Project Title: Effectiveness of an evidence-based stepped care system for alcohol and other drug use problems among Congolese refugees in Zambia: A randomized controlled trial
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A. AIMS OF THE STUDY

Refugees in low-and middle-income countries are at risk of unhealthy alcohol and other drug (AOD) use, yet few receive treatment. Through funding from Elrha/R2HC, we aim to conduct a randomized controlled trial to evaluate the effectiveness and implementation of stepped-care AOD services (screening, brief intervention, and referral to evidence-based psychotherapy; SBIRT) for Congolese refugees and host community members in Mantapala, an integrated settlement in northern Zambia.

The study is being conducted in collaboration with local partners in Zambia: Women in Law and Development in Africa (WiLDAF), United Nations High Commissioner for Refugees (UNHCR), University of Zambia, and CARE Zambia.

The procedures described in this protocol build on a formative research study, which was previously approved by the CUMC IRB (Protocol: AAAT1592) and the University of Zambia Biomedical Research Ethics Committee. The specific aims of the research described in this protocol include:

1. To evaluate the effectiveness of an SBIRT stepped-care system in reducing unhealthy AOD use among refugees and the host community. We will employ a hybrid Type I effectiveness implementation trial evaluating the effectiveness and implementation of the SBIRT stepped-care system in an integrated refugee setting.

2. To explore the implementation of the SBIRT stepped-care system. We will conduct in-depth interviews with participants, intervention counselors, implementing agency staff, policymakers, and other stakeholder to examine the SBIRT system's potential for scale-up, affordability, and sustainability within an integrated refugee-host community setting.

B. STUDY PURPOSE AND RATIONALE

Provide pertinent background information with references that are related to the need to conduct this study. If this is a clinical trial, the background should include both preclinical and clinical data. Be brief and to the point.

Refugees are at risk for unhealthy alcohol and other drug (AOD) use, particularly in protracted emergencies.[1] In this application we define unhealthy AOD use as hazardous use, harmful use, and alcohol/substance use disorder and dependence.[2] Among refugees, baseline risk for AOD use may increase for several reasons, including access to illicit substances (reduced drug enforcement policies and security), exposure to potentially traumatic events, and chronic adversity.[1] Ongoing adverse environments such as refugee camps, are associated with lack of access to basic needs, limited livelihoods opportunities, boredom, marginalization, loss of resources, and mental health problems leading to the use of AOD as a coping mechanism.[3–6] Studies have suggested that in conflict settings,

quantity and frequency of use tend to increase from the pre-conflict stage to peri- and post-conflict.[3,7,8] Increase in use of one substance can also lead to initiation of new substances, resulting in more complex cases of polysubstance use.[9]

In Mantapala refugee settlement in Zambia, the proposed study setting, unhealthy AOD use is reportedly common. In July 2019, UNHCR requested psychiatric clinical officers from local health facilities in Nchelenge, Zambia to do an assessment of mental health problems among refugees in Mantapala. The community-based convenience sample consisted of 200 people, of whom 35 (18%) had probable alcohol use disorder, mostly adult men and adolescents (male and female), and frequent cannabis use among people who were drinking alcohol.[10] Reports from 7 refugee incentive workers and 17 representatives from 6 implementing agencies during an initial site visit indicated that unhealthy AOD use was associated with individual, family, and community consequences (injury, gender-based violence, diversion of livelihoods). Reports from the province of origin (Katanga, DRC)[11] and host country (Zambia)[12] have also found AOD use to be prevalent.

The proposed study will test an intervention package known as 'screening, brief intervention, and referral to treatment' (SBIRT). SBIRT systems are evidence-based for the treatment of unhealthy AOD use in non-humanitarian settings and can efficiently provide individuals with an appropriate level of care based on their symptom presentation and severity.[13,14] For example, individuals with hazardous AOD use but without a more severe disorder and without mental health comorbidities may be best served by a brief intervention (BI); for many of these individuals, a full course of a psychotherapy may not be necessary (i.e., inefficient use of limited resources). On the other hand, individuals with more severe AOD disorder or mental health comorbidities likely require more comprehensive treatment. In this trial we will provide BI or BI+psychotherapy commensurate with an individual's symptom presentation.

The interventions included in the SBIRT system are the Common Elements Treatment Approach-Brief Intervention (CETA-BI) and the full CETA psychotherapy (CETA). Previous randomized controlled trials have found CETA to be an effective treatment, including among refugees, for a range of mental and behavioral health problems, including depression, anxiety, trauma, and functional impairment.[15–17] CETA has recently been tested in Zambia and found to also reduce unhealthy alcohol use in addition to mental health problems and intimate partner violence.[17] CETA is a transdiagnostic approach, meaning that counselors trained in CETA are equipped with the ability to treat a range of co-occurring mental and behavioral health conditions. It was developed for use in low- and middle-income countries (LMIC) to facilitate lower cost and sustainability. CETA includes 9 cognitive behavioral elements found in most evidence-based psychological treatments.[18] CETA is 6-12 weekly one-hour sessions with flexibility depending on symptom severity. CETA-BI combines motivational interviewing skills with cognitive behavioral therapy to assist clients in considering changing their rates of AOD use. The intervention lasts 30-40 minutes and consists of 6 components including: 1) screening; 2) identifying the impacts of unhealthy AOD use; 3) talking about change and goal-setting; 4) understanding the primary reason for drinking; 5) skill building; and 6) referral for services. CETA-BI and CETA were previously found effective for AOD use and mental health problems within HIV care in Lusaka, Zambia.[19] CETA-BI and CETA have significant potential for adaptation and implementation in refugee settings but a rigorous RCT adapting and testing them in an SBIRT stepped-care approach among refugees is warranted.

All SBIRT components will be delivered by lay counselors. Counselors will already have been trained in the SBIRT interventions through our formative work in Mantapala (IRB AAAT1592). This enhances feasibility, scalability, and sustainability. Further, all aspects of the SBIRT are designed to be flexible: the

screening, the provision of the BI, and the referral for treatment and provision of full CETA can be done in the community and in locations where clients feel comfortable.

C. OVERVIEW OF STUDY DESIGN

Describe the methodology that will be used in this study, covering such factors as retrospective vs. prospective data collection, interventional vs. non-interventional, randomized vs. non-randomized, observational, experimental, ethnography, etc.

The study design involves a randomized controlled trial evaluating effectiveness (e.g., alcohol use, mental health; Aim 1) and implementation (e.g., scalability; Aim 2) of the SBIRT system of care for alcohol and other drug use problems in Mantapala refugee settlement in Luapula Province, which is located in northern Zambia. We will enroll 400 participants into the RCT; half will be randomly assigned to receive SBIRT and half will be randomly assigned to receive treatment as usual (TAU). We will evaluate self-reported alcohol, substance use, and mental health outcomes via audio computer-assisted self-interviewing (ACASI) at three timepoints: baseline, 6 months post-baseline, and 12 months post-baseline. We will conduct mixed methods interviews with a sub-sample of participants, SBIRT counselors, and humanitarian program and policy officials to explore implementation constructs of intervention acceptability, feasibility, appropriateness, and cost.

D. PARTICIPANTS

D.1 RCT Participants (N=400)

Inclusion criteria:

- Living in Mantapala refugee settlement (i.e., Congolese refugee) or (Zambian) member of neighboring host community
- Age ≥15
- Unhealthy alcohol use based on standard cut-off scores of the ACASI-based Alcohol Use Disorders Identification Test (AUDIT)[20] (≥ 8 for men and ≥ 4 for women).[21] The focus on unhealthy alcohol use as the primary inclusion criterion is due to preliminary research in Mantapala suggesting that alcohol is the main substance of concern and other drug use almost exclusively co-occurs with alcohol use.

Exclusion criteria:

- Severe psychiatric illness, high suicide risk (based on recent attempts and/or ideation with intent and plan), and/or current severe AOD withdrawal that would necessitate immediate referral for psychiatric services
- Inability or unwillingness to provide informed consent

D.2 Implementation Study Participants (N=60; including 30 SBIRT participants from the RCT; 15 CETA-BI/CETA counselors and 15 humanitarian policy/program officials)

Inclusion criteria:

- Participated in the RCT and received SBIRT, was an SBIRT counselor, or is a humanitarian policy or program official whose position has relevance for the implementation of SBIRT in humanitarian settings

Exclusion criteria:

- Inability or unwillingness to provide informed consent.

D.3 Exit interviews exploring factors that influence self-reported alcohol and other drug use (n=30; 15 per arm)

Inclusion criteria:
- Participant enrolled in RCT (see D.1)
- Completed the 12-month follow-up within the last month

Exclusion criteria:
- Inability or unwillingness to provide informed consent.

E. PROCEDURES

E.1 Procedures for RCT

E.1a Recruitment

The trial will feature several recruitment strategies. First, community meetings will take place at each of the 20 settlement blocks/administrative units and in the surrounding host community. At these meetings we will describe the study in detail and also answer questions and any concerns that community members have. We will provide information on times and places in the community where interested individuals can meet privately with research staff to learn more about the study. Second, we will ask providers within the settlement health clinics and protection programs as well as community leaders to introduce the study to individuals who they believe may have unhealthy alcohol or other drug use. We will provide them with a recruitment script for this purpose. Interested individuals will be given the contact information of the research team to schedule a time to receive more information and also will be able to provide their own contact information if they want so that the research team can contact the individual.

These recruitment strategies ensure that only potential participants who have expressed interest in hearing more about the study (at the community meetings, to a community leader, or to a provider at a health clinic or protection program) will be in contact with the study team.

Recruitment activities will be conducted by the Zambia-based team at WiLDAF and CARE Zambia. Columbia investigators will not be involved in the recruitment process and will not interact directly with potential study participants.

E.1b Informed Consent

Interested potential participants will meet privately with a trained WiLDAF research assistant (RA) within a secure, private study location in Mantapala settlement and the RA will provide additional detailed information about the study. All participants will provide verbal informed consent/assent as with our previous studies in Zambia (including AAAT1592, which was also conducted in Mantapala) given the sensitivity of signing documents and the increased risk this has for a breach of confidentiality. The Informed Consent Process will begin with a concise and focused presentation of the key information about the research study. The RA will review the study information sheet with the potential participant, which includes information on study purpose, study procedures, risks/benefits, and voluntary participation. All RAs will be trained in human subjects research ethics using the Johns Hopkins

Institutional Review Board field guide, which has been previously used to train research staff working in humanitarian settings.

Consents will be available in English and in Bemba, which is the most widely spoken language among Congolese refugees in Zambia and by the host community. In our previous study in Mantapala, we found that some participants prefer speaking Swahili at times: we will also have an onsite translator/interpreter for participants who may also want to speak Swahili. We will require verbal parental/caregiver permission for participants who are 15, 16 or 17 years of age per Zambian law. Permission will be obtained separately from the adolescent before obtaining verbal informed assent. Informed assent with participants who are 15-17 years of age will be obtained in private without the parent/caregiver present. All potential participants will have the opportunity to discuss the information. This Informed Consent Process presents information in sufficient detail relating to the research study. Consent will be obtained for all study activities (screening, baseline, interventions, follow-up, and implementation interview).

Columbia investigators will not be involved in the consent process and will not interact directly with study participants.

E.1c Screening

Participants who provide informed consent will complete a brief demographics questionnaire and the Alcohol Use Disorders Identification Test (AUDIT),[20] which is a 10-item validated screening tool for unhealthy alcohol use. These measures will be administered through audio computer assisted self-interviewing (ACASI) and available in English and Bemba. The participant will self-complete the measures with the RA nearby in case the participant has any questions. ACASI will automatically calculate the total AUDIT score, which will inform the RA if the participant is eligible for the trial based on the alcohol criterion (≥ 8 for men and ≥ 4 for women).[21] Participants who are ineligible for the trial will be thanked for their time and provided with a list of relevant programs and services for mental health in Mantapala settlement and the surrounding area. Participants who are eligible will continue with the baseline assessment.

E.1d Baseline Assessment

The full baseline assessment will include previously translated and piloted in Bemba measures of our secondary mental health and substance use outcomes.[22,23] These measures include: depression (Center for Epidemiologic Studies-Depression scale; CES-D);[24] generalized anxiety (Generalized Anxiety Disorder-7 scale; GAD-7[25]); trauma symptoms (Harvard Trauma Questionnaire; HTQ[26]; substance use (Alcohol, Smoking, and Substance Involvement Screening Test; ASSIST [27]); and sleep (Sleep Scale for the Medical Outcomes Research Study[28]). We expect the baseline assessment to take approximately one hour to complete (including the Demographics and AUDIT, which are part of the screening).

Research Assistants will be trained to identify signs of acute alcohol withdrawal and severe mental illness. Participants will also be screened for suicidal ideation during the ACASI assessment. If the RA believes that the participants may be ineligible for randomization and enrollment into the trial on any of these criteria, they will contact an on-site study clinical supervisor for assessment. The clinical supervisor will determine if the participant is ineligible based on these criteria and, if so, will assist the participant in accessing immediate services.

E.1e Randomization and Enrollment into the Trial

Participants who complete the full baseline assessment and are fully eligible for the trial (have met all inclusion and no exclusion criteria) will be randomized and enrolled into the RCT. Randomization will be on a 1:1 basis, stratified by gender and site (Mantapala settlement or host community) and symptom severity (low or moderate/high). Participants will be randomized to SBIRT or treatment as usual (TAU) control. The RA will allocate participants to study conditions using a series of sealed, opaque envelopes. RAs and data analysts will be blinded. Participants will be notified immediately about the result of the randomization.

E.1f Interventions

- SBIRT. All participants randomized to SBIRT will receive an on-the-spot alcohol brief intervention (CETA-BI) and be categorized as low or moderate/high severity. Moderate/high severity is defined as one or more of: (a) AUDIT scores indicating moderate-to-severe AUD (≥12 for women; ≥16 among men); (b) meeting validated symptom criteria for depression (≥16 on CES-D),[24] (c) trauma/anxiety (≥2.5 on HTQ),[26] (d) substance use (≥27 on ASSIST).[27] Participants who are low severity will not receive any additional treatment. Participants who are moderate/high severity will be connected to a CETA counselor and will begin full CETA treatment. This will involve approximately 6-12 weekly CETA sessions. CETA sessions will be conducted in a private setting mutually agreed upon by the counselor and participant (this could be in the health clinic or some other community-based setting where the participant feels comfortable). Data collected for these intervention participants will include the Improving Your Health worksheet (during the BI session), the Client Monitoring Form (during CETA sessions) and the Alcohol Timeline Followback (completed at both the BI and subsequent CETA sessions. All of these measures are included in Rascal.

- TAU. In October 2019, Mantapala health workers and supervisors were trained in mhGAP-HIG, which is a mental health service provision guide for use in humanitarian settings; this training was led by staff from United Nations High Commissioner for Refugees.[30] This training did *not* include evidence-based psychological interventions (e.g., CETA). Participants randomized to TAU will be referred to the existing services that exist in the health clinic located in Mantapala refugee settlement. This clinic is staffed by eight clinical staff who provide clinical assessments, primary care, basic counseling, and limited specialized services (e.g., maternal and child care, HIV treatment). More specialized services are referred to the District Hospital in Nchelenge, which is the nearest town approximately 50 kilometers away.

E.1g Follow-up Assessments

Participants will be asked to complete two follow-up study assessments at 6- and 12-months post-baseline. We will ask the participants to complete the same ACASI questionnaire as baseline. We expect these study visits to take approximately one hour. Participants will be eligible to complete these assessments within a +/- one month window around the 6 and 12 month scheduled assessments. If they do not complete the assessment within that window it will be considered a missed visit. Once participants complete the 12-month visit, they will exit the study.

E.2 Procedures for Implementation Interviews

E.2a Recruitment

We will conduct implementation interviews with a subset of participants enrolled in the RCT as well as other relevant stakeholders. Participants in the implementation interviews include participants enrolled in the RCT who received SBIRT (n=30), SBIRT counselors (n=15), or is a humanitarian policymakers or program officials whose position has relevance for the implementation of SBIRT in humanitarian settings (n=15). We will purposively recruit a subset of 30 RCT participants who received SBIRT selected using maximum variation sampling to ensure they represent both refugee and host community members, participants with a range of alcohol and substance use patterns at baseline, and variations in attendance and intervention response. Participants will be invited to complete the implementation interview by the RA at their 6-month follow-up interview. Fifteen SBIRT counselors will be invited by an RA to participate in an implementation interview at the end of their final SBIRT session. We will purposively select counselors to reflect variation in the following characteristics: number of SBIRT and CETA sessions delivered, community membership (refugee vs. host), and competency as identified by the clinical supervisor. Fifteen humanitarian stakeholders (e.g., policymakers and program officials) will be invited to participate in the study interview by a member of our research team throughout the study period. We will select these stakeholders based on their knowledge of the project and the relevance of their role in its implementation.

Recruitment activities will be conducted by the Zambia-based team at WiLDAF and CARE Zambia. Columbia investigators will not be involved in the recruitment process and will not interact directly with potential study participants.

E.2b Informed Consent

Trial participants who are selected to complete an implementation interview will be reminded by the RA of the original study consent form (see section E.1b), which includes information about potential participation in the implementation interview. The RA will offer to provide a copy of the consent form for their review, if interested. They will review the study information sheet again with the participant prior to initiating the implementation interview and provide an opportunity for the participant to ask any questions before beginning.

Selected providers and invited humanitarian stakeholders who have not been previously enrolled in the study will meet with a trained WiLDAF RA in a secure, private study location in Mantapala settlement, another secure office, or by phone to review details about the study. All participants will provide verbal informed consent as with our previous studies in Zambia (including AAAT1592, which was also conducted in Mantapala) given the sensitivity of signing documents and the increased risk this has for a breach of confidentiality. Similar to participants enrolled in the trial, the Informed Consent Process will begin with a concise and focused presentation of the key information about the research study. The RA will review the study information sheet with the potential participant, which includes information on study purpose, study procedures, risks/benefits, and voluntary participation. All RAs will be trained in human subjects research ethics using the Johns Hopkins Institutional Review Board field guide, which has been previously used to train research staff working in humanitarian settings.

Consents will be available in English and Bemba. In our previous study in Mantapala, we found that some participants prefer speaking Swahili at times: we will also have an onsite translator/interpreter for participants who may also want to speak Swahili. This Informed Consent Process presents information in

sufficient detail relating to the research study. All potential participants, including the participants already enrolled in the RCT, will have the opportunity to discuss the information.

E.3c Interviews

Mixed methods interview guides will be based on the Johns Hopkins Dissemination and Implementation measure, which explores adoption, acceptability, appropriateness, feasibility, scalability, sustainability and reach/access of SBIRT. Interview guides will be adapted to the stakeholder group (SBIRT participant, counselor, other stakeholder), but will cover similar domains. The interview guides include questions assessing these constructs quantitatively using a Likert scale as well as open-ended questions and probes that are adapted over the course of the study. These guides are included in Rascal. While adaptations to the specific questions may evolve over the course of the interviews, if any modifications are made to the questions or probes that extend beyond the constructs described above, we will submit a modification to the IRB. These interviews will be administered by a WiLDAF RA in a private location, or a location requested by the study participant. Implementation interviews will be audio recorded. We expect the interview will take approximately one hour to complete. Interviews with humanitarian stakeholders may take place by phone/Zoom.

E.2 Procedures for Exit Interviews

E.2a Recruitment

We will conduct exit interviews with a subset of 30 participants enrolled in the RCT within one month after they have finished their 12-month follow-up assessment. We will purposively recruit a subset of 30 RCT participants using maximum variation sampling to ensure they represent both refugee and host community members, participants allocated to SBIRT and TAU, and participants with a range of alcohol and substance use patterns. Participants will be invited to complete the implementation interview by the RA at their 12-month follow-up interview.

Recruitment activities will be conducted by the Zambia-based team at WiLDAF and CARE Zambia. Columbia investigators will not be involved in the recruitment process and will not interact directly with potential study participants.

E.2b Informed Consent

Trial participants who are selected to complete an exit interview will review the study information sheet covering the objectives, procedures, risks, and benefits for the exit interview with an RA. The RA will offer to provide a copy of the information sheet for their review, if interested. They will review the study information sheet again with the participant prior to initiating the implementation interview and provide an opportunity for the participant to ask any questions before beginning.

Information sheets will be available in English and Bemba. In our previous study in Mantapala, we found that some participants prefer speaking Swahili at times: we will also have an onsite translator/interpreter for participants who may also want to speak Swahili. This Informed Consent Process presents information in sufficient detail relating to the research study. All potential participants, including the participants already enrolled in the RCT, will have the opportunity to discuss the information.

E.3c Interviews

The interviews will explore perceptions of the accuracy of self-reported alcohol and other drug use behaviors among study participants as well as the factors that may influence the accuracy of reporting. We will not ask participants to report on any specific study participants or their own reporting, but rather their perceptions about reporting generally. These guides are included in Rascal. While adaptations to the specific questions may evolve over the course of the interviews, if any modifications are made to the questions or probes that extend beyond the constructs described above, we will submit a modification to the IRB. These interviews will be administered by a WiLDAF RA in a private location, or a location requested by the study participant. Exit interviews will be audio recorded. We expect the interview will take approximately 15-30 minutes to complete.

F. STATISTICAL PROCEDURES

Provide sufficient details so that the adequacy of the statistical procedures can be evaluated including power calculations to justify the number of participants to be enrolled into the study. Definitions of subject terms such as enrolled and accrued as used for Rascal submissions can be found in the Subjects section

The primary outcome is the difference in change in AUDIT score from baseline to 12-month follow-up between SBIRT and TAU. Using baseline data from an ongoing study of CETA-BI + Full CETA in Lusaka, we estimated the sample size required to estimate a moderate treatment effect (Cohen's d=0.5) with 90% power would be 172 (86 per arm). Given the stratified sampling, clustering, planned subgroup analyses, and possible attrition, our study will require a total sample size of 400.

The primary analysis will use mixed effects regression to estimate the difference in change in AUDIT scores between the treatment groups. Secondary analyses will include: a) treatment effectiveness for secondary outcomes; b) moderator/subgroup; c) mediators; d) predictors of treatment completion; e) longitudinal analysis of weekly symptom change (on the CMF and Alcohol TLFB for CETA participants; and g) mixed methods analysis based on best practice guidelines[31] for exploring implementation data.

Qualitative data from the implementation interviews will be transcribed and any identifiable information will be redacted. Once transcribed, the audio recordings will be destroyed. These data will then be analyzed by members of the research team using thematic analysis whereby research staff read the full set of transcripts and develop codes using a subset of those transcripts. Once a codebook has been developed, it will be applied to the full set of transcripts with codes added as needed. We anticipate the main domains will include adoption, acceptability, appropriateness, feasibility, and reach/access of SBIRT.

G DATA CUSTODY, SECURITY, AND CONFIDENTIALITY PROTECTIONS

All data will be collected in Zambia by WiLDAF and CARE Zambia staff. Columbia investigators will not be involved in any data collection activities and will not have access to any sensitive data or identifying information from participants.

Confidentiality of study data is a priority, and we will take many precautions to protect against the possibility of a breach of confidentiality. All research staff are aware of the importance of maintaining strict confidentiality and we have extensive experience dealing with sensitive mental health/alcohol,

substance use data in Zambia. The following precautions will protect the privacy of participants and maintain confidentiality of research data:

1) All study staff will be well trained and will receive ongoing supervision in confidentiality and data security procedures, specifically in ethical conduct, confidentiality protection, mandated reporting, and other topics of human participant protection.

2) Privacy will be maintained by conducting all data collection activities in private areas at WiLDAF and CARE Zambia sites in Mantapala or in private locations preferred by study participants (community locations with private spaces, for example, if this is preferred for CETA sessions). Data (both electronic and paper) will be transported daily in secure private study vehicles from Mantapala to the study team's office building in the town of Kawambwa headquarters building where they will be stored in locked rooms in locked filing cabinets and computers.

3) Each participant will be assigned a unique study ID number, and all data (e.g., ACASI data, CMF/TLFB data, implementation data) will be coded with ID numbers only and will not contain identifying information. These data will be stored on the encrypted system with restricted access to essential investigators and staff. We will not obtain signatures on the consent form/information sheet. We will only collect sensitive data/identifying information (names, phone numbers, and addresses) from participants for purposes of contacting participants to schedule study visits. An encrypted spreadsheet linking participant names, phone numbers, and addresses with ID numbers will be stored separately from the coded data. This personally identifiable information will be stored on an encrypted endpoint computer in a locked office within the study office in Kawambwa. Only essential staff for conducting participant follow-ups will have access to this file. Columbia personnel will not have access to sensitive data/identifying information. Following the end of the study, the link and all personally identifiable information will be destroyed such that all data are completely de-identified.

4) Paper-based data (Client Monitoring Form, Alcohol TLFB, and Improving Your Health worksheets, and notes taken during qualitative interviews and discussions) will be coded and securely stored in locked file cabinets in the study team's locked offices. They will be entered into an encrypted database stored on an encrypted shared data system.

5) Qualitative interviews in Aim 2 will be recorded with permission from the participants (no other activities will have audio recording). Recordings will be destroyed after interviews are transcribed. We expect transcription of audio files to be done within one to two weeks after the interview session. The oral study introduction will not be included in the recording and we will train research assistants to avoid mentioning personal identifying information during the course of the interview. Any personal information that is discussed during the interview will be redacted from study transcripts.

6) ACASI data will be stored temporarily locally on password-protected laptop computers and once transported to the study office (daily) will be removed from the laptops and uploaded to the encrypted system. No identifying information will be included in the coded ACASI data (only an ID number). Access to data storage areas and computers will be restricted to essential study staff.

7) Only coded data will be shared with U.S.-based study investigators at Columbia University via an encrypted shared system. Only IRB-approved Columbia investigators will have access to the coded data. Columbia investigators will not have access to personally identifiable information/sensitive data. In

Zambia, access to personally identifiable information/sensitive data will be restricted to essential personnel.

8) Analysis will occur only on coded (for analysis while study is ongoing) or deidentified (following completion of the study) data and be presented in aggregate.

9) All participants will be encouraged to contact the local study director, local investigators, or other staff to report any undesirable conduct associated with the study. These reports will be brought to the attention of the study director, local PIs and co-Is and the MPIs, and appropriate steps will be taken to solve the problems, including reporting to relevant ethical review boards.

H. POTENTIAL RISKS

H.1 Privacy/Breach of Confidentiality. A breach of confidentiality is a risk of the study, but we believe is unlikely due to precautions described in section G.

H.2 Emotional Distress. Data collection may be associated with minimal emotional discomfort due to the discussion of sensitive topics such as substance-related problems, however, we do not believe that this will be frequent or severe. We will train research assistants to identify acute distress among participants, respond in a supportive manner, and provide them with referral resources. The study is being conducted in collaboration with Dr. Laura Murray, a clinical psychologist and developer of CETA, as well as Stephanie Skavenski, a clinical social worker and expert CETA trainer. Dr. Murray and Ms. Skavenski will be available to oversee all situations in which additional expertise is needed. If participants require additional mental health or protection services, we will assist them in accessing the Mantapala or nearby Nchelenge health facility.

Pilot participants may experience emotional distress as a result of participation in the interventions. Many therapeutic interventions deal with small degrees of stress within a session as part of the treatment. Based on research and experience, the expected degree of distress will be minimal and expected as part of the therapeutic process. In cases where distress does occur during treatment, the participant would be with a trained CETA counselor who will be trained at handling such situations. In addition, these counselors will have local clinical supervisors and access to Dr. Murray and Ms. Skavenski, as well as to Dr. Ravi Paul, study investigator and psychiatrist on the research team based at University of Zambia. Our team has run multiple trials with CETA, including in Zambia, and have established safety protocols for evaluating and referring patients for urgent care when necessary.[32,33] We are prepared to handle more significant issues that could arise and have established relationships at referral psychiatric hospitals, such as Chainama Hills Hospital in Lusaka, which has inpatient psychiatric services. Should it be necessary, participants can be referred and receive treatment there. Dr. Paul will also be available for virtual consultations as needed.

H.3 Alcohol/Substance Withdrawal. Study counselors are highly trained by Dr. Murray and Ms. Skavenski to identify signs and symptoms of withdrawal. They will be trained to immediately contact their clinical supervisors who will evaluate the participants and provide immediate referral for appropriate care, including facilitating transport to in-patient services in Nchelenge and consultations with Dr. Paul and his team.

I. POTENTIAL BENEFITS

Participants may feel empowered by being consulted in an effort to address major public health issues in their community. The knowledge gathered through these interviews and workshop will directly inform decisions on the intervention protocol. We hypothesize that the intervention will be effective in alleviating substance use and related problems, including protection risks for study participants. While these anticipated benefits regarding the intervention may not directly benefit formative research participants, they may derive benefit from contributing to the development of this public health initiative for their community.

RCT participants may benefit directly by receiving the interventions, which may help them reduce unhealthy alcohol use, substance use, and mental health problems.

J. PAYMENT

Participants in all phases/aims will be provided with a light snack and drink during in-person interviews. There will be no other form of remuneration.

K. STUDY MANAGEMENT / DATA AND SAFETY MONITORING

The study will be supervised and managed by the Columbia University Principal Investigators (Drs. Jeremy Kane and Claire Greene). Drs. Kane and Greene are supported by research investigators with expertise in clinical psychology at Johns Hopkins (Drs. Murray & Skavenski). Study activities in Zambia, including recruitment, consent, data collection, and intervention provision will be implemented by our study partners, WiLDAF and CARE Zambia, led by Mr. Muzi Kamanga and Dr. Henry Loongo. Additionally, the team is supported by Dr. Ravi Paul, senior investigator at the University of Zambia.

Locally, the research activities will be managed by two onsite research program officers, who report to Mr. Kamanga and Dr. Loongo as well as international investigators. These program officers will supervise a team of research assistants. All personnel involved in these research activities will receive training covering the formative research procedures and the Johns Hopkins Ethics Field Training Guide, including reporting of adverse events and safety procedures. Throughout the project, the principal investigators will engage in twice weekly calls with the local research teams and receive daily updates from the research program officer via email.

Participant safety will be monitored by the research officer through daily debriefings with the research assistants. During weekly calls, the principal investigators and research officers will discuss the proceedings of these activities. There will also be regular clinical supervision calls each week between Ms. Skavenski/Dr. Murray and the local clinical supervisors in Zambia to review safety and progress of all participants.

K. REFERENCES

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