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Adapting an Alcohol Care Linkage Intervention to US Military Veterans Presenting to Primary Care with Hazardous Drinking and PTSD and/or Depression Symptoms: A Qualitative Study

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Abstract
There is a critical need to improve linkage to alcohol care for veterans in primary care with hazardous drinking and PTSD and/or depression symptoms (A-MH). We adapted an alcohol care linkage intervention, "Connect to Care" (C2C), for this population. We conducted separate focus groups with veterans with A-MH, providers, and policy leaders. Feedback centered on how psychologists and other providers can optimally inform veterans about their care options and alcohol use, and how to ensure C2C is accessible. Participants reported that veterans with A-MH may not view alcohol use as their primary concern but rather as a symptom of a potential co-occurring mental health condition. Veterans have difficulty identifying and accessing existing alcohol care options within the Veterans Health Administration. C2C was modified to facilitate alcohol care linkage for this population specific to their locality, provide concrete support and education, and offer care options to preserve privacy.

Keywords Hazardous drinking · PTSD · Depression · Alcohol care linkage · Primary care

Introduction

Hazardous alcohol use, referring to drinking above low-risk limits to meeting diagnostic criteria for an alcohol use disorder (AUD) (Saitz, 2005), is relatively common among US military veterans presenting to primary care. In the US, about 10% of veterans presenting to a Veterans Health Administration (VHA) primary care clinic screen positive for hazardous drinking (HD) with higher rates (23%) among younger veterans (Grossbard et al., 2017). Further, rates of HD among veterans in primary care are likely higher given known challenges to alcohol screening in this setting (Williams et al., 2015). Among veterans, HD is associated with high rates of comorbid mental health disorders including PTSD (25%) and depression (38%) (Trivedi et al., 2015). For example, veterans with an AUD are four times more likely to meet diagnostic criteria for PTSD or depression than veterans without an AUD (Seal et al., 2011). Veterans with HD and co-occurring PTSD and/or depression symptoms (shortened here as A-MH, for alcohol-mental health) report more anger, marital and legal problems, poorer quality of life and alcohol treatment outcomes, more suicide attempts, and greater risk of death than veterans with HD but without these co-occurring mental health conditions (Fontana & Rosenheck, 2010; Rosen et al., 2008; Sayer et al., 2010).

The high occurrence of A-MH among veterans is particularly concerning given that alcohol use can worsen symptoms of both PTSD and depression (Boden & Fergusson, 2011; U.S. Department of Veterans Affairs, 2018). However,

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treating HD can help alleviate symptoms of both conditions (Bahorik et al., 2016; Foa et al., 2013). Unfortunately, many primary care patients with HD, PTSD and/or depression, including veterans, do not initiate or engage with alcohol-related care (Frost et al., 2020; Papini et al., 2022). In a large national study of 1,172,606 positive screens documenting HD, representing 830,825 veteran patients, only 127,259 (10.9%) received specialty addiction treatment within one year following alcohol screening (Frost et al., 2020). These findings suggest that primary care visits are an important point in care to introduce alcohol treatment to veterans with A-MH to improve their outcomes (Mintz et al., 2021). Further, there is a critical need for co-located mental health providers, such as psychologists or social workers, to help facilitate linkage to alcohol care for veterans with A-MH to improve their alcohol care initiation and engagement, as well as reduce alcohol use and mental health symptoms.

Strengths-based linkage interventions are effective at linking persons with substance use disorders (SUDs), some with co-occurring mental health symptoms, to care (Rapp et al., 2008; Strathdee et al., 2006). These interventions generally consist of four components delivered by a Care Coach: (a) identifying and leveraging patient strengths to facilitate care initiation, (b) collaborative decision-making using a menu of care options, (c) identifying and resolving barriers to care initiation, and (d) monitoring and facilitating progress toward care initiation through such activities as identifying barriers and solutions and revisiting care options when needed (Rapp et al., 2014). A Care Coach is someone experienced in providing care for persons with a substance use disorders including AUD. A Care Coach could include a psychologist, social worker, nurse, and peer recovery support specialist. In a study of adult civilians with substance use problems presenting to a centralized intake unit, many of whom also reported co-occurring mental health symptoms, those randomized to receive up to 5 sessions of a strengths-based linkage intervention had higher rates (55%) of linkage to care (early intervention, outpatient, residential, or medically managed inpatient) than patients receiving motivational interviewing (MI, 45%) or standard referral (recommendation for treatment and the phone number for a treatment center, 39%) (Rapp et al., 2008). Similarly, in a study of injection drug users, over one-half with co-occurring depression referred to a medication-based treatment program, those receiving a strengths-based linkage intervention were more likely to link to care (40%) than those receiving passive referral (26%; care voucher with date and time of appointment) (Strathdee et al., 2006). In addition, two meta-analyses show that strengths-based linkage interventions for patients with SUDs are associated with reduced need for inpatient services, greater retention in treatment, improved quality of life, and greater satisfaction with the treatment process (Rapp et al., 2014; Vanderplasschen et al., 2007).

The present study drew on this literature on the effectiveness of strengths-based linkage interventions and documented low rates of alcohol care following alcohol screening among veterans (Frost et al., 2020). It sought to adapt a strengths-based linkage intervention (Connect to Care, C2C) that incorporates patient strengths, collaborative care decision-making, identifying and resolving barriers to care initiation, and monitoring (Academy for Educational Development Center on AIDS Community Health (COACH) (n.d.)). The adaptation, intended for use among veterans presenting to VHA primary care with A-MH, is a first step toward evaluating C2C's effectiveness with this patient population and studying its implementation potential in VHA primary care. Although strengths-based linkage interventions are effective for civilians with a SUD, they have yet to be implemented in VHA primary care and utilized among veterans with A-MH.

It is well established that adapting interventions for new patient populations and care settings improves intervention acceptability among the target patient population, feasibility of delivery in the target care setting, and the intervention's effectiveness (O'Donnell et al., 2022). Adapting behavioral interventions, found to be effective among civilians, to US military veterans is critical to promoting their initial uptake and sustained use among veterans and VHA providers (McCarthy et al., 2021). Research shows that conducting focus groups with key stakeholders (e.g., individuals from the target population, decision-makers), that includes presenting the main components of an intervention and obtaining feedback, can help identify intervention needs and preferences such as when and where to deliver an intervention (Ayala & Elder, 2011). Further, presenting the basic functionality of behavioral interventions to focus groups of key stakeholders is useful for informing the design, content, acceptability, relevance, and barriers to implementation (Laidlaw et al., 2017). We have found, in our own research, that presenting the basic elements of a behavioral intervention to separate focus groups consisting of primary care patients and decision-makers can lead to improvements in the intervention's "look and feel," content modifications, and a better understanding of factors that affect the intervention's uptake in the "real world" (Cucciare et al., 2022). However, an important gap in the existing literature remains which is how to optimally design and implement a behavioral intervention to improve linkage to alcohol care for veterans with A-MH. Thus, as suggested by the Institute of Healthcare Improvements Going to Scale Framework (Barker et al., 2015), in the present study, we aimed to identify necessary modifications to C2C to improve its contextual fit for the primary care setting while maintaining core intervention components contributing to C2C's effectiveness among civilians with SUDs.

In this study, we used a qualitative approach to adapt C2C for use among veterans with A-MH. We used elements of

the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) framework to guide the adaptation of C2C to the target population. The approach included conducting separate focus groups with three stakeholder types: VHA-enrolled veterans screening positive in primary care for A-MH, VHA primary care providers, and national policy leaders with expertise in primary care-mental health integration and in the treatment of SUDs. We present the qualitative findings obtained from the focus group discussions, including emergent themes representing participants' opinions about veterans' health priorities and the perceived usefulness of C2C with the target patient population. We also present participants' feedback on and recommendations for adapting the C2C intervention protocol and alcohol care menu to veterans with A-MH and for delivery by a mental health provider, such as a psychologist, in the primary care setting. We further provide example images from the alcohol care menu to highlight some key adaptations to the C2C protocol for this population and health care setting. This study is a first step toward evaluating and implementing C2C in VHA primary care to improve alcohol care linkage and outcomes for this high-need population of US military veterans.

Methods

Study Design

We conducted separate focus groups with three stakeholder types between January and November 2022 to adapt C2C to veterans with A-MH and for the VHA primary care setting. Participants were veterans with A-MH, VHA primary care providers (physicians, social workers, and psychologists), and national policy leaders. The study was approved by the VA Central Institutional Review Board (protocol #1,641,659) and the Research and Development Committees at the two study sites: Central Arkansas Veterans Health Care System and the Veterans Affairs Palo Alto Health Care System. The Standards for Reporting Qualitative Research were used to guide the reporting of study results (O'Brien et al., 2014).

Connect to Care

Connect to Care is an evidence-based practice that leverages telephone and video technology, which was utilized heavily during and since the COVID pandemic, to help support individuals with a substance use problem initiate and sustain SUD treatment (see Table 1; Cucciare et al., 2023). It is a strengths-based approach, not yet evaluated with veterans, that includes four components (e.g., collaborative decision-making, monitoring) delivered by a Care Coach. In the context of C2C, a Care Coach is someone who is experienced in caring for and providing treatment to individuals with a SUD including AUD. Care Coaches can include a range of provider types including psychologists, master's level social workers and mental health counselors, nurses, and peer recovery specialists. Connect to Care can include up to 5 (30–60 min) sessions with a Care Coach conducted over the phone, virtually or in person. The 5 sessions occur over a 7-week period with the first 3 sessions occurring 1 week apart. Session 4 occurs two weeks after session 3 and session 5 occurs two weeks after session 4. The core elements of C2C are to assess and leverage patient strengths to help people connect to care, introduce a menu of evidence-based alcohol care options, identify the person's care goals, and help them develop a plan, and helping coordinate and link the person to care by advocating on their behalf, and facilitating (e.g., helping with phone calls to providers or programs) care initiation and problem-solving challenges to care linkage.

Conceptual Model Guiding the Adaptation of C2C

The adaptation of C2C was guided by the ADDIE framework (Kemp et al., 1998). Analysis refers to sharing with stakeholders the goals of C2C such as improving initiation of and engagement with alcohol care to benefit outcomes and identifying care needs within the context of the primary care setting and patient population (veterans with A-MH). The Analysis phase included providing an overview of the C2C protocol during each focus group with a description of its main components, session content, and objectives (Table 1). A draft of the alcohol care menu describing evidence-based alcohol care options including medications for AUD, e-health, mutual-help groups, and counseling was also provided to focus group participants in this phase. Design refers to adapting the C2C protocol based on information gathered during the Analysis phase. The Design phase involved documenting and organizing focus group feedback on C2C, including suggested modifications, and arriving at a consensus (via the study team) on which modifications to implement in the next version of the intervention. The process of arriving at a consensus among study team members on which modifications to implement was guided by, for example, resource and time constraints and a desire to maintain the integrity of the intervention (ADDIE Model, 2018). Development is the process of producing a final version of C2C (being tested in a current pilot randomized controlled trial, RCT) based on feedback from participants and modifications agreed upon during the Design phase. Implementation refers to putting the adapted C2C protocol into action, e.g.,, implementing the adapted version of C2C in primary care, including training the Care Coach to deliver C2C in the current pilot RCT and later in a planned larger RCT. The Evaluation phase consists of a formative evaluation to

Table 1 Description of the C2C protocol (main components of each session) presented to focus groups

Session 1
Provide an overview of C2C and its purpose
Develop rapport with patient to facilitate alcohol care decisions
Introduce the importance of personal strengths, skills and abilities and how they relate to staying healthy and connecting to alcohol care
Session 2
Formally assess personal strengths and how they can help facility care linkage
Introduce the alcohol care menu and educate patient on evidence-based alcohol care options
Assess readiness to link to an alcohol care option
Assess preferences for alcohol care and support linkage (e.g., offer to help make an appointment or find a mutual-help group) to chosen option
Discuss the pros and cons to alcohol care linkage with persons ambivalent about pursuing a care option
Session 3
Assess any alcohol care linkage
Discuss how personal strengths (e.g., persistence, being organized, caring about one's health) could be used to help support care linkage
Identify barriers to care seeking and engage in collaborative problem-solving to address barriers
Revisit discussion of care options and preferences as needed
Session 4
Monitor patient progress toward linkage to alcohol care
Assess barriers to care linkage and problem-solve solutions
Help facilitate linkage to care, when requested
If needed, revisit alcohol care menu to discuss care options
Session 5
Continue to monitor progress toward linkage to alcohol care
Continue to offer help identifying barriers to care linkage and problem-solving solutions
Continue to offer help connecting to care, when requested
If needed, revisit alcohol care menu to discuss care options

obtain feedback from participants, at the end of the pilot RCT, on C2C to optimize its acceptability, effectiveness, and implementation potential (ADDIE Model, 2018). This includes conducting qualitative interviews with study participants, after they have used C2C, to obtain their feedback on how to further improve the intervention's effectiveness and to identify barriers and facilitators for implementation. For this study, we used the Analysis, Design, and Development phases of ADDIE to guide our qualitative approach to adapting C2C for this patient population and care setting.

Participants and Recruitment

We recruited veterans ($n = 19$) screening positive for A-MH in the past 12-months in VHA primary care, providers ($n = 7$; primary care physicians, social workers, and psychologists in integrated primary care-mental health), and national policy leaders ($n = 8$) to participate in separate focus groups. The sample size for each group was determined using recommendations for the number of interviews needed to obtain theoretical saturation, which is the point at which no new insights emerge from additional interviews (Guest et al., 2006; Hennink et al., 2017).

To recruit veterans, we used the VHA Corporate Data Warehouse (CDW; a national database housing clinical, administrative, and financial information) to identify potentially eligible veterans seen, and screening positive for A-MH, in primary care at each of the two sites. Veterans with A-MH had (1) an Alcohol Use Disorders Identification Test-consumption items (AUDIT-C) score of ≥ 5 (used by VHA to indicate hazardous drinking) and (2) a positive screen for PTSD and/or depression, i.e., Primary Care PTSD Screen for DSM-V (PC-PTSD-5) score of ≥ 3 (Prins et al., 2016) and/or Patient Health Questionnaire-2 (PHQ-2) score of ≥ 3 (Kroenke et al., 2003) in a VHA primary care visit within the past year.

Veterans identified in the CDW were invited to participate in the study. Specifically, we randomly selected a subsample of eligible patients from the CDW dataset to mail a study packet that included an invitation letter, an informed consent document, and notification that we would contact them by telephone 10 days following the mailing (unless they replied with an opt-out letter provided or phone call). The study was presented to potential participants as research to learn more about VHA and community resources to improve their health. Study staff explained to potential participants that during a recent health care visit they answered questions

about their alcohol use in a way that indicated possible difficulties around drinking. Research assistants confirmed eligibility of interested patients by re-administering screens (AUDIT-C, PHQ-2, PC-PTSD-5) to determine whether patients continued to meet screening criteria for A-MH. Research assistants answered any questions about study participation and obtained informed consent from interested and eligible patients. Veterans were compensated ($30) for participation in the focus group.

To recruit providers, at each site, project staff emailed providers to briefly explain the project's purpose and invite them to contact the study team to participate. Emails were followed with a phone call to answer questions, obtain informed consent, and schedule the focus group by tele-video. We used the same procedures to recruit VHA national policy leaders to participate in focus groups. Per VHA regulations, neither providers nor policy leaders were reimbursed for participating in the study.

Data Collection

Two authors (MC and CT) co-facilitated each focus group by tele-video using Microsoft Teams. Each focus group lasted approximately 60 min. Prior to each focus group, participants were asked to review a handout, elaborated upon by the facilitators, providing a description of the C2C protocol (Table 1). An interview guide was developed for each focus group and refined by the study's interprofessional team. Guided by interview questions (Table 2), the co-facilitators asked participants about the core components of C2C, such as which parts may be hard to understand, how to best inform veterans with A-MH about alcohol care options using an alcohol care menu, and duration of the intervention (e.g., whether C2C provides enough monitoring). Additional interview questions were asked to help ensure that C2C components, including the alcohol care menu, are appropriate for use with veterans with A-MH and that C2C is optimally accessible to this population.

Data Analysis

Rapid analytic techniques (Hamilon, 2013; Sobo et al., 2006) were used to produce recommendations for adapting C2C to the target patient population and care setting. Rapid analytic techniques are useful and appropriate when results are needed quickly to inform the implementation of a behavioral intervention (Nevedal et al., 2021). In contrast to traditional qualitative analysis, rapid analysis involves a streamlined process for collecting and analyzing data, and requires fewer resources including money and time needed to arrive at informative results. Template analysis, used in the present study, is a common approach to rapidly analyzing qualitative data (Hamilon, 2013). It consists of summarizing data collected from focus groups into templates organized by domains covered by interview questions.

To complete the analysis, the lead qualitative researcher (CB) developed a prototype coding template in a Microsoft Word document consisting of a priori themes related to the goals of the study. The coding template consisted of instances of a particular theme (e.g., feedback on how to optimize the accessibility and effectiveness of C2C) including specific quotes from focus group participants providing support for a theme (Brooks et al., 2015). The team captured participants' feedback and recommendations on the content and structure of C2C including the alcohol care menu to help ensure their appropriateness and usefulness for veterans with A-MH and primary care. The team also captured emergent themes including opinions about veterans' health priorities and the perceived usefulness of C2C by creating an "other" domain to record these observations in the coding templates. Emergent themes were qualitative data representing issues raised by focus group participants that were not identified a priori by the study team as an anticipated area of importance (Anderson, 2010). For the present study, if an issue was raised by at least two participants in a stakeholder group, it was documented as an emergent theme.

To analyze focus group data, two study team members trained in qualitative research methods (CB and DH) first listened to example audio-recordings of the focus groups and discussed their coding decisions with each other and the co-facilitators (MC and CT) until they reached 100% agreement on their codes. The two coders then systematically populated the template categories with focus group data. Content analysis was used to ensure that the full range of experiences, perspectives, and feedback were included in the templates (Hsieh & Shannon, 2005). Templates largely consisted of paraphrased content from the discussions reflecting participants' recommendations, reactions, concerns, and questions about the C2C protocol. Templates were organized along each a priori category of feedback that was of interest in this study. Particularly impactful statements were transcribed verbatim into the templates separately for each participant type. Following this initial step, the study team members synthesized individual templates from each focus group into one summary template. The co-facilitators (MC and CT) reviewed the summary template for completeness and accuracy.

To guide the adaptation of C2C, after each focus group, the co-facilitators (MC and CT) met with the study team to review the summary templates that included feedback from all participants. Recommended adaptations to C2C that were deemed to be of high priority, such as suggestions made by

Table 2 Focus group Interview guides for veterans, VHA providers and policy leaders

Veteran interview
What thoughts and opinions do you have on how to best approach veterans with A-MH about participating in C2C who are hesitant or not interested in changing their drinking behavior at this time?
What are your thoughts and opinions about how to introduce the menu of care options to veterans with A-MH? To what extent are these care options sufficient, feasible, and/or acceptable? Are there any we're missing? If so, what other options should be included and why? For example, are there e-health options that would be helpful to include?
To what extent is the information we provide about each care option listed helpful to veterans with A-MH in making a care decision? Are there other details about these care options we should include or delete? If so, what are those details? Is there information provided that we should delete or modify?
What are your thoughts and opinions about how to best help veterans with A-MH identify and overcome barriers to linking to alcohol care?
What is the best way to continue to encourage veterans with A-MH who have decided not to link to care at this time?
What do you feel would be a helpful number of follow-up contacts for the Care Coach to check-in about how things are going? How long should the check-ins be and what should the content of the meeting(s) consist of?
To what extent do you feel helping to facilitate connection to a chosen alcohol care option would be helpful to the veteran? How could we best do this for veterans with A-MH? or "How much should we help?
How should we deliver C2C?
VHA provider interview
What thoughts and opinions do you have on how to best approach veterans with A-MH about participating in C2C who are hesitant or not interested in changing their drinking behavior at this time?
What is the best way to offer veterans with A-MH not interested in help at this time to continue to participate in C2C including learning about how their drinking impacts their physical and mental health, exploring the pros and cons of seeking help, or learning about available care options?
What are your thoughts and opinions about how to introduce the menu of care options to veterans with A-MH? To what extent are these care options sufficient, feasible, and/or acceptable? Are there any we're missing? If so, what other options should be included and why? For example, are there e-health options that would be helpful to include?
To what extent is the information we provide about each care option listed helpful to a veteran with A-MH in making a care decision? Are there other details about these care options we should include/delete? If so, what are those details? Is there information provided that we should delete or modify?
What are your thoughts and opinions about how to best help veterans with A-MH identify and overcome barriers to linking to alcohol care? What is the best way to continue to encourage veterans with A-MH who have decided not to link to care at this time?
What do you feel would be a helpful number of follow-up contacts for the Care Coach to check-in about how things are going? How long should the check-ins be and what should the content of the meeting(s) consist of?
To what extent do you feel helping to facilitate connection to a chosen alcohol care option would be helpful to the veteran? How could we best do this for veterans with A-MH? or "How much should we help?
VHA policy leader interview
What thoughts and opinions do you have on how to best approach veterans with A-MH about participating in C2C who are hesitant or not interested in changing their drinking behavior at this time?
To what extent are the alcohol care options presented sufficient, feasible, and/or acceptable?
Are there any alcohol care options we're missing? If so, what other options should be included and why? For example, are there e-health options that would be helpful to include?
To what extent is the information we provide about each care option listed helpful to a veteran with A-MH in making a care decision?
Are there other details about these care options we should include or delete? If so, what are those details? Is there information provided that we should delete or modify?
To what extent do you feel helping to facilitate connection to a chosen alcohol care option would be helpful to the veteran? How could we best do this for veterans with A-MH? or How much should we help?
How should we deliver C2C?

multiple participants and participant types, and considered feasible, such as being within the cost and time parameters needed to implement the recommendation, were identified and incorporated into a subsequent version of the C2C protocol which is summarized below.

Results

A total of 13 Veterans, 7 providers, and 7 policy leaders participated in separate focus groups. Table 3 displays participants' demographic characteristics. The mean AUDIT-C score for veterans, all of whom had HD, was 6.8 (SD = 1.7). A score of ≥ 4 and ≥ 3 on the AUDIT-C indicates hazardous drinking for men and women, respectively (Bradley et al.,

Table 3 Demographic characteristics of focus group participants

Veteran ($n=13$) Demographics	%, *n*
Age (M, SD)	43.1 (16.0)
Race White Black Other	54% ($n=7$) 31% ($n=4$) 15% ($n=2$)
Gender Male	69% ($n=9$)
AUDIT-C (M, SD)	6.8 (1.7)
PC-PTSD + PHQ-2 positive	38% ($n=5$)
PC-PTSD positive only	31% ($n=4$)
PHQ-2 positive only	31% ($n=4$)
Study Site Palo Alto Little Rock	31% ($n=4$) 69% ($n=9$)
Provider ($n=7$) Demographics	
Gender Male	57% ($n=4$)
Provider Type Physician Psychologist Social Worker	29% ($n=2$) 57% ($n=4$) 14% ($n=1$)
Study Site Palo Alto Little Rock	57% ($n=4$) 43% ($n=3$)
National Policy Leader (n = 7) Demographics	
Gender Male	57% ($n=4$)

M Mean, *SD* Standard Deviation, *PC-PTSD* Primary Care Post Traumatic Stress Disorder (positive score is 3 or greater), *PHQ-2* Patient Health Questionnaire (positive score is 3 or greater), *AUDIT-C* Alcohol Use Disorders Identification Test-consumption items (positive score is 5 or greater)

2007). Within VHA primary care, an AUDIT-C score of ≥ 5 is used to indicate HD and a need for brief alcohol counseling, for men and women, consisting of recommended drinking limits and health effects of alcohol use (Cucciare et al., 2013). Four veterans also screened positive for PTSD only, 4 screened positive for depression only, and 5 screened positive for both PTSD and depression. Among primary care providers, 1 was a social worker, 2 were primary care physicians, and 4 were psychologists. VHA National policy leaders were mostly male.

Emergent Themes Representing Participants' Opinions about Veterans' Health Priorities and the Perceived Usefulness of C2C with the Target Population and in Primary Care

Three major themes emerged from the qualitative analysis, which were participants' opinions that (1) veterans with A-MH may not necessarily view alcohol as their primary concern, (2) current VHA primary care does not sufficiently help veterans link to alcohol care, and (3) C2C may be particularly beneficial for veterans who are ambivalent about seeking alcohol care (Table 4).

Emergent Theme 1: Veterans with A-MH may not View Alcohol Use as their Primary Health Concern

Three veteran participants were concerned that some veteran patients may not view their alcohol use as their primary problem, e.g., *"In a lot of cases that's [alcohol] not the root of the problem. If we don't discuss other options or broader options… like things that cause the PTSD…their behavior [drinking] is not going to be addressed"* (V10). Moreover, three veterans emphasized the importance of acknowledging the impact of mental health symptoms on alcohol use, for example, *"There are underlying issues that's causing them to drink. They use alcohol to get away from everything"* (V11).

Emergent Theme 2: Current VHA Primary Care does not Facilitate Linkage to Alcohol Care

Three veterans, 2 providers, and 5 policy leaders stated limitations on how VHA primary care facilitates linkage to alcohol care for veterans with HD, e.g., *"the problem with the [VHA] system is there's plenty of chances to fall through the cracks…"* (V16). The same veteran highlighted the challenge of knowing how to connect to alcohol care within VHA: *"The real problem is not a lack of resources…but lack of knowledge on how get to them"* (V16). One provider also emphasized this point*: "I have a theoretical understanding of like where I can refer people to [alcohol care]…but what actually goes on in those services is definitely a mystery sometimes"* (P7).

Policy leaders commented on how C2C might supplement existing efforts in VHA primary care for veterans with A-MH, e.g., *"Providers and some facilities may not feel like they have the capacity to address SUD"* (PL7). Another stated that, *"PCPs are sometimes not comfortable with sensitive topics like alcohol and thus often 'drop the ball' in respect to having conversations around problematic drinking* (PL6)."

Emergent Theme 3: C2C may be Particularly Helpful for Veterans Ambivalent Toward Alcohol Care

All providers and policy leaders felt that C2C could be helpful for veterans with A-MH who are uncertain about how to get help or in need of additional support to initiate alcohol care, e.g., C2C *"…would be good for veterans*

Table 4 Emergent themes from focus groups and participants' feedback and recommendations on C2C and the alcohol care menu

Emergent themes
Emergent theme 1-veterans with A-MH may not view alcohol use to be their primary health concern
Emergent theme 2-current VHA primary care does not facilitate linkage to alcohol care
Emergent theme 3-C2C may be particularly helpful for veterans ambivalent toward alcohol care
Feedback and recommendations on C2C
Recommendation 1-how to provide information about alcohol care options
Inform veterans about important aspects of each alcohol care option
The coach should educate and not try to persuade veterans to seek alcohol care
Recommendation 2-educational components and C2C structure
Educate veterans about their screening results and recommended drinking limits
The coach should "walk through" the alcohol care menu with veterans
The coach and length of each session should be flexible depending on the needs of the person
Inform veterans on how treating hazardous drinking can positively impact symptoms of PTSD and depression
Recommendation 3-optimally facilitate alcohol care linkage
Help facilitate an initial appointment or contact with a care option
Identify concrete next steps toward alcohol care linkage
Provide problem-solving to overcome barriers to care linkage
The coach should understand processes for linking to care, including to their primary care medical team, at each study site
Provide continued follow-up and monitoring to support decision-making
Recommendation 4-making C2C accessible to veterans with A-MH
C2C should be offered after hours and on weekends
Veterans should have the choice to access C2C by tele-video or telephone
Feedback and recommendations on the alcohol care menu
Recommendation 1-include statistics on the rates of A-MH among veterans in primary care
Recommendation 2-educate veterans on more private care and help options including mutual-help and e-health options
Recommendation 3-help veterans locate mutual-help meetings
Recommendation 4-educate veterans on non-VA alcohol care options
Recommendation 5-educate veterans about how to obtain medications for AUD

who may benefit from support around alcohol, but maybe they're not ready yet" (P7). Providers and policy leaders also discussed the importance of C2C's focus on patient-centeredness: *"I think it (C2C) kind of hits where our interventions are lacking, which is sort of engaging the patient in their own decision making about their treatment*" (P4), and, *"The emphasis is on meeting veterans where they are rather than necessarily referrals*" (PL7).

Focus Group Feedback on Recommendation for Adapting the C2C Protocol to Veterans with A-MH and the Primary Care Setting

Focus group participants' recommendations on C2C focused on how to optimally (1) inform patients about their alcohol care options to facilitate care decision-making, (2) educate veterans on important aspects of their alcohol use, (3) facilitate linkage to alcohol care for veterans with A-MH, and (4) ensure C2C is accessible to this population (Table 4).

Recommendation 1: How to Provide Information about Alcohol Care Options

Veterans suggested that the Care Coach and alcohol care menu should educate patients about important aspects of their alcohol care options without attempting to persuade them to seek alcohol care (Fig. 1), e.g., *"I would be willing to meet with the coach to get an idea and see how it goes before I committed to anything beyond that"* (V09). Veterans emphasized that the manner in which the coach provides education on available options can affect receptivity to the information provided: *"…the biggest thing is the personality of the coach and being able to talk options, and sort-of not scare you away"* (V03).

Recommendation 2: Educational Components and C2C Structure

Veterans stated the importance of helping patients understand their primary care screening results and important aspects of their alcohol care options within the first one or

Fig. 1 Modified alcohol care menu with e-health options

What are the treatment options?

There are four main options.

1. Counseling or psychotherapy
2. Medications
3. Mutual-help groups
4. E-Health alternatives (e.g., mobile apps)

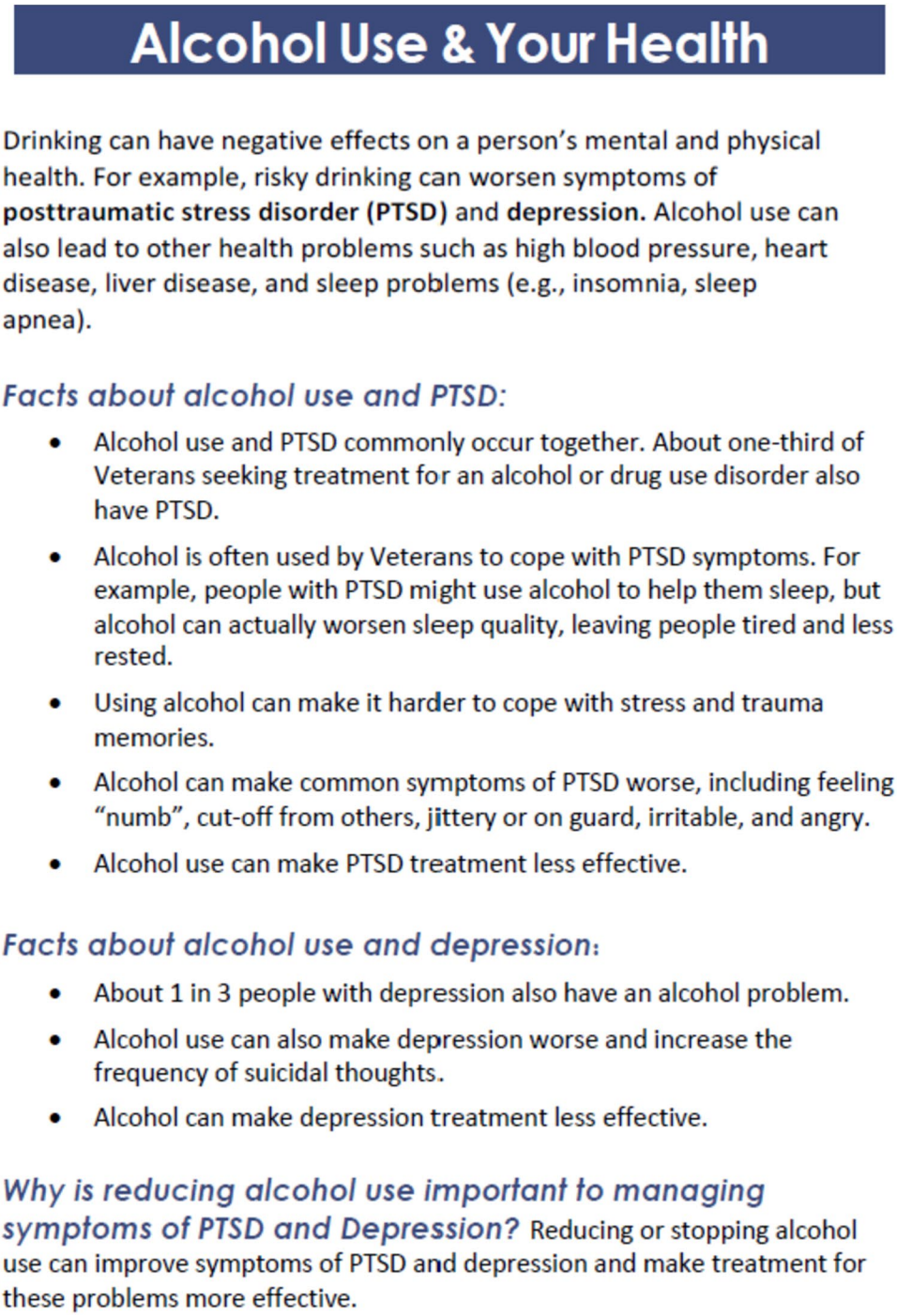
These treatments and help options can be used by themselves or combined. For example, some people might want counseling only. Other people might want to take medications, go to mutual-help group meetings, or use a mobile app. Your Care Coach is here to help you connect to the option(s) you prefer and determine the best approach for you and your needs.

A brief overview of the four main types of options:

	Counseling/ Psychotherapy	Medications	Mutual-Help Groups	e-Health
Basic Description	Talking with a counselor or therapist	Taking medications regularly	Going to community meetings	Downloading and interacting with a mobile app or online website
How it helps	Learn to manage triggers, stress, and new coping skills	Reduce the desire to drink, or cause unpleasant symptoms if you drink	Peer support to stop or reduce drinking	Track alcohol use and learn skills to reduce alcohol use, and manage triggers
How long it lasts	Usually weekly for 1 to 6 months	At least 3 months	Up to you, but longer attendance is linked to better outcomes	As needed to support recovery
Side effects	Uncomfortable feelings	Can include nausea, fatigue, dizziness, rash	Uncomfortable feelings	Uncomfortable feelings
Tried this before? If yes, put a check.				

two C2C sessions: *"Education about their screening and care options…all of the vast VA resources and levels of what you can get is to me very, very important to be able to have that up front"* (V03). Further, veterans pointed out the importance of the Care Coach adjusting to patients' level of motivation to seek care*: "The coach is going to have to be very flexible depending on the veteran…Some people are going to be motivated…whereas others may need more motivation and more ideas and more contact*" (V09). Veterans also suggested that the length of initial C2C sessions be flexible to support rapport building and alcohol care decision-making: *"I think 30 min for each session is not enough time. If you're going to do 30 min, then some of the content needs to get split up so they can actually focus versus feeling rushed through it*" (V13).

Providers stated the importance of educating veterans about low-risk drinking limits, emphasizing that reducing or abstaining from alcohol use can improve PTSD and depression symptoms (Fig. 2) and highlighting the importance of monitoring veterans to facilitate alcohol care linkage. For example, the Care Coach should educate veterans on *"…recommended drinking limits for men and women based on like age and gender"* (P7), and would *"…get a*



Alcohol Use & Your Health

Drinking can have negative effects on a person's mental and physical health. For example, risky drinking can worsen symptoms of **posttraumatic stress disorder (PTSD)** and **depression.** Alcohol use can also lead to other health problems such as high blood pressure, heart disease, liver disease, and sleep problems (e.g., insomnia, sleep apnea).

Facts about alcohol use and PTSD:

- Alcohol use and PTSD commonly occur together. About one-third of Veterans seeking treatment for an alcohol or drug use disorder also have PTSD.
- Alcohol is often used by Veterans to cope with PTSD symptoms. For example, people with PTSD might use alcohol to help them sleep, but alcohol can actually worsen sleep quality, leaving people tired and less rested.
- Using alcohol can make it harder to cope with stress and trauma memories.
- Alcohol can make common symptoms of PTSD worse, including feeling "numb", cut-off from others, jittery or on guard, irritable, and angry.
- Alcohol use can make PTSD treatment less effective.

Facts about alcohol use and depression:

- About 1 in 3 people with depression also have an alcohol problem.
- Alcohol use can also make depression worse and increase the frequency of suicidal thoughts.
- Alcohol can make depression treatment less effective.

Why is reducing alcohol use important to managing symptoms of PTSD and Depression? Reducing or stopping alcohol use can improve symptoms of PTSD and depression and make treatment for these problems more effective.

Fig. 2 Modified education on the negative effects of alcohol use on PTSD and depression

lot more traction trying to get someone into treatment or keep them into treatment if talking about how treating the substance use will help with the other things…" (P1, P7). Policy leaders echoed this recommendation: *"Leverage a PTSD or depression diagnosis to engage veterans in care by emphasizing the negative impacts of drinking on these conditions…"* (PL2, PL6).

Recommendation 3: How to Optimally Facilitate Alcohol Care Linkage

Veterans recommended that the Care Coach help patients set up an initial care appointment (*"Give the veteran the option of having the coach be on the line with them when they are scheduling appointments"*; V01) and identify concrete next steps toward care linkage: *"If the coach could just nail*

down-what are you going to do between now and next week? What would you say is your next step?" (V16). Another veteran pointed out the importance of the Care Coach assisting in linking to care but also encouraging veterans to make their own decisions: *"If a veteran wants to try AA [Alcoholics Anonymous], help them identify when and where meetings take place and how they will get there. If a veteran is having trouble, the coach can help problem solve solutions, but it's up to the veteran to make the decision"* (V13).

Providers suggested that the Care Coach be aware of differences in processes for linking veterans to alcohol care options at each VA medical facility: *"Be well-educated about each site…and even have points of contact to reach out to say, 'Hey is this still what your admissions process looks like'"* (P1)? Another provider stated the importance of veterans connecting with their primary care medical team to link to care: *"The veteran should know how to connect with their PACT [Patient Aligned Care Team in primary care], although some may need guidance"* (P4).

Policy leaders highlighted the importance of follow-up and monitoring progress to facilitate alcohol care linkage: *"Check in with veterans after 2–4 weeks regarding their decision. Most people are willing to accept a courtesy call after a few weeks"* (PL4).

Recommendation 4: Making C2C Optimally Accessible to Veterans with A-MH

Policy leaders commented on the importance of the Care Coach being available at different times: *"Make C2C sessions available after hours to reduce work-related barriers"* (PL1). Veterans stated a preference to make C2C available by both tele-video and telephone*: "I would definitely offer phone when you call them. I would also offer Zoom or Teams because a lot of people like that"* (V16). Another veteran commented on the flexibility of offering C2C by tele-video, *"Being able to jump on a video call is a lot more convenient than driving all the way to the clinic"* (V09).

Focus Group Feedback on the Alcohol Care Menu

Overall, veterans indicated that the alcohol care menu was clear and acceptable (Table 4); specifically, the menu *"…looks broken down pretty well" (V17), "is pretty straightforward" (V09),* and *"makes sense, it's logical, it's easy to follow, easy to understand, and easy to accept"* (V07). Veterans recommended that the alcohol care menu include statistics about the occurrence of A-MH among veterans to help them open up about their experiences, e.g., *"It needs to be stressed that this is a common occurrence among veterans"* (V01). Veterans suggested that we educate patients on mutual-help options such as Alcoholics Anonymous to support a preference for privacy: *"A lot of people like anonymous stuff. Maybe identify which ones provide that anonymity"* (V19).

Policy leaders suggested that we also inform veterans of alcohol care options that are not located at a VHA medical facility. "*Offer options outside the VHA for veterans who have had negative experiences with our system (PL2)."* Policy leaders also stressed the importance of informing veterans about e-health options and including VHA-developed mobile apps. Providers talked about informing veterans interested in medications for AUD that their primary care provider can help them gain access to these medications. *"There will have to be some other framing, such as 'check with your PACT to see who could help you with these' because I suspect that probably wouldn't be the primary care provider. Most PACTs would then defer to the mental health provider*" (P6).

Case Summaries from an on Going Clinical Trial of C2C

We illustrate how C2C was received in practice with two case summaries from our recently initiated multi-site pilot clinical trial of C2C. The first patient is a 76-year-old White male with a positive screen for HD, PTSD, and depression. He scored a "7" on the readiness ruler (1 = not ready to link to care to 10 = ready to link to care; Harris et al., 2008) indicating he was "unsure" about initiating alcohol care. He attended 4 of 5 planned virtual C2C coaching sessions. His self-reported strengths were his strong support system, persistence, and discipline. He was most interested in initiating e-health (e.g., mobile apps) and outpatient counseling options to reduce his drinking. However, he noted several barriers to initiating care which include difficulty navigating technology and there being few health care providers in his rural community. After discussing solutions to these barriers, he was strongly considering, in session 4, downloading a mobile app (e-health) to help with his drinking.

The second patient is a 43-year-old White male. He had positive screens for HD and PTSD. He scored "7" on the readiness rule measuring readiness to initiate alcohol care. He attended 5 of 5 planned virtual C2C coaching sessions. His self-reported strengths were his confidence, organizational skills, good insight, and taking care of his health. He was interested in initiating outpatient counseling and mutual-help group options for his drinking. However, he noted the barriers of long work hours and lack of childcare. After discussing solutions to these barriers, he initiated a first meeting with an outpatient counselor to address his drinking.

Discussion

Findings from focus groups included three emergent themes. These themes reinforced the need for an intervention to link veterans with A-MH to alcohol care in the VHA primary care setting, particularly among veterans who may be ambivalent toward seeking alcohol care. A novel finding from this study is that veterans with A-MH may not view their drinking as their primary health concern relative to their mental health symptoms. As a result, to enhance the potential effectiveness of C2C with this patient population, we modified how the Care Coach might educate veterans about A-MH. This might include the coach reviewing with participants information on the occurrence and interrelatedness of alcohol use and PTSD and depression symptoms. Indeed, adding educational content about health factors that are negatively affected by alcohol use can enhance the effectiveness of psychological interventions aimed at reducing drinking (Ettner et al., 2014). Results from an RCT of a psychoeducational intervention targeting HD in adults in primary care and consisting of information about the negative impact of alcohol use on problems such as sleep difficulties and drug use indicated that this combined intervention was more effective at reducing HD than alcohol counseling alone (Ettner et al., 2014).

Our findings also support the notion that patients who are ambivalent toward changing their alcohol use may be particularly responsive to C2C which incorporates aspects of MI and shared decision-making. For example, the two case summaries presented show that C2C may help some participants who are initially unsure about initiating alcohol care, link to alcohol care or strongly consider initiating care following their participation in C2C. C2C includes components of MI which is a well-established psychological intervention for responding effectively to a person's ambivalence toward behavior change (Miller & Rose, 2015) and is effective for persons with an AUD (Smedslund, et al., 2011). The C2C protocol includes MI components such as incorporating a guiding style of communication, empowering people to become more informed about their alcohol care options, and providing support to make a care decision that is personalized, while avoiding giving unsolicited advice, directing, or warning (The Motivational Interviewing Network of Trainers, 2023). In addition, the spirit of C2C is grounded in shared decision-making which centers on helping patients take an active role in their care decisions (Agency for Healthcare Research & Quality, 2020). In C2C, this is achieved by using an option grid or care menu that helps patients understand important aspects of each care option (e.g., how each option helps, side effects) to support decision-making (Elwyn et al., 2013) including the decision to not to seek care at this time. C2C places particular importance on the coach-patient deliberation and partnership instead of emphasizing the making of a final care decision. The utility of these aspects of C2C in supporting care decision-making is reinforced by findings from a qualitative study with US military veterans diagnosed with a mental health condition (e.g., mood disorder, PTSD) which found that the level of trust in their care provider was an important factor affecting how involved patients were in making mental health care decisions (Eliacin et al., 2015).

Participants provided several novel recommendations for adapting the C2C protocol to veterans with A-MH. They recommended adding educational components for patients including alcohol and mental health screening results and low-risk drinking limits. Participants also recommended that C2C sessions have flexible timing and be offered "after hours" and by telephone and tele-video, depending on patients' needs and preferences. These suggestions parallel efforts made during VHA's rapid shift toward providing flexible approaches to mental health care delivery, including the increased use of telehealth, during the Covid-19 pandemic (Rosen et al., 2021). Furthermore, participants stressed the importance of the C2C Care Coach or psychologist helping veterans identify concrete, manageable next steps, problem-solving challenges toward care linkage, and providing monitoring, and follow-up that includes continued problem-solving of challenges and revisiting the care menu, if needed.

Participants' suggestions for adaptations to C2C's alcohol care menu highlight the importance of psychologists educating veterans on and helping them link to more "private" alcohol care options including mutual-help groups and e-health selections such as mobile apps and websites. The request for more anonymous alcohol care options might stem from the high degree of stigmatization associated with having and seeking treatment for a SUD (Livingston et al., 2012). SUDs are among the most highly stigmatized health conditions (Schomerus et al., 2011) and stigma can negatively impact a person's life including exacerbating employment and housing problems, worsening social relationships, and contributing to difficulties gaining access to and completing SUD treatment (Brener et al, 2010; Radcliffe & Stevens, 2008). Participants also suggested that the alcohol care menu include data on the prevalence of A-MH among veterans to help them feel more comfortable discussing their alcohol use and mental health symptoms with the Care Coach. Qualitative research shows that providers often avoid conversations with their patients about alcohol use and that when conversations do occur, providers often display discomfort (McCormick et al., 2006). Thus, it is possible that by conveying the prevalence of A-MH, which tends to be relatively high among veterans, patients may feel less stigmatized and

that a provider or Care Coach is more comfortable having discussions about alcohol use with the patient.

Study Limitations

This study has several limitations. First, focus group participants, including veterans with A-MH, were provided a written and verbal description of the C2C protocol to facilitate discussions about needed adaptations, and did not receive the intervention. In contrast, as suggested by the coach summaries for two trial participants included here, we expect to find a richer description of C2C elements' strengths and weaknesses during qualitative interviews that are being conducted with veterans who receive C2C in the ongoing pilot RCT. Second, six of the 19 veterans with A-MH recruited did not participate in focus groups or interviews despite repeated attempts to engage these individuals in the study. Additional recommendations for adapting C2C, including the alcohol care menu, may have been provided by this subgroup that was more difficult to engage in this research study.

Conclusion

This qualitative study highlights adaptations to a strengths-based alcohol care linkage intervention (C2C) that were informed by three groups of stakeholders including psychologists co-located in primary care. Although this intervention's evaluation and implementation are in development, the study identified clinically informative findings. Notably, veterans with A-MH may not see alcohol use as their primary concern but rather as a symptom of a co-occurring mental health condition. This is an important consideration for health care providers who want to facilitate patients' initiation of alcohol care in order to not only reduce drinking but prevent exacerbation of mental health symptoms precipitated by drinking. We also learned that veterans with A-MH may find it difficult and confusing to identify and access alcohol care options in the VHA health care system. This expands the literature finding that patient navigators are needed across health care systems to enable timely access to services and ensure initiation of screenings and follow-through on referrals to care (Budde et al., 2021). Further, there is a need for providers such as psychologists to help facilitate alcohol care linkage among patients with A-MH that is specific to their locality, concrete in terms of support, and offers care options to preserve their privacy. Next steps in this research are to determine whether the adapted version of C2C improves alcohol care linkage and outcomes in veteran patients with A-MH.

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Code Availability Not applicable.

Declarations

Competing Interests No conflicts of interest are reported by any of the authors listed on this manuscript.

Ethical Approval Ethics approval was received from the VA Central Institutional Review Board (protocol #1641659) and the Research and Development Committees at the two study sites: Central Arkansas Veterans Health Care System and the Veterans Affairs Palo Alto Health Care System. This manuscript was guided by the Standards for Reporting Qualitative Research.

Consent to Participate Informed consent to participate in the study was obtained from all participants.

Consent for Publication Not applicable.

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