The following procedures and interview questions were presented in **Goldstein, E.V., Sanger, A. & Hill, J.L. Firearm experiences and safe storage challenges among a sample of Black adults: a rapid qualitative analysis. Inj. Epidemiol. 12, 79 (2025). https://doi.org/10.1186/s40621-025-00634-5.** *Please see the referenced paper online for full details about the methods used in full, published format.*

METHODS – AIM 2

Study Design

This was a basic qualitative study involving semi-structured interviews and rapid qualitative analysis.[1–4] The University of Utah Institutional Review Board (IRB) approved the study protocol (IRB_00169397).

Data Generation

Semi-structured interviews were conducted by the Principal Investigator from May to October 2024. An interview guide was developed, piloted, and finalized prior to conducting the interviews. The interviews contained six core questions. The present analysis focuses on three open-ended questions to elicit participants' (1) experience with firearms, (2) rationale for firearms being in their homes, and (3) perceived challenges to safely keeping firearms their homes. The remaining questions were conceptually distinct – concerning perceptions on firearm safety counseling and injury prevention – and the subject of a companion paper. Open-ended questions were used to create space for participants to share their authentic perspectives and experiences in their own words and uncover unanticipated responses.[5] Probes were used as needed to clarify ambiguous responses and encourage participants to expand on brief answers (e.g., "Can you say a bit more about that?" "This may include challenges to storing your ammunition separately from your firearm, storing your firearm in a gun safe, or other barriers?"). The interviews were conducted telephonically to reduce barriers to participation and audio recorded with participant consent. To enhance trustworthiness,[1] the interviewer examined his

influence in this process through constant self-reflection and reflexive memo writing.[6] The purpose of these activities was to reflect on and limit any potential biases from influencing how he interacted with the participants (e.g., the use, wording, or timing of probes; mindfulness regarding his reactions) or affecting the participants' responses. For reference, the interviewer's positionality as it relates to this topic has been described elsewhere.[7]

Data Analysis

The interview audio recordings were professionally transcribed and reviewed by the interviewer for accuracy. We then followed established steps for rapid qualitative analysis.[2,3] First, we drafted three topics, each directly mapped from one of the open-ended interview questions. The purpose of the topics was to keep the analysis closely tied to the questions (and thus the study objective) in a clear and organized manner, allow the research team to efficiently summarize the interview transcripts for relevant information, and facilitate comparison across participants. Through discussion, we finalized each topic name to ensure it captured the main idea of its corresponding question. This was done to improve consistency across the multiple research team members who summarized the transcripts. Table 1 shows the interview questions and corresponding topic names.

Second, we created a Transcript Summary Template. The template contained space to deductively condense and document all relevant information shared by each participant for each topic. Third, to pilot and calibrate the Transcript Summary Template, two research team members summarized three interview transcripts. Discrepancies were discussed and resolved by consensus to ensure (1) all relevant information for each topic was identified and (2) the topics were well understood and named before summarizing the remainder of the transcripts. Fourth, one research team member summarized the remaining transcripts, while a research team member

reviewed each additional summary for accuracy using the original transcripts. Transcript summarization was done at a semantic level (i.e., describing relevant information provided by the participants rather than interpreting it).[8]

Finally, two research team members used matrix analysis techniques to identify emerging key concepts in the responses to each topic. As opposed to fully developed themes, the key concepts reflect early patterns observed across participants and serve as a useful foundation for collaborative team interpretation and dissemination. This entailed inputting all information included in the transcript summary documents into one matrix with individual columns by topic and rows for each participant. Then, by topic, the research team reviewed the matrix for recurring patterns across the summarized, relevant insights; consolidated the recurring concepts into a separate page; and discussed and named each key concept.[9] The research team shared positionality statements, wrote reflexive memos, met weekly as they summarized the transcripts and compiled the matrices. The purpose of the reflexive activities was to acknowledge their personal thoughts and reactions during data analysis, reflect on potential biases, and limit their positionality from influencing how they interpreted meaning from the subjective truths experienced by the participants.

Table 1. Interview questions and key topics

Interview Guide Question		Topic
1. Could you tell me a bit about your experience with firearms?	→	1. Experience with Firearms
2. Can you tell me about why you own a firearm or live in a home with a firearm?	→	2. Why Firearms Are in the Home
3. Can you tell me about any specific challenges or barriers you experience that prevent you from safely storing firearms in your home?	→	3. Challenges to Keeping Firearms Safe in the Home

REFERENCES

1. Merriam S, Tisdell E. *Qualitative Research: A Guide to Design and Implementation*. 4th ed. Jossey-Bass; 2016.
2. Hamilton A. Qualitative methods in rapid turn-around health services research. In: *Health Services Research & Development Cyberseminar*. 2013.
3. Taylor B, Henshall C, Kenyon S, Litchfield I, Greenfield S. Can rapid approaches to qualitative analysis deliver timely, valid findings to clinical leaders? A mixed methods study comparing rapid and thematic analysis. *BMJ Open*. 2018;8(10). doi:10.1136/bmjopen-2017-019993
4. Gale RC, Wu J, Erhardt T, et al. Comparison of rapid vs in-depth qualitative analytic methods from a process evaluation of academic detailing in the Veterans Health Administration. *Implementation Science*. 2019;14(1). doi:10.1186/s13012-019-0853-y
5. Patton MQ. *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. 4th ed. SAGE Publications; 2015.
6. Guillemin M, Gillam L. Ethics, reflexivity, and "Ethically important moments" in research. *Qualitative Inquiry*. 2004;10(2):261-280. doi:10.1177/1077800403262360
7. Goldstein E. Personal Circumstances Preceding Firearm Suicide Death Among Black Adults in the United States. *J Racial Ethn Health Disparities*. 2024;11.
8. Miles MB, Huberman AM, Saldana J. *Qualitative Data Analysis: A Methods Sourcebook*. 3rd ed. Sage Publications; 2014.
9. Averill JB. Matrix analysis as a complementary analytic strategy in qualitative inquiry. *Qual Health Res*. 2002;12(6). doi:10.1177/104973230201200611