DATASET NOTES AND PROCEDURES

DATA

The deidentified, summarized data provided in this dataset were generated from data accessed through the National Violent Death Reporting System (NVDRS) Restricted Access Database (RAD)[1] on Black adult firearm suicide decedents from 2013-2021 through an approval process managed by the Centers for Disease Control and Prevention (CDC). Requests to access the NVDRS RAD data must be made directly to the CDC NVDRS program following the program's current data request procedure and data use policies. No individual decedent data can be shared through this repository.

For informational purposes, the NVDRS program links data from vital records and investigative reports from coroners/medical examiners (CME) and law enforcement (LE) to compile comprehensive incident-level data on violent deaths from all 50 states. The NVDRS contains demographic, mortality, circumstance, and weapon information, as well as unstructured, free-text CME and LE narratives that the NVDRS program summarizes from interviews of persons close to each death. These records are linked to additional data sources, including toxicology and medical information, where available.

SAMPLE

The deidentified, summarized data provided in this dataset were generated from a study sample of 843 adult firearm suicide decedents who died from 2013-2021. The decedents included in the study sample were aged 18+ at the time of death. Following a probability sampling approach, a 10% simple random sample of decedents were selected without replacement from all Black adult firearm suicide decedents included in the NVDRS over the study period. The representativeness of the study sample was assessed by testing the balance of eight covariates between the study sample and population using χ^2 goodness of fit and *t* tests. As expected, given a population size of 8,434 decedents, the 10% random sample closely mirrored the characteristics of the full population of available decedents, making it suitable for drawing inferences about Black adult firearm suicide decedents over the study period. The study sample was demographically, temporally, and geographically representative of all Black adult firearm suicide decedents in the US included in the NVDRS from 2013-2021 (i.e., by age, sex, ethnicity, educational status, marital status, military veteran status, death year, and geographically). The

decedents were identified using the NVDRS program's thorough process for determining suicide – which standardizes manner of death designations from death certificates and CME investigations across many different jurisdictions – and standardized information on the weapon resulting in each death (i.e., firearm).[1] The study was deemed non-human subjects research using deidentified data on deceased persons only and did not require approval from the University of Utah Institutional Review Board.

DATA ANALYSIS

The deidentified, summarized data provided in this dataset were generated from a basic, interpretive qualitative study[2] focused on describing the personal circumstances Black adults experienced in their interactions with their social worlds prior to firearm suicide death, as summarized through the CME and LE narratives. The free-text CME/LE narrative was the unit of analysis, and the CME/LE narratives were analyzed for the 843 decedents included in the study. Because the etiology of firearm suicide is understudied among Black adults, a predetermined list of circumstances was not used to code the narratives. Instead, the author immersed himself in the data and used an inductive process to review, code, and categorize recurring personal circumstances that preceded firearm suicide death as they were documented in the free-text data. This process allowed emergent themes to arise from the data itself. The analysis was conducted at a semantic level[3,4] to enhance the credibility of the findings and stay as true as possible to the decedents' experiences without extrapolating beyond the NVDRS abstractors' reporting of each death.

The analysis began with an initial cycle of open coding, during which the data were broken down to identify personal circumstances preceding the firearm suicide deaths. Through this first coding cycle, circumstances were categorized using descriptive and in vivo codes.[5] The descriptive codes allowed for parsing, summarizing, and indexing circumstances as they occurred in the data, while the in vivo – or "verbatim" – codes allowed for indexing actual phrases and language found in the narratives, thus honoring the decedents' voice in the analysis.[5] A codebook containing definitions (e.g., inclusion/exclusion criteria) and examples for each code was created at the beginning of the first coding cycle. New data were constantly compared with previously coded data throughout this cycle to identify similarities, differences, and emerging patterns.[6] Coding and analytic insights were documented through memos at the end of each

coding session and whenever new insights emerged, new codes emerged, or existing codes were combined or redefined.[7] An audit trail was maintained to document the redefinition or combination of any similar codes throughout this process.[3] This process helped refine and expand the codebook throughout the first coding cycle.

The analysis continued with a second coding cycle, during which the circumstances were organized into major categories using a focused coding process.[5,8] This process included five steps. First, two "code landscaping" techniques were used to visualize the descriptive and in vivo codes from the first coding cycle and build connections across the decedents included in the study.[5] One technique involved generating word clouds to inspect the commonality of the codes that emerged over the whole corpus of CME/LE data (i.e., more frequent circumstances represented by larger font sizes). Another technique involved mapping the co-occurrence of each first-cycle code with each other code in the data. These techniques provided insight into which codes were salient among the decedents, as well as initial commonalities and relations among the codes. Second, all analytic memos from the first coding cycle were reviewed. These memos included insights about categorical patterns in the data and any relationships that emerged among the circumstances present in the narratives. Third, the CME/LE narratives were re-reviewed across the decedents to assess the comparability of specific circumstances within the emergent categories. Fourth, to enhance credibility and trustworthiness, major circumstance categories were triangulated[2,9] with previously coded NVDRS data – when possible, e.g., validating the occurrence of known mental health conditions – and insights from the academic literature. Fifth, alternative categorization schemes were brainstormed, and counterexamples[10] were explored with less commonly co-occurring first-cycle codes. Codes that were not cross-referenced enough to fit into larger categories were either further combined or eliminated from this analysis stage. Data were coded and organized using Dedoose Version 9.2.6.

Finally, once the major categories were coded and reflected upon, the analysis moved back and forth between description and interpretation, taking a reductionist approach to develop three-to-five major themes that best convey the author's interpretations of the recurring and salient personal circumstances that precede firearm suicide death among Black adults in the US.[4,5,11,12]

THEMATIC CASE EXAMPLES USING COMPOSITE NARRATIVES

The NVDRS RAD is a de-identified, case-level dataset. The data are stored without personally identifiable information in a secure national database maintained by CDC. That said, incident narrative text may hypothetically identify a decedent in the instance of deaths that were high-profile or well-known to a community or individuals familiar with the decedent. Following guidelines provided by the NVDRS program and to further protect the identities of the decedents included in this analysis, any example of narrative text (i.e., "exemplary quotes") the CME/LE data shown in this dataset has been anonymized through a process that omits/reconstructs specific details and combines salient information from multiple decedents that share circumstances that overlap thematically in the form of a composite narrative. Furthermore, gender-neutral descriptions have been used for any decedents described in the composite narratives. No individual narrative is referenced directly on its own.

For further information about the processing and publication of the deidentified, summarized data provided in this dataset, please see: **Goldstein EV. Personal Circumstances Preceding Firearm Suicide Death Among Black Adults in the United States. Journal of Racial and Ethnic Health Disparities. 2024 Sep 9:1-4.**

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