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FULL-LENGTH ARTICLES

"I'm Not Going to Tell Him What I Tell You": A Community-Based Participatory Research Approach to Understand Firearm Owner Perspectives on Suicide Prevention

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Suicide is the 10th most frequent cause of death in the US with 47,511 deaths in 2019, of which 23,941 were firearm suicides. Certain subgroups within the general population are at increased risk for firearm suicide, including law enforcement, active-duty military, veterans, persons with post-traumatic stress disorder, sexual minorities, and young people who have adverse childhood experiences such as witnessing domestic violence, being bullied, or sexually assaulted. Firearm owners are a group of people that require tailored suicide prevention interventions because of their proximity to lethal means as well as the unique cultural and legal factors that exist around gun ownership in the United States. Participatory action research (PAR) methods provide a model for increased community inclusion in research and have been utilized to study suicide prevention with a variety of communities, including firearm owners. Previously, the goals of incorporating community-involved methods into suicide prevention research have included learning about the causes of suicidal ideation and behavior, as they are understood within the affected community, developing interventions that reflect the community's culture, and testing these interventions to determine their efficacy within the given community. Here we utilized PAR methods to gain an understanding of firearm owners' perspectives, attitudes, and beliefs about suicide and the prevention of suicide.

Suicide remains a leading cause of premature death in the U.S., and the CDC (2022) has reported that rates of suicide increased in 2021 following two years of small decreases. Firearms remain the most common method by which individuals die by suicide in the U.S. and accounted for 50% of all suicides in 2019 (CDC, 2021). In fact, approximately 60% of all firearm-related deaths in 2019 were suicides (CDC, 2021). Risk for death by suicide with a firearm is socially patterned: men are more likely to die by suicide using firearms, accounting for 61% of firearm fatalities (CDC, 2021). Groups at increased risk of firearm suicide include: law enforcement (Milner et al., 2017; Violanti et al., 2016); active-duty military (Anglemyer et al., 2016); veterans (McCarten et al., 2015); persons with post-traumatic stress disorder (Heinz et al., 2016; Smith et al., 2015); sexual minorities (Marshall, 2016); and young people who have adverse childhood experiences, such as witnessing domestic violence, or being bullied or sexually assaulted (Felitti et al., 1998). Suicide prevention efforts continue to address this critical and complex public health problem and such efforts are increasingly being tailored to address the specific needs of groups at increased risk for suicide—including firearm owners.

Extensive work has gone into developing tailored suicide prevention interventions for firearms owners due to their proximity to lethal means as well as the unique cultural and legal factors that exist around gun ownership in the United States. Efforts to address firearm access and reduce suicide must grapple with the cultural milieu surrounding gun ownership in the United States. Some have argued that "broadly reducing availability and access to firearms has lowered firearm suicide rates in other countries but does not appear feasible in the United States" (Mann & Michel, 2016, p. 969). Thus, many efforts have been made to restrict access for at-risk firearms owners, often engaging the public and major stakeholders in the process. Barber and Miller (2014) found non-legislative prevention measures to be more effective in reducing suicide by firearms in the United States, particularly by respectfully engaging firearm owners. They emphasized the efficacy of lethal means counseling as a promising example of a community-based intervention, which involves advising people at risk for suicide and encouraging their friends/family to keep firearms away. Marino et al. (2017) report that key stakeholders who receive culturally-specific messaging combined with standard suicide prevention content reported the greatest likelihood of taking steps to restrict access to firearms. This tendency was enhanced for those "who were more politically conservative, lived in more rural areas, and supported gun rights to a stronger degree" (p. 394). Marino et al. (2017) and Pallin et al. (2019) have also demonstrated that these culturally-informed messages around suicide prevention for firearm owners can be effective. However, each of these intervention studies has noted that firearm owners are a diverse group. Previous suicide prevention studies focused on fairly homogenous groups of firearm owners that have been previously studied in suicide prevention work are not representative of the full breadth of firearm owners in the United States.

There have been an increasing number of efforts to engage diverse firearm owners in suicide prevention interventions. Examples of community-based suicide prevention programs, which engage diverse stakeholders and yield promising results, include: the New Hampshire (NH) Firearm Safety Coalition (Vriniotis et al., 2015), Counseling on Access to Lethal Means (CALM) Project (Johnson et al., 2011), the "Love Our Kids, Lock your Guns" program in North Carolina (Coyne-Beasley et al., 2001), and the Bristol Bay Area Health Corporation's program to improve firearm storage practices in rural Alaska (Horn et al., 2003). Each of these community-based interventions involved respected and trusted members of the firearm owners' community in the intervention design and implementation process and found that the inclusion of physicians, law enforcement/public safety officers, local gun retailers, and other firearm-owning members of the community increased firearms owners' willingness to engage with the suicide prevention programs. Historically, however, fewer community-based interventions for suicide prevention have involved key stakeholders including firearms owners, manufacturers, retailers, or community organizations such as gun clubs. These projects often engage a participatory action research (PAR) framework.

Participatory action research includes a range of approaches for increasing community engagement throughout all stages of the research process (Kidd & Kral, 2005; Kindon et al., 2007). PAR methods provide a model for increased community inclusion in research and have been utilized to study suicide prevention with a variety of communities, including firearm owners. The degree of community involvement in these studies has varied significantly, from the full integration of community members throughout the research process (Rasmus, 2014) to utilizing community feedback on different intervention models (Chowdhury et al., 2013; Marino et al., 2017). In addition to the implementation and evaluation of suicide prevention interventions (Marino et al., 2017; Pallin et al., 2019), the goals of incorporating community-involved methods into suicide prevention research have also included learning about the causes of suicidal ideation and behavior, as they are understood within the affected community (Ford-Paz et al., 2015).

In developing our PAR partnership with firearms owners, we paid particular attention to addressing two important aspects of addressing suicide prevention with firearms owners: the unique culture and meaning of firearms ownership in the U.S., hereto referred to as "gun culture"; and the role of stigma associated with both suicide and firearms ownership in the U.S. Prior research has demonstrated that firearm owners express a preference for suicide prevention messaging that addresses a wider variety of means, not just firearms (Betz et al., 2019; Jager-Hyman et al., 2019; Pallin et al., 2019). This preference may also be related to a belief in means substitution, which is prevalent among firearm owners (Anestis & Capron, 2016). Means substitution is the idea that an individual will switch to other methods of suicide if a preferred method is not available to them (Sarchiapone et al., 2011; Yip et al., 2012). Along with perceiving their rights to own firearms as a continued threat, many describe firearm ownership as a "way of life" (Metzl, 2019) in which firearms are frequently present in social and occupational contexts (Simonetti et al., 2020). Firearm owners frequently describe feeling an affinity for other members of the firearm community, who are viewed as more trustworthy than outsiders in matters of firearm safety (Aitken et al., 2020; Jager-Hyman et al., 2019), creating an "us-versus-them" dynamic. Our participants explain, "Some gun owners feel like maybe their rights (to own firearms) could be taken away" (Participant DP09). Our participants view owning a firearm as an inextricable way of living that must be protected; because many owners perceive a threat to their continued right to bear arms, many wish to avoid messaging that "blames the gun" (Metzl, 2019).

Lastly, suicide prevention efforts must attend to the multiple types of stigma associated with mental illness and suicide, each of which has been well documented. Firearm owners often manage the stigma associated with ownership along with the stigma of suicide (Blithe & Lanterman, 2017; Melzer, 2009). As Melzer (2009) noted, with continued gun violence occurring in the United States, there is a stigma of owning a firearm in our society

which results in dichotomized, political debates about ownership in some communities. Such experiences of stigmas take a toll on mental health and well-being and together can contribute to suicidality (Taylor et al., 2011).

Here we describe the model of developing a research study aimed at addressing the gap in knowledge related to the experiences and understandings of suicide and suicide prevention among diverse firearms owners. This knowledge is needed to appropriately develop prevention. To effectively develop and implement suicide prevention strategies for firearm owners that recognizes that firearm owners are not a homogeneous group, This research utilized a Participatory Action Research (PAR) approach. In Phase 1, we conducted a national U.S. population survey of 2,646 firearm owners (who were minimally required to own at least one handgun, shotgun, or rifle) that gathered data about attitudes, beliefs, and rationale for gun ownership in relation to sociodemographic factors, as well as suicide risk factors. This data informed a Latent Class Analysis of gun owner subgroups to identify subgroups that share similar characteristics and are at elevated risk for firearm suicide. Three subgroups were identified as high-risk and shared certain suicide risk factors: 1) men who are veterans with combat/conflict zone experience; 2) higher LGBTQ+ representation, primarily white, younger, higher socioeconomic status; and 3) women, LGBTQ+, lower socioeconomic status, higher likelihood to be victims of domestic abuse, higher tendency to abuse opioids, chronic pain, PTSD. Phase 1 also included the development and support of an Expert Advisory Board (EAB) for the duration of the project.

Building upon this knowledge, the team developed an innovative approach that engaged diverse firearm owners as community research assistants (CRAs). We have previously engaged CRAs in PAR and community-based participatory research (CBPR) studies involving people with serious mental illness to examine limited literacy (Garverich et al., 2021; Lincoln et al., 2021), and use of psychiatric emergency services (Lincoln et al., 2016); and with young adults to learn about the relationships among mental illness and precarious housing (Lincoln et al., 2015) and dating violence (Beatriz et al., 2018). We built upon these models and lessons learned in the current project. In this study, all CRAs were firearm owners. Including firearm owners in all aspects of our research process enabled us to gain rich qualitative data that has led to our understanding of how to develop and implement more effective suicide prevention strategies that can meet a variety of firearm owners. This article presents the development and implementation of the model as well as challenges and lessons learned throughout our research process.

Methods

The development of this PAR approach engaged firearms owners in all aspects of the qualitative study, including design, conduct, and analyses of the study data. Our initial planned approach included key informant interviews, the development and engagement of an Executive Advisory Board (EAB) including people with both research and lived experience, and focus groups

with firearms owners. Here we describe our final study methodology and the process that informed important shifts driven by our community-partnered process.

Key informant interviews

As a first step, we reviewed suicide prevention websites—particularly those focused on work with firearms owners—and then engaged snowball sampling through existing collaborative relationships of the research team members to identify key informants engaged in suicide prevention efforts partnered with firearms owners. We considered multiple forms of expertise, including lived experience, clinical, and academic expertise in our identification of key informants and conducted nine key-informant interviews. These interviews helped us to shape our PAR approach and identify people to recruit for our Expert Advisory Board (EAB), including firearms owners and people with a history of suicide ideation or behaviors, who would advise the research team during the study. Once hired, the Community Research Assistants (CRAs) also became members of the EAB.

Convening EAB and recommendations

The EAB consisted of 14 members, including clinicians, researchers, and firearm owners. The research team convened the EAB three times during the first year to help develop the interview guide, recruitment strategies, and participate in analyses and dissemination of findings. The initial research plan included conducting six focus groups—two focus groups for each class that were identified as high risk for suicide in the quantitative phase of the project. Based on the advisement of the EAB, the plan was revised to conduct interviews instead of focus groups, allowing the researcher to build greater rapport and trust with the participating firearm owners. EAB members who were firearms owners raised concerns that participation in focus groups would not provide firearms owners with a sense of privacy in the research process, and this would limit the types of data generated, particularly related to sensitive information about their status and beliefs as a firearm owner. The EAB also informed the development and implementation of recruitment strategies for the qualitative interviews to be conducted with the three subgroups identified as being high risk of suicide in the quantitative phase of the study (Ross et al., 2022): 1) men who are veterans with combat/conflict zone experience; 2) higher LGBTQ+ representation, primarily white, younger, higher socioeconomic status; and 3) women, LGBTQ+, lower socioeconomic status, higher likelihood to be victims of domestic abuse, higher tendency to abuse opioids, chronic pain, PTSD. Lastly, based on EAB feedback, we chose to build interview teams (pairs), including a CRA interviewer and a member of the research team to take notes during the interview, to allow for the CRA to be fully engaged in the interview process.

Recruiting CRAs

Four CRA interviewers, all of whom owned firearms, were identified and recruited through recommendations from our EAB. Two of the CRAs hired were initial EAB members, and two additional CRAs were referred by the EAB members and later joined the EAB. The NU research team and CRAs included diverse demographic characteristics such as sex, socioeconomic status, geography, and people with lived experience of suicide. The community members consisted of veterans, a nurse, firearm instructors, and outreach specialists. Our CRAs were from Washington, Georgia, and Tennessee, with some living in cities and others living in rural areas. Two were women and two were men, and all four were white. The CRAs were compensated for all aspects of project work including trainings, research team meetings, conducting the interviews, and participating in the EAB meetings.

Training

In February 2020, we conducted an in-person study training over a period of three days in Boston, MA. Training participants included the university-based researchers and four CRAs. The training began with a dinner the night before to build rapport and trust among the AFSP research team and the CRAs. The training built upon the importance of cross-training between the community research assistants and the AFSP research team. Prior to attending, CRAs were asked to prepare training modules in areas of their own expertise. The CRAs chose to train the research team on gun culture and firearm safety. The university-based researchers trained the CRAs on research ethics, qualitative methods, and interviewing techniques, as well as practicing the informed consent process. The CRAs were trained in the basics of qualitative data analyses, data interpretation, and dissemination of findings through engagement with a Grounded Theory approach (Glaser & Strauss, 1967) to qualitative analysis. Specific attention was paid to appropriate practice for interviewing a known participant, attention to self-care of the researcher, and developing our shared practice for supporting interviewers throughout the interview process. In addition, the group developed a set of operating principles around shared decision-making and conflict resolution. Differences in approach were discussed until a consensus was reached. Lastly, the community members and AFSP research team completed the CITI Human Subjects Research Training and certification required by the university to allow for participation in research with human subjects.

Finalizing study design

The final component of our in-person meeting, which followed our training activities, was to begin the iterative process of drafting the interview procedures and interview guide. Importantly, this included the development of their personal introduction and interview script. Each interviewer worked with the team to develop a plan for how they would introduce themselves to potential participants in the recruitment and interview processes. Based on our experience with prior PAR and CBPR studies, the university-based researchers

supported the CRAs in considering how they might weigh their choices around disclosure of their own lived experiences as firearms owners and with suicide or suicide prevention, with their desires to maintain privacy and provide a sense of safety and boundaries during the interview process. These scripts are critical to the PAR process as they signal to participants that the interviewers share lived experiences. This process continued via email and video calls following the in-person training. In addition, the onset of COVID-19 necessitated an ongoing revision process as our initial plans for in-person interviews were not feasible with COVID-19 safety protocols.

First, the team brainstormed and finalized guiding research questions: 1) What are subgroup perceptions of the severity of suicide problems?; and 2) What are the barriers and facilitators for the development of prevention programs? Next, the group prioritized domains of inquiry and how best to write interview questions that were appropriate and culturally sensitive for firearm owners. First, single questions were developed and revised. Then, questions were combined into an interview guide. Drafts of the interview guide were reviewed and discussed until consensus was achieved that the interview guide was ready to be pilot tested. CRAs were then asked to first practice the interview guide by conducting one interview with another CRA to identify if additional adjustments were needed. This resulted in minimal changes to the interview guide. Lastly, the team finalized the IRB protocol.

Recruiting participants

Utilizing a PAR approach, the CRAs were responsible for developing recruitment strategies that would work in their communities, including identifying community partners such as gun clubs and gun shops. Following a discussion of the strengths and limitations of recruiting participants from existing social and professional networks during the training, the interviewers chose to develop recruitment plans building on their personal and professional connections within the firearm community. These established relationships allowed the community research assistants to recruit participants more easily than someone not immersed in the firearm community. In addition to existing relationships, the CRAs used snowball sampling, asking participants if they knew other individuals who own a firearm that may be interested in participating in the study.

Data Collection/Interviewing

Given their unique experiences as a member of the firearm community, the community research assistants worked collaboratively to create the final interview guide. Following the initial pilot testing, CRAs conducted three pilot interviews with firearms owners in their social networks to assess interview length/time and identify questions that were unclear, insensitive, or problematic. Based on this feedback, the team developed the final interview guide, which allowed for open-ended responses from the participants. Pilot interviews also allowed CRAs to practice adherence to all human subjects'

protocols and to practice and revise their introduction scripts. As noted, due to COVID-19 safety protocols all interviews were conducted via video call using HIPAA-compliant Zoom (Zoom, Version 5.8.1).

With the finalized interview guide, CRAs each completed at least 10 interviews as part of an interview team (paired with a university-based researcher). This resulted in a total of 45 interviews with firearm owners representing the three subgroups in different geographic locations between August 2020 and January 2021. A university-based researcher supported each of the semi-structured interviews conducted by the CRAs. Based on CRA guidance, we developed a protocol where the university-based researcher left their camera on during the informed consent process to answer any questions; once that was completed, the research team member informed the participant that they were turning off their camera. This helped to ensure the participant was comfortable participating in the presence of the research team member but that they were able to focus on the CRA conducting the interview. The CRAs conducted all interviews. In accordance with the Northeastern University Institutional Review Board, informed consent was obtained from all participants. The consent form was sent to the participants prior to the interview and the community interviewer reviewed and obtained informed consent from the participant at the beginning of the interview.

Data Analysis and Dissemination

The research team, including all CRAs, engaged in a group coding and analysis process that had been successfully used in prior projects (Beatriz et al., 2018). This includes the development of a coding schema, the application of codes, and the analysis of transcripts to identify emerging themes related to the study questions. First, the full research team did first-level coding of one interview transcript, identifying key text related to our research questions. These segments of text were then tagged, similar tags were grouped into codes, and code definitions were created. These codes were then applied by the group to one interview transcript in order to create the initial codebook. The creation of the codebook was an iterative process. The codebook was shared with all CRAs and virtual meetings were held to discuss it, gather feedback from the CRAs based on their experiences of having conducted the interviews, and make final revisions. The university-based researcher used NVIVO 12 (Version 12.6.1) to create the final codebook and coded the 45 transcripts. After the transcripts were coded, coding memos were completed to extract the themes and insights from the participant data to inform our understanding when developing effective, tailored suicide prevention strategies for firearm owners. Additional meetings were held with CRAs to discuss emerging findings. The EAB reconvened to discuss emerging themes, research findings, and diverse strategies for effective dissemination of study findings. Lastly, the CRAs were involved in all dissemination activities, including the development of this manuscript.

Lessons Learned

Our PAR approach to better understand firearm owners' perspectives on suicide and suicide prevention has been successful through engaging a wide range of stakeholders and experts and, in particular, engaging CRAs in all aspects of the research process. We successfully conducted 45 qualitative interviews with firearm owners from diverse geographic areas and with varying risk profiles. While we continue to analyze these data and disseminate our findings, we have grappled with several significant challenges and learned important lessons throughout this research. These lessons speak to the importance of including robust partnerships with firearms owners in the design of research aimed at preventing suicide among firearms owners.

The powerful impact of being outsiders—"gun culture"

While this work draws heavily on the principles of PAR, firearms owners were not the impetus for this study and were not involved in the initial conceptualization of the design and primary study questions. This limitation reverberated as we began our key-informant interviews and the qualitative phase of the work. Our teams have decades of experience partnering with a wide range of communities that experience marginalization, exclusion, and high levels of stigma, including people with serious mental illness, active problematic substance use, and refugee and immigrant communities. However, identifying and developing partnerships with the gun community proved uniquely challenging. While the team included diversity of lived experience related to mental health and suicide, no members were firearm owners. Further, the team were members of an academic community from an urban, private university in Massachusetts (known for having the tightest gun control laws in the country). Lastly, the team members were public mental health researchers, and many firearms owners had strong negative experiences with public health researchers and professionals. In our key-informant interviews, several described feelings that they had been treated in disrespectful ways by public health researchers.

So, our task was large, and we approached all partners, as we have done other work in harm-reduction. We explicitly stated in our introductions that this project was not about whether or not people should have access to guns, but was about partnering with people who owned firearms, a group which we know are at increased risk for death by suicide, to best understand how to reduce that risk. We talked with anyone who would speak with us, building on existing professional and personal networks and searching the internet for firearms owners and groups engaged in suicide prevention efforts. Our first key-informant interviews were with people in our own research networks. We quickly learned that we needed to identify researchers and practitioners that have already built trusted relationships within the firearm community as these relationships take time to build and sustain and the short period of grant funding would certainly not support building this from scratch. We also learned that it was crucially important to have firearm owners on the EAB. Through our connections with the collaborators already working in the

firearm community, we were able to recruit several firearm owners/community members to join the EAB. This was only possible due to the generosity of others who had built trusting relationships with the firearms owning community.

At our first EAB meeting, it became immediately apparent that our qualitative data collection plan of an academic researcher running focus groups would not work. Two primary methodological changes followed based on the feedback from that meeting. First, our advisory board suggested that as outsiders to the firearm community we were not going to be successful in collecting qualitative data ourselves. Instead, we chose to engage CRAs and have firearm owners be the ones developing and asking questions to other firearm owners—a method we had used successfully in previous work. To accomplish this, we first asked the community members on the EAB if they would be interested in being interviewers; we also identified several other geographically diverse firearm owners who became our CRAs from connections made through EAB members.

Our training was held in Massachusetts, a state with very tight legal restrictions on firearms. Here, we again learned the importance of listening to firearms owners about their experiences with and meaning of firearm ownership. As described above, the training included cross-training with our CRAs, sharing their expertise as well. Several experiences stood out for our team and have further shaped our work. First, our CRAs shared that participating in the training had been a challenge for many of them as they knew they would need to travel without their firearm, something they did not usually do. Several described feeling quite anxious being in our conference room for the day without their firearm. These experiences helped us to have greater understanding of the complex emotional components to firearms ownership. Importantly, this also helped to shape our interview guide to be sensitive to the wide range of reasons people own firearms, including personal safety related to prior experiences of community and military trauma.

As described above, we anticipated the challenge of being outsiders with little experience in "gun culture," but we underestimated the breadth and depth of this challenge. This was also heightened in part because of the socio-historical moment at the time of this study. As the COVID-19 pandemic grew, and the change in presidential leadership in the U.S. signaled possible further restrictions on access to firearms, gun sales spiked and concern over restrictions grew.

As a recent lesson from our work, we share that at our last research team meeting, we discussed this quote from CDC Director Rochelle Walensky:

> "We cannot understand the research of firearm violence, firearm injury, without embracing wholeheartedly, the firearm owning community," she added. "I really do believe that the population of people who want to own a gun doesn't want people hurt by them...I want them at the table."

We initially believed this quote signaled a positive change for inclusion of firearms owners in suicide prevention research and practice and wanted to hear what our CRAs thought about this shift. We were quickly reminded that the CDC has been highly politicized during COVID-19 due to public health measures that restrict individual liberty, and that for some members of the firearms community working on co-created suicide prevention efforts, having the CDC involved might serve as a barrier to engagement. For firearms owners who fear government intervention, involvement with the CDC might signal that the CDC could extend its authority in that sphere as well. This is clearly important work, and there is a critical role for the CDC, but this serves as a powerful reminder of the need to have many voices and perspectives involved in addressing these complex challenges. We continue to listen as members of our firearm owning community share their experience and knowledge and we were again reminded that listening, engagement, and learning is an ongoing process.

Stigma

While our team was aware of the powerful impact of stigma on research processes, we again underestimated the impact of stigma of owning firearms, in combination with fear of having guns taken away, in our initial research design. In order to reach a large number of participants, our initial research plan was to conduct several focus groups of firearm owners to gather diverse perspectives on suicide and suicide prevention. Our EAB quickly helped us to understand that focus groups were not feasible. They pointed out that owning a firearm had become highly stigmatized, for some, in the United States and raised concerns that people were not going to be willing to talk about that and suicide in a group. Our team has conducted focus groups with many people experiencing high levels of stigma including people actively using illegal substances, people living with serious mental illness, and people with precarious legal status associated with immigration status, and yet we had not anticipated that concerns about stigma and privacy would be even stronger among firearms owners. Again, based on this important feedback, we pivoted and redesigned our methods to include CRAs conducting one-on-one interviews with identified participants. Lastly, these experiences of stigma were seen among the academic community as well. Our EAB included academic researchers who shared with us that they themselves owned firearms, but this was never shared in public discussion among the EAB members. In addition, following presentations of this work, multiple academic researchers have shared with the presenter that they themselves own firearms but don't speak about it and have never told anyone in the workplace. It is only because of our approach in the presentation that they chose to share their experience and appreciation for this work to further suicide prevention.

Pivoting to virtual data collection strategies

As we finished conducting our CRAs' interviewer training in February of 2020, we were faced with the COVID-19 lockdowns. All in-person data collection was halted. We were forced to make a decision between putting the

research on hold until the restrictions were lifted or pivoting our in-person data collection methods to virtual means. Again, through our advisory board, which now included four CRAs, we learned that it was an important time to reach out to people in the firearm community around suicide and suicide prevention—not only to gain a deeper understanding of this issue and how it impacts firearm owners, but to provide support to this population as COVID-19 was both physically and mentally impacting many people. In addition, our CRAs explained that there was a spike in gun sales and many of these buyers were new firearm owners, people who had little or no experience with firearms, and that most training opportunities for safe use of firearms were not available due to COVID-19. They voiced concern for COVID-19 being a time of increased risk of death due to firearms for multiple reasons.

We reviewed existing literature on how to build rapport in virtual interviews and adopted best practices. We paid particular attention to the role of the non-firearm owning university researcher in our interviews, wanting to be fully transparent of their participation without interfering with the rapport-building allowed by the engagement with a CRA. This proved important in building trust and relationships. As one of our participants noted in explaining why they were sharing their story with the CRA, while being aware of the presence of the University based researcher, "I'm not going to tell him what I tell you." After each interview, the university-based researcher and CRA debriefed and reviewed their observations from the interview. These observational data were also used in data analyses.

We found that pivoting to virtual data collection methods allowed us to reach people across the country who we might not otherwise have been able to interview. Many of our participants shared that the virtual interview felt like they were in person and did not impact their ability to participate in the interview. We did have challenges, as two people had trouble accessing and utilizing the technology and another person had a poor Wi-Fi connection, in which case we pivoted to a phone interview.

Difficulty engaging certain firearm owner subgroups

Our quantitative data analyses identified three subgroups of firearms owners that were at greater risk for suicide. One of these subgroups were people of color, who comprised one of the high-risk groups identified in our quantitative analysis. We were not able to recruit a CRA who was a person of color as we attempted to include diverse perspectives regarding firearm suicide and prevention. Our CRAs relied on their personal relationships and snowball sampling to recruit people of color, but to no avail. There was increased attention to recruitment of this subgroup toward the end of the interviews, but there was a continued lack of interest in participating given hesitancy to participate in a research study and using a video conference software. Out of the 45 interviews completed, 5 participants were people of color. Another subgroup was firearm owners who identified as LGBTQ+. We were unable to recruit a CRA or EAB member who identified as a member of the LGBTQ+ community who owned a firearm; as we tried to recruit from this community,

we again quickly found out that we were not going to be successful in recruiting from this firearm owning subgroup without an ally or trusted connection. We were able to identify a LGBTQ+ group of firearms owners, but recruitment through their email listserv did not prove effective. We tried reaching out to diverse groups on Facebook that we learned about from the EAB and conducted a Google search. Ultimately, we were able to conduct two interviews with self-identified LGBTQ+ participants, but our lack of ability to engage partners or more participants from this subgroup must be addressed. This subgroup is at an increased risk of suicide and experiences multiple forms of stigma and exclusion. Future efforts should address this critical gap through partnerships with the LGBTQ+ firearms owning community to best co-create suicide prevention efforts.

Conclusion

In our experience, the importance of partnering with firearms owners to provide critical knowledge for the development of effective suicide prevention efforts for firearms owners cannot be understated. As researchers, we have partnered with many groups experiencing stigma, marginalization, and exclusion, yet we underestimated how these experiences shaped some firearms owners' lives. This is particularly concerning as these experiences contribute to poor mental health and suicide.

We have described the process of creating this unique PAR project and are confident that the knowledge generated from our qualitative data collection will help to address important gaps and further the development of more effective suicide prevention efforts with firearm owners. We know these practices will be more efficiently translated into practice having built these important community partnerships and urge future researchers to do the same.

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