Treatment Engagement in Community Health Worker-Supported Intervention for Tobacco Cessation among Individuals with Serious Mental Illness

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Background

- Community health worker (CHW) support combined with primary care provider education is an efficacious tobacco smoking cessation intervention for individuals with serious mental illness (SMI), demonstrating more than doubled abstinence rates (AOR=2.4) partially mediated by increased varenicline use (OR=2.8).[1]
- Understanding participant engagement with CHWs can identify mechanisms of action underlying the intervention, demographic groups at risk for disengagement, and inform intervention implementation in community settings.[2]

Study Aim

This secondary data analysis examines the influence of participant engagement and demographic factors on smoking abstinence and use of smoking cessation medications among adult tobacco smokers with SMI who received CHW support.

Intervention

336 participants were randomized to receive the intervention between November 2017 to January 2020 in Boston, Massachusetts.

Primary care providers (PCPs) from 53 clinics received education outreach aimed at increasing use of first-line SC pharmacotherapy

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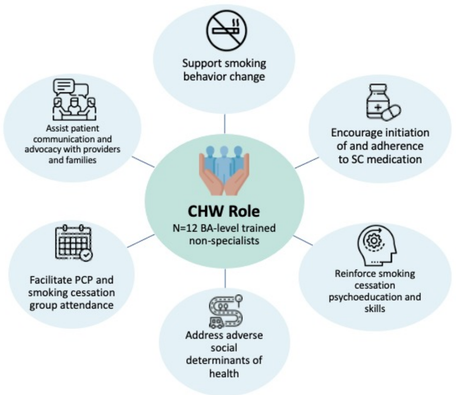


Measures

Treatment Engagement (CHW-report; Low vs. high engagement by median split)	Smoking Cessation Outcomes	Participant Baseline Characteristics (Self-report)
• ≥ 20 CHW sessions attended • ≥ 34-minute average CHW session length • ≥ 1 smoking cessation group attended • ≥ 1 CHW-accompanied PCP visit	• Abstinence at Year 2 • Use of any smoking cessation medication • Use of varenicline	• Sex • Race • Ethnicity • Living situation • Past year smoking quit attempt • Smoking-related health problem • Frequency of tobacco use • Heaviness of Smoking Index (HSI)

Participants

157 out of 220 (71%) consenting CHW-assigned participants completed the Year 2 assessment.

Baseline Characteristics	N	%
Ethnoracial Identity		
Latinx/Hispanic	28	18
Non-Latinx white	56	36
Non-Latinx Black	63	40
Other/Multiracial	8	5
Sex		
Male	111	71
Living situation		
Group living environment	88	56
Reported making a smoking quit attempt in last year	41	26
Smoking-related health problem	84	54
Moderate to severe nicotine dependence	46	29

Results

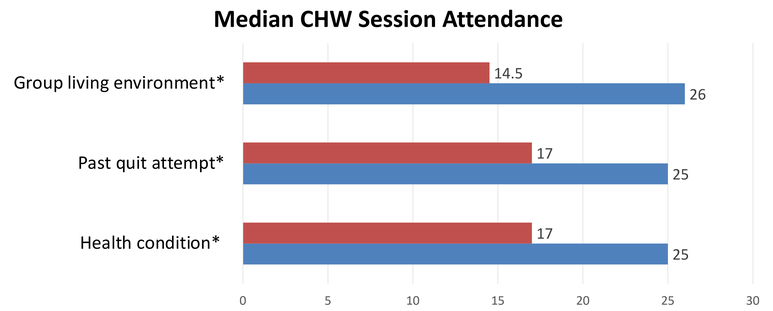
25 (15.9%) participants achieved smoking abstinence at Year 2.
81 (51.6%) participants used smoking cessation medications.
52 (33.1%) participants used varenicline.

Engagement with CHW sessions and smoking cessation groups over the two-year intervention increased the likelihood of achieving smoking abstinence and using smoking cessation medications.

- Those who **attended at least 20 CHW sessions** were about **5 times more likely to be abstinent** (OR=5.10 [1.81, 14.42], *p*=.002), **7 times more likely to use cessation medications** (OR=7.06 [3.50, 14.26], *p*<.001), and **9.5 times more likely to use varenicline** (OR=9.56 [4.19, 21.81], *p*<.001) than those who attended fewer sessions.
- Those who **spent at least 34 minutes in each CHW session** were about **3 times more likely to be abstinent** (OR=2.96 [1.16, 7.56], *p*=.024), **2.5 times more likely to use cessation medications** (OR=2.59 [1.35, 4.97], *p*=.004), and **3 times more likely to use varenicline** (OR=2.82 [1.40, 5.69], *p*=.004) than those who spent less time.
- Those who **attended at least one smoking cessation group** were about **3.5 times more likely to be abstinent** (OR=3.47 [1.30, 9.24], *p*=.013), and were **4 times more likely to use cessation medications** (OR=3.84 [1.98, 7.44], *p*<.001) **and varenicline** (OR=4.33 [2.07, 9.05], *p*<.001) than those who did not attend any groups.
- Having at least one CHW-accompanied PCP visit did not predict abstinence or use of any smoking cessation medication.

Results

Group living environment, past year quit attempt, and smoking-related health problem at baseline were associated with higher treatment engagement.



Conclusions

- **Higher engagement with CHWs was associated with higher abstinence rates and use of smoking cessation medication in a community-based smoking cessation treatment for individuals with SMI.**
- CHWs and smoking cessation groups may improve adherence to treatment, reinforce education about the safety and efficacy of smoking cessation medication, and support positive behavior change.[3]
- Individuals in group living environments and those with previous failed quit attempt and smoking-related illnesses are more engaged in treatment as they may receive more support from their care teams and may be more motivated to change their smoking behaviors.
- **Future implementation should prioritize enhancing CHW session and smoking cessation group attendance, as well as tailor engagement approaches to groups at higher risk for low engagement to improve smoking cessation outcomes in this population.**

References: 1. Evins AE, Cather C, Maravic MC, Reyering S, Pachas GN, Thorndike AN, et al. A Pragmatic Cluster-Randomized Trial of Provider Education and Community Health Worker Support for Tobacco Cessation. Psychiatr Serv. 2022 Nov 9;appi.ps.20220187.; **2.** Greene J, Hibbard JH, Sacks R, Overton V, Parrotta CD. When Patient Activation Levels Change, Health Outcomes And Costs Change, Too. Health Aff (Millwood). 2015 Mar;34(3):431–7. ; **3.** Mistry SK, Harris E, Harris M. Community Health Workers as Healthcare Navigators in Primary Care Chronic Disease Management: a Systematic Review. J Gen Intern Med. 2021 Sep;36(9):2755–71.; **4.** Lee C won, Kahende J. Factors Associated With Successful Smoking Cessation in the United States, 2000. Am J Public Health. 2007 Aug;97(8):1503–9.; **5.** Japuntich SJ, Leventhal AM, Piper ME, Bolt DM, Roberts LJ, Fiore MC, et al. Smoker Characteristics and Smoking-Cessation Milestones. Am J Prev Med. 2011 Mar;40(3):286–94.