Health Outcomes Among Individuals Who Experienced the Fatal Drug Overdose of a Family Member or Significant Person: A Scoping Review Protocol

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Abstract

Objective: The objective of this scoping review is to identify and map the existing evidence on health outcomes reported among individuals who have experienced the drug overdose death of a family member or significant person, across any age group, setting, or geographic context.

Introduction: More than one million people in the United States have died of drug overdose since 1999. As a result, more than one in eight U.S. adults report that an overdose death has disrupted their life. Bereavement is an established health exposure associated with psychiatric morbidity, physiological dysregulation, and excess mortality, yet almost none of that evidence has focused specifically on individuals who have experienced an overdose death. The stigma, disenfranchised grief, and prolonged pre-death strain that often accompany overdose loss suggest that health outcomes in this population may differ from those following other deaths, but the health outcomes examined among individuals bereaved by overdose have not been systematically mapped.

Methods: The review will follow JBI methodology and be reported using PRISMA-ScR. A search strategy developed with an informationist will be applied to PubMed, Embase, APA PsycINFO, CINAHL, Scopus, and ProQuest Dissertations & Theses Global, supplemented by citation and grey literature searching. At least two reviewers will independently screen and extract data using Covidence. Results will be presented in tabular and mapped form with a narrative synthesis.

*Keywords***:** overdose, bereavement, health outcomes

Introduction

Drug overdose is among the most consequential causes of preventable death in the United States (U.S.). More than 1.1 million people have died of a drug overdose since 1999 (Centers for Disease Control and Prevention [CDC], 2024), and overdose remains a leading cause of death for adults aged 18–44 (Ahmad et al., 2026). After several years of sustained increase, overdose mortality has now declined for three consecutive years: an estimated 80,391 people died of drug overdose in 2024, a 26.9% decrease from the 110,037 deaths estimated for 2023 (CDC, 2025). Similar losses are documented internationally, although surveillance systems and case definitions vary widely, and drug-induced death indicators are not directly comparable across jurisdictions (European Union Drugs Agency, 2025; Public Health Agency of Canada, 2025; Penington Institute, 2024; World Health Organization, 2023). Encouraging as the recent U.S. decline is, it does nothing to reduce the accumulated population of people already bereaved by these deaths, which continues to grow each year.

Approximately 42% of U.S. adults personally know someone who has died of a drug overdose, and more than one in eight report that such a death disrupted their own life (Athey et al., 2024). In a separate national survey, 32% of U.S. adults (an estimated 82.7 million people) reported knowing someone lost to overdose, and 18.9% (approximately 48.9 million) reported losing a family member or close friend (Kennedy-Hendricks et al., 2024). The burden extends across generations: an estimated 321,566 U.S. children lost a parent to drug overdose between 2011 and 2021, with rates more than doubling over that period and falling most heavily on non-Hispanic American Indian and Alaska Native children (Jones et al., 2024). In addition, more than 1.4 million U.S. children had lost some family member to overdose as of 2019 (Verdery et al., 2024). No validated estimate currently exists of how many people are affected by each overdose death. In suicide bereavement, each death is estimated to expose approximately 135 people who knew the decedent (Cerel et al., 2019), suggesting that the number of people affected by each overdose death may likewise be substantial.

Bereavement is not only a psychosocial experience but a health exposure. Generally, bereavement is associated with excess morbidity, increased use of medical services, and elevated mortality, particularly in the months immediately following the death (Stroebe et al., 2007). The death of a significant person is associated with a sharp, transient increase in acute myocardial infarction risk (Mostofsky et al., 2012), and partner bereavement is associated with elevated acute cardiovascular events (Carey et al., 2014). Grief severity tracks systemic inflammation (Schultze-Florey et al., 2012) and alterations in immune function (O'Connor, 2019), and complicated grief has been linked to disrupted diurnal cortisol and other markers of hypothalamic–pituitary–adrenal axis dysregulation (Buckley et al., 2012). Sleep disturbance is among the most common and persistent features of bereavement and is closely associated with complicated grief (Lancel et al., 2020). To our knowledge, however, none of this physiological evidence has focused specifically on individuals bereaved by overdose. What is known about the biology of grief has been established largely in samples bereaved by the death of a spouse or natural causes such as cancer, deaths that are typically less stigmatized than overdose.

There is good reason to question whether findings from these populations generalize to overdose bereavement. Overdose bereavement is widely described as disenfranchised grief, in which the loss is not fully acknowledged or socially supported (Doka, 2002; Valentine et al., 2016). Bereaved family members report public and internalized stigma, blame, and the sense that their significant person’s death is regarded as less worthy of mourning (Dyregrov & Selseng, 2022; Stout & Fleury-Steiner, 2023). Stigma can compel secrecy and concealment, including withholding the cause of death from children, which further constrains access to support (Stout & Fleury-Steiner, 2023). Many families experience years of caregiving strain, relational conflict, and anticipatory loss before the death, a state described as "constant preparedness" (Titlestad et al., 2021b). Notably, comparisons between adults bereaved by overdose and those bereaved by suicide have found no significant differences in overall stigmatization, guilt, or shame, but have identified pre-death exposures as distinctive predictors

of these responses among overdose-bereaved adults, including the frequency of the decedent's substance use, family substance use severity, and interpersonal conflict (Bottomley et al., 2023). Each of these pre- and post-loss experiences is a plausible pathway to poorer health, whether through chronic stress, reduced help-seeking, disrupted sleep, or substance use as a coping response. Whether these pathways are reflected in the health of those bereaved by overdose, and what has examined, remains to be established.

Three features of the field shape the design of this review. The first is terminology. Sources may refer to overdose death, drug poisoning, drug-related death, drug death, or substance-related death, with or without specifying intent. These terms are not equivalent. The broader categories can encompass alcohol poisoning, deaths from chronic substance-attributable disease, and injury deaths occurring during intoxication, each carrying a different circumstance of death, a different degree of anticipation, and potentially a different stigma profile for those left behind. How the exposure has been defined in studies of health outcomes is therefore itself a question this review will address.

The second is measurement. Where a construct has more than one instrument, the instruments are not interchangeable: prolonged grief, for example, is operationalized under competing diagnostic criteria and measured with several distinct scales, which do not yield equivalent estimates from the same sample. Which instruments, versions, and thresholds this literature has used, and whether studies are measuring comparable constructs, is not known, and charting it is part of what this review sets out to do. The same applies to the designs, samples, and comparison groups on which the evidence rests.

The third is that what evidence exists is predominantly self-reported. The one existing synthesis of drug-death bereavement drew on predominantly qualitative and questionnaire-based studies (Titlestad et al., 2021a), and, apart from a small number of registry-based studies, we are aware of no work measuring physiological outcomes in this population. This matters for what can be asked next: self-report cannot capture inflammation, neuroendocrine

function, objectively measured sleep, or cardiovascular change, processes documented in other bereaved populations that can precede clinically apparent disease. Whether overdose bereavement is accompanied by the same, fewer, or greater physiological changes has not, to our knowledge, been established.

Review-level attention to this population has so far focused on questions other than health outcomes. Titlestad and colleagues (2021a) synthesized eight predominantly qualitative studies on how family members experience drug death bereavement, mapping lived experience, stigma, and support rather than health outcomes or the ways they have been measured. Reime and colleagues (2022) examined the experiences of professional helpers rather than of the bereaved individuals themselves. A registered Campbell evidence and gap map addresses bereavement interventions for children and adolescents across all causes of death (Rodriguez et al., 2025), and our own companion review maps interventions developed specifically for overdose-bereaved individuals (Schilt-Solberg et al., 2025). Each of these takes as its object either the experience of the loss or the response to it; none ask what becomes of the health of those individuals left behind. Searches of the major evidence synthesis databases and prospective review registers confirmed that no review addressing this question has been published or is currently underway. The impetus for the present review came from screening for a companion review, during which the team repeatedly encountered studies reporting health outcomes that fell outside that review's scope — enough of them, and scattered across enough disciplines, to suggest a literature that had never been assembled.

A scoping review is the appropriate method to map the breadth of health outcomes examined following overdose bereavement, the methods used to assess them, and gaps in the existing evidence. These are mapping questions rather than questions of effect estimation (Peters et al., 2020, 2024). The search and eligibility criteria are therefore deliberately broad with respect to study design and publication type. By charting what has been studied, in whom,

using what measures, and with what gaps, this review will provide the empirical foundation for subsequent hypothesis-driven and physiologically-informed research on overdose bereavement.

Objective

The objective of this scoping review is to identify and map the existing evidence on health outcomes (Concept) reported among individuals who have experienced the death of a family member or significant person due to drug overdose (Participants), across any age group, setting, or geographic context (Context).

Review Question

The primary review question is: What health outcomes have been reported among individuals who have experienced the drug overdose death of a family member or significant person?

Inclusion Criteria

Participants

This review will consider studies that include individuals of any age, including children, adolescents, young adults, adults, and older adults, who have experienced the death of a family member or significant person by drug overdose. Family members will be defined broadly to include biological, adoptive, step, foster, and chosen kin, encompassing parents, children, siblings, spouses and domestic partners, grandparents, and extended family. A significant person will be defined as an individual whom the source identifies as having had a close personal relationship with the decedent outside these family roles, such as a close friend, a dating or intimate partner not described as a spouse or domestic parter, or an unrelated caregiver. Because these categories can overlap (e.g., a close friend may be described as chosen kin), eligibility will not depend on the distinction, and relationship to the decedent will be extracted as reported by the source. The terms bereaved and overdose-bereaved are used in this protocol descriptively, to denote having experienced the death, without presuming any

particular emotional response responses such as relief or ambivalence are recognized, and grief is treated as one possible outcome rather than a defining feature of the population.

Studies will be excluded where exposure to the death was solely professional or occupational (for example, first responders, clinicians, or harm reduction workers) unless the individuals were also bereaved of a family member or significant person; where exposure to death was at the community or population level without a close personal relationship to the decedent; and where data are reported only for decedents rather than for surviving individuals.

Concept

The concept of interest is health outcomes among overdose-bereaved individuals. For the purposes of this review, a health outcome is defined as any physical, mental, behavioral, or physiological state, symptom, condition, diagnosis, biomarker, or health service outcome experienced by the bereaved individual and reported in relation to the death. Eligible outcome domains include, but are not limited to: (a) grief-related outcomes, including prolonged grief disorder, complicated grief, and grief severity; (b) mental health outcomes, including depression, anxiety, posttraumatic stress, suicidal ideation and behavior, psychiatric diagnoses, and psychotropic medication use; (c) substance use outcomes, including initiation, escalation, relapse, and substance use disorder involving alcohol, tobacco, cannabis, opioids, or other substances; (d) sleep outcomes, whether self-reported or objectively measured; (e) physical health outcomes, including somatic symptoms, pain, chronic conditions, cardiovascular events, self-rated health, and functional status; (f) physiological outcomes, including inflammatory markers, cortisol and other indices of hypothalamic–pituitary–adrenal axis function, heart rate variability, immune parameters, and epigenetic markers (e.g., DNA methylation, epigenetic aging); (g) health service outcomes, including utilization, prescribing, hospitalization, and unmet health need; and (h) mortality.

Qualitative sources will be eligible where participants describe effects of the loss on their own health, including self-described changes in mental health, substance use, sleep, or physical

wellbeing. Educational and academic outcomes, employment and financial outcomes, housing, legal and justice system involvement, and purely social outcomes such as social support, loneliness, and social functioning will not be extracted as outcomes; where these are reported alongside eligible health outcomes, they will be noted as contextual or correlate variables only. Stigma will likewise be treated as a correlate or proposed mechanism rather than as a health outcome.

Specification of the exposure

Eligible sources must describe a death attributed to drug overdose, defined as acute poisoning by one or more illicit or prescription drugs, alone or in combination with alcohol. Deaths described as drug poisoning are treated as equivalent. Where sources use International Classification of Diseases, 10th Revision (ICD-10) coding, these deaths correspond to underlying cause-of-death codes X40–X44 (unintentional), X60–X64 (intentional self-poisoning), X85 (assault), and Y10–Y14 (undetermined intent), with multiple-cause codes T36–T50 identifying the drugs involved. Deaths of any intent are eligible, and the intent classification used by each source will be extracted so that findings can be described by intent where sources permit.

Alcohol is treated according to how these deaths are classified. Where alcohol is involved alongside a drug, the death is generally assigned an underlying cause of drug poisoning, with alcohol captured as a contributing (multiple-cause) code, and is counted as a drug overdose death in national surveillance; such deaths are eligible, and alcohol involvement will be extracted. Poisoning by alcohol alone carries its own underlying-cause codes (X45, X65, Y15), falls outside drug overdose counts, and is excluded.

Also excluded are deaths from chronic sequelae of substance use, for example alcohol-related liver disease or infective endocarditis, and deaths occurring indirectly during intoxication, for example motor vehicle crash, drowning, or other injury. Sources using broader terminology, such as drug-related death, drug death, or substance-related death, and sources reporting

overdose alongside other causes of death, are eligible only where overdose deaths, overdose-bereaved participants, or overdose-specific data can be identified and extracted. Where they cannot, the source will be excluded and the frequency of such exclusions reported as a finding.

Context

This review will consider sources from studies conducted in any geographic location and any sociocultural or health system context, including high-, middle-, and low-income countries. Any setting will be eligible, including community, clinical, inpatient, primary care, school, home, residential, correctional, faith-based, and online or virtual settings. Settings are not mutually exclusive; a source may be classified under more than one setting, and all applicable settings will be recorded. No restriction will be placed on publication date. Only sources published in English will be included, and sources excluded on the basis of language will be recorded and reported.

Types of Sources

Because this review aims to map the extent and type of evidence on health outcomes among people bereaved by drug overdose, eligibility will be determined by whether a source reports original data on overdose-bereaved individuals, not by study design. Eligible quantitative sources will include prospective and retrospective cohort studies, case-control studies, cross-sectional studies, studies using registry or administrative data, and case series and case reports. Experimental and quasi-experimental studies (randomized and non-randomized controlled trials) will be eligible on the same terms.

Qualitative studies from any methodological tradition will be eligible, including phenomenology, grounded theory, ethnography, qualitative description, narrative inquiry, and participatory designs. Mixed methods studies will be eligible where quantitative or qualitative data relevant to the review question can be extracted.

Grey literature will be considered, including doctoral dissertations and master's theses, conference proceedings and abstracts, government and non-governmental organization reports,

and preprints. Where a conference abstract or other brief source lacks sufficient detail to determine eligibility or to extract outcome data, the reviewers will search for a corresponding full publication and contact the authors; sources that remain insufficient will be excluded at full-tyext review, with the reason recorded. Intervention studies will be eligible where health outcomes are reported among bereaved participants; sources common to this review and to our companion review of interventions for overdose-bereaved individuals will be identified and reported, with the two reviews addressing distinct questions of the same evidence base.

Systematic reviews, scoping reviews, rapid reviews, meta-analyses, and evidence and gap maps will be excluded, although their reference lists will be hand-searched to identify eligible primary sources. Editorials, commentaries, opinion pieces, letters without primary data, book reviews, and sources not reporting original data on bereaved individuals will also be excluded.

Table 1. Inclusion and Exclusion Criteria

Criterion	Specification
Participants (P)	• Individuals of any age: children, adolescents, young adults, adults, older adults • Bereaved of a family member (biological, adoptive, step, foster, or chosen kin) or significant person (e.g., close friend, intimate partner, unrelated caregiver) • Excludes solely professional/occupational exposure and community-level exposure without a close relationship • Excludes sources reporting only on decedents
Concept (C)	• Any physical, mental, behavioral, or physiological health outcome, including grief-related, mental health, substance use, sleep, physical health, physiological/biomarker, health service, and mortality outcomes • Qualitative sources eligible where participants describe health effects of the loss • Excludes educational, employment, financial, housing, and legal as outcomes of interest
Exposure specification	• Death attributed to drug overdose or drug poisoning (acute poisoning by one or more illicit or prescription drugs, including alcohol in combination with another drug; ICD-10 X40–X44, X60–X64, X85, Y10–Y14)

Criterion	Specification
	• Broader terminology (drug-related, drug, or substance-related death) eligible only where deaths are overdose deaths or overdose-specific data are extractable • Excludes deaths from alcohol poisoning alone, deaths from chronic sequelae of substance use, and injury deaths occurring during intoxication • Excludes sources in which overdose-specific data cannot be disaggregated • Deaths of any intent eligible (unintentional, intentional self-poisoning, assault, undetermined); intent classification extracted where reported
Context (C)	• Any geographic location and sociocultural or health system context • Any setting, including community, clinical, school, home, residential, correctional, and online (not mutually exclusive)
Types of sources	• Experimental and quasi-experimental designs • Analytical and descriptive observational designs, including registry and administrative data studies • Qualitative and mixed methods studies • Grey literature: dissertations and theses, conference proceedings and abstracts, organizational and government reports, preprints • Intervention studies reporting health outcomes among bereaved participants • Excludes reviews of any type, editorials, commentaries, opinion pieces, and letters without primary data
Timeframe	• No publication date restriction
Language	• Sources published in English only; sources excluded for language will be recorded and reported

Methods

This scoping review will be conducted in accordance with the JBI methodology for scoping reviews (Peters et al., 2020, 2024) and will be reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR; Tricco et al., 2018). Any deviations from this protocol will be reported and justified in the corresponding section of the completed review.

Search Strategy

The search strategy has been developed in collaboration with an informationist at the University of Michigan Taubman Health Sciences Library and will follow the three-step process

recommended by JBI. First, a limited initial search of PubMed was undertaken to identify relevant sources, and the text words contained in the titles and abstracts of retrieved records, together with the index terms assigned to them, were used to develop a full search strategy. Second, the full strategy, including all identified keywords and index terms, will be adapted to the syntax and controlled vocabulary of each information source. Third, the reference lists of all included sources will be screened for additional eligible sources, and forward/backward citation searching will be conducted in Scopus. The following databases will be searched: PubMed, Embase, Scopus, CINAHL Complete, PsycINFO, Family & Society, Web of Science, and ProQuest Dissertations and Theses.

Because the health outcomes of interest span a broad and inconsistently indexed range of constructs, the primary strategy will combine a bereavement concept with an overdose or drug death concept without an outcome filter, in order to maximize sensitivity. An outcome facet has been developed and is presented in Appendix I for reference and for use in supplementary or precision-limited searches. A full draft strategy for PubMed is presented in Appendix I; strategies for all databases will be reported in full in the completed review. Searches will be re-run prior to final synthesis if more than six months have elapsed since the original search, and any additional eligible sources will be incorporated.

Study Selection

Following the search, all identified records will be collated and uploaded into Covidence (Veritas Health Innovation, Melbourne, Australia), where duplicates will be removed. Titles and abstracts will be screened independently by two reviewers against inclusion criteria (MASS and CG). Discrepancies will be resolved through discussion and input from the third author.

Potentially relevant sources will be retrieved in full, and their citation details imported into Covidence. The full text of selected citations will be assessed in detail against the inclusion criteria by the same two independent reviewers. Reasons for exclusion of full-text sources will be recorded and reported. Any disagreements arising at either stage of the selection process

will be resolved through discussion or, where consensus cannot be reached, by a third reviewer. Where necessary information is missing or unclear, study authors will be contacted for clarification. The results of the search and the source selection process will be reported in full in the completed review and presented in a PRISMA-ScR flow diagram (Tricco et al., 2018).

Data Extraction

Data will be extracted from included sources in duplicate by at least two independent reviewers (MASS and CG, with additional team members as needed), using a data extraction instrument developed by the reviewers and built within Covidence. The instrument is presented in Table 2, with the full field-level draft in Appendix II. Extracted data will include specific details about participant characteristics, exposure definition, health outcomes and their measurement, study context, study methods, and key findings relevant to the review questions.

The draft instrument will be piloted independently by two reviewers on five included sources selected to span design types, and will be modified and revised as necessary during the process of extracting data from each included source. All modifications will be detailed in the completed review. Any disagreements arising between the reviewers will be resolved through discussion or with a third reviewer. Where required data are missing or unclear, authors of the source will be contacted to request additional information. If no response is received after two contact attempts over four weeks, the information will be recorded as not reported.

Table 2. Data Extraction

Domain	Data to be extracted
Core source characteristics	• Author(s), publication year, country/countries of data collection • Source type (peer-reviewed article, dissertation or thesis, conference proceeding or abstract, organizational or government report, preprint) • Study aim and research question(s) • Funding source and declared conflicts of interest • Whether the source is also included in the companion interventions review
Study design and methods	• Study design (e.g., cohort, cross-sectional, case-control, registry/administrative, qualitative, mixed methods, intervention study)

Domain	Data to be extracted
	• Sampling and recruitment approach (e.g., convenience, support organization, clinical, registry, national panel, snowball) • Study setting • Number and timing of assessment points; length of follow-up • Comparison group, if any (non-bereaved, bereaved by other cause, normative or population reference data, none) • Analytic approach; covariates adjusted for • Theoretical or conceptual framework (if stated) • Response rate and attrition (if reported)
Population (P)	• Sample size (N; analytic N for each outcome where different) • Age (mean, SD, range) and age category (children, adolescents, young adults, adults, older adults) • Gender and/or sex distribution • Race, ethnicity, and Indigenous identity as reported • Relationship to the decedent (parent, child, sibling, partner/spouse, grandparent, extended family, significant person, other) • Socioeconomic indicators and urban/rural/suburban residence • Whether participants themselves use substances or have a substance use disorder • History of caregiving for the decedent prior to the death • Study's own inclusion and exclusion criteria
Exposure specification	• Terminology used by the source (overdose death, drug-poisoning, drug-related death, drug death, substance-related death, other) • How the cause of death was ascertained (self-report, death certificate, registry, coroner/medical examiner, clinical record), including ICD-10 codes, if reported • Intent classification (unintentional, intentional self-poisoning, assault, undetermined, not specified) • Substance(s) involved in the death, if reported • Whether overdose deaths were reported separately from other causes of death, or combined with them such that overdose-specific data cannot be separated • Time since death at assessment (mean, SD, range; eligibility window) • Whether the participant witnessed, discovered, or responded to the overdose • Number of overdose losses experienced (single or multiple), if reported
Concept (C): health outcomes	• Outcome domain (grief-related; mental health; substance use; sleep; physical health; physiological/biomarker; health service use; mortality; other) • Specific outcome(s) as named by the source • Measure or instrument used, including version and language

Domain	Data to be extracted
	• Scoring, cut-point, or diagnostic threshold applied, and diagnostic framework (if reported; e.g., DSM-5-TR, ICD-11) • Data source for the outcome (self-report, informant report, clinician assessment, registry or claims, biospecimen, wearable or device, polysomnography) • Timing of outcome measurement relative to the death • Whether the outcome was a primary or secondary aim of the source
Context (C)	• Geographic and sociocultural context • Health system, policy, and service availability context as described • Setting in which participants were located (community, clinical, school, home, residential, correctional, online) • Targeted, underserved, or minoritized populations (e.g., LGBTQ+, racial and ethnic minoritized groups, rural, Indigenous, low-income) • Access to, use of, or barriers to bereavement or health services as described
Findings	• Quantitative: prevalence or point estimates with measures of dispersion; effect sizes with confidence intervals; statistical significance; direction of association; unadjusted and adjusted results • Qualitative: health-related themes, categories, and author-reported interpretations, summarized in the reviewers' own words • Mixed methods: integration approach and integrated findings • Subgroup findings by relationship to decedent, age, gender, race and ethnicity, or time since death • Findings reported as null or non-significant
Author-reported limitations and recommendations	• Limitations identified by the source authors • Gaps and future research directions identified by the source authors • Implications for practice or policy identified by the source authors

Critical Appraisal

Consistent with JBI guidance for scoping reviews, formal critical appraisal of individual sources of evidence will not be conducted (Peters et al., 2024). The purpose of this review is to map the extent, range, and nature of the available evidence and to identify gaps, rather than to synthesize effect estimates or make recommendations for practice contingent on study quality. Methodological features that bear directly on the interpretation of the evidence base, including

study design, sampling frame, presence and type of comparison group, sample size, measurement approach, and time since death, will nonetheless be extracted and described, so that readers can judge the strength and limitations of the literature being mapped.

Outcomes and Prioritization

The primary aim of this scoping review is to identify and describe the health outcomes that have been examined among individuals bereaved by drug overdose, and the way those outcomes have been defined and measured. Accordingly, the existence, breadth, and measurement of health outcomes across domains are considered the primary outcomes of interest.

Where available, information on the direction and magnitude of association between overdose bereavement and health outcomes will also be collected, together with the correlates and predictors examined. These data will be used to describe what the current evidence suggests and, equally, where estimates are absent, imprecise, or limited by the study designs represented.

As this is a scoping review, outcomes will not be weighted or prioritized hierarchically. They will instead be used to map the breadth and depth of the existing evidence and to identify gaps for future research.

Data Analysis and Presentation

Given the anticipated heterogeneity in exposure definition, study design, population, and outcome measurement, no meta-analysis will be conducted. Extracted data will first be summarized descriptively using frequency counts and proportions, characterizing the evidence base by year of publication, country, source type, study design, sampling frame, population age group and relationship to the decedent, exposure terminology, outcome domain, and measurement instrument.

Results will be presented in tabular form, with a summary table of all included sources and separate tables organized by health outcome domain. An evidence map will be produced

cross-tabulating outcome domain against population age group and study design, in order to display concentrations and absences of evidence visually. Where sufficient sources exist within a domain, a summary of reported estimates will be tabulated without pooling. A separate table will document how each source specified the cause of death, in order to quantify how often overdose deaths are combined with other substance-related deaths across the literature.

Qualitative findings will be categorized using basic qualitative content analysis and mapped to the same outcome domains used for quantitative findings, allowing convergences and divergences between self-described and measured health effects to be described. All findings will be reported in the reviewers' own words rather than through extended verbatim quotation.

A narrative summary will accompany the tabulated and mapped results and will describe how the results relate to the review objective and questions. The narrative will explicitly identify gaps in the evidence base, including populations, outcome domains, geographic contexts, study designs, and measurement approaches that are underrepresented or absent.

Supplementary Information

Appendix I presents the draft search strategy. Appendix II presents the draft data extraction instrument.

Funding

This scoping review is not funded.

Declarations

The authors are committed to equity, diversity, and inclusion in the conduct and reporting of this review. Consistent with that commitment, the review will explicitly extract and report the representation of minoritized and underserved populations across the evidence base, including racial and ethnic minoritized groups, Indigenous populations, LGBTQ+ populations, rural populations, and low-income populations, and will report where such representation is absent. The authors further recognize that individuals bereaved by overdose have historically

been marginalized within both bereavement research and substance use research, and the review is undertaken in part to make that population visible within the health sciences literature.

Conflicts of Interest

The authors have no conflicts of interest to report.

Current State of Review

At the time of protocol submission, the search strategy has been drafted in collaboration with the informationist and is being finalized. Screening has not yet commenced.

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Appendix I: Draft Search Strategy

PubMed

1.
"Adaptation, Psychological"[Mesh] OR "Bereavement"[Mesh] OR "emotional adjustment"[tiab] OR "post-traumatic growth"[tiab] OR "posttraumatic growth"[tiab] OR bereave*[tiab] OR coping[tiab] OR grief[tiab] OR griev*[tiab] OR mourn*[tiab] OR survivorship[tiab]
251953

2.
"Drug Overdose"[Mesh] OR "drug death*"[tiab] OR "drug fatalit*"[tiab] OR "drug-related death*"[tiab] OR overdos*[tiab] OR postoverdose*[tiab]
42719

1 AND 2 223 results

Appendix II: Draft Data Extraction Instrument

The instrument below expands Table 2 into field-level detail and will be built in Covidence. It will be piloted independently by both reviewers on five included sources spanning design types and revised as necessary; all modifications will be reported in the completed review.

Section	Fields
Section 1. Identification	• Covidence ID; first author; year; title; journal or source; DOI or URL • Source type: peer-reviewed / dissertation or thesis / conference proceeding or abstract / report / preprint • Country or countries of data collection; language of publication • Funding source; declared conflicts of interest • Also included in companion interventions review: yes / no
Section 2. Design and methods	• Study aim, summarized in the reviewer's own words • Design: RCT / non-randomized trial / before-and-after / interrupted time series / prospective cohort / retrospective cohort / case-control / analytical cross-sectional / descriptive cross-sectional / case series / case report / registry or administrative / qualitative / mixed methods • Qualitative approach, if applicable: phenomenology / grounded theory / ethnography / qualitative description / narrative / participatory / other • Recruitment source: support or advocacy organization / clinical service / registry / national panel / social media / snowball / other • Setting; number of assessment points; follow-up duration • Comparison group: none / non-bereaved / bereaved by suicide / bereaved by other sudden death / bereaved by natural death / population norms / other • Analytic approach; covariates adjusted; handling of missing data • Theoretical or conceptual framework, if stated • Sample size; response rate; attrition
Section 3. Participants	• Age: mean, SD, range; age category (child <13 / adolescent 13–17 / young adult 18–25 / adult 26–64 / older adult 65+; mixed) • Gender and/or sex distribution as reported • Race, ethnicity, and Indigenous identity as reported • Relationship to decedent: parent / child / sibling / spouse or partner / grandparent / extended family / significant person (close friend, intimate partner, unrelated caregiver, other) • Socioeconomic indicators; education; employment; urban, suburban, or rural residence • Participant's own substance use or substance use disorder status, if reported • Caregiving history prior to the death, if reported • Study's own inclusion and exclusion criteria

Section	Fields
Section 4. Exposure	• Terminology used: overdose death / drug poisoning / drug-related death / drug death / substance-related death / drug-induced death / other • Ascertainment: self-report / death certificate / registry linkage / coroner or medical examiner / clinical record / not stated • Intent: unintentional / intentional / undetermined / mixed / not stated; ICD-10 codes, if reported • Substance(s) involved, if reported • Overdose deaths reported separately from other causes: yes / no / partially • If not separately reported, reason for exclusion or for inclusion of extractable subgroup • Time since death: eligibility window; mean, SD, range at assessment • Participant witnessed, discovered, or responded to the overdose: yes / no / not stated • Number of overdose losses experienced: single / multiple (number, if reported) / not stated
Section 5. Outcomes and measurement (repeat per outcome)	• Outcome domain: grief-related / mental health / substance use / sleep / physical health / physiological or biomarker / health service use / mortality / other • Specific outcome as named by the source • Instrument or measure; version; language; number of items • Cut-point or diagnostic threshold applied; diagnostic framework (DSM-5-TR, ICD-11, other, none) • Data source: self-report / informant report / clinician assessment / registry or claims / biospecimen / wearable or device / polysomnography / other • Timing of measurement relative to the death • Primary or secondary aim of the source
Section 6. Context	• Geographic and sociocultural context • Health system, policy, and service availability context as described • Participant setting: community / clinical / school / home / residential / correctional / online / other • Minoritized or underserved populations represented; representation reported as absent • Access to, use of, or barriers to bereavement or health services as described
Section 7. Findings	• Quantitative: prevalence or point estimate; dispersion; effect size; confidence interval; p value; direction; unadjusted and adjusted • Qualitative: health-related themes and categories, summarized in the reviewers' own words • Mixed methods: integration approach and integrated findings

Section	Fields
	• Subgroup findings by relationship, age, gender, race and ethnicity, or time since death • Null or non-significant findings
Section 8. Author-reported limitations and recommendations	• Limitations identified by the source authors • Gaps and future research directions identified by the source authors • Implications for practice or policy identified by the source authors
Section 9. Reviewer notes	• Data requested from authors: yes / no; date; response • Discrepancies and resolution • Reviewer initials; date of extraction