Dual Study Describing Patient-Driven Harm Reduction Goal-Setting Among People Experiencing Homelessness and Alcohol Use Disorder

Taurmini S. P. Fentress[1], Sazi Wald[1], Aaron Brah[1], Griffin Leemon[1], Rosemary Reyes[1], Fatma Alkhamees[1], Madeline Kramer[1], Emily M. Taylor[1], Megan Wildhood[1], Tessa Frohe[1], Mark H. Duncan[1], Seema L. Clifasefi[1], and Susan E. Collins[1, 2]

[1] Department of Psychiatry and Behavioral Science, University of Washington School of Medicine
[2] Department of Psychology, Washington State University

Two recent randomized controlled efficacy trials showed that harm-reduction treatment for alcohol use disorder (AUD)—or patient-driven treatment that does not require abstinence and instead supports decreased alcohol-related harm and improved quality of life (QoL)—is efficacious for adults experiencing homelessness and AUD. The present study provides qualitative and quantitative analysis of one component of harm-reduction treatment, participants' harm-reduction goal-setting, within these two trials. Aims of this secondary, dual-trial study (Trial 1 $N = 208$, Trial 2 $N = 86$) were to describe participant-generated harm-reduction goals and determine whether aspects of harm-reduction goal-setting predict treatment outcomes. Across both trials, qualitative findings indicated improving QoL, meeting basic needs, improving physical and mental health, and changing drinking behavior were participants' top four goals. Only 2%–6% of goals centered on attaining alcohol abstinence. Regarding quantitative findings, Trial 1 showed statistically significant increases in goals generation over the course of treatment, while proportion of achieved goals stayed constant. In Trial 2, number of goals generated remained constant, while proportion of goals achieved increased. Trial 2 findings showed greater goal generation over time was associated with better physical health-related QoL, and drinking-related goals predicted improved alcohol outcomes. Overall, this secondary, dual-trial study suggests patient-driven goal-setting in harm-reduction treatment is feasible: Participants generated diverse, personalized, and clinically relevant goals. This study built on positive efficacy trial findings, indicating participants' generation of goals was associated with improved treatment outcomes. More research is needed to further understand more nuanced relationships between harm-reduction goal-setting and treatment outcomes.

Public Health Significance
Patient-driven harm-reduction goal-setting is feasible and helps people generate personalized and clinically relevant goals. Some aspects of harm-reduction goal-setting are associated with improved treatment outcomes over time; however, further study is needed to more fully understand how harm-reduction goal-setting is associated with treatment outcomes.

Keywords: harm reduction, alcohol treatment, homelessness, quality of life, patient-driven goals

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Taurmini S. P. Fentress https://orcid.org/0000-0001-9325-5202
Sazi Wald https://orcid.org/0000-0001-7493-6854
Aaron Brah https://orcid.org/0000-0001-8771-7159
Griffin Leemon https://orcid.org/0000-0002-5371-9815
Fatma Alkhamees https://orcid.org/0000-0001-8024-0247
Madeline Kramer https://orcid.org/0000-0003-0494-8985
Emily M. Taylor https://orcid.org/0000-0001-9367-0123
Megan Wildhood https://orcid.org/0000-0002-8859-213X
Tessa Frohe https://orcid.org/0000-0002-7796-1200
Seema L. Clifasefi https://orcid.org/0000-0002-1935-5843

Although abstinence-based treatments for alcohol use disorder (AUD) are considered the gold standard (Kelly et al., 2020; U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism, 2007; Willenbring, 2014), most people with AUD are not optimally engaged by these treatments. Of the 15.5 million people in the U.S. who needed treatment for alcohol use disorder in 2018, only about 9% received treatment (Substance Use and Mental Health Service Administration [SAMHSAA], 2019). Among those who met criteria for AUD but did not receive treatment, 96% reported they did not need it (SAMHSAA, 2019). Abstinence-based treatments are thus not engaging the vast majority of the general U.S. population affected by AUD.

Abstinence-based AUD treatment is even less likely to engage more marginalized populations, such as those experiencing homelessness (Collins et al., 2016; Orwin et al., 1999). According to the U.S. federal definition, homelessness is lacking a fixed, regular, and adequate nighttime residence; having a primary nighttime dwelling that is not a regular sleeping accommodation; living in a supervised shelter or transitional housing; exiting an institution that served as temporary residence when the individual had previously resided in a shelter or place not meant for human habitation; or facing imminent loss of housing when no subsequent residence is identified and insufficient resources/support networks exist (The McKinney-Vento Act, 2009). Epidemiological studies assessing AUD prevalence do not typically include people experiencing homelessness; however, studies from the U.S. and around the world estimate AUD prevalence at around 40% in people experiencing homelessness (Fazel et al., 2008; Koegel et al., 1999; North et al., 2010). In addition to its wide prevalence, people experiencing homelessness and AUD have a disproportionate experience of alcohol-related harm, including increased alcohol-related mortality, stigma, and systemic barriers to culturally appropriate and personally meaningful pathways to recovery (Clifasefi et al., 2016; Collins, Clifasefi, et al., 2012; Collins et al., 2016; Hwang et al., 2009; Rayburn & Wright, 2009).

Although their AUD prevalence rates are greater than in the general population (SAMHSAA, 2019), only a small percentage of people experiencing homelessness who meet criteria for AUD begin treatment (15%–28%; Rosenheck et al., 1998; Wenzel et al., 2001), and of those, an even smaller percentage actually complete it (1.5%–33%; Orwin et al., 1999). Qualitative research has provided some explanation for the poor engagement of this population in abstinence-based treatment: Abstinence-based treatment is not perceived to be relevant, desirable, or effective by the vast majority of people experiencing homelessness and AUD (Clifasefi et al., 2016; Collins, Clifasefi, et al., 2012; Collins et al., 2016).

In contrast, recent studies have shown that harm-reduction treatment is an engaging and efficacious alternative to abstinence-based treatment for individuals experiencing homelessness and AUD (Collins, Duncan, et al., 2015; Collins et al., 2019, Collins et al., 2021). As applied to alcohol use, harm-reduction approaches more broadly include a diverse set of compassionate and pragmatic strategies that aim to minimize alcohol-related harm and enhance quality of life (QoL) without requiring or advising abstinence or use reduction (Collins et al., 2011). Much of the research to date has focused on community-level strategies—including low-barrier, non-abstinence-based housing, meaningful activities programming, and managed alcohol programs—which have shown promise in diminishing both individual- and community-level alcohol-related harms (Clifasefi et al., 2020; Collins, Malone, et al., 2012; Pauly

et al., 2018; Stockwell et al., 2018). More recent research has provided empirical support for an additional family of individual-level interventions, called harm-reduction treatment for AUD, and its ability to reduce alcohol use, ameliorate alcohol-related harm and improve health-related QoL (Collins, Duncan, et al., 2015; Collins et al., 2019, Collins et al., 2021).

Informed by community-based research (Collins, Clifasefi, et al., 2012; Collins, Duncan, et al., 2015) and refined by a community advisory board comprising staff, management, and clients at a community-based agency providing services to people experiencing homelessness and AUD (Clifasefi et al., 2016; Collins et al., 2018), harm-reduction treatment for AUD breaks with traditional abstinence-based treatment (Collins et al., 2016, 2019). It entails no abstinence or use-reduction requirements, a low number of expected treatment contacts, community-based treatment provision, and participant-driven goal-setting. While harm reduction treatment for AUD entails the compassionate heart-set founded in the spirit, processes, and communication skills of motivational interviewing (Miller & Rollnick, 2012), it does not aim to build discrepancy between current drinking and treatment attendance, abstinence, or drinking moderation. Instead, interventionists used only strengths-based reflections and affirmations to support patients' own unique harm-reduction goal-setting and safer-use strategies. Specific harm-reduction treatment components include (a) collaborative tracking of participant-preferred harm-reduction metrics, (b) elicitation of harm-reduction and QoL goals, and (c) discussion of safer-drinking strategies (Collins, Duncan, et al., 2015; Collins et al., 2019, Collins et al., 2021). An initial pilot study and two randomized controlled trials have shown harm-reduction treatment for AUD to be both highly engaging and associated with reduced alcohol use and alcohol-related harm and improved QoL in people experiencing homelessness (Collins, Duncan, et al., 2015; Collins et al., 2019, Collins et al., 2021).

As noted above, patient-driven goal-setting is a key component of individual harm-reduction treatment (Collins, Grazioli, et al., 2015; Lee & Zerai, 2010). Patient-driven goal-setting stands in contrast to goal-setting in abstinence-based treatment, in which the long-standing assumption of abstinence as the primary AUD treatment goal has taken precedence over patient's own goals. In harm-reduction goal-setting, more specifically, interventionists elicit whatever goals patients feel are most relevant for reduction of alcohol-related harm (e.g., reducing blackouts, moving from non-beverage to beverage alcohol, reducing use) or improvement of quality of life (e.g., engaging in a hobby, improving fitness, or reconnecting with meaningful relationships; Collins, Duncan, et al., 2015; Collins et al., 2019, Collins et al., 2021; Collins, Grazioli, et al., 2015). In each subsequent session, interventionists engage a sense of curiosity, open-ended questions, and strengths-based reflections to elicit patients' stories about their progress toward their harm-reduction goals and provide affirmations and encouragement to support ongoing goal actualization. Regardless of patients' progress toward their goals, interventionists remain supportive and accepting and offer affirmations for efforts, even if goals are not achieved. Interventionists also help patients break down goals into smaller, more achievable stepwise goals, and engage in troubleshooting to help remove barriers to their realization (Collins, Duncan, et al., 2015; Collins et al., 2019, Collins et al., 2021).

Despite the aforementioned increased use of harm-reduction approaches and demonstrations of their efficacy (Collins et al., 2019, Collins et al., 2021), the patient-driven goal-setting process

entailed in harm-reduction treatment for AUD has only been documented in one small pilot study ($N = 31$) to date. This study found that participants experiencing homelessness and AUD generated an increasing number of goals over the course of harm-reduction treatment and that the proportions of goals achieved and progressed toward kept pace with this increase (Collins, Grazioli, et al., 2015). These findings suggested that people with experience of homelessness and AUD can independently generate and achieve treatment goals aiming towards reducing alcohol-related harm and improving QoL (Collins, Grazioli, et al., 2015).

Since that initial, small pilot study, two, larger-scale randomized controlled trials have been conducted that have affirmed the efficacy of harm-reduction treatment for AUD in people experiencing homelessness in reducing alcohol use, decreasing alcohol-related harm and improving physical health-related QoL (Collins et al., 2019, Collins et al., 2021). The present, secondary study serves to zero in on harm-reduction goal-setting and thereby describe participants' engagement with this key component of harm-reduction treatment. Specifically, we use a mixed-methods approach to (a) describe participant-generated goals in the context of harm-reduction treatment for AUD, (b) test whether the number of goals generated and proportion of goals achieved changed over the course of treatment, and (c) test whether goal-setting and specific goal categories were associated with greater improvements in alcohol and physical and mental health-related QoL outcomes across these two, larger-scale RCTs. This information will help prepare clinicians for the types of goals generated in harm-reduction treatment and enhance their support of individualized pathways toward harm reduction and QoL improvement.

Trial 1

Method

Design

The parent study [Harm Reduction Treatment for AUD (HaRT-A) Study] was a 2-arm randomized controlled trial ($N = 168$) testing the initial efficacy of a behavioral harm-reduction treatment for AUD compared to community-based services as usual in people experiencing homelessness (see parent study for more detail; Collins et al., 2019). The parent study was conducted from October 2015 to February 2017 in accordance with CONSORT guidelines and was approved by the University of Washington Institutional Review Board. Findings showed that harm-reduction treatment participants reduced their alcohol use, alcohol-related harm, and experience of AUD symptoms compared to the services-as-usual control arm.

This secondary analysis aimed to describe the role of one of the key components of harm-reduction treatment for AUD: harm-reduction goal-setting. To do so, we used a mixed methods design to qualitatively describe participant-generated harm-reduction goals using directed content analysis and to quantitatively describe goal-setting over the course of this treatment.

Participants

Participants in this secondary analysis ($N = 86$) were adults in community-based service settings in Seattle, Washington who (a) experienced homelessness for at least 6 of the last 12 months, (b) met DSM-5 criteria for AUD, and (c) had been randomized to the harm-reduction counseling arm of the parent study. See parent study for more detail (Collins et al., 2019).

Measure

Sociodemographic questions assessed age, sex assigned at birth, race, ethnicity, current housing status, and substance-use treatment, and mutual-help group attendance. The resulting responses served to describe the sample at baseline.

A single, self-report item from the Addiction Severity Index (ASI) was used to assess 30-day frequency of alcohol use (McLellan et al., 1992). The Alcohol Quantity of Use Assessment (AQUA) was used to assess participants' peak alcohol quantity in the past 30 days (Collins, Grazioli, et al., 2015). The Short Inventory of Problems (SIP-2 R), a 15-item Likert-type scale, measures participants' experience of social, occupational and psychological forms of alcohol-related harm (Miller et al., 1995). The resulting variables were used to describe the samples at baseline.

The Safer-drinking and Harm Reduction Efforts (SHaRE) form is an open-ended grid created for use in the harm-reduction counseling sessions (Collins et al., 2019). It was administered at each harm-reduction counseling session after baseline to elicit and record participant-generated harm-reduction goals. To introduce the elicitation of goals, study interventionists said, "What would you like to see happen for yourself during the next week?" Participants' open-ended responses to these prompts were recorded by the study interventionists. Goals were participant-driven, and study interventionists neither required nor suggested any specific drinking-related goals. Participants were informed that study interventionists would check in with them during subsequent sessions to assess together with the participant whether they achieved (yes/no) harm-reduction goals set during the prior sessions. Goals set by participants and whether they had been achieved by the subsequent timepoint were the outcomes used in the current quantitative and qualitative analyses (i.e., Week 0 goals achievement checked at Week 1, Week 1 goals achievement checked at Week 2, Week 2 goals achievement checked at Week 6 booster session).

Treatment

The behavioral harm reduction treatment for AUD was developed using an iterative, CBPR process by a team comprising researchers, people with lived experience of homelessness and AUD, and providers serving this population (Collins et al., 2018). It included a harm-reduction philosophy of meeting participants where they are at, not requiring abstinence or use reduction, and addressing alcohol use with compassion and nonjudgmentally. Specific treatment components included (a) collaborative tracking of participant-preferred alcohol-related metrics, (b) elicitation of participants' own harm-reduction goals as the primary treatment focus, and (c) discussion of safer-drinking strategies. For the purpose of the current secondary analysis, we focused on data collected during elicitation of harm-reduction goals. See parent study for more details on the treatment (Collins et al., 2019).

Staff Training

All staff completed online trainings on the ethical conduct of human subjects research as well as manualized, in-person, study-specific training using protocols developed during prior evaluations

(Collins et al., 2014; Collins, Grazioli, et al., 2015). Assessment staff were postbaccalaureate psychology research assistants who received at least 20 hr of training, including a review of written protocols (e.g., probe instructions, skip patterns, crisis de-escalation), mock interviews with feedback, and onsite shadowing, before they began independently recruiting and assessing participants. Interventionists included a registered nurse, psychologist, and social worker who received 20 hr of in-person training, including review of the manual, role plays, shadowing, and feedback. All staff received weekly supervision, including review of audio-recorded sessions, with a licensed clinical psychologist with over 20 years of experience conducting alcohol intervention research. Additional consultation was provided by other collaborators, as needed.

Procedure

After obtaining written, informed consent, assessment staff collected data on sociodemographics within a larger study measures battery. HaRT-A participants then attended three weekly treatment sessions (Weeks 0–2) plus a 1-month booster session (Week 6). Data on harm-reduction goal-setting, specifically, were recorded by interventionists during the HaRT-A treatment sessions.

Data Preparation and Analysis Plan

Qualitative Data Analysis. Participant-generated harm-reduction goals were transcribed from the SHaRE form into Excel, a spreadsheet program. Directed content analysis, a methodology that facilitates description of qualitative data through a systematic process of coding and preset classification, was conducted (Hsieh & Shannon, 2005). Coders included a bachelor's-level trainee, a postbaccalaureate research coordinator, a master's-level social work student, a social work doctoral trainee, and a clinical psychologist. Coders identified recurring categories of participant-generated goals (Hsieh & Shannon, 2005; Shek et al., 2005). Initial coding was conducted independently using a codebook created during a prior pilot study (Collins, Grazioli, et al., 2015). New categories were added by consensus on an as-needed basis after coders reviewed data and categorization. Coding was discussed and discrepancies were resolved until independently achieved percent agreement for these items reached acceptable standards (i.e., 80%; Shek et al., 2005).

Quantitative Data Analysis. Quantitative analyses were conducted by the same team as conducted the qualitative coding. Descriptive data analysis was used to document the proportional representation of participant responses in specific goal categories. Inferential statistical analyses (paired t-tests) were conducted to test whether the number of goals generated and the proportion of goals achieved changed over the course of treatment.

Results

Sample Description

Participants had an average age of 48.34 ($SD = 9.09$) years and were predominantly male (20% assigned female sex at birth; $n = 17$). Of the overall sample, 55% self-identified as Black/African American, 23% as white/European American, 13% as American Indian/Alaska Native/First Nations, 4% as Multiracial, 1% as Native Hawaiian/Pacific Islander, and 5% as "Other." Additionally, 7% of the sample identified as Hispanic/Latinx.

Participants reported drinking alcohol a mean of 10.31 ($SD = 4.07$) days of the past 30, consuming a mean of 23.22 ($SD = 16.94$) standard drinks on the peak drinking occasion in the past month, and had a mean score of 23.28 ($SD = 10.98$) on the SIP.

Qualitative Findings

Interrater reliability for the content analysis categories reached 85%. Tables 1 and 2 show frequencies of responses within each of the overall categories and their relative rankings at Week 0 and 2, respectively. The top four categories and their most endorsed subcategories are described below.

Quality of Life Goals. The most frequently cited category of goals at both baseline and follow-up treatment sessions were QoL goals (see Tables 1 and 2). Within this category, goals represented two main subcategories: engaging in meaningful activities and enhancing social connections. Participant-endorsed meaningful activities included hobbies such as "read at the library every day" and "get involved with my music." Other participants shared QoL goals related to employment (e.g., "intense job search"). Participants also reported wanting to engage in activities that were focused on spirituality (e.g., "pray every day," "be more active in church"). Some wished to pursue educational and intellectually stimulating activities (e.g., "go back to school," "commit to study"), and others desired to engage in cultural practices (e.g., "start beadwork and show others how," "work on my dreamcatchers").

In addition to wanting to engage in meaningful activities, participants reported QoL goals focused on enhancing social connections

Table 1
Trial 1 Harm Reduction Goals at Week 0 (N = 86)

Rank	Category	Frequency	%
1	Quality of life goals	103	34.7
	Engaging with meaningful activities	71	23.9
	Rebuilding/building/facilitating relationships with family and friends	32	10.8
2	Basic needs goals	78	26.3
	Obtaining/attaining clinical, case management, supportive, legal or other services/goals to fulfill basic needs	49	16.5
	Fulfilling basic needs: housing	19	6.4
	Obtaining tangible goods, things, necessities to fulfill basic needs	10	3.4
3	Health	46	15.4
	Improving physical health	33	11.1
	Maintaining or improving mental health	12	4
	Maintaining or improving cognitive function	1	0.3
4	Drinking goals	43	14.5
	Connecting with external support for drinking	14	4.7
	Reducing drinking	13	4.4
	Achieving abstinence/stop drinking	7	2.4
	Avoiding people-place-things, high-risk situations, and/or triggers	5	1.7
	Obtaining/maintaining a sense of control over one's drinking	4	1.3
5	Activities of daily living goals	14	4.7
6	Other substance use goals: desire to reduce/change/stop other substance use	6	2
7	Other	4	1.3
8	Money	3	1

Table 2
Trial 1 Harm Reduction Goals at Week 2 (N = 68)

Rank	Category	Frequency	%
1	Quality of life goals	95	32.2
	Engaging with meaningful activities	59	20
	Rebuilding/building/facilitating relationships with family and friends	36	12.2
2	Basic needs goals	78	26.5
	Obtaining/attaining clinical, case management, supportive, legal or other services/goals to fulfill basic needs	46	15.6
	Fulfilling basic needs: housing	23	7.8
	Obtaining tangible goods, things, necessities to fulfill basic needs	9	3.1
3	Health	45	15.3
	Maintaining or improving mental health	7	2.4
	Improving physical health	38	12.9
4	Drinking goals	42	14.2
	Connecting with external support for drinking	16	5.4
	Reducing drinking	13	4.4
	Achieving abstinence/stop drinking	5	1.7
	Avoiding people-place-things, high-risk situations, and/or triggers	5	1.7
	Obtaining/maintaining a sense of control over one's drinking	3	1
5	Activities of daily living goals	13	4.4
6	Other	10	3.4
7	Other substance use goals: desire to reduce/change/stop other substance use	4	1.4
8	Money	1	0.3

with friends and family, including a desire to provide support, amend past actions, or simply dedicate time to those they love (e.g., "spending more time with son," "continue reaching out to sister"). Other social connection goals related less to individual connections and focused instead on a broader goal of building and sustaining community (e.g., "get in a positive social environment," "visit church … get involved," "help others").

Basic Needs Goals. Across the timepoints, basic needs goals comprised the second most cited category. This category consisted of any goals, such as food, shelter, clothing, and services, that are considered necessary for basic survival. The most frequently reported subcategory at both baseline and follow-up appointments was the desire to access needed services (e.g., "visit Social Security office," "make a DSHS appointment"). The second was to obtain shelter or housing. The third most common subcategory represented participants' wish to acquire resources needed on the pathway to accessing other services or meeting basic needs (e.g., acquiring a bus pass to attend clinical appointments or job interviews; obtaining a driver's license to apply for a bank account). Oftentimes, the most frequently stated subcategory, obtaining or accessing services, was linked to other subcategories within the basic needs category. For example, participants who were working to attain housing would state that they needed to meet with a case worker as a step towards gaining housing. This linking of, at first glance, seemingly unrelated goals was necessary for participants to meet their basic needs.

Health-Related Goals. Health-related goals comprised the third most endorsed category at both baseline and follow-up sessions. The subcategories included maintaining or enhancing mental and physical health. The physical health subcategory was the most frequently endorsed subcategory. Many participants focused on goals related to overall or longer-term physical fitness and wellness (e.g., "exercise once a week at the gym," "ask acupuncturists about nutrition"). Other participants endorsed physical health goals that were focused on addressing current health issues and needs (e.g., "go to dental clinic and fix tooth," "get ankle brace"). Some mental health goals related to efforts to secure and maintain a positive mental state (e.g., "stay positive; stop and be thankful"), while others were focused on gaining access to mental health care and treatment (e.g. "go to Sound Mental Health").

Drinking-Related Goals. The fourth most endorsed category was drinking-related goals. Within this category, the most frequently endorsed subcategory at both baseline and follow-up was the desire to connect with external support for drinking. When endorsing this goal, some participants stated that they wanted to engage in recovery services (e.g., "get back into treatment") while a majority endorsed wanting to take part in mutual support groups (e.g., "make AA meetings," "build support group"). Participants also shared a goal of connecting with a sponsor or support person (e.g., "get a sponsor," "call sober friend this week"). All goals shared in this subcategory referred to seeking some type of social support. Reducing drinking was the second most cited subcategory (e.g., "cut down on drinking") at both time points. Some participants shared goals about reducing the quantity of their drinking (e.g., "taper drinking down") while other participants reported goals regarding reducing the frequency of their drinking (e.g., "decrease drinking day to 1–2 times a week"). Many participants acknowledged a goal of decreasing drinking gradually (e.g., "slowly reduce drinking," "be patient, taper down slowly"). Attaining abstinence was the third most common goal at baseline and follow-up sessions; however, it was tied for third with avoiding triggers at the follow-up. While some participants endorsed a goal of complete and ongoing abstinence (e.g., "stop drinking," "stay sober"), others were focused on attaining abstinence for a discrete event or given period of time (e.g., "stay sober for next week"). Participants often acknowledged abstinence as a final goal that would be reached through a decrease in current drinking rather than an abrupt stop (e.g. "work towards being sober," "eventually stop drinking").

"Avoiding triggers" was the fourth most commonly cited subcategory at the baseline but tied for third in the follow-up. Goals within this category related to participants' wish to avoid certain triggering people (e.g., "stay away from negative people"), places/environment (e.g., "remove myself from [my] current surroundings, people, and environment"), and things (e.g., "avoid triggers like hand sanitizer"). The goal ranked in last place at both baseline and follow-up was maintaining a sense of control over alcohol use (e.g., "counting drinks," "try to not have a drink until after lunch").

Quantitative Findings

Analyses indicated the number of goals generated by participants increased significantly over time from baseline ($M = 3.70$, $SD = 1.22$) to the follow-up 2 weeks later ($M = 4.30$, $SD = 1.62$), $t(66) = -3.06$, $p = .003$. The proportion of goals achieved did not increase significantly from baseline ($M = .48$, $SD = .32$) to follow-up ($M = .47$, $SD = .33$), $t(57) = .20$, $p = .84$.

Trial 2

Method

Design

The parent study [Harm Reduction with Pharmacotherapy (HaRP) Study] was a 4-arm randomized controlled trial ($N = 308$) testing the efficacy of a 12-week combined pharmacobehavioral harm-reduction treatment for AUD compared with community-based services as usual in people experiencing homelessness and AUD (Collins et al., 2021). The parent study was conducted from October 2013 to September 2018 in accordance with CONSORT guidelines and was approved by the University of Washington Institutional Review Board.

The present, secondary analysis used a similar mixed methods design as in Trial 1 to qualitatively describe participant-generated harm-reduction goals using directed content analysis and to quantitatively describe goal-setting across treatment. Additional inferential analyses were conducted to test whether number and type of goals generated were associated with alcohol and QoL outcomes during that same time period.

Participants

Participants ($N = 208$; 14.9% female; $M = 48.4$, $SD = 9.1$) were adults (21–65 years old) who met criteria for current AUD (i.e., "alcohol dependence" according to DSM-4-TR), experienced homelessness in the past year and were randomized to one of the three arms receiving harm-reduction treatment.

Measure

As in Trial 1, a sociodemographic questionnaire, the ASI, the AQUA, and the SIP-2R were used to describe the sample at baseline. Additionally, the ASI, AQUA, and SIP-2R were used across Weeks 0, 4, and 8 to generate alcohol outcomes for inferential analyses.

The SHaRE was used by interventionists to record participants' harm-reduction goals and their completion as noted in Trial 1 above. Goals set by participants and whether they had been achieved by the subsequent timepoint were the outcomes used in the current quantitative and qualitative analyses (i.e., Week 0 goals achievement checked at Week 4, Week 4 goals achievement checked at Week 8, Week 8 goals achievement checked at Week 12).

The Short Form-12 (SF-12) (Ware et al., 1996) was used to document physical (evaluation of general health, physical functioning, ability to fulfill daily tasks/roles in light of physical limitations, bodily pain) and mental (sense of vitality, social functioning, ability to fulfill daily tasks/roles given emotional problems, mental health) HR-QoL, where higher scores indicated higher HR-QoL (Pelle et al., 2013). The resulting outcomes at the Weeks 0, 4, and 8 were used as outcomes in inferential analyses.

Staff Training

Staff were trained similarly to staff in Trial 1. Interventionists included six medical doctors and two nurses. Assessment staff included three postbaccalaureate research coordinators and one master's-level social worker.

Treatment

The three active treatment arms included (a) behavioral Harm-Reduction Treatment for AUD (HaRT-A) plus extended-release naltrexone (XR-NTX), which is an opioid receptor antagonist meant to reduce craving for alcohol, (b) HaRT-A plus placebo injections, and (c) HaRT-A alone. The three active treatment groups (HaRT-A plus XR-NTX, HaRT-A plus Placebo, and HaRT-A alone) attended five, manualized behavioral harm-reduction treatment sessions delivered by study physicians/nurses (see published protocol; Collins et al., 2014). Similarly to the HaRT-A described in Trial 1, study physicians/nurses used a compassionate, pragmatic, and patient-driven style in administering the following treatment components: (a) feedback on results of physical exams and lab testing and their implications for physiological alcohol-related harm, (b) collaborative tracking of participant-preferred alcohol-related outcomes, (c) elicitation of harm-reduction and HR-QoL goals, and (d) discussion of safer-drinking strategies. The HaRT-A plus XR-NTX and HaRT-A plus Placebo conditions additionally received information about the medication and injections at Weeks 0, 4, and 8 (Collins et al., 2014).

Procedure

After providing written, informed consent, participants underwent a 45-min baseline interview consisting of the above measures, except the SHaRE form. Participants were then individually randomized using permuted, stratified block randomization to their respective study conditions. Only participants receiving harm-reduction treatment were included in the current study. Further details about parent trial procedures are provided elsewhere (Collins et al., 2014, 2019, Collins et al., 2021).

Data Preparation and Analysis Plan

Qualitative Data Analysis. Data were managed, prepared, and coded as described in Trial 1 above. The coding team included bachelor (3) and master's-level psychology (1) students as well as a postbaccalaureate research coordinator, social worker, and clinical psychologist.

Quantitative Data Analysis. The coding team likewise contributed to quantitative data analysis. Descriptive data analysis documented the proportional representation of participant responses in specific goal categories. A series of generalized estimating equations were used to determine (a) whether the number of goals or proportion of goals achieved changed over time (i.e., time as predictor, treatment subgroup as dummy-coded control variables, and number of goals/proportion goals achieved as outcomes), (b) whether number of goals or proportion goals achieved predicted alcohol and QoL outcomes, (c) whether the presence of at least one drinking-related goal ($0 =$ no, $1 =$ yes) predicted alcohol outcomes, and (d) whether the presence of at least one QoL-related goal ($0 =$ no, $1 =$ yes) predicted QoL outcomes. Additional analyses were conducted assessing the effects of sex assigned at birth, race, and ethnicity (Latinx/non-Latinx). The addition of these covariates did not alter outcomes and are therefore not presented.

Results

Sample Description

Participants had an average age of 48.37 (SD = 9.02) years and were predominantly male (14.9% assigned female at birth; n = 31). Of the overall sample, 35% self-identified as Black/African American, 31% as white/European American, 13% as American Indian/Alaska Native/First Nations, 13% as Multiracial, 1% as Native Hawaiian/Pacific Islander, and 7% as "Other." Additionally, 9% of the sample identified as Hispanic/Latinx.

Participants reported drinking alcohol a mean of 23.76 (SD = 8.01) days of the past 30, a mean of 34.22 (SD = 21.68) standard drinks on their past month peak drinking occasion and had a mean score of 23.89 (SD = 11.56) on the SIP. Regarding QoL, participants had a raw mean of 15.95 (SD = 4.51) on the physical and 17.87 (SD = 4.82) mental health-related QoL portions of the SF-12, respectively.

Qualitative Findings

Interrater reliability for directed content analysis categories reached 84%. Tables 3 and 4 show frequencies for goal subcategories and relative ranking of each goal category at baseline and Week 8, respectively. Table 5 shows descriptive statistics for goal-setting across Weeks 0, 4, and 8. Although the qualitative nature of the categories was highly similar to that described in Trial 1 above, the top four ranked harm-reduction goal categories and their most endorsed subcategories differed (see Tables 3 and 4 for complete findings). In order, the top four harm-reduction goal categories at baseline centered on meeting basic needs (26.6%; n = 185), changing drinking behavior (25.5%, n = 177), enhancing QoL (21.4%; n = 149), and improving physical and mental health (16.3%; n = 113; see Table 3). The order of the top four categories changed at the 2-month follow-up as follows: basic needs (27.8%; n = 144),

Table 3
Trial 2 Harm Reduction Goals at Week 0 (N = 208)

Rank	Category	Frequency	%
1	Basic needs goals	185	26.6
	Attain adequate housing	95	13.7
	Obtain tangible goods	47	6.8
	Access clinical or other services	43	6.2
2	Drinking-related goals	177	25.5
	Reduce drinking	65	9.3
	Attain abstinence	44	6.3
	Engage with external support	38	5.5
	Gain control over drinking	15	2.2
	Avoid triggers	14	2.0
	Avoid negative consequences	1	0.1
3	Quality-of-life goals	149	21.4
	Participate in meaningful activities	115	16.5
	Engage in social connection	34	4.9
4	Health-related goals	113	16.3
	Physical health	95	13.7
	Mental health	18	2.6
5	Substance-use goals	32	3.1
6	Monetary goals	21	3.2
7	Activities-of-daily-living goals	15	2.1
8	Other goals	9	1.3
9	Personal safety goals	4	0.6

Table 4
Trial 2 Harm Reduction Goals at Week 8 (N = 160)

Rank	Category	Frequency	%
1	Basic needs goals	144	27.8
	Attain adequate housing	62	11.8
	Access clinical or other services	47	8.9
	Obtain tangible goods	35	6.7
2	Quality-of-life goals	121	23.0
	Participate in meaningful activities	85	16.2
	Engage in social connections	36	6.8
3	Drinking-related goals	102	19.4
	Reduce drinking	33	6.3
	Engage with external support	31	5.9
	Attain abstinence	21	4.0
	Avoid triggers	11	2.1
	Gain control over drinking	4	0.8
	Reduce alcohol craving	1	0.2
	Avoid negative consequences	1	0.2
4	Health-related goals	101	19.2
	Physical health	84	16.0
	Mental health	17	3.2
5	Substance-use goals	18	3.4
6	Monetary goals	14	2.7
7	Other goals	14	2.7
8	Activities-of-daily-living goals	10	1.9
9	Personal safety goals	2	0.4

enhancing QoL (23%; n = 121), changing drinking behavior (19.4%, n = 102), and improving physical and mental health (19.2%; n = 101; see Table 4).

Quantitative Findings

Change in Number of Goals Generated and Proportion of Goals Achieved Over Time. After controlling for treatment subgroups, findings did not support a statistically significant change in number of goals over the course of treatment (B = −.002; robust SE = .06; p = .968), which suggested that the volume of participant goal generation remained consistent across time points (see Table 5 for descriptive statistics). The model representing goal achievement, however, indicated that a significantly greater proportion of goals was achieved over time (B = .04; robust SE = .02; p = .034; see supplemental materials for full output).

Goals as Predictors of Alcohol and Quality of Life Outcomes. Findings indicated that the time x number of goals interaction was a significant predictor of improvements on physical health-related QoL (B = .25; robust SE = .11; p = .018; see supplemental materials for full output). Number of goals and proportion of goals achieved were not significant predictors of other alcohol and QoL outcomes (all other ps > .08).

Specific Goal Categories as Predictors of Alcohol and Quality of Life Outcomes. The Time × Presence of drinking-related goals interaction was a significant predictor of alcohol abstinence achievement (OR = 2.62; robust SE = 1.16; p = .030; see supplemental materials for full output) and standard drinks consumed on peak drinking occasion in the past month (B = −.06; robust SE = .03; p = .045). The time x presence of QoL-related goals interaction was not predictive of QoL outcomes (all other ps > .15; see supplemental materials for full output).

Table 5

Descriptive Statistics for Trial 2 Goals Outcomes Across Times Points, M (SD)

Variable	Week 0 (n = 208)	Week 4 (n = 173)	Week 8 (n = 160)
Number of goals generated	3.27 (1.44)	3.38 (1.62)	3.24 (1.53)
Proportion of goals achieved	0.32 (0.33)	0.44 (0.35)	0.39 (0.35)

General Discussion

In this dual study, we used secondary data from two randomized controlled trials to qualitatively and quantitatively describe harm-reduction goal-setting in the context of harm-reduction counseling for AUD and to determine whether specific aspects of harm-reduction goal-setting predicted alcohol and QoL outcomes.

Qualitative Findings

The top four categories of goals were the same across both trials; however, the relative rank of these goal categories differed. We review findings for each of these top four goal categories in the sections below.

Basic Needs Goals

Meeting basic needs comprised the first and second most endorsed categories in the present trials. The fact that participants cited an ongoing need to access social services, housing, and tangible goods should underscore for counselors this population's challenges in getting their basic needs met and highlights a mismatch in priorities in AUD treatment for this population. The frequency with which the services subcategory was endorsed also reflects systemic and chronic barriers to getting basic needs met, including felt sense of marginalization and system inadequacies in serving this population (Barile et al., 2020; Kerman et al., 2019). These are important concerns for AUD treatment providers to consider because basic needs goals were often cited as linked and necessary precursors to the achievement of other goals. For example, if a QoL goal was "to spend more time with my daughter," it might be paired with a prerequisite basic needs goal (e.g., "get a bus pass"), and prior research has indicated that the fulfillment of basic needs, such as housing, precipitates and is likely needed to facilitate positive changes in alcohol use and alcohol-related harm and engagement in other treatment services (Collins, Clifasefi, et al., 2012). It should also be noted that basic needs goals were prioritized in the two present trials, whereas they were in fourth place in the prior Collins, Grazioli, et al. (2015) study. This discrepancy is easily explained as half of the population in the pilot study had recently received permanent supportive housing with wraparound services, which again underscores how, when this population's basic needs are met, they can more easily focus on drinking-related goals

Quality-of-Life Goals

In Trial 1, QoL goals (i.e., goals relating to meaningful activities and relationships) comprised the most frequently cited goal category across both time points, representing 34% and 32% of goals at the baseline and follow-up, respectively. In Trial 2, QoL goals were the third (21%) and second (23%) most common category of goals at baseline and follow-up, respectively.

These findings correspond to those of other studies, which have indicated that participants across various patient populations are interested in QoL as much as or more than ameliorating specific symptomologies (Collins, Grazioli, et al., 2015; Neale et al., 2011) However, the fact that QoL goals were ranked differently in Trials 1 and 2 highlights the diversity of needs and interests within a population often referred to as a monolith. Specifically, Trial 1 recruited a less severely affected subsection of the homeless population: Participants had experienced homelessness for 6 of the last 12 months and met criteria for AUD at any severity level. In contrast, Trial 2 comprised people affected more by chronic homelessness and the inclusion criteria required meeting criteria for alcohol dependence. It is thus likely that participants in Trial 1 had a better existing foundation on which to build QoL goals, whereas participants in Trial 2 were necessarily more focused on meeting basic needs and alcohol-related goals. Considering the diversity of QoL goals cited in this study and the positive findings for engagement and treatment outcomes in the parent RCTs (Collins et al., 2019, Collins et al., 2021), counselors should support clients in working towards their own goals—ranging from meeting immediate, basic needs to achieving higher QoL—to ensure they have an adequate foundation for recovery and thereby boost the efficacy of AUD treatment.

Health-Related Goals

Mentioned in 15%–19% of responses across trials, goals focused on improving physical and mental health were common in this sample. The high prevalence of health-related goals fits with prior research, which has shown that people experiencing homelessness are concerned about and invested in their health (Forchuk et al., 2008). Working towards better health is also related to QoL goals, such as having more time to spend with loved ones (lengthening life) and being able to fully participate in meaningful activities. Further, health problems and health-related goals are often inextricably linked with the experience of homelessness and AUD; thus, a leveraging of health-related goals is important for AUD treatment providers to better situate alcohol behavior change in related, participant-generated and thereby more salient health-related goals.

Drinking-Related Goals

The fact that drinking-related goals did not top the list of participant-generated goals in this study reiterates the notable disconnect in priorities between AUD treatment and people experiencing homelessness and AUD. It should further be noted that, across the two trials, explicit abstinence-based goals were mentioned by a small minority (2%–6%) of participants. These findings corroborate those of prior studies that have indicated people experiencing homelessness and alcohol use disorders are not uniforming interested in abstinence-based goals and treatment (Carver et al., 2020; Clifasefi et al., 2016; Collins, Clifasefi, et al., 2012; Collins et al., 2016; Rosenheck et al., 1998). While these findings differ from other studies that found that abstinence-based goals were preferred over other subcategories, such as use-reduction (Adamson et al., 2010; Heather et al., 2010; Hodgins et al., 1997;

Öjehagen & Berglund, 1989), participants in these other studies were involved in abstinence-based treatment, which was not the case with participants in the trials included in this study. In our prior pilot with a nontreatment-seeking sample, participants likewise prioritized building relationships to support goals related to drinking, reducing drinking, and avoiding negative consequences of drinking over abstinence (Collins, Grazioli, et al., 2015). Taken together, these studies provide evidence that acknowledging and assisting clients in working towards their own preferred goals, including non-abstinence-based and more incremental drinking goals (e.g., reducing blackouts, moving from non-beverage to beverage alcohol consumption) may enhance AUD treatment engagement and outcomes relating to quality of life, health, and the decrease of alcohol related harm.

Quantitative Findings

The number of goals elicited from participants increased over the course of treatment in Trial 1 but not in Trial 2. The Trial 1 increase in the number of participant-generated goals replicates the findings in Collins, Grazioli, et al. (2015) and those of prior studies that suggest harm-reduction interventions can potentiate goal-setting and achievement (Collins, Clifasefi, et al., 2012; Collins et al., 2019; Neale et al., 2011). Conversely, we found the proportion of goals achieved did not significantly change in Trial 1 but significantly increased in Trial 2. Both trials' findings suggest that participants' experience in a treatment centering their interests helped them consistently design and achieve their harm-reduction goals, and the discrepancy between the outcomes on which movement was seen in Trial 1 and 2 may be explained with the relatively short timeframe in Trial 1 (Week 0–2) versus Trial 2 (Week 0–8). In either case, findings support the notion that regular practice can foster the future-time mindset that is associated with increased goal-striving among those experiencing homelessness (Epel et al., 1999).

Trial 2 further built on prior findings by testing whether number of goals generated or proportion of goals achieved were associated with alcohol outcomes. In fact, number of goals generated was associated with improved physical health-related QoL over time. Trial 2 also tested whether the presence of drinking- or QoL-specific goals was associated participants' alcohol or QoL outcomes, respectively. Findings indicated an association between generating drinking-specific goals and increased odds of past-month abstinence as well as decreased number of standard drinks on participants' peak drinking occasion. Thus, a participant-led focus on drinking-related goals is associated with better alcohol outcomes. On the other hand, presence of QoL-specific goals was not associated with improved QoL outcomes. These mixed findings indicate the relationship between harm-reduction goal-setting and treatment outcomes is complex and requires further study to understand what nuanced aspects of goal-setting are most important to goal achievement (e.g., weighting, salience, feasibility of reaching goals, type of goal).

Limitations

Limitations of this study deserve mention. First, the current samples are limited in size and scope. The nature of the sample thus limits generalizability and statistical power, the latter which lessens the study's ability to discover significant differences where they exist. On the other hand, this study expands on findings from a prior study (Collins, Grazioli, et al., 2015). Paired with findings

from the parent studies showing the efficacy of a harm-reduction approach, present findings indicate that open-ended goal-setting with individuals experiencing homelessness can be useful in therapeutic settings. These findings provide a basis for further research with this and other populations in the future to aid in greater generalizability.

Second, social desirability can influence answers provided by participants in studies involving sensitive behaviors, such as alcohol use (Davis et al., 2010; Van de Mortel, 2008). Thus, study participants may have attempted to present themselves in a positive light to study interventionists by reporting more goal completion than was actually accomplished. Future research could include measures of social desirability to address and potentially statistically control for this issue.

Third, we recognize that the attainment of housing could influence goal-setting, both in category type as well as goal generation and proportion of goals achieved over time, in this population. The timespan for our analyses is too short to register successful housing attainment and its impact on goal-setting. Future research could explore any possible effects of housing attainment with studies with longer follow-up periods.

Finally, the relatively short study timelines and low-intensity nature of the harm-reduction treatments featured in these studies preclude conclusions about how longer-term outcomes or higher-intensity treatment contacts might change the nature of the findings. It is, however, very encouraging that, even in a short-term, low-intensity context, harm-reduction treatment can engender immediate and positive treatment effects, and specific aspects of harm-reduction goals-setting can predict positive alcohol and QoL outcomes. Taking the findings from this secondary study together with the parent studies' findings points to the promise of low-intensity harm-reduction treatment embedded in community-based settings serving this population.

Conclusions and Future Directions

The current study used a mixed-method design to document harm-reduction goal-setting in people experiencing homelessness and AUD in the context of harm-reduction treatment provision. Findings indicated that participants generated a wide variety of clinically appropriate and therapeutically relevant goals across various domains, centering QoL, basic needs, health, and drinking behavior. Abstinence from alcohol, however, was a low priority, with just 2%–6% of responses indicating an explicit abstinence-based goal at any time point in both studies. Quantitative findings from Trials 1 and 2 indicated participants generated an increasing number of goals and an increasing proportion of goals achievement, respectively, over a relatively brief harm-reduction treatment course. This finding indicated that participants were able to expand on their goal-setting and achievement over time.

In contrast to prior research findings (e.g., Collins, Grazioli, et al., 2015), the current study found that patient-driven goals related to QoL, health, and basic needs were more prevalent than drinking-related goals. This finding may reflect the samples' relative marginalization and AUD severity: The present sample comprised more people currently experiencing homelessness but also a lower level of AUD severity, whereas Collins, Grazioli, et al. (2015) prior study had lived experience of homelessness (approximately half had recently received permanent supportive housing) and more severe

AUD and alcohol-related harm. Thus, harm-reduction goals appear to move in tandem with the larger context of people's lives. This pattern underscores the importance of asking patients about their goals instead of assuming abstinence achievement is the most salient, desirable, or relevant goal. As the harm-reduction principles suggest, treatment providers and counselors must meet people where they are at.

Given the parent trials' findings of efficacy for harm-reduction counseling (Collins et al., 2019, Collins et al., 2021), the present, secondary study's findings suggest that patient-driven, harm-reduction therapeutic practices, including patient-led goal-setting, is key in helping clinicians engage with populations of high multi-morbidity that are generally not well-served by abstinence-based AUD treatments. Future studies are needed to further hone in on what aspects of goal-setting are most associated with subsequent treatment outcomes.

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