International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

Suicide rates in the first six months after discharge from non-psychiatric settings following presentation with suicidal thoughts or behaviours

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ADMINISTRATIVE INFORMATION

Support - This review is not currently supported by external funding.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 May 2025 and was last updated on 20 May 2025.

INTRODUCTION

Review question / Objective What is the rate and trajectory of suicide in the first six months after discharge from non-psychiatric hospital settings among individuals who presented with suicidal thoughts or behaviours?

Rationale Suicide is a leading global cause of death and individuals who present to hospitals with suicidal thoughts or behaviours are at significantly elevated risk. Prior research has shown that suicide risk is highest shortly after discharge. This review will investigate suicide rates at different timepoints post discharge from non-psychiatric settings: one week, one month, three months, and six months. This will aid in the management of suicidal patients at a clinical and service level.

Condition being studied Suicidal thoughts or behaviours, including suicidal ideation, suicide attempts, and deliberate self-harm, occurring in individuals presenting to non-psychiatric hospital settings such as emergency departments, medical or surgical wards.

METHODS

Search strategy We will search Embase, Ovid MEDLINE(R), PsycINFO, and PubMed for studies published between January 1960 and December 2024.

For Embase, MEDLINE, and PsycINFO, we will use the following strategy:
(suicid*).m_titl. AND (emergency* OR accident and emergency OR casualty OR general hospital OR toxicology service).mp.

For PubMed, the search used will be:
(suicid*[Title/Abstract] OR self harm[Title/Abstract] OR self-harm[Title/Abstract] OR self injury[Title/Abstract] OR self-injury[Title/Abstract] OR self poisoning[Title/Abstract] OR self-poisoning[Title/Abstract] OR overdose[Title/Abstract] OR para-suicide[Title/Abstract] OR parasuicide[Title/

Abstract]) AND (emergency department[All Fields] OR emergency room[All Fields] OR casualty[All Fields] OR general hospital[All Fields] OR toxicology[All Fields] OR accident and emergency[All Fields])
The search will be restricted to articles published in English.

Participant or population Individuals of any age or sex who presented to a non-psychiatric hospital setting (including emergency departments, general medical or surgical wards) with suicidal thoughts or behaviours and were discharged without psychiatric admission.

Intervention Discharge from a non-psychiatric hospital setting following presentation with suicidal thoughts or behaviours.

Comparator Not applicable – this is a single-group meta-analysis assessing rates over time.

Study designs to be included We will include longitudinal studies reporting on suicide mortality following discharge from a non-psychiatric hospital setting. Eligible designs include:• Prospective or retrospective cohort studies, Registry based follow up studies, Case series with defined follow up periods and outcome data.

Eligibility criteria Studies were included if they reported the number of suicide deaths among people with suicidal thoughts or behaviours who were discharged from non-psychiatric hospital settings, including emergency departments and medical or surgical wards, and if they provided the number of person-years during which those deaths occurred. Studies were also eligible if person-years could be calculated from the reported suicide rate and follow-up duration.
Studies were excluded if they involved community presentations, psychiatric inpatients (current or discharged), reported only on the immediate fatality of suicide attempts, were conducted prior to 1960, or duplicated the sample of a larger included study.

Information sources Electronic databases: MEDLINE, Embase, PubMed, PsycINFO. Supplemented by manual reference checks of included articles.

Main outcome(s) Suicide deaths per 100,000 person-years following discharge from a non-psychiatric hospital setting. Suicide rates will be extracted or estimated for the following post-discharge timepoints: one week, one month, three months, and six months.

Additional outcome(s) We will also examine how suicide rates vary according to patient sex, age group, year of publication, national suicide rates at the time of the study, type of suicidal presentation (suicidal ideation vs. attempt) and the setting of care (emergency department or hospital ward). Additional analyses will explore differences by geographic region and by the strength of study reporting. The influence of follow up duration as a continuous moderator will also be analysed to understand the temporal decline in suicide risk.

Data management Study screening and data extraction will be managed using Rayyan. Data will be exported into Excel and analysed using Comprehensive Meta-Analysis software (CMA v3).

Quality assessment / Risk of bias analysis Study quality will be assessed using a 9-point checklist adapted from the Newcastle-Ottawa Scale. This will focus on factors such as broad inclusion criteria, defined population sampling, first time presentations, person-based sampling, unrestricted methods of self-harm, clear definition of suicidal behaviour, adequate follow up, use of external mortality databases and inclusion of undetermined deaths. Each item contributes one point, with studies scoring six or more considered higher in reporting strength.

Strategy of data synthesis Random effects meta-analysis will be conducted to estimate pooled suicide rates per 100,000 person-years. Meta regression will assess time trends and moderators.

Subgroup analysis Subgroup analyses will be conducted using a mixed effects model. For each subgroup, such as sex or age group, studies will be grouped and their suicide rates pooled separately. A Q test will be used to check whether the differences between the subgroups are statistically significant.

Sensitivity analysis Sensitivity analysis will be conducted by
1. excluding studies with lower reporting strength, defined as those scoring less than 6 on the Newcastle-Ottawa Scale. We will also examine whether the exclusion of these lower strength studies reduces between study heterogeneity.
2. Restricting the analyses to primary studies reporting suicide attempts (rather than using a broader definition of suicidal thoughts and behaviours.)
3. Restricting the analysis to people discharged from emergency departments rather than general hospitals

Publication bias will be assessed using Egger's test and trim and fill methods.

Language restriction Yes - English onyl.

Country(ies) involved Australia.

Keywords suicide; emergency department; hospital discharge; self-harm; suicidal ideation; meta-analysis; suicide attempt; follow-up; epidemiology; risk.

Dissemination plans Findings will be submitted to a peer reviewed journal in psychiatry or public health and presented at academic conferences.

Contributions of each author

Author 1 - Jonathan Li - Jonathan Li contributed to the initial literature search, title and abstract screening and will lead data extraction and analysis.
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