–0.27)	0.04 (–0.06–0.15)	0.05 (–0.06–0.17)
45–59	–0.03 (–0.15–0.10)	–0.11 (–0.29–0.07)	0.17 (0.01–0.33*)	0.01 (–0.10–0.12)	0.08 (–0.04–0.20)
60+	–0.01 (–0.15–0.14)	–0.17 (–0.37–0.04)	0.14 (–0.05–0.32)	–0.06 (–0.19–0.06)	0.05 (–0.09–0.18)
White, non-Hispanic	0.07 (–0.02–0.16)	0.22 (0.09–0.36**)	–0.17 (–0.29–0.05*)	–0.13 (–0.21–0.05**)	–0.07 (–0.16–0.02)
Gender: women	0.03 (–0.06–0.12)	0.08 (–0.06–0.21)	–0.05 (–0.17–0.07)	0.00 (–0.08–0.09)	0.05 (–0.04–0.13)
Education: ≤ HS degree [†]	–0.05 (–0.14–0.04)	–0.05 (–0.18–0.07)	–0.03 (–0.14–0.09)	0.03 (–0.04–0.11)	–0.08 (–0.16–0.01)
Relationship to SUD					
Professional in SUD Field	Ref	Ref	Ref	Ref	Ref
Friend/Family with SUD	–0.08 (–0.16–0.00)	0.02 (–0.09–0.14)	–0.03 (–0.13–0.07)	0.02 (–0.05–0.09)	–0.02 (–0.10–0.06)
Personal experience with SUD	–0.01 (–0.12–0.11)	0.07 (–0.10–0.24)	–0.08 (–0.23–0.08)	–0.05 (–0.16–0.05)	0.04 (–0.08–0.15)
Facilitator: Creator	–0.04 (–0.12–0.03)	0.09 (–0.01–0.20)	–0.02 (–0.11–0.07)	0.02 (–0.04–0.08)	0.02 (–0.05–0.08)
Observations	492	492	492	492	492
R ² / R ² adjusted	0.400 / 0.388	0.274/0.258	0.173 / 0.156	0.308 / 0.293	0.188 / 0.171

Note. Pre-scores were mean-centered to aid in meaningful interpretation; treatment knowledge: $M_{treatment_knowledge} = 4.42$; medication knowledge: $M_{med_knowledge} = 3.59$. ICC = 0.01. ICC = 0; $M_{stereotype} = 2.13$. ICC = 0; prejudice: $M_{prejudice} = 1.61$. ICC = 0; discrimination: $M_{discrimination} = 2.17$. ICC = 0; Ref=Reference.

[†]Includes participants with some college experience, but no college degree.

** $p<0.001$.

* $p<0.01$.

differences between participants who completed the pre- and post-test versus those who completed the pretest only. Analyses focus on participants who completed the pre- and post-test. Most of these participants were between the ages of 30 and 59 (73.5%), 81.1% identified as women, 81.9% identified as White and Non-Hispanic, and 94.1% had at least some college education or more. Moreover, 36.0% identified as a professional in the SUD field, 12.8% as having a personal history of SUD, and 51.2% as a friend or family member of someone with SUD.

As shown in Figure 1, SUD treatment knowledge and SUD medication knowledge increased, and stereotypes, prejudice, and discrimination decreased, from the pre- to post-test. Across all outcomes, there was an inverse association between pretest and change scores (see Table 1 and Supplemental Appendix 4). Participants with lower pretest knowledge scores gained more knowledge, and participants with higher pretest stigma scores lost more stigma. White, non-Hispanic participants gained more SUD medication knowledge, and had slightly larger decreases in stereotypes and

prejudice. Participants aged 45–59 had larger decreases in stereotypes than participants aged 18–29. Other characteristics, including participants' gender, education, and relationship to SUD, as well as group facilitator were unrelated to change scores. The intercepts for SUD treatment knowledge and discrimination remained statistically significant, suggesting that SUD treatment knowledge increased and discrimination decreased after controlling for pretest scores and socio-demographic characteristics (see Table 1). The intercepts for SUD medication knowledge, stereotypes, and prejudice were non-statistically significant. For these outcomes, changes occurred in subgroups of participants.

As shown in Figure 1, mean scores for the implementation outcomes were high and therefore indicated that participants strongly agreed with the acceptability, appropriateness, and feasibility of the program.

Discussion

This proof-of-concept evaluation provides support for *enCompass*, a community-based universal SUD stigma intervention. Participants' knowledge increased and stigma decreased from before to after the intervention. Participants who began with less knowledge gained more knowledge, and participants who began with more stigma lost more stigma. With few exceptions, the magnitude of changes was similar regardless of participant socio-demographic characteristics and facilitator. The intraclass correlation was low, suggesting that group dynamics do not have a sizable impact on the intervention's effects. Moreover, the intervention was rated as acceptable, appropriate, and feasible by participants, increasing confidence that it can be implemented successfully in community settings. Key limitations of the current evaluation include its cross-sectional and non-randomized design, and homogeneity of the sample. In particular, the sample included high percentages of participants who identified as women, White and Non-Hispanic, and/or as college educated. Because there were no incentives available for the intervention or assessment, participants of this study volunteered to both attend *enCompass* and respond to the survey. This may have introduced self-selection bias into the study. More testing with longitudinal,

randomized designs and with more diverse samples who are compensated for their participation is needed to determine efficacy, whether changes persist over time, and generalizability.

Conclusions

Results suggest that *enCompass* is a potentially promising universal intervention for improving knowledge about SUD and reducing stigma toward people with SUD within communities. Following recommendations from the ORBIT model, more work is needed to test the efficacy and effectiveness of *enCompass*.⁶ Interventions that reduce SUD stigma in community settings hold promise for addressing a pernicious and persistent barrier to promoting SUD treatment.

Acknowledgements

The team thanks Governor DeWine and Recovery Ohio for their partnership on this work.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the Ohio Department of Mental Health and Addiction Services and National Institute on Drug Abuse (K01DA042881). The content is solely the responsibility of the authors and does not necessarily represent the official views of the Ohio Department of Mental Health and Addiction Services or the National Institutes of Health.

ORCID

Valerie A. Earnshaw  <http://orcid.org/0000-0002-4147-3301>

References

1. National Academies of Sciences, Engineering, and Medicine. Ending discrimination against people with mental and substance use disorders: the evidence for stigma change. Washington, DC: The National Academies Press; 2016.
2. Perry BL, Pescosolido BA, Krendl AC. The unique nature of public stigma toward non-medical prescription

- opioid use and dependence: a national study. *Addiction*. 2020;115(12):2317–26. doi:10.1111/add.15069.
3. Livingston JD, Milne T, Fang ML, Amari E. The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. *Addiction*. 2012;107(1):39–50. doi:10.1111/j.1360-0443.2011.03601.x.
 4. 2020 Ohio Drug Overdose Data [Internet]. Ohio Department of Health. 2020. Available from: <https://odh.ohio.gov/know-our-programs/violence-injury-prevention-program/resources/2020-ohio-drug-overdose-report>.
 5. Sherba RT, Dionne J, Linley JV. Mixed methods evaluation of State Targeted Response to the opioid crisis in Ohio. *Ohio J Public Health*. 2023;5(2):1–13. Available from: <https://ojph.org/index.php/OJPH/article/view/8979> doi:10.18061/ojph.v5i2.8979.
 6. Czajkowski SM, Powell LH, Adler N, Naar-King S, Reynolds KD, Hunter CM, Laraia B, Olster DH, Perna FM, Peterson JC, et al. From ideas to efficacy: the ORBIT Model for developing behavioral treatments for chronic diseases. *Health Psychol*. 2015;34(10):971–82. doi:10.1037/hea0000161.
 7. Yang LH, Grivel MM, Anderson B, Bailey GL, Opler M, Wong LY, Stein MD. A new brief opioid stigma scale to assess perceived public attitudes and internalized stigma: evidence for construct validity. *J Subst Abuse Treat*. 2019;99(2018):44–51. doi:10.1016/j.jsat.2019.01.005.
 8. Brown SA. Standardized measures for substance use stigma. *Drug Alcohol Depend*. 2011;116(1–3):137–41. doi:10.1016/j.drugalcdep.2010.12.005.
 9. Link BG, Cullen FT, Frank J, Wozniak JF. The social rejection of former mental patients: understanding why labels matter. *Am J Sociol*. 1987;92(6):1461–500. doi:10.1086/228672.
 10. Weiner BJ, Lewis CC, Stanick C, Powell BJ, Dorsey CN, Clary AS, Boynton MH, Halko H. Psychometric assessment of three newly developed implementation outcome measures. *Implement Sci*. 2017;12(1):108. doi:10.1186/s13012-017-0635-3.