STUDY PROTOCOL

REVISED Methods of suicide used by people with cancer: a scoping review protocol

[version 2; peer review: 2 approved]

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Abstract

Background

People with cancer are at a higher risk of suicide than the general population. Access to means of suicide is an important volitional risk factor, that if targeted at a population level can reduce incidence of suicide deaths. People with cancer are often prescribed multiple medications that have a high case fatality when taken in overdose and therefore have increased access to specific means of high lethality self-harm. The aim of this review is to examine the methods of suicide used by people with cancer, the study designs used to explore these and what, if any, comparisons have been made to the general population.

Methods

This scoping review will follow JBI scoping review methodology guidelines and be reported according to PRISMA-ScR checklist; a systematic search will be conducted of Embase (Elsevier), CINAHL Plus (EBSCO), PsycINFO (EBSCO), PsychARTICLES(EBSCO), and PubMed (NCBI) databases and grey literature sources. A data collection tool will be specifically designed and piloted independently by two reviewers. Findings will be presented descriptively, graphically, and narratively.

Results

Open Peer Review

Approval Status ✓ ✓

	1	2
version 2 (revision) 06 Jun 2025	✓ view	✓ view
version 1 21 May 2024	? view	✗ view

1. **Esther de Vries**, Pontificia Universidad Javeriana, Bogotá, Colombia

2. **Brenna Emery**, University of Washington, Seattle, USA

Any reports and responses or comments on the article can be found at the end of the article.

The results of this review will identify the breadth of evidence in relation to methods of suicide used by people with cancer, explore how different methods are defined and categorised, how the topic has been studied, and ascertain if a systematic review is possible.

Keywords
Suicide, Cancer

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Author roles: Ni Dhalaigh D: Conceptualization, Methodology, Project Administration, Writing – Original Draft Preparation, Writing – Review & Editing; **Kabir Z**: Conceptualization, Methodology, Supervision, Writing – Review & Editing; **Ismail F**: Conceptualization, Methodology, Supervision, Writing – Review & Editing; **Corcoran P**: Conceptualization, Methodology, Supervision, Writing – Review & Editing; **Wiggin D**: Investigation, Validation, Writing – Review & Editing; **Cassidy E**: Conceptualization, Methodology, Supervision, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

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First published: 21 May 2024, **7**:31 https://doi.org/10.12688/hrbopenres.13886.1

REVISED **Amendments from Version 1**

This protocol has been reviewed to include the feedback from the two peer reviewers. The manuscript was proofread to correct grammatical errors, punctuation, and tense issues. The abstract remains in future tense, in line with protocol standards. Redundant phrasing and inconsistent capitalisation were revised. The search strategy was amended to use keywords rather than MeSH terms, and the review's international scope was clarified. The rationale for conducting a scoping review was shortened. References to "intent" were removed from the objectives. "RQ" was defined for clarity. The "Concept" section was retained in accordance with JBI methodology. The protocol now clarifies that this is a scoping review protocol. Table 1 was updated to include definitions of suicide and the legal status of assisted dying in each country.

Any further responses from the reviewers can be found at the end of the article

Introduction

Suicide risk estimates differ by cancer type, timing, and geographic region of the population studied. Individuals with cancer have a 1.5 to 1.7 times higher risk of suicide than the general population, with elevated risk linked to male sex, older age, recent diagnosis, and certain cancer sites. A matched cohort study found suicide risk was 12.6 times higher in the first week after diagnosis, 3.1 in the first year, and 1.8 thereafter (Fang & Valdimarsdóttir, 2012).

Access to means of suicide is an important environmental volitional factor (O'Connor, 2021). Additionally, there is a large evidence base for the reduction of means in the prevention of suicide (Mann *et al.*, 2005; Zalsman *et al.*, 2016). For example, legislative interventions to control sales of paracetamol products can significantly reduce incidence of paracetamol overdose (Corcoran *et al.*, 2010; Donohoe *et al.*, 2006). Furthermore, evidence indicates that the risk of method substitution, i.e. substituting one suicide method for another, is low (Cox *et al.*, 2013; Pirkis *et al.*, 2013). The method of suicide chosen can be influenced by many factors, including culture, gender, age, availability and access to means (Callanan & Davis, 2012; Shah & Buckley, 2011). Across 16 European countries, including Belgium, England, Estonia, Finland, Germany, Hungary, Iceland, Italy (South Tyrol), Luxembourg, the Netherlands, Portugal, Scotland, Slovenia, Spain, and Switzerland, clear gender differences are observed in suicide methods. Hanging is the most frequently used method among both males (54.3%) and females (35.6%). Drug poisoning is the second most common method among females (24.7%) and is used by 8.6% of males (Värnik *et al.*, 2008).

Overdoses using a combination of different medications are associated with higher risk of death (Daly *et al.*, 2020). Pain is a common symptom of cancer and its treatments. The prevalence of pain in cancer is estimated to range from 33% in people who are following curative treatment, 59% in people during cancer treatment and 64% of people with advanced cancer (Portenoy, 2011). Consequently, many cancer patients will be prescribed a regular regime of pain medication, including opioid medication, particularly in palliative care. People with cancer therefore have a potentially increased access to lethal means of suicide by virtue of increased access to prescribed medications.

In summary, it is evident that the risk of suicide is greater in people with cancer and they have potentially increased access to means of suicide. No review however has examined the evidence available in relation to suicide methods used by this population. This knowledge will be helpful for implementing public health strategies to reduce access to means and to gain more knowledge on lethality of suicidal acts. Scoping review protocols are published to promote transparency, reduce research duplication, and enhance methodological rigour. This protocol serves as a precursor to a scoping review on the same topic.

Methods

Reporting

This scoping review protocol has been developed using the best practice guidelines for scoping reviews outlined by (Peters *et al.*, 2022) and is registered on the Open Science Framework. The scoping review will conform to the methodological quality, guidance, and tools as described by (Pollock *et al.*, 2022) and the PRISMA-ScR guidelines (Tricco *et al.*, 2018).

Eligibility criteria

As scoping reviews aim to map all available literature on a topic, any primary studies quantifying suicide methods among people with cancer will be included (Munn *et al.*, 2018). This may include, but is not limited to, observational studies including cross-sectional, case-control, and cohort studies, either prospective or retrospective. All countries, all ethnicities, all sample sizes, and all publication dates will be eligible for inclusion. Included studies must quantify method(s) of suicide by a population of people with cancer. These criteria were structured using the broad population, concept, context (PCC) framework, as recommended by the Joanna Briggs Institute for scoping reviews, which is a more flexible alternative to the population, intervention, comparator, outcome (PICO) framework typically used in systematic reviews (Peters *et al.*, 2022).

- Population: people with cancer
- Concept: methods of suicide
- Context: N/A

Review question

Research Question: What is known about the methods of suicide used by people with cancer?

- What study designs have been used?
- How has cancer been defined/diagnosed/operationalised?

- Are different types of cancer examined, such as type, stage, pre or postmortem?
- How have the methods of suicide been defined and categorised?
- How are the methods of suicide classified? i.e. by age, sex, or other variables?
- Have the suicide methods been compared to another population?
- What is the comparator population?
- Is there scope for a systematic review?

Population
The population will be people with a diagnosis of any malignancy, including single specific cancer types, multiple malignancies, and samples that include a mix of cancer types. This includes any stage, or remission status. This may be diagnosed pre or postmortem and may or not have been known to the decedent. These broad criteria have been chosen to facilitate the inclusion of all research on this population as no scoping reviews have been previously performed.

Concept
The concept is methods of suicide. This dictates that the participants in question must have died by suicide upon study completion. Differences in nomenclature and definitions of suicide and suicide methods can exist internationally therefore this review will include studies that use any definition of suicide or probable suicide as defined by the authors/country of publication. It is a possible limitation that cultural differences may lead to under-reporting of suicide and suicide methods in some countries, and this is true for all collations of international suicide data. In some countries, where there is insufficient evidence to decide if a death due to self-injury was intentional, for example in the case of an overdose, these are classed as deaths of undetermined intent. As the ultimate outcome is death in both the case of an accidental or intentional act of self-harm, and due to the challenges faced by coroner's courts in deciphering intent in cases where no suicide note is found, this review will also include deaths of undetermined intent.

Suicide methods will be extracted as reported. This is pertinent as no time limits will be imposed on the studies included. The ICD definitions of methods of suicide have changed significantly since its inception. For example, the ICD 8 includes 7 different categories of suicide methods whereas the ICD 11 includes 83 entries under intentional self-harm under parent category of external causes of morbidity and mortality and this, in addition to differences in data sources such as coroner's reports or psychological autopsy studies, is likely to influence the range and nomenclature of reported suicide methods (Stewart *et al.*, 2017; WHO, 2024).

Attempted suicide, parasuicide, or any self-harm where the outcome is not fatal are outside the scope of this review as these conceptually differ from suicide methods that result in death.

Information sources
Databases will include: Embase (Elsevier), CINAHL Plus (EBSCO), PsycINFO (EBSCO), PsychARTICLES (EBSCO) and PubMed (NCBI). No time or date limits will be applied. Grey search will include Google Scholar, and publications by registries or databases used by included studies. Forward and backward citation searching of included articles will be conducted and author searching via web of science and google scholar will be conducted.

Search strategy
A sample search strategy is available via the Open Science Framework.

Study records
Data management
Results from database searches will be imported to Rayyan to screen papers and remove duplicates. Rayyan will be used to record all decisions made in relation to included and excluded papers and reasons for exclusion. A data collection sheet will be constructed using Microsoft Excel, a copy of this will be made available on Open Science Framework (OSF) upon publication of the scoping review.

Selection process
Initial screening will be conducted by 2 researchers using Rayyan. During this initial phase titles and abstracts will be screened for relevance to the research question. This screening will be liberal due to the chance that suicide methods may not be mentioned in the title or abstract. To ensure no papers will be missed, any studies that examine suicide and cancer in the title or abstract will be included at this stage. Phase 2 of screening will be conducted by 2 researchers. This will involve full text searching of the main bodies and supplementary material of the papers included during phase 1, to search for information in relation to suicide methods. Phase 3 will include full text screening including supplementary material to determine eligibility according to the inclusion and exclusion criteria. Phase 3 will be carried out independently by 2 researchers, who will be blind to each other's decisions using Rayyan to communicate results. Any discrepancies will be discussed until consensus is reached or a third reviewer will be consulted to resolve if required. The study selection process, including the numbers identified in the initial search, following abstract, title and full text review, and numbers excluded following full text review will be presented according to PRISMA ScR (Tricco *et al.*, 2018).

Data collection process
Studies that meet the eligibility criteria will be marked as included in Rayyan by both reviewers and will then be included in the review. A specific data collection form will be constructed using Microsoft Excel (Table 1). This tool will be piloted by DND and DW initially to ensure all relevant items are being collected. However, this data collection tool may

Table 1. Data collection tool.

title	Author	year	Time span of data collection	Country	Study design	Total participants	Number of participants with cancer & suicide with method described	Definition of suicide reported	Number of comparison population suicides with method described
Mix of cancer types?	**Cancer location**	**Cancer stage**	**How was cancer diagnosed?**	**Suicide method categories**	**Suicide method definition**	**How suicide methods diagnosed?**	**Covariates**	**Was assisted suicide or euthanasia legal during the time of data collection?**	**Was suicide risk of cancer population recorded?**

be subject to change as conducting a scoping review can be an iterative process (Peters *et al.*, 2022).

Data items

The data items that will be sought are year(s) of data collection, location of study, study design, total number of participants, type(s) of cancer, stage of cancer (i.e. remission, terminal, unknown), number of participants in cancer population and control or comparison population (if applicable), and methods of suicide used by cancer and control/comparison population, definition of suicide methods used, method to ascertain cancer diagnosis, how were suicide methods ascertained, was assisted suicide or euthanasia legal during the time of data collection?, suicide risk of cancer population recorded (y/n), these items may be edited and/or additional items may be added pending piloting of the data collection tool.

Outcomes and prioritisation

- The main outcome is the categories used for suicide methods.
- The number of studies by study design
- The number of studies that use a comparator population (scope for systematic review)

Data synthesis

Data will be presented graphically, narratively and in tables as appropriate to the complexity of data items. Descriptive statistics in conjunction with graphical representations may be used to illustrate findings in relation to suicide method categories and study designs. It may be possible to conduct basic descriptive statistics in relation to study designs used also.

Implications for research and practice

This scoping review will be used to identify if there is scope to conduct a systematic review of methods of suicide used by people with cancer in comparison to a control population. This can be used to infer if access to medications used by people with cancer may increase the risk of death by intentional overdose in this population or not. This scoping review will identify any gaps in the research and research methodologies used and covariates and confounders accounted for in the current literature.

Deviations from the protocol

Any deviations from this protocol and the underlying reasons for these will be documented and recorded on the OSF and in the final paper.

Data availability

Underlying data

No data are associated with this article.

Extended data

Open Science Framework: PubMed search strategy.docx, https://doi.org/10.17605/OSF.IO/6GJPZ (Dhalaigh, 2024)

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PubMed Abstract | Publisher Full Text

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PubMed Abstract | Publisher Full Text | Free Full Text

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PubMed Abstract | Publisher Full Text

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PubMed Abstract | Publisher Full Text

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PubMed Abstract | Publisher Full Text

Shah A, Buckley L: **The current status of methods used by the elderly for suicides in England and Wales.** *J Inj Violence Res.* 2011; **3**(2): 68–73.
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Stewart C, Crawford PM, Simon GE: **Changes in coding of suicide attempts or self-harm with transition from *ICD*-9 to *ICD*-10.** *Psychiatr Serv.* 2017; **68**(3): 215.
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Tricco AC, Lillie E, Zarin W, *et al.*: **PRISMA extension for Scoping Reviews (PRISMA-ScR): checklist and explanation.** *Ann Intern Med.* 2018; **169**(7): 467–473.
PubMed Abstract | Publisher Full Text

Värnik A, Kõlves K, van der Feltz-Cornelis CM, *et al.*: **Suicide methods in Europe: a gender-specific analysis of countries participating in the "European Alliance Against Depression".** *J Epidemiol Community Health.* 2008; **62**(6): 545–551.
PubMed Abstract | Publisher Full Text | Free Full Text

WHO: **ICD-11 for mortality and morbidity statistics.** 2024; (Accessed: 9 March 2024).
Reference Source

Zalsman G, Hawton K, Wasserman D, *et al.*: **Suicide prevention strategies revisited: 10-year systematic review.** *Lancet Psychiatry.* 2016; **3**(7): 646–659.
PubMed Abstract | Publisher Full Text

Open Peer Review

Current Peer Review Status: ✔ ✔

Version 2

Reviewer Report 12 July 2025

https://doi.org/10.21956/hrbopenres.15593.r47612

✔ **Brenna Emery**
University of Washington, Seattle, USA

Appreciate the changes. This version retains minor grammatical errors but should not exclude it from indexing otherwise.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Psychiatry, psycho-oncology, consultation-liaison psychiatry, clinical trial medical monitor, traumatic brain injury

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 23 June 2025

https://doi.org/10.21956/hrbopenres.15593.r47613

✔ **Esther de Vries**
Pontificia Universidad Javeriana, Bogotá, Bogota, Colombia

I have now read the comments and the protocol, and I have no further comments. Approved.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Cancer epidemiology, end of life research.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 19 May 2025

https://doi.org/10.21956/hrbopenres.15227.r46931

Brenna Emery
University of Washington, Seattle, USA

-There are a number of overt grammatical and tense issues in this paper that need to be addressed. There are too many to list independently, but themes include:
--Abstract is in future tense. It should be in past tense
--Run on sentences, lack of use of appropriate commas
--In general, stylistically, two sentences in a row should not start with the same phrase, ex page 3 "This knowledge will be helpful..." used twice in a row.
---Table 1: Lack of appropriate capitalization
-Introduction: Why talk about Ireland? This is not a study about Ireland, or if it is it should be specifically mentioned in the paper. There is a sense this was cobbled together from other works clearly aimed at an Irish population.
-Methods:
--You do not need to explain what a scoping review is. Just state your methods.
--"RQ"- means what?
--Frequent use of future tense, again
--I am not used to seeing a "Concept" section in a paper under methods, perhaps Discussion. Perhaps this is cultural.

General feedback: What I see here is an interesting idea but not complete paper. If the goal is to write a paper about making a protocol then you need a methods ABOUT generating that protocol, not protocol itself. If you ARE going to do that search then do it and publish the results. There is mention of verification but nothing about how it's supposed to be done. I would not personally view this as novel information as it stands. It is a review of suicide risk in patients with cancer and a grant or research proposal.

Is the rationale for, and objectives of, the study clearly described?

No

Is the study design appropriate for the research question?

No

Are sufficient details of the methods provided to allow replication by others?
No

Are the datasets clearly presented in a useable and accessible format?
No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Psychiatry, psycho-oncology, consultation-liaison psychiatry, clinical trial medical monitor, traumatic brain injury

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

Author Response 29 May 2025

Doireann Ni Dhalaigh

Thank you for taking the time to review, which has been very helpful. We have addressed each point in detail below and made appropriate revisions, which are tracked in the manuscript.

Comment: There are a number of overt grammatical and tense issues in this paper that need to be addressed. There are too many to list independently, but themes include: --Run on sentences, lack of use of appropriate commas
Response: We appreciate this observation and have conducted a full proofread of the manuscript. We have revised the text for clarity, improved sentence structure, and corrected punctuation and tense issues where necessary.

Comment: Abstract is in future tense. It should be in past tense
Response: As this is a protocol rather than a completed review, the use of future tense in the abstract and methods sections is standard practice and aligns with PRISMA-P and PRISMA-ScR guidance.

Comment: Two sentences in a row start with the same phrase (“This knowledge will be helpful…”). Table 1 lacks appropriate capitalization
Response: Thank you for highlighting this. We have revised the repetitive phrasing in the introduction for improved readability. Table 1 has been updated to ensure consistent and appropriate capitalisation.

Comment: Why talk about Ireland? This is not a study about Ireland… It seems cobbled together from other works aimed at an Irish audience.
Response: While the protocol is published on an Irish platform and includes Irish data to illustrate real-world examples, the scope of the review is international. The introduction has

been revised to reflect a broader, international perspective.

Comment: You do not need to explain what a scoping review is. Just state your methods.
Response: This was written as per JBI and PRISMA-ScR guidelines; it is good practice to briefly explain the rationale for using a scoping review approach and to define it for readers who may not be familiar with the methodology. Nevertheless, we have shortened this section for conciseness while retaining key rationale and references.

Comment: "RQ" – means what?
Response: RQ" refers to "Research Question." The manuscript has been amended to ensure clarity

I am not used to seeing a "Concept" section in a paper under Methods, perhaps this is cultural.
Thank you for this observation. The use of a "Concept" section is part of the Population–Concept–Context (PCC) framework recommended by the JBI Manual for Evidence Synthesis for structuring inclusion criteria in scoping reviews. It is an established methodological standard in this field. A brief explanation and citation to clarify this for readers unfamiliar with the framework (on pg. 5)

Comment: This is not a complete paper... it reads more like a grant proposal... If you are going to do the search, then do it and publish the results
Response: We respectfully note that this is a protocol, and as such, it is not expected to report results according to PRISMA-P guidelines. Protocols are published to promote transparency, reduce research duplication, and enhance methodological rigour. Scoping review protocols are widely published in peer-reviewed journals (e.g., BMJ Open, HRB Open Research). We have clarified the purpose of the protocol in the introduction.

Comment: I would not view this as novel information... it is a review of suicide risk in patients with cancer.
Response: We respectfully note that this scoping review does not focus on suicide risk, but on suicide methods used by individuals with cancer, a topic that, to our knowledge, has not been systematically reviewed. This focus provides novel insights into means restriction and suicide prevention strategies.

Competing Interests: none

Reviewer Report 18 November 2024

https://doi.org/10.21956/hrbopenres.15227.r43051

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Esther de Vries
Pontificia Universidad Javeriana, Bogotá, Bogota, Colombia

Applause for the authors to undertake this complex exercise in a complex but important topic.

In general, I see a very thorough protocol. I wonder how the authors will deal with medically-assisted or assisted suicide? Will these be included or not?

In table 1 there should be a definition of suicide in the particular country and I would recommend listing if assisted dying (euthanasia or assisted suicide) was allowed in the country from which the study came in the study period.

Will studies that do not only focus on cancer patients but include them be included? The current search strategy on OSF | pubmed search strategy.docx will result in search 2 and 3 in excluding papers if neoplasms/cancer are nor mentioned in the Mesh terms in Pubmed. There may be studies more generally studying methods of suicide in multiple disease groups and these would be excluded.
On the OSF page I do not see the search strategies for the other databases, which sometimes have another structure. For the review to be replicable, these terms must be reported either now in the protocol (preferable) or adjustments in the final review being published.

If one of the intentions is to "identifying the proportions of methods used and by whom can give information about the lethality, intent, and opportunities to intervene to reduce death by suicide. ", then not only suicide deaths but also intents should be included? The protocol says that attempted suicides are not included so then only the "successful" ones will be there and how will lethality be assessed?

Some recommendations from personal experience: it is important to explicitly include work from all languages and also include search terms for databases in other languages. Studies in these areas are often small and LMIC researchers typically do not have funds to publish internationally. So for Spanish and Portuguese speaking countries databases like LiLacs or ScieLo would be important to include, and probably similar databases exist for francophone and Asian languages databases. The screening of the reference lists may provide even more papers than the search terms themselves as keyword selection is highly influential here. Using AI translation tools on the title and abstract works for initial evaluation of those works published in different languages, and using a wide network of students and staff of other backgrounds leads to possibility of reading most languages.

Another suggestion is not to do the extraction in excel but in a software that can easily be blinded and in which it is more difficult to erroneously put information in the wrong cells. We recently used RedCap for a smiliar exercise in which it is sometimes difficult to assign outcomes or exposures to predefined categories and blinding of the colleague´s result is so important.

Will data be analysed according to cultures/periods of time of collection or perhaps vision of suicide and/or availability of assisted suicide or euthanasia in a country? It is conceivable that the legal status of assisted dying may be of influence of the frecuency and methods of suicide among cancer patients.

Is the rationale for, and objectives of, the study clearly described?
Yes

Is the study design appropriate for the research question?
Yes

Are sufficient details of the methods provided to allow replication by others?
Partly

Are the datasets clearly presented in a useable and accessible format?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Cancer epidemiology, end of life research.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 29 May 2025

Doireann Ni Dhalaigh

Sincere thanks for taking the time to review this protocol and for the constructive feedback. Your comments significantly improved the clarity, rigour, and overall quality of our manuscript. We have addressed each point in detail below and made appropriate revisions, which are tracked in the manuscript.

Comment: Applause for the authors to undertake this complex exercise in a complex but important topic.
Response: Thank you

Comment: In general, I see a very thorough protocol. I wonder how the authors will deal with medically assisted or assisted suicide? Will these be included or not?
Response: It is not our intention to include medically assisted suicides due to conceptual differences and lack of relevance to the research question, ie methods of suicide. Agreed that there may be some overlap, ie potentially reduced number of poisoning deaths. However, we feel that it would be a separate research question deserving of its own review/investigation. We will note however during which studies assisted suicide / euthanasia was legalised as per your helpful suggestion.

Comment: In table 1 there should be a definition of suicide in the particular country, and I would recommend listing if assisted dying (euthanasia or assisted suicide) was allowed in the country from which the study came in the study period.

Response: Added to table 1 on page 7, which will provide important context for interpreting findings.
1. Definition of suicide reported included in table 1 and
2. Assisted suicide or euthanasia legal during the time of data collection?

Comment: Will studies that do not only focus on cancer patients but include them be included? The current search strategy on OSF | PubMed search strategy.docx will result in search 2 and 3 in excluding papers if neoplasms/cancer are nor mentioned in the Mesh terms in PubMed. There may be studies more generally studying methods of suicide in multiple disease groups and these would be excluded.
Response: Yes, if the methods of suicide used by the group with cancer are reported facilitates extracting quantitative data for this group only. i.e. if the different disease groups are reported together as 1 group, it will not be included. Therefore, this search will be rerun in PubMed using keywords instead of MESH terms for cancer.

Comment: On the OSF page I do not see the search strategies for the other databases, which sometimes have another structure. For the review to be replicable, these terms must be reported either now in the protocol (preferable) or adjustments in the final review being published.
Response: Only one database search was required as for the protocol, all searches will be uploaded to the Open Science Framework (OSF) with the final scoping reivew.

Comment: If one of the intentions is to "identifying the proportions of methods used and by whom can give information about the lethality, intent, and opportunities to intervene to reduce death by suicide. ", then not only suicide deaths but also intents should be included? The protocol says that attempted suicides are not included so then only the "successful" ones will be there and how will lethality be assessed?
Response: This is a very important point, thank you for highlighting it. We removed the word “intent”. Lethality will be assessed by comparing the methods used to published case fatality rates according to suicide method used.

Comment: Some recommendations from personal experience: it is important to explicitly include work from all languages and also include search terms for databases in other languages. Studies in these areas are often small and LMIC researchers typically do not have funds to publish internationally. So, for Spanish and Portuguese speaking countries databases like LiLacs or ScieLo would be important to include, and probably similar databases exist for francophone and Asian languages databases. The screening of the reference lists may provide even more papers than the search terms themselves as keyword selection is highly influential here. Using AI translation tools on the title and abstract works for initial evaluation of those works published in different languages, and using a wide network of students and staff of other backgrounds leads to possibility of reading most languages.
Response: Thank you for bringing this up. The team are not aware of how many databases

are in existence, we do not have the expertise or resources to conduct a systematic search of all relevant database. Moreover, limited resources would prevent professional translation of included papers, which is a requirement to ensure accurate translation. This will be identified as a limitation in the final scoping review.

Comment: Another suggestion is not to do the extraction in excel but in a software that can easily be blinded and in which it is more difficult to erroneously put information in the wrong cells. We recently used Redcap for a similar exercise in which it is sometimes difficult to assign outcomes or exposures to predefined categories and blinding of the colleague´s result is so important.
Response: Thank you for the thoughtful suggestion. We have looked into using Redcap however, due to budgetary constraints, we are unable to use it for this review. However, to ensure accuracy and rigour, two reviewers will extract data independently, and discrepancies will be resolved through consensus.

Comment: Will data be analysed according to cultures/periods of time of collection or perhaps vision of suicide and/or availability of assisted suicide or euthanasia in a country? It is conceivable that the legal status of assisted dying may be of influence of the frequency and methods of suicide among cancer patients.
Response: We will note during which studies assisted suicide / euthanasia was legalised.

Competing Interests: none to report