

Self-harm: assessment, management and preventing recurrence

[H] Evidence review for admission to hospital

NICE guideline number tbc

Evidence review underpinning recommendations 1.8.1-1.8.6 and research recommendation 3 in the NICE guideline

January 2022

Draft for consultation

These evidence reviews were developed by the National Guideline Alliance which is a part of the Royal College of Obstetricians and Gynaecologists

Disclaimer

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with compliance with those duties.

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the [Welsh Government](#), [Scottish Government](#), and [Northern Ireland Executive](#). All NICE guidance is subject to regular review and may be updated or withdrawn.

Copyright

© NICE 2021. All rights reserved. Subject to [Notice of rights](#).

ISBN:

Contents

Admission to hospital	6
Review question	6
Introduction	6
Summary of the protocol	6
Methods and process	8
Effectiveness evidence.....	8
Summary of included studies.....	9
Summary of the evidence.....	9
Economic evidence	9
Economic model.....	10
No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation.	10
Evidence statements	10
The committee’s discussion and interpretation of the evidence	10
Recommendations supported by this evidence review	13
References – included studies.....	13
Appendices	14
Appendix A Review protocols	14
Review protocol for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	14
Appendix B Literature search strategies	19
Literature search strategies for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?.....	19
Appendix C Clinical evidence study selection	26
Study selection for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	26
Appendix D Evidence tables	27
Evidence tables for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	27
Appendix E Forest plots	30
Forest plots for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self- harmed but no longer require physical care?	30
Appendix F Modified GRADE tables	31
Modified GRADE tables for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	31

Appendix G	Economic evidence study selection	32
	Study selection for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	32
Appendix H	Economic evidence tables	34
	Economic evidence tables for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	34
Appendix I	Economic model	35
	Economic model for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	35
Appendix J	Excluded studies	36
	Excluded studies for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	36
Appendix K	Research recommendations	47
	Research recommendations for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?	47

1 **Admission to hospital**

2 **Review question**

3 What are the benefits and harms associated with admission to acute general hospital for
4 people who have self-harmed but no longer require physical care?

5 **Introduction**

6
7 All children and young people who have self-harmed are admitted to hospital overnight and
8 assessed fully the following day in current practice. However, concerns have arisen
9 regarding this blanket admission for children and young people, with specific attention paid to
10 whether admission causes distress and conflicts with therapeutic risk-taking strategies. The
11 aim of this review is to evaluate the benefits and harms of admission to hospital for people
12 who have self-harmed but no longer require physical care.

13 **Summary of the protocol**

14 See Table 1 for a summary of the Population, Intervention, Comparison and Outcome
15 (PICO) characteristics of this review.

1 **Table 1: Summary of the protocol (PICO table)**

Population	Inclusion: All people who have self-harmed and have presented to the emergency department, but no longer require physical care, including those with a mental health problem, neurodevelopmental disorder or a learning disability Exclusion: <ul style="list-style-type: none">• People who have self-harmed who require physical care• People displaying repetitive stereotypical self-injurious behaviour, for example head-banging in people with a significant learning disability
Intervention	Admission to acute general hospital Exclusion: Admission to psychiatric hospital

Comparison	<ul style="list-style-type: none">• Discharge to normal place of residence• Discharge to alternative community or inpatient care
Outcome	Critical <ul style="list-style-type: none">• Self-harm repetition (for example, self-poisoning or self-cutting)• Service user satisfaction• Suicide Important <ul style="list-style-type: none">• Family/carer satisfaction• Receipt of biopsychosocial assessment• Time to receipt of biopsychosocial assessment• Perceived stigma/discrimination

1 For further details see the review protocol in appendix A.

2 **Methods and process**

3 A modified version of the GRADE approach to rate the certainty of evidence in systematic
4 reviews was used as part of a pilot project undertaken by NICE. Instead of using predefined
5 clinical decision/ minimal important difference (MID) thresholds to assess imprecision in
6 GRADE tables, imprecision was assessed qualitatively during committee discussions. Other
7 than this modification, GRADE was used to assess the quality of evidence for the selected
8 outcomes and this evidence review developed using the methods and process described in
9 [Developing NICE guidelines: the manual](#). Methods specific to this review question are
10 described in the review protocol in appendix A and the methods document (supplementary
11 document 1).

12 Declarations of interest were recorded according to [NICE's conflicts of interest policy](#).

13 **Effectiveness evidence**

14 **Included studies**

15 One randomised controlled trial (RCT) was included for this review (Waterhouse 1990). This
16 study was conducted in England and compared admission to hospital with discharge home in

1 patients who presented to the emergency department with self-harm and were assessed as
2 having no immediate medical or psychiatric treatment need.

3 The included study is summarised in Table 2.

4 See the literature search strategy in appendix B and study selection flow chart in appendix C.

5 **Excluded studies**

6 Studies not included in this review are listed, and reasons for their exclusion are provided, in
7 appendix J.

8 **Summary of included studies**

9 A summary of the study that was included in this review is presented in Table 2.

10 **Table 2: Summary of included studies.**

Study	Population	Intervention	Comparison	Outcomes
Waterhouse 1990 RCT England	N=77 patients aged ≥16 years who had deliberately ingested a substance in excess of any prescribed or generally recognised therapeutic dose and did not require physical or psychiatric care.	Admission: Patients received an initial assessment in the ED then were admitted to the district general hospital but did not receive any further treatment, referral, or counselling. Patients were advised to contact their GP as soon as possible if they required further support.	Discharge: Patients received an initial assessment in the ED, then immediately discharged to their place of residence and advised to contact their GP as soon as possible if they required further support.	Critical: Self-harm repetition Important: None

11 *ED: emergency department; GP: general practitioner; RCT: randomised controlled trial*

12 See the full evidence tables in appendix D.

13 **Summary of the evidence**

14 Only 1 study was included (Waterhouse 1990), reporting only the outcome of self-harm (self-
15 poisoning) repetition and found no significant difference in this outcome between the
16 admission and discharge groups either at 1 week or at 16 weeks (moderate quality).
17

18 See appendix F for full GRADE tables.

19 **Economic evidence**

20 **Included studies**

21 A single economic search was undertaken for all topics included in the scope of this
22 guideline but no economic studies were identified which were applicable to this review

1 question. See the literature search strategy in appendix B and economic study selection flow
2 chart in appendix G.

3 **Excluded studies**

4 Economic studies not included in the guideline economic literature review are listed, and
5 reasons for their exclusion are provided in appendix J.

6 **Economic model**

7 No economic modelling was undertaken for this review because the committee agreed that
8 other topics were higher priorities for economic evaluation.

9 **Evidence statements**

10 **Economic**

11 No economic studies were identified which were applicable to this review question.

12 **The committee's discussion and interpretation of the evidence**

13 **The outcomes that matter most**

14 Self-harm repetition, suicide and service user satisfaction were prioritised as critical
15 outcomes by the committee. Self-harm repetition and suicide were prioritised as critical
16 outcomes because they are direct measures of any differential effectiveness associated with
17 the interventions and captures both of fatal and non-fatal self-harm. Service user satisfaction
18 was chosen as a critical outcome due to the importance of delivering services which are
19 centred around the patients' experiences and because patient satisfaction is likely to
20 influence whether the patient engages with the intervention.

21 The committee agreed that family/carer satisfaction, receipt of biopsychosocial assessment,
22 time to receipt of biopsychosocial assessment and perceived stigma/discrimination were
23 important outcomes. Family/carer satisfaction was selected as an important outcome
24 because self-harm often does not just affect the patient, but also their families and carers.
25 Family members and carers are also often involved in the management of people who self-
26 harm. It is therefore important to determine the impact of admission or discharge from the
27 family's or carers' perspectives. Receipt of biopsychosocial assessment and time to receipt
28 of biopsychosocial assessment were selected as important outcomes to determine if the
29 decision to admit to hospital or discharge home after presentation at the emergency
30 department affected whether patients were more likely to receive this assessment, and the
31 timeliness of receiving this assessment, respectively. Perceived stigma/ discrimination were
32 considered important outcomes due to the psychological impact this can have on patients
33 who may already be suffering with their mental health.

34 **The quality of the evidence**

35 The quality of the evidence was assessed with GRADE and was rated as moderate. The
36 evidence was downgraded due to risk of bias as per Cochrane RoB 2.0 (uncertainty about
37 the randomisation process).

1 No evidence was identified for the following outcomes: service user satisfaction; suicide;
2 family/ carer satisfaction; receipt of biopsychosocial assessment; time to receipt of
3 biopsychosocial assessment; perceived stigma/ discrimination.

4 **Imprecision and clinical importance of effects**

5 The committee agreed that the evidence presented did not allow them to make strong
6 recommendations on the overall benefit or potential harm of admission to hospital for people
7 who have self-harmed but no longer require physical care. Overall there was only 1 study on
8 which to base recommendations which found no significant difference in repeat self-harm
9 between the admission and discharge groups, and the committee agreed that there was
10 serious imprecision for the evidence regarding this outcome.

11 Given the lack of useful evidence, the committee discussed whether a research
12 recommendation should be made. The committee agreed that new evidence regarding the
13 effectiveness of admission to hospital for people who have self-harmed would likely have an
14 effect on whether admission would be recommended after an episode of self-harm. In
15 particular, the committee agreed that different populations, such as adults and children,
16 might have different reactions to being admitted to hospital and the committee agreed it was
17 important to know whether these populations should have specific recommendations made
18 for them. As a result, the committee prioritised this area for research.

19 **Benefits and harms**

20 Because of the lack of any evidence for children, the committee discussed current practice
21 and agreed based on their knowledge and experience that it was no longer appropriate to
22 admit all children and young people to hospital. The committee agreed based on their
23 experience that the potential benefit of providing a safe setting after an episode of self-harm
24 was outweighed by the potential risk that admission could cause significant distress to some
25 people who had self-harmed, including children and young people. The committee also
26 agreed there was a risk that blanket admission could conflict with a therapeutic risk taking
27 strategy if one was in place, particularly if the strategy involved discharge home with the
28 understanding that doing so would support their personal resilience and growth. They
29 discussed the risks and benefits of admission and agreed based on their expertise that
30 safeguarding concerns and the risk of being discharged to an unsafe or potentially harmful
31 environment should be considered when assessing whether to admit the person to hospital,
32 including when the service user was at risk of repetition due to distress or intoxication. The
33 committee agreed this applied to children and young people as well as adults. They also
34 agreed that admission to hospital could be considered when it facilitated a psychosocial and
35 risk assessment. An adequate psychosocial and risk assessment may be completed for
36 some individuals including children and young people who have self-harmed at presentation
37 without the need for a full multi-disciplinary assessment and admission to hospital. However,
38 the committee agreed that admission may be necessary if all relevant multidisciplinary
39 agencies required to make an adequate psychosocial and risk assessment are not available
40 out of hours.

41 Admission for individuals who have self-harmed should be to the most appropriate location to
42 ensure optimal continuous assessment and care, which may include admission to a general
43 hospital ward. The committee discussed the risk of 16/ 17 year-olds being admitted to adult
44 wards inappropriately and agreed based on their expertise that when admitting young people
45 of this age group to hospital, they should be admitted to wards where the needs of children
46 could be met, primarily paediatric wards, teenage and young adult units, or a child or
47 adolescent psychiatric inpatient unit where necessary.

1 The committee agreed based on their knowledge and experience that physical and mental
2 health care should always be delivered concurrently as much as possible in order to prevent
3 a delay in treatment and ensure the patient's mental or physical needs are not prioritised at
4 the expense of the other. The committee also agreed that treatment for physical injuries
5 should never be used as a reason to delay or deny a psychosocial assessment, as this
6 would be considered malpractice, potentially resulting in heightened distress or neglect of the
7 person's other healthcare needs.

8 The committee discussed current practice regarding what happens when a person self-
9 harms while in hospital, and agreed that full investigations should continue to be
10 recommended when an incident occurs, in order to consistently improve services and ensure
11 further incidents are prevented.

12 The committee also discussed the potential risks of discharging people who had self-harmed
13 and agreed that, considering the majority of presentations for self-harm at the emergency
14 department were out-of-hours; there was a risk that the person who had self-harmed could
15 be discharged without receipt of an adequate psychosocial and risk assessment or a further
16 care plan. The committee agreed that this carried the risk of the person not receiving
17 adequate follow-up or treatment as necessary, raising the risk of repeat self-harm or suicide,
18 and reducing the likelihood that the person will engage with healthcare services in the future.
19 The committee therefore agreed based on their knowledge and experience that people who
20 had self-harmed should only be discharged once they had received an adequate
21 psychosocial and risk assessment including an assessment of safeguarding, and had a care
22 plan drawn up. The committee agreed that discharge planning meetings also enable the
23 person to receive ongoing care after discharge, lowering the risk of hopelessness and repeat
24 self-harm, and improving engagement with services post-discharge.

25 There is still a lack of research in this area not only for children and adolescents but across
26 all age groups. Clinical practice appears to vary considerably. Working age adults who self-
27 harm are not routinely admitted and it is unlikely to be feasible to do so in the current service
28 context. However given the ongoing uncertainty about whether to admit children, young
29 people and older adults the committee made a research recommendation.

30 **Cost effectiveness and resource use**

31 The committee noted that no relevant published economic evaluations had been identified
32 and no additional economic analysis had been undertaken in this area. They highlighted the
33 considerable variation across the NHS in general hospital services. Therefore, they originally
34 suggested this topic as a high priority for bespoke economic modelling. However, as
35 identified clinical evidence was inadequate to support the development of a bespoke
36 economic model, this topic was no further considered an economic priority.

37 The committee noted that discharging people who have self-harmed to other care settings is
38 likely to have a lower economic impact compared with admitting them to general hospitals,
39 either after a psychosocial assessment or not. However, they agreed that despite the lack of
40 evidence for the benefit of admitting people to hospital, in some cases it can be helpful to
41 give the person time to recover. The committee expressed the opinion that the
42 recommendations they made may reduce variation in practice but are overall expected to
43 have a minimal resource impact as they reflect current practice.

1 **Recommendations supported by this evidence review**

2 This evidence review supports recommendations 1.8.1-1.8.6 and the research
3 recommendation 3 on routine admission compared to automatic admission effective for
4 young people or older adults who have self-harmed.

5 **References – included studies**

6 **Effectiveness**

7 **Waterhouse 1990**

8 Waterhouse, J., Platt, S., General hospital admission in the management of parasuicide. A
9 randomised controlled trial, British Journal of Psychiatry, 156, 236-242, 1990

10 **Economic**

11 No studies were identified that met the inclusion criteria.

1 Appendices

2 Appendix A Review protocols

3 Review protocol for review question: What are the benefits and harms associated with admission to acute general 4 hospital for people who have self-harmed but no longer require physical care?

5 **Table 3: Review protocol**

Field	Content
PROSPERO registration number	CRD42020176204
Review title	Admission to hospital
Review question	What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?
Objective	To evaluate the benefits and harms of admission to hospital for people who have self-harmed but no longer require physical care.
Searches	<p>The following databases will be searched:</p> <ul style="list-style-type: none"> • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Database of Abstracts of Reviews of Effects (DARE) • Embase • Emcare • International Health Technology Assessment (IHTA) database • MEDLINE & MEDLINE In-Process • PsycINFO <p>Searches will be restricted by:</p> <ul style="list-style-type: none"> • English language studies • Human studies <p>Other searches:</p> <ul style="list-style-type: none"> • Inclusion lists of systematic reviews • Reference lists of included studies

Field	Content
	The full search strategies will be published in the final review.
Condition or domain being studied	All people who have self-harmed, including those with a mental health problem, neurodevelopmental disorder or a learning disability. 'Self-harm' is defined as intentional self-poisoning or injury irrespective of the apparent purpose of the act. This does not include any mental health problem or substance use disorder that may be associated with self-harm, nor does it include repetitive stereotypical self-injurious behaviour, for example head-banging in people with a significant learning disability.
Population	Inclusion: All people who have self-harmed and have presented to the emergency department, but no longer require physical care, including those with a mental health problem, neurodevelopmental disorder or a learning disability Exclusion: <ul style="list-style-type: none"> • People who have self-harmed who require physical care • People displaying repetitive stereotypical self-injurious behaviour, for example head-banging in people with a significant learning disability
Intervention	Admission to acute general hospital Exclusion: Admission to psychiatric hospital
Comparator/Reference standard/Confounding factors	<ul style="list-style-type: none"> • Discharge to normal place of residence • Discharge to alternative community or inpatient care
Types of study to be included	<ul style="list-style-type: none"> • Systematic review of randomised controlled trials (RCTs) or non-randomised comparative prospective and retrospective cohort studies • RCTs • Non-randomised comparative prospective cohort studies with N≥100 per treatment arm • Non-randomised comparative retrospective cohort studies with N≥100 per treatment arm • Conference abstracts will not be included. <p>Non-randomised studies should adjust for the following covariates in their analysis when there are differences between groups at baseline: age, gender, previous self-harm, comorbidities (e.g. alcohol and drug misuse, psychiatric illness, physical illness), and current psychiatric treatment. Studies will be downgraded for risk of bias if important covariates are not adequately adjusted for, but will not be excluded for this reason.</p>
Other exclusion criteria	Studies will not be included for the following reasons: <ul style="list-style-type: none"> • Language: Non-English • Publication status: Abstract only <p>Studies published in languages other than English will not be considered due to time and resource constraints with translation.</p>
Context	Settings: Inclusion: <ul style="list-style-type: none"> • Emergency departments (Intervention) • Home, residential and community settings, such as supported accommodation (Comparator) • Supported care settings (Comparator)

Field	Content
Primary outcomes (critical outcomes)	<p>Critical:</p> <ul style="list-style-type: none"> • Self-harm repetition (for example, self-poisoning or self-cutting) • Service user satisfaction • Suicide
Secondary outcomes (important outcomes)	<p>Important:</p> <ul style="list-style-type: none"> • Family/carer satisfaction • Receipt of biopsychosocial assessment • Time to receipt of biopsychosocial assessment • Perceived stigma/discrimination
Data extraction (selection and coding)	<p>All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated.</p> <p>Titles and abstracts of the retrieved citations will be screened to identify studies that potentially meet the inclusion criteria outlined in the review protocol.</p> <p>Dual sifting will be performed on 5% of records; 90% agreement is required. Disagreements will be resolved via discussion between the two reviewers, and consultation with senior staff if necessary.</p> <p>Full versions of the selected studies will be obtained for assessment. Studies that fail to meet the inclusion criteria once the full version has been checked will be excluded at this stage. Each study excluded after checking the full version will be listed, along with the reason for its exclusion.</p> <p>A standardised form will be used to extract data from studies. A standardised form will be used to extract data from studies. The following data will be extracted: study details (reference, country where study was carried out, type and dates), participant characteristics, inclusion and exclusion criteria, details of the interventions, setting and follow-up, relevant outcome data, risk of bias and source of funding. One reviewer will extract relevant data into a standardised form, and this will be quality assessed by a senior reviewer.</p>
Risk of bias (quality) assessment	<p>Quality assessment of individual studies will be performed using the following checklists:</p> <ul style="list-style-type: none"> • ROBIS tool for systematic reviews • Cochrane RoB tool v.2 for RCTs and quasi-RCTs • Cochrane ROBINS-I tool for non-randomised (clinical) controlled trials and cohort studies <p>The quality assessment will be performed by one reviewer and this will be quality assessed by a senior reviewer.</p>
Strategy for data synthesis	<p>Quantitative findings will be formally summarised in the review. Where multiple studies report on the same outcome for the same comparison, meta-analyses will be conducted using Cochrane Review Manager software. A fixed effect meta-analysis will be conducted and data will be presented as risk ratios if possible or odds ratios when required (for example if only available in this form in included studies) for dichotomous outcomes, and mean differences or standardised mean differences for continuous outcomes. Heterogeneity in the effect estimates of the individual studies will be assessed using the I² statistic. I² values of greater than 50% and 80% will be considered as significant and very significant heterogeneity, respectively. Heterogeneity will be explored as appropriate using sensitivity analyses and subgroup analyses based on identified covariates if they have not been adjusted for. If heterogeneity cannot be explained through subgroup analysis then a random effects model will be used for meta-analysis, or the data will not be pooled if the random effects model does not adequately address heterogeneity.</p> <p>The confidence in the findings across all available evidence will be evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group: http://www.gradeworkinggroup.org/</p>
Analysis of sub-groups	<p>Evidence (if data allows) will be stratified by:</p> <ul style="list-style-type: none"> • Age group: ≥65 years, 18-64 years, 16-17 years, <16 years

Field	Content																					
Type and method of review	Intervention																					
Language	English																					
Country	England																					
Anticipated or actual start date	09/03/2020																					
Anticipated completion date	26/01/2022																					
Stage of review at time of this submission	<table border="1"> <thead> <tr> <th>Review stage</th> <th>Started</th> <th>Completed</th> </tr> </thead> <tbody> <tr> <td>Preliminary searches</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Piloting of the study selection process</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Formal screening of search results against eligibility criteria</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Data extraction</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Risk of bias (quality) assessment</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Data analysis</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	Review stage	Started	Completed	Preliminary searches	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Piloting of the study selection process	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Formal screening of search results against eligibility criteria	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data extraction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Risk of bias (quality) assessment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data analysis	<input type="checkbox"/>	<input type="checkbox"/>
Review stage	Started	Completed																				
Preliminary searches	<input type="checkbox"/>	<input checked="" type="checkbox"/>																				
Piloting of the study selection process	<input type="checkbox"/>	<input checked="" type="checkbox"/>																				
Formal screening of search results against eligibility criteria	<input type="checkbox"/>	<input checked="" type="checkbox"/>																				
Data extraction	<input type="checkbox"/>	<input checked="" type="checkbox"/>																				
Risk of bias (quality) assessment	<input type="checkbox"/>	<input checked="" type="checkbox"/>																				
Data analysis	<input type="checkbox"/>	<input type="checkbox"/>																				
Named contact	5a. Named contact: National Guideline Alliance 5b Named contact e-mail: selfharm@nice.org.uk 5e Organisational affiliation of the review: National Institute for Health and Care Excellence (NICE) and National Guideline Alliance																					
Review team members	National Guideline Alliance																					
Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.																					
Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any																					

Field	Content
	potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10148 .
Other registration details	None
URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=176204
Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: notifying registered stakeholders of publication publicising the guideline through NICE's newsletter and alerts issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.
Keywords	Self-harm, assessment, management, prevention, admission, inpatient care, health care
Details of existing review of same topic by same authors	None
Current review status	Ongoing
Additional information	Not applicable
Details of final publication	www.nice.org.uk

1 CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; GRADE: Grading of Recommendations Assessment,
2 Development and Evaluation; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; RCT(s): randomised controlled trial(s); RevMan:
3 review manager; RoB: risk of bias; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions

Appendix B Literature search strategies

Literature search strategies for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

Clinical

Database(s): MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily – OVID interface

Date of last search: 12th August 2021

#	searches
1	drug overdose/ or self mutilation/ or self-injurious behavior/ or suicidal ideation/ or suicide, attempted/ or suicide, completed/ or suicide/
2	(self harm* or selfharm* or self injur* or selfinjur* or self mutilat* or selfmutilat* or suicid* or self destruct* or selfdestruct* or self poison* or selfpoison* or (self adj2 cut*) or cutt* or overdose* or self immolat* or self immolat* or selfinflict* or self inflict* or auto mutilat* or automutilat*).tw.
3	or/1-2
4	emergencies/ or exp emergency medical services/ or exp emergency service, hospital/
5	(a&e or emergen* or urgen* or ((acute* or critical*) adj2 (care or hospital* or service* or ward*))).ti,ab.
6	or/4-5
7	patient admission/ or patient readmission/
8	(admission* or admit* or attendance* or readmi*).ti,ab.
9	or/7-8
10	6 and 9
11	((enter* or transport* or visit*) adj3 (a&e or acute* or critical* or emergen* or urgen*)).ti,ab.
12	(hospitali* and (a&e or emergen* or urgen* or acute* or critical*)).hw. or (hospitali* adj3 (a&e or emergen* or urgen* or acute* or critical*)).ti,ab.
13	((((acute* or critical* or a&e or emergen* or urgen*) adj2 (care or hospital* or service* or ward*)) or general hospital).ti.
14	((admission* or attendance* or discharg* or readmission*) adj5 discharg* adj5 (acute* or critical* or a&e or emergen* or urgen*)).ti,ab.
15	(admission* and (head bang* or headbang* or self harm* or selfharm* or self injur* or selfinjur* or self mutilat* or selfmutilat* or suicid* or self destruct* or selfdestruct* or self poison* or selfpoison* or (self adj2 cut*) or cutt* or overdose* or self immolat* or self immolat* or selfinflict* or self inflict* or auto mutilat* or automutilat*)).ti.
16	or/11-15
17	3 and (or/10,16)
18	letter/ or editorial/ or news/ or exp historical article/ or anecdotes as topic/ or comment/ or case report/ or (letter or comment*).ti. or (animals not humans).sh. or exp animals, laboratory/ or exp animal experimentation/ or exp models, animal/ or

#	searches
	exp rodentia/ or (rat or rats or mouse or mice).ti.
19	17 not 18
20	limit 19 to english language

Database(s): Embase and Emcare – OVID interface

Date of last search: 12th August 2021

#	searches
1	automutilation/ or exp suicidal behavior/
2	(self harm* or selfharm* or self injur* or selfinjur* or self mutilat* or selfmutilat* or suicid* or self destruct* or selfdestruct* or self poison* or selfpoison* or (self adj2 cut*) or cutt* or overdose* or self immolat* or self immolat* or selfinflict* or self inflict* or auto mutilat* or automutilat*).tw.
3	or/1-2
4	emergency/ or exp emergency health service/
5	(a&e or emergen* or urgen* or ((acute* or critical*) adj2 (care or hospital* or service* or ward*))).ti,ab.
6	or/4-5
7	hospital admission/ or hospital readmission/
8	(admission* or admit* or attendance* or readmi*).ti,ab.
9	or/7-8
10	6 and 9
11	((enter* or transport* or visit*) adj3 (a&e or acute* or critical* or emergen* or urgen*)).ti,ab.
12	(hospitali* and (a&e or emergen* or urgen* or acute* or critical*)).hw. or (hospitali* adj3 (a&e or emergen* or urgen* or acute* or critical*)).ti,ab.
13	((acute* or critical* or a&e or emergen* or urgen*) adj2 (care or hospital* or service* or ward*)) or general hospital).ti.
14	((admission* or attendance* or discharg* or readmission*) adj5 discharg* adj5 (acute* or critical* or a&e or emergen* or urgen*)).ti,ab.
15	(admission* and (head bang* or headbang* or self harm* or selfharm* or self injur* or selfinjur* or self mutilat* or selfmutilat* or suicid* or self destruct* or selfdestruct* or self poison* or selfpoison* or (self adj2 cut*) or cutt* or overdose* or self immolat* or self immolat* or selfinflict* or self inflict* or auto mutilat* or automutilat*)).ti.
16	or/11-15
17	3 and (or/10,16)
18	(animal/ not human/) or exp Animal Experiment/ or animal model/ or exp Experimental Animal/ or nonhuman/ or exp Rodent/ or (rat or rats or mouse or mice).ti.
19	17 not 18
20	limit 19 to english language

Database(s): PsycINFO – OVID interface

Date of last search: 12th August 2021

#	searches
1	self-injurious behavior/ or self-destructive behavior/ or self-inflicted wounds/ or self-mutilation/ or self-poisoning/ or exp suicide/ or suicidal ideation/
2	(self harm* or selfharm* or self injur* or selfinjur* or self mutilat* or selfmutilat* or suicid* or self destruct* or selfdestruct* or self poison* or selfpoison* or (self adj2 cut*) or cutt* or overdose* or self immolat* or self immolat* or selfinflict* or self inflict* or auto mutilat* or automutilat*).tw.
3	or/1-2
4	exp emergency management/ or emergency medicine/ or exp emergency services/
5	(a&e or emergen* or urgen* or ((acute* or critical*) adj2 (care or hospital* or service* or ward*))).ti,ab.
6	or/4-5
7	patient admission/ or patient readmission/
8	(admission* or admit* or attendance* or readmi*).ti,ab.
9	or/7-8
10	6 and 9
11	((enter* or transport* or visit*) adj3 (a&e or acute* or critical* or emergen* or urgen*)).ti,ab.
12	(hospitali* and (a&e or emergen* or urgen* or acute* or critical*)).hw. or (hospitali* adj3 (a&e or emergen* or urgen* or acute* or critical*)).ti,ab.
13	((acute* or critical* or a&e or emergen* or urgen*) adj2 (care or hospital* or service* or ward*)) or general hospital).ti.
14	((admission* or attendance* or discharg* or readmission*) adj5 discharg* adj5 (acute* or critical* or a&e or emergen* or urgen*)).ti,ab.
15	(admission* and (head bang* or headbang* or self harm* or selfharm* or self injur* or selfinjur* or self mutilat* or selfmutilat* or suicid* or self destruct* or selfdestruct* or self poison* or selfpoison* or (self adj2 cut*) or cutt* or overdose* or self immolat* or self immolat* or selfinflict* or self inflict* or auto mutilat* or automutilat*)).ti.
16	or/11-15
17	3 and (or/10,16)
18	limit 17 to english language

Database(s): Cochrane Library - Wiley interface

Cochrane Database of Systematic Reviews, Issue 8 of 12, August 2021; Cochrane Central Register of Controlled Trials, Issue 8 of 12, August 2021

Date of last search: 12th August 2021

#	searches
1	MeSH descriptor: [poisoning] this term only
2	MeSH descriptor: [self-injurious behavior] explode all trees
3	MeSH descriptor: [self mutilation] this term only
4	MeSH descriptor: [suicide] this term only
5	MeSH descriptor: [suicidal ideation] this term only
6	MeSH descriptor: [suicide, attempted] this term only

#	searches
7	MeSH descriptor: [suicide, completed] this term only
8	(automutilat* or “auto mutilat*” or cutt* or (self near/2 cut*) or selfdestruct* or “self destruct*” or selfharm* or “self harm*” or selfimmolat* or “self immolat*” or selfinflict* or “self inflict*” or selfinjur* or “self injur*” or selfmutilat* or “self mutilat*” or selfpoison* or “self poison*” or selfwound* or “self wound*” or suicid*):ti,ab.
9	{or #1-#8}
10	MeSH descriptor: [emergencies] this term only
11	MeSH descriptor: [emergency medical services] explode all trees
12	MeSH descriptor: [emergency service, hospital] explode all trees
13	(a&e or emergen* or urgen* or ((acute* or critical*) near/2 (care or hospital* or service* or ward*))) :ti,ab.
14	{OR #10-#13}
15	MeSH descriptor: [patient admission] this term only
16	MeSH descriptor: [patient readmission] this term only
17	(admission* or admit* or attendance* or readmi*):ti,ab.
18	{OR #15-#17}
19	#14 and #18
20	((enter* or transport* or visit*) near/3 (a&e or acute* or critical* or emergen* or urgen*)):ti,ab.
21	(hospitali* and (a&e or emergen* or urgen* or acute* or critical*)).hw. or (hospitali* near/3 (a&e or emergen* or urgen* or acute* or critical*)):ti,ab.
22	((acute* or critical* or a&e or emergen* or urgen*) near/2 (care or hospital* or service* or ward*)) or “general hospital”):ti.
23	((admission* or attendance* or discharg* or readmission*) near/5 discharg* near/5 (acute* or critical* or a&e or emergen* or urgen*)):ti,ab.
24	(admission* and (“self harm*” or selfharm* or “self injur*” or selfinjur* or “self mutilat*” or selfmutilat* or suicid* or “self destruct*” or selfdestruct* or “self poison*” or selfpoison* or (self near/2 cut*) or cutt* or overdose* or “self immolat*” or self immolat* or selfinflict* or “self inflict*” or “auto mutilat*” or automutilat*)):ti.
25	{OR #20-#24}
26	#9 and (#19 or #25)

Database(s): CDSR and HTA – CRD interface

Date of last search: 12th August 2021

#	Searches
1	MeSH descriptor: poisoning IN CDSR, HTA
2	MeSH descriptor: self-injurious behavior EXPLODE ALL TREES IN CDSR, HTA
3	MeSH descriptor: self mutilation IN CDSR, HTA
4	MeSH descriptor: suicide IN CDSR, HTA
5	MeSH descriptor: suicidal ideation IN CDSR, HTA
6	MeSH descriptor: suicide, attempted IN CDSR, HTA

#	Searches
7	MeSH descriptor: suicide, completed IN CDSR, HTA
8	(automutilat* or "auto mutilat*" or cutt* or (self near2 cut*) or selfdestruct* or "self destruct*" or selfharm* or "self harm*" or selfimmolat* or "self immolat*" or selfinflict* or "self inflict*" or selfinjur* or "self injur*" or selfmutilat* or "self mutilat*" or selfpoison* or "self poison*" or selfwound* or "self wound*" or suicid*) IN CDSR, HTA
9	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8)

Economic

A global, population based search was undertaken to find for economic evidence covering all parts of the guideline.

Database(s) MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily – OVID interface

Date of last search: 12th August 2021

#	Searches
1	poisoning/ or exp self-injurious behavior/ or self mutilation/ or suicide/ or suicidal ideation/ or suicide, attempted/ or suicide, completed/
2	(automutilat* or auto mutilat* or cutt* or (self adj2 cut*) or selfdestruct* or self destruct* or selfharm* or self harm* or selfimmolat* or self immolat* or selfinflict* or self inflict* or selfinjur* or self injur* or selfmutilat* or self mutilat* or selfpoison* or self poison* or selfwound* or self wound* or suicid*).ti,ab.
3	or/1-2
4	Economics/
5	Value of life/
6	exp "Costs and Cost Analysis"/
7	exp Economics, Hospital/
8	exp Economics, Medical/
9	Economics, Nursing/
10	Economics, Pharmaceutical/
11	exp "Fees and Charges"/
12	exp Budgets/
13	budget*.ti,ab.
14	cost*.ti.
15	(economic* or pharmaco?economic*).ti.
16	(price* or pricing*).ti,ab.
17	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
18	(financ* or fee or fees).ti,ab.
19	(value adj2 (money or monetary)).ti,ab.
20	Quality-Adjusted Life Years/
21	Or/4-20
22	3 and 21
23	limit 22 to yr="2000 -current"

Database(s): Embase and Emcare – OVID interface

23

Self-harm: assessment, management and preventing recurrence: evidence reviews for admission to hospital DRAFT (January 2022)

Date of last search: 12th August 2021

#	searches
1	automutilation/ or exp suicidal behavior/
2	(auto mutilat* or automutilat* or self cut* or selfcut* or self destruct* or selfdestruct* or self harm* or selfharm* or self immolat* or selfimmolat* or self inflict* or selfinflict* or self injur* or selfinjur* or self mutilat* or selfmutilat* or self poison* or selfpoison* or suicid*).ti,ab.
3	or/1-2
4	health economics/
5	exp economic evaluation/
6	exp health care cost/
7	exp fee/
8	budget/
9	funding/
10	budget*.ti,ab.
11	cost*.ti.
12	(economic* or pharmaco?economic*).ti.
13	(price* or pricing*).ti,ab.
14	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15	(financ* or fee or fees).ti,ab.
16	(value adj2 (money or monetary)).ti,ab.
17	Quality-Adjusted Life Year/
18	Or/4-17
19	3 and 18
20	limit 19 to yr="2000 -current"

Database(s): Cochrane Library - Wiley interface

Cochrane Central Register of Controlled Trials, Issue 8 of 12, August 2021

Date of last search: 12th August 2021

#	Searches
1	MeSH descriptor: [poisoning] this term only
2	MeSH descriptor: [self-injurious behavior] explode all trees
3	MeSH descriptor: [self mutilation] this term only
4	MeSH descriptor: [suicide] this term only
5	MeSH descriptor: [suicidal ideation] this term only
6	MeSH descriptor: [suicide, attempted] this term only
7	MeSH descriptor: [suicide, completed] this term only
8	(automutilat* or "auto mutilat*" or cutt* or (self near/2 cut*) or selfdestruct* or "self destruct*" or selfharm* or "self harm*" or selfimmolat* or "self immolat*" or selfinflict* or "self inflict*" or selfinjur* or "self injur*" or selfmutilat* or "self mutilat*" or selfpoison* or "self poison*" or selfwound* or "self wound*" or suicid*):ti,ab.
9	{or #1-#8}

#	Searches
10	MeSH descriptor: [Economics] this term only
11	MeSH descriptor: [Value of life] this term only
12	MeSH descriptor: [Costs and Cost Analysis] explode all trees
13	MeSH descriptor: [Economics, Hospital] explode all trees
14	MeSH descriptor: [Economics, Medical] explode all trees
15	MeSH descriptor: [Economics, Nursing] this term only
16	MeSH descriptor: [Economics, Pharmaceutical] this term only
17	MeSH descriptor: [Fees and Charges"]
18	MeSH descriptor: [Budgets] this term only
19	budget*:ti,ab.
20	cost*.ti.
21	(economic* or pharmaco?economic*):ti.
22	(price* or pricing*):ti,ab.
23	(cost* near/2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)):ab.
24	(financ* or fee or fees):ti,ab.
25	(value near/2 (money or monetary)):ti,ab.
26	MeSH descriptor: [Quality-Adjusted Life Years] this term only
27	{OR #10-#26}
28	(#9 and #27) with Cochrane Library publication date Between Jan 2000 and Aug 2021

Database(s): NHS EED and HTA – CRD interface

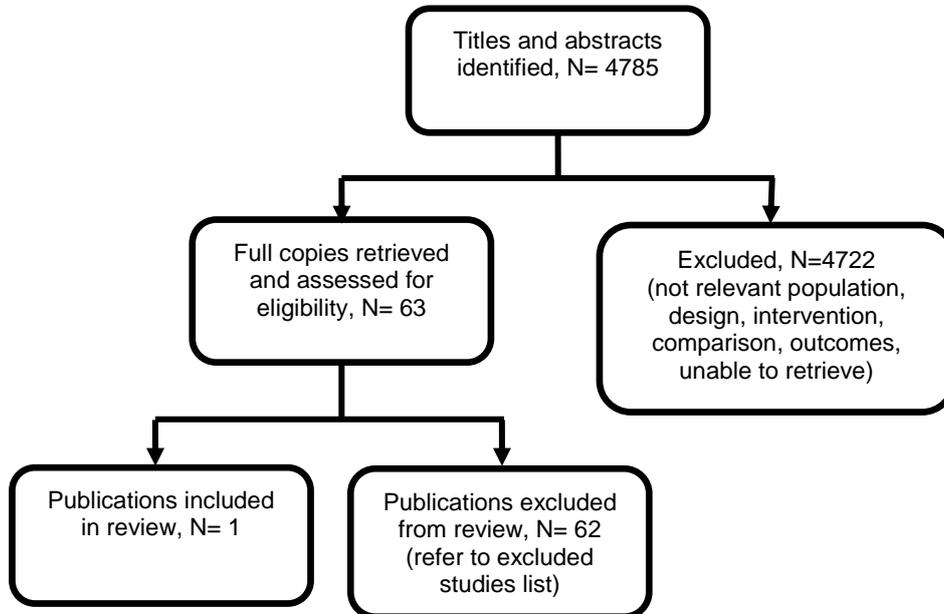
Date of last search: 12th August 2021

#	Searches
1	MeSH descriptor: poisoning IN NHSEED, HTA
2	MeSH descriptor: self-injurious behavior EXPLODE ALL TREES IN NHSEED, HTA
3	MeSH descriptor: self mutilation IN NHSEED, HTA
4	MeSH descriptor: suicide IN NHSEED, HTA
5	MeSH descriptor: suicidal ideation IN NHSEED, HTA
6	MeSH descriptor: suicide, attempted IN NHSEED, HTA
7	MeSH descriptor: suicide, completed IN NHSEED, HTA
8	(automutilat* or "auto mutilat*" or cutt* or (self near2 cut*) or selfdestruct* or "self destruct*" or selfharm* or "self harm*" or selfimmolat* or "self immolat*" or selfinflict* or "self inflict*" or selfinjur* or "self injur*" or selfmutilat* or "self mutilat*" or selfpoison* or "self poison*" or selfwound* or "self wound*" or suicid*) IN NHSEED, HTA
9	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8) from 2000 to 2021

Appendix C Clinical evidence study selection

Study selection for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

Figure 1: Study selection flow chart



Appendix D Evidence tables

Evidence tables for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

Table 4: Evidence tables

Study details	Participants	Interventions	Outcomes and results	Comments
<p>Full citation Waterhouse, J., Platt, S., General hospital admission in the management of parasuicide. A randomised controlled trial, British Journal of Psychiatry, 156, 236-242, 1990</p> <p>Ref Id 1230301</p> <p>Country/ies where the study was carried out England</p> <p>Study type Randomised controlled trial</p> <p>Study dates Not reported</p> <p>Source of funding A research grant was provided by the Yorkshire Regional Health Authority.</p>	<p>Inclusion criteria Patients who had deliberately ingested a substance in excess of any prescribed or generally recognised therapeutic dose and did not require physical or psychiatric care.</p> <p>Exclusion criteria Patients who:</p> <ul style="list-style-type: none"> • had self-harmed using methods other than self-poisoning • had self-discharged • were psychiatric in-patients • were <16 years of age • had no place of permanent residence • lived >20 miles out of the city in which the study took place • had not presented at the ED 	<p>Hospital admission: Patients received an initial assessment in the emergency department then were admitted to the district general hospital but did not receive any further treatment, referral, or counselling. The recommended minimum length of stay was 12 hours, with admission ranging from 10 to 88 hours and a median length of stay of 17 hours. Patients were advised to contact their GP as soon as possible if they required further support.</p> <p>Versus</p> <p>Discharge home: Patients received an initial assessment in the emergency department for a time</p>	<p>Repeat self-poisoning (1 week; total N = 75 not split into intervention groups)</p> <ul style="list-style-type: none"> ○ Admitted: N=2 ○ Discharged: N=2 <p>Repeat self-poisoning (16 weeks; total N = 70-75 not split into intervention groups)</p> <ul style="list-style-type: none"> ○ Admitted: N=3 ○ Discharged: N=4 	<p>1. Bias arising from the randomisation process Risk-of-bias judgement - Some concerns (<i>Significant difference in age between groups suggest a problem with randomization process</i>)</p> <p>2. Bias arising due to deviations from intended interventions (Low/High/Some concerns) Risk-of-bias judgement - Low</p> <p>3. Bias due to missing outcome data Risk-of-bias judgement – Low (For repeat self-poisoning at 1 week; Some concerns (for repeat self-poisoning at 16 weeks))</p> <p>4. Bias in measurement of the outcome (Low/High/Some concerns) Risk-of-bias judgement - Low risk</p> <p>5. Bias in selection of the reported result Risk-of-bias judgement - Low risk</p>

Study details	Participants	Interventions	Outcomes and results	Comments
	<p>Patient characteristics N=77 randomised</p> <ul style="list-style-type: none"> Admitted: n=38 Discharged: n=39 <p>Mean age (SD):</p> <ul style="list-style-type: none"> Admitted: 33.77 (13.4) years Discharged: 26.8 (10.9) years The admitted group was significantly older than the discharged group. <p>Sex (female/ male): 48/ 29 (not reported separately)</p> <p>Mean hopelessness Scale score just before parasuicide (SD) - completed retrospectively at 1 week:</p> <ul style="list-style-type: none"> Admitted: 10.29 (5.68) Discharged: 10.21 (4.97) <p>Gender, socio-</p>	<p>period ranging from 20 minutes to 5 hours, with a median length of assessment of 1 hour. After assessment, patients were immediately discharged to their place of residence and advised to contact their GP as soon as possible if they required further support.</p> <p>Follow-up 1 week and 16 weeks.</p>		<p>Overall risk of bias - Some concerns <i>(Some concerns due to risk of bias arising from randomization process)</i></p>

Study details	Participants	Interventions	Outcomes and results	Comments
	economic group, history of previous parasuicide, marital status, household circumstance, perceived hopelessness just before parasuicide and previous psychiatric history did not differ significantly between the intervention groups.			

GP: general practitioner; HS: Hopelessness Scale; SD: standard deviation

Appendix E Forest plots

Forest plots for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

No meta-analysis was conducted for this review question and so there are no forest plots.

Appendix F Modified GRADE tables

Modified GRADE tables for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

Table 5: Evidence profile for comparison between admission to hospital and discharge home for people who have self-harmed presenting to the emergency department but no longer require physical care

Quality assessment						No of patients		Effect		Quality	Importance
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Other considerations	Admission	Discharge	Relative (95% CI)	Absolute		
Repeat self-harm by follow-up - 1 week (follow-up 1 weeks; assessed with: GP interview)											
1 (Waterhouse 1990)	RCT	serious ¹	no serious inconsistency	no serious indirectness	none	2/38 ² (5.3%)	2/39 ² (5.1%)	RR 1.03 (0.15 to 6.92)	2 more per 1000 (from 44 fewer to 304 more)	MODERATE	CRITICAL
Repeat self-harm by follow-up - 16 weeks (follow-up 16 weeks; assessed with: GP interview)											
1 (Waterhouse 1990)	RCT	serious ¹	no serious inconsistency	no serious indirectness	none	3/38 ³ (7.9%)	4/39 ³ (10.3%)	RR 0.77 (0.18 to 3.21)	24 fewer per 1000 (from 84 fewer to 227 more)	MODERATE	CRITICAL

CI: confidence intervals; GP: general practitioner; RCT: randomised controlled trial; RR: risk ratio

¹ Serious risk of bias in the evidence contributing to the outcomes

² Data were available for 75 participants at 1 week but authors did not report which arms were missing data. Therefore, the total number assigned to intervention was used

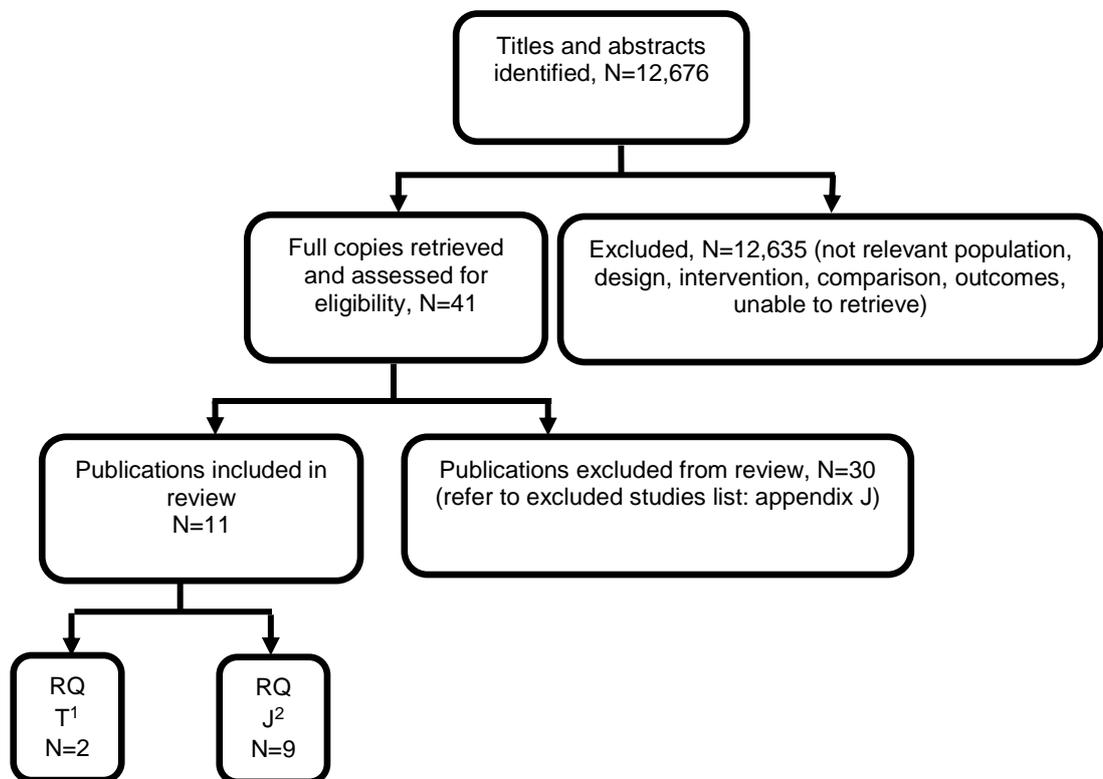
³ Data were available for 70-75 participants at 16 weeks but authors did not report which arms were missing data. Therefore, the total number assigned to intervention was used

Appendix G Economic evidence study selection

Study selection for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

A global health economics search was undertaken for all areas covered in the guideline. Figure 2 shows the flow diagram of the selection process for economic evaluations of interventions and strategies associated with the care of people who have self-harmed.

Figure 2: Flow diagram of economic article selection for global health economic search



Abbreviations: RQ: Research question

Notes:

1 What are the most effective models of care for people who have self-harmed?

2 What psychological and psychosocial interventions (including safety plans and electronic health-based interventions) are effective for people who have self-harmed?

Appendix H Economic evidence tables

Economic evidence tables for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

No evidence was identified which was applicable to this review question.

Appendix I Economic model

Economic model for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

No economic analysis was conducted for this review question.

Appendix J Excluded studies

Excluded studies for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

Excluded effectiveness studies

Table 6: Excluded studies and reasons for their exclusion

Study	Reason for Exclusion
Abba, K., Church, E., Webster, J., What happens to patients who attend A and E with deliberate self-harm? - Tracking the follow-up they receive, <i>Journal of Clinical Governance</i> , 7, 68-73, 1999	Full-text paper never provided
Barr, W., Leitner, M., Thomas, J., Self-harm patients who take early discharge from the accident and emergency department: how do they differ from those who stay?, <i>Accident & Emergency Nursing</i> 12, 108-13, 2004	Comparison/ analyses not in PICO: Patients who chose to remain in the hospital versus those who chose to leave prior to completion of their assessment and/or treatment (early discharge)
Bennett, K., Rhodes, A. E., Duda, S., Cheung, A. H., Manassis, K., Links, P., Mushquash, C., Braunberger, P., Newton, A. S., Kutcher, S., Bridge, J. A., Santos, R. G., Manion, I. G., McLennan, J. D., Bagnell, A., Lipman, E., Rice, M., Szatmari, P., A youth suicide prevention plan for Canada: A systematic review of reviews, <i>Canadian Journal of Psychiatry</i> , 60, 245-257, 2015	Systematic review, included studies checked for relevance
Bennewith, O., Peters, T. J., Hawton, K., House, A., Gunnell, D., Factors associated with the non-assessment of self-harm patients attending an Accident and Emergency Department: results of a national study, <i>Journal of affective disorders</i> , 89, 91-7, 2005	Analyses not in PICO. Unclear why patients who were admitted were admitted (that is, whether they still required physical care)
Blake, D. R., Mitchell, J. R., Self-poisoning: management of patients in Nottingham, 1976, <i>British Medical Journal</i> , 1, 1032-5, 1978	Analyses/ comparison not in PICO
Boschulte, J. C., Shannon, M. W., An innovative audit of overdose management in a general hospital, <i>Hospital and Community Psychiatry</i> , 32, 61-62, 1981	Narrative review/ non-randomised study, N=100
Boyce, P., Australian and New Zealand clinical practice guidelines for the management of adult deliberate self-harm, <i>Australian and New Zealand Journal of Psychiatry</i> , 38, 868-884, 2004	Guideline/narrative review
Cantor, C., Compulsory admission and suicide [1], <i>Psychiatric Bulletin</i> , 23, 303, 1999	Letter, no original data
Carroll, R., Corcoran, P., Griffin, E., Perry, I., Arensman, E., Gunnell, D., Metcalfe, C.,	Mixed population: All patients admitted or not admitted to a medical or psychiatric bed. Not

Study	Reason for Exclusion
Variation between hospitals in inpatient admission practices for self-harm patients and its impact on repeat presentation, <i>Social psychiatry and psychiatric epidemiology</i> , 51, 1485-1493, 2016	further subdivided into patients who did not still require physical care
Carroll, R., Metcalfe, C., Gunnell, D., Hospital management of self-harm patients and risk of repetition: Systematic review and meta-analysis, <i>Journal of Affective Disorders</i> , 168, 476-483, 2014	Systematic review, included studies checked for relevance (systematic review itself performed between-study comparisons, not meta-analyses of within-study comparisons)
Chang, B. P., Pany, M. J., Obermeyer, Z., Early death after emergency department discharge in patients with psychiatric illness, <i>American Journal of Emergency Medicine</i> , 35, 784-786, 2017	Non-randomised study, N=184
Choi, J. W., Park, S., Yi, K. K., Hong, J. P., Suicide mortality of suicide attempt patients discharged from emergency room, nonsuicidal psychiatric patients discharged from emergency room, admitted suicide attempt patients, and admitted nonsuicidal psychiatric patients, <i>Suicide & life-threatening behavior</i> , 42, 235-243, 2012	Comparison/ analyses not in PICO: Discharge versus psychiatric admission
Cooper, Jayne, Steeg, Sarah, Gunnell, David, Webb, Roger, Hawton, Keith, Bennewith, Olive, House, Allan, Kapur, Navneet, Bennewith, Carroll Cooper Gunnell Hawton Hunter Kapur Kapur Sedgwick Taylor, Variations in the hospital management of self-harm and patient outcome: A multi-site observational study in England, <i>Journal of Affective Disorders</i> , 174, 101-105, 2015	Mixed population (patients admitted to a medical bed not further specified), results not reported separately for target population (those admitted to medical bed who did not need physical care)
Downes, M. A., Balshaw, J. K., Muscat, T. M., Ritchie, N., Isbister, G. K., Impact of an emergency short stay unit on emergency department performance of poisoned patients, <i>American Journal of Emergency Medicine</i> , 35, 764-768, 2017	Population not in PICO: Patients not medically cleared for discharge/ patients still requiring physical care
Gardner, R., Hanka, R., Roberts, S. J., Allon-Smith, J. M., Kings, A. A., Nicholson, R., Psychological and social evaluation in cases of deliberate self-poisoning seen in an accident department, <i>British Medical Journal Clinical Research Ed.</i> , 284, 491-3, 1982	Non-randomised study, n<100 in at least one of the groups; admitted population also not very well-defined, appears to also include people who are not medically cleared for discharge
Garlow, S. J., D'Orio, B., Purselle, D. C., The relationship of restrictions on state hospitalization and suicides among emergency psychiatric patients, <i>Psychiatric Services</i> , 53, 1297-1300, 2002	Mixed population, results not presented separately for the target population/ comparison
Inagaki, M., Kawashima, Y., Kawanishi, C., Yonemoto, N., Sugimoto, T., Furuno, T., Ikeshita, K., Eto, N., Tachikawa, H., Shiraishi, Y., Yamada, M., Interventions to prevent repeat suicidal behavior in patients admitted to an emergency department for a suicide attempt: A meta-analysis, <i>Journal of Affective Disorders</i> ,	Systematic review, included studies checked for relevance

Study	Reason for Exclusion
175, 66-78, 2015	
Inagaki, Masatoshi, Kawashima, Yoshitaka, Yonemoto, Naohiro, Yamada, Mitsuhiko, Allard, Arias Bannan Battaglia Beauvais Beck Bertolote Boudreaux Brown Carter Cedereke Christensen Crawford D'Onofrio Davidson DerSimonian Fleischmann Ghahramanlou-Holloway Gibbons Guthrie Hassanian-Moghaddam Hatcher Hawton Inagaki Isometsa Kapur Kawanishi Liberati Liberman McLeavey Meerwijk Milner Morthorst Mousavi Ougrin Posner Raj Ting Torhorst Vaiva van der Sande Van Heeringen Waterhouse Wei, Active contact and follow-up interventions to prevent repeat suicide attempts during high-risk periods among patients admitted to emergency departments for suicidal behavior: A systematic review and meta-analysis, BMC Psychiatry, 19, 2019	Systematic review, included studies checked for relevance; review examined multiple different types of intervention after admission to an ED
Kapur, N., Steeg, S., Turnbull, P., Webb, R., Bergen, H., Hawton, K., Geulayov, G., Townsend, E., Ness, J., Waters, K., Cooper, J., Hospital management of suicidal behaviour and subsequent mortality: A prospective cohort study, The Lancet Psychiatry, 2, 809-816, 2015	Mixed population (patients admitted to a medical bed not further specified), results not reported separately for target population (those admitted to medical bed who did not need physical care)
Kennedy, P., Efficacy of a regional poisoning treatment centre in preventing further suicidal behaviour, British Medical Journal, 4, 255-7, 1972	Non-randomised study, n<100 in at least one of the groups
Kudo, K., Otsuka, K., Endo, J., Yoshida, T., Isono, H., Yambe, T., Nakamura, H., Kawamura, S., Koeda, A., Yagi, J., Kemuyama, N., Harada, H., Chida, F., Endo, S., Sakai, A., Study of the outcome of suicide attempts: Characteristics of hospitalization in a psychiatric ward group, critical care center group, and non-hospitalized group, BMC Psychiatry, 10 (no pagination), 2010	Mixed population, results not reported separately for target population; unclear intervention (in terms of admission to hospital). Does not report on outcomes of interest, focused on characteristics of patients admitted/ not admitted
Lepping, P., Woodworth, B., Roberts, L., Turner, J., Increasing psychosocial assessment by introducing a self-harm pathway, Psychiatric Bulletin, 30, 169-172, 2006	Comparison/ analyses not in PICO
Links, P. S., Hoffman, B., Preventing suicidal behaviour in a general hospital psychiatric service: priorities for programming, Canadian Journal of Psychiatry, Revue canadienne de psychiatrie. 50, 490-496, 2005	Systematic review, included studies checked for relevance
Litt, Iris F., Cuskey, Walter R., Rudd, Shirley, Emergency room evaluation of the adolescent who attempts suicide: Compliance with follow-up, Journal of Adolescent Health Care, 4, 106-108, 1983	Non-randomised study, N=27
MacLay, T., A suicide prevention protocol for critical care, Nursing Critical Care, 7, 17-21, 2012	Narrative review
Marks, I. M., Connolly, J., Muijen, M., Audini, B., McNamee, G., Lawrence, R. E., Home-based	Comparison not in PICO: Home-based interventions (case management, 24-hour

Study	Reason for Exclusion
versus hospital-based care for people with serious mental illness, <i>British Journal of Psychiatry</i> , 165, 179-194, 1994	access to care, treatment at the site of breakdown) versus in-patient care
Mazza, M., Capitani, S., Barbarino, E., De Risio, S., Bria, P., A treatment protocol for suicidal patients in a day hospital setting: preliminary results, <i>Psychiatry Research</i> , 143, 307-10, 2006	Non-randomised study, N=70
Newton, A. S., Hamm, M. P., Bethell, J., Rhodes, A. E., Bryan, C. J., Tjosvold, L., Ali, S., Logue, E., Manion, I. G., Pediatric suicide-related presentations: A systematic review of mental health care in the emergency department, <i>Annals of Emergency Medicine</i> , 56, 649-659.e2, 2010	Systematic review, included studies checked for relevance
Newton, A. S., Hartling, L., Soleimani, A., Kirkland, S., Dyson, M. P., Cappelli, M., A systematic review of management strategies for children's mental health care in the emergency department: Update on evidence and recommendations for clinical practice and research, <i>Emergency Medicine Journal</i> , 34, 376-384, 2017	Systematic review, included studies checked for relevance
Owens, D. W., Jones, S. J., The Accident and Emergency department management of deliberate self-poisoning, <i>British Journal of Psychiatry</i> , 152, 830-833, 1988	Mixed admitted population; results not presented separately for target population/ comparison
Owens, D., Dennis, M., Jones, S., Dove, A., Dave, S., Self-poisoning patients discharged from accident and emergency: risk factors and outcome, <i>Journal of the Royal College of Physicians of London</i> , 25, 218-222, 1991	Mixed admitted population; results not presented separately for target population/ comparison
Reith, D. M., Whyte, I., Carter, G., McPherson, M., Carter, N., Risk factors for suicide and other deaths following hospital treated self-poisoning in Australia, <i>Australian & New Zealand Journal of Psychiatry</i> , 38, 520-5, 2004	Analyses not in PICO; unclear population
Robst, J., Suicide Attempts After Emergency Room Visits: The Effect of Patient Safety Goals, <i>Psychiatric Quarterly</i> , 86, 497-504, 2015	Comparison not in PICO
Rosenbaum Asarnow, Joan, Berk, Michele, Zhang, Lily, Wang, Peter, Tang, Lingqi, Achenbach, Asarnow Asarnow Asarnow Asarnow Asarnow Batten Berk Brent Brent Brent Clarke Cleves Cox Czyz Daniel Finkelstein Glynn Goldstein Goldston Greenfield Gunlicks Hawton Hawton Horwitz Hughes Huth-Bocks Joiner Kerr King King Mars Nock Nock Olfson Ougrin Prins Prinstein Radloff Reinherz Robin Shaffer Sherbourne Spirito Stanley Van Orden Wilkinson Wong Yen, Emergency department youth patients with suicidal ideation or attempts: Predicting suicide attempts through 18 months of follow-up, <i>Suicide and Life-Threatening Behavior</i> , 47, 551-566, 2017	RCT-part of the study: Interventions/ comparisons not in PICO; non-randomised analyses: n<100 in at least one of the intervention groups
Rost, K., Hsieh, Y. P., Xu, S., Harman, J., Gender differences in hospitalization after	Comparison/ analyses not in PICO

Study	Reason for Exclusion
emergency room visits for depressive symptoms, <i>Journal of Women's Health</i> , 20, 719-724, 2011	
Ryan, J., Clemmett, S., Perez-Avila, C., Managing patients with deliberate self harm admitted to an accident and emergency observation ward, <i>Journal of Accident and Emergency Medicine</i> , 13, 31-33, 1996	Non-comparative study
Salisbury, N., Improving emergency care for people who self harm, <i>BMJ (Online)</i> , 353 (no pagination), 2016	Letter, no original data
Sanchez-Teruel, D., Muela-Martinez, J. A., Gonzalez-Cabrera, M., Herrera, M. F. Y., Garcia-Leon, A., Variables related to suicide attempt in a Spanish province over a three-year period (2009-2011), <i>Ciencia & Saude Coletiva</i> , 23, 277-286, 2018	Analyses/ comparison not in PICO
Sanderson, M., Bulloch, A. G., Wang, J., Williams, K. G., Williamson, T., Patten, S. B., Predicting death by suicide following an emergency department visit for parasuicide with administrative health care system data and machine learning, <i>EClinicalMedicine</i> , (no pagination), 2020	Analyses not in PICO
Schmutte, T., Olfson, M., Xie, M., Marcus, S. C., Deliberate self-harm in older adults: A national analysis of US emergency department visits and follow-up care, <i>International Journal of Geriatric Psychiatry</i> , 34, 1058-1069, 2019	Comparison/ analyses not in PICO
Schmutte, T., Olfson, M., Xie, M., Marcus, S. C., Self-Harm, Suicidal Ideation, and Attempted Suicide in Older Adults: A National Study of Emergency Department Visits and Follow-Up Care, <i>American Journal of Geriatric Psychiatry</i> ., 2020	Comparison/ analyses not in PICO
Schnyder, U., Valach, L., Suicide attempters in a psychiatric emergency room population, <i>General Hospital Psychiatry</i> , 19, 119-129, 1997	Comparison/ analyses not in PICO
Sheridan, Edward P., Teplin, Linda A., Recidivism in difficult patients: Differences between community mental health center and state hospital admissions, <i>The American journal of psychiatry</i> , 138, 688-690, 1981	Analyses/ comparison/ population not in PICO
Shin, H., Kim, H. J., Kim, S., Choi, S., Oh, H., Lee, B., Should let them go? Study on the emergency department discharge of patients who attempted suicide, <i>Psychiatry Investigation</i> , 15, 638-648, 2018	Analyses/ comparison not in PICO
Soomro, G. M., Kakhi, S., Deliberate self-harm (and attempted suicide), <i>Clinical Evidence</i> , 28, 28, 2015	Systematic review, included studies checked for relevance
Spirito, A., Riggs, S., Lewander, W., Bond, A., Fritz, G., Simon, P., Surveillance of adolescent suicide attempters in the Rhode Island Hospital Pediatric Emergency Department, Rhode Island	Full-text paper never received

Study	Reason for Exclusion
medical journal, 72, 401-405, 1989	
Spittal, M. J., Pirkis, J., Miller, M., Carter, G., Studdert, D. M., The Repeated Episodes of Self-Harm (RESH) score: A tool for predicting risk of future episodes of self-harm by hospital patients, Journal of Affective Disorders, 161, 36-42, 2014	Analyses/ comparison not in PICO
Steeg, S., Emsley, R., Carr, M., Cooper, J., Kapur, N., Routine hospital management of self-harm and risk of further self-harm: propensity score analysis using record-based cohort data, Psychological medicine, 48, 315-326, 2018	Mixed population (patients admitted to medical bed not divided into those with medical need and those without), results not reported separately for target population; comparison/ analyses not in PICO
Stewart, S. E., Manion, I. G., Davidson, S., Cloutier, P., Suicidal children and adolescents with first emergency room presentations: Predictors of six-month outcome, Journal of the American Academy of Child and Adolescent Psychiatry, 40, 580-587, 2001	Non-randomised study, n<100 in at least one of the groups
Syer, Diane, Emergency ward treatment of suicidal patients, Ontario Psychologist, 7, 33-37, 1975	Full-text paper never received
Sztajnkrzyer, M. D., Mell, H. K., Melin, G. J., Development and implementation of an emergency department observation unit protocol for deliberate drug ingestion in adults - Preliminary results, Clinical Toxicology, 45, 499-504, 2007	Non-comparative study
Vayalirakkathu, A., Ng, B., The short stay unit: A potential solution in crisis intervention, Australasian Psychiatry, 18, 69-70, 2010	Non-comparative study
Wallis, M., Akhtar, F., Azam, M., Emergency admissions of children and young people with mental health needs to the paediatric ward, Irish Medical Journal, 111, 795, 2018	Non-randomised study, N=111
Wang, M., Swaraj, S., Chung, D., Stanton, C., Kapur, N., Large, M., Meta-analysis of suicide rates among people discharged from non-psychiatric settings after presentation with suicidal thoughts or behaviours, Acta Psychiatrica Scandinavica, 139, 472-483, 2019	Systematic review on non-comparative question (suicide rate after discharge from non-psychiatric facilities) with analyses examining between-study heterogeneity (that is, no within-study analyses examining the target comparison)
Weisman, G., Feirstein, A., Thomas, C., Three-day hospitalization--a model for intensive intervention, Archives of General Psychiatry, 21, 620-9, 1969	Full-text paper never received
Westling, S., Daukantaite, D., Liljedahl, S. I., Oh, Y., Westrin, A., Flyckt, L., Helleman, M., Effect of Brief Admission to Hospital by Self-referral for Individuals Who Self-harm and Are at Risk of Suicide: A Randomized Clinical Trial, JAMA Network Open, 2, e195463, 2019	Comparison not in PICO
Wilfond, B. S., Zabrowski, J., Johnson, L. M., A Pragmatic Trial of Suicide Risk Assessment and Ambulance Transport Decision Making Among Emergency Medical Services Providers: Implications for Patient Consent, The American journal of bioethics : AJOB, 19, 97-98, 2019	Letter about a study yet to be conducted

Study	Reason for Exclusion
Wood, R., Wand, A. P. F., The effectiveness of consultation-liaison psychiatry in the general hospital setting: A systematic review, <i>Journal of Psychosomatic Research</i> , 76, 175-192, 2014	Comparison not in PICO (included studies also checked for relevance)
Woodside, M., Attempted suicides arriving at a general hospital, <i>British Medical Journal</i> , 2, 411-4, 1958	Non-randomised study, n<100 in at least one of the groups
Wullemier, F., Kremer, P., Bover, J., Comparative study of two intervention modes on suicide attempters hospitalized in a general hospital, Proc 9th IASP congress helsinki 1977, 1978	Conference abstract
Wulliemier, F., Bovet, J., Meylan, D., The future of suicidal patients admitted to a general hospital. Comparative study of two methods of preventing recurrence and suicides. (Title translated), <i>Sozial- und Praventivmedizin</i> , 24, 73â€• 88, 1979	Article in French
Wylie, K., House, A., Storer, D., Raistrick, D., Henderson, M., Deliberate self-harm and substance dependence: The management of patients seen in the general hospital, <i>Journal of Mental Health Administration</i> , 23, 246-252, 1996	Analyses/ comparison not in PICO

Excluded economic studies

Table 7: Excluded studies from the guideline economic review

Study	Reason for Exclusion
Adrian, M., Lyon, A. R., Nicodimos, S., Pullmann, M. D., McCauley, E., Enhanced "Train and Hope" for Scalable, Cost-Effective Professional Development in Youth Suicide Prevention, <i>Crisis</i> , 39, 235-246, 2018	Not relevant to any of the review questions in the guideline - this study examined the impact of an educational training ongoing intervention, and the effect of the post-training reminder system, on mental health practitioners' knowledge, attitudes, and behaviour surrounding suicide assessment and intervention. As well, this study was not a full health economic evaluation
Borschmann R, Barrett B, Hellier JM, et al. Joint crisis plans for people with borderline personality disorder: feasibility and outcomes in a randomised controlled trial. <i>Br J Psychiatry</i> . 2013;202(5):357-364.	Not relevant to any of the review questions in the guideline - this study examined the feasibility of recruiting and retaining adults with borderline personality disorder to a pilot randomised controlled trial investigating the potential efficacy and cost-effectiveness of using a joint crisis plan
Bustamante Madsen, L., Eddleston, M., Schultz Hansen, K., Konradsen, F., Quality Assessment of Economic Evaluations of Suicide and Self-Harm Interventions, <i>Crisis</i> , 39, 82-95, 2018	Study design - this review of health economics studies has been excluded for this guideline, but its references have been hand-searched for any relevant health economic study
Byford, S., Barrett, B., Aglan, A., Harrington, V., Burroughs, H., Kerfoot, M., Harrington, R. C., Lifetime and current costs of supporting young adults who deliberately poisoned themselves in childhood and adolescence, <i>Journal of Mental Health</i> , 18, 297-306, 2009	Study design – no comparative cost analysis
Byford, S., Leese, M., Knapp, M., Seivewright, H., Cameron, S., Jones, V., Davidson, K., Tyrer,	Study design – no comparative cost analysis

Study	Reason for Exclusion
P., Comparison of alternative methods of collection of service use data for the economic evaluation health care interventions, Health Economics, 16, 531-536, 2007	
Byford, Sarah, Barber, Julie A., Harrington, Richard, Barber, Baruch, Beutrais Blough Brent Brodie Byford Carlson Chernoff Collett Fergusson Garland Goldberg Harman Harrington Hawton Huber Kazdin Kazdin Kerfoot Kerfoot Knapp Lindsey McCullagh Miller Netten Reynolds Sadowski Shaffer Simms Wu, Factors that influence the cost of deliberate self-poisoning in children and adolescents, Journal of Mental Health Policy and Economics, 4, 113-121, 2001	Study design – no comparative cost analysis
Denchev, P., Pearson, J. L., Allen, M. H., Claassen, C. A., Currier, G. W., Zatzick, D. F., Schoenbaum, M., Modeling the cost-effectiveness of interventions to reduce suicide risk among hospital emergency department patients, Psychiatric Services, 69, 23-31, 2018	Not relevant to any of the review questions in the guideline - this study estimated the cost-effectiveness of outpatient interventions (Postcards, Telephone outreach, Cognitive Behaviour Therapy) to reduce suicide risk among patients presenting to general hospital emergency departments
Dunlap, L. J., Orme, S., Zarkin, G. A., Arias, S. A., Miller, I. W., Camargo, C. A., Sullivan, A. F., Allen, M. H., Goldstein, A. B., Manton, A. P., Clark, R., Boudreaux, E. D., Screening and Intervention for Suicide Prevention: A Cost-Effectiveness Analysis of the ED-SAFE Interventions, Psychiatric services (Washington, D.C.), appips201800445, 2019	Not relevant to any of the review questions in the guideline - this study estimated the cost-effectiveness of suicide screening followed by an intervention to identify suicidal individuals and prevent recurring self-harm
Fernando, S. M., Reardon, P. M., Ball, I. M., van Katwyk, S., Thavorn, K., Tanuseputro, P., Rosenberg, E., Kyeremanteng, K., Outcomes and Costs of Patients Admitted to the Intensive Care Unit Due to Accidental or Intentional Poisoning, Journal of Intensive Care Medicine, 35, 386-393, 2020	Study design – no comparative cost analysis
Flood, C., Bowers, L., Parkin, D., Estimating the costs of conflict and containment on adult acute inpatient psychiatric wards, Nursing economic\$, 26, 325-330, 324, 2008	Study design – no comparative cost analysis
Fortune, Z., Barrett, B., Armstrong, D., Coid, J., Crawford, M., Mudd, D., Rose, D., Slade, M., Spence, R., Tyrer, P., Moran, P., Clinical and economic outcomes from the UK pilot psychiatric services for personality-disordered offenders, International Review of Psychiatry, 23, 61-9, 2011	Not relevant to any of the review questions in the guideline
George, S., Javed, M., Hemington-Gorse, S., Wilson-Jones, N., Epidemiology and financial implications of self-inflicted burns, Burns, 42, 196-201, 2016	Study design – no comparative cost analysis
Gunnell, D., Shepherd, M., Evans, M., Are recent increases in deliberate self-harm associated with changes in socio-economic conditions? An ecological analysis of patterns of	Study design - cost-of-illness study

Study	Reason for Exclusion
deliberate self-harm in Bristol 1972-3 and 1995-6, <i>Psychological medicine</i> , 30, 1197-1203, 2000	
Kapur, N., House, A., Dodgson, K., Chris, M., Marshall, S., Tomenson, B., Creed, F., Management and costs of deliberate self-poisoning in the general hospital: A multi-centre study, <i>Journal of Mental Health</i> , 11, 223-230, 2002	Study design – no comparative cost analysis
Kapur, N., House, A., May, C., Creed, F., Service provision and outcome for deliberate self-poisoning in adults - Results from a six centre descriptive study, <i>Social Psychiatry and Psychiatric Epidemiology</i> , 38, 390-395, 2003	Study design – no comparative cost analysis
Kinchin, I., Russell, A. M. T., Byrnes, J., McCalman, J., Doran, C. M., Hunter, E., The cost of hospitalisation for youth self-harm: differences across age groups, sex, Indigenous and non-Indigenous populations, <i>Social Psychiatry and Psychiatric Epidemiology</i> , 55, 425-434, 2020	Study design – no comparative cost analysis
O'Leary, F. M., Lo, M. C. I., Schreuder, F. B., "Cuts are costly": A review of deliberate self-harm admissions to a district general hospital plastic surgery department over a 12-month period, <i>Journal of Plastic, Reconstructive and Aesthetic Surgery</i> , 67, e109-e110, 2014	Study design – no comparative cost analysis
Olfson, M., Gameroff, M. J., Marcus, S. C., Greenberg, T., Shaffer, D., National trends in hospitalization of youth with intentional self-inflicted injuries, <i>American Journal of Psychiatry</i> , 162, 1328-1335, 2005	Study design – no comparative cost analysis
Ostertag, L., Golay, P., Dorogi, Y., Brovelli, S., Cromec, I., Edan, A., Barbe, R., Saillant, S., Michaud, L., Self-harm in French-speaking Switzerland: A socio-economic analysis (7316), <i>Swiss Archives of Neurology, Psychiatry and Psychotherapy</i> , 70 (Supplement 8), 48S, 2019	Conference abstract
Ougrin, D., Corrigan, R., Poole, J., Zundel, T., Sarhane, M., Slater, V., Stahl, D., Reavey, P., Byford, S., Heslin, M., Ivens, J., Crommelin, M., Abdulla, Z., Hayes, D., Middleton, K., Nnadi, B., Taylor, E., Comparison of effectiveness and cost-effectiveness of an intensive community supported discharge service versus treatment as usual for adolescents with psychiatric emergencies: a randomised controlled trial, <i>The Lancet Psychiatry</i> , 5, 477-485, 2018	Not self-harm. In addition, the interventions evaluated in this economic analysis (a supported discharge service provided by an intensive community treatment team compared to usual care) were not relevant to any review questions
Palmer, S., Davidson, K., Tyrer, P., Gumley, A., Tata, P., Norrie, J., Murray, H., Seivewright, H., The cost-effectiveness of cognitive behavior therapy for borderline personality disorder: results from the BOScot trial, <i>Journal of Personality Disorders</i> , 20, 466-481, 2006	Not self-harm
Quinlivan L, Steeg S, Elvidge J, et al. Risk assessment scales to predict risk of hospital treated repeat self-harm: A cost-effectiveness	Not relevant to any of the review questions in the guideline - this study estimated the cost-effectiveness of of risk assessment scales

Study	Reason for Exclusion
modelling analysis. J Affect Disord. 2019;249:208-215.	versus clinical assessment for adults attending an emergency department following self-harm
Richardson JS, Mark TL, McKeon R. The return on investment of postdischarge follow-up calls for suicidal ideation or deliberate self-harm. Psychiatr Serv. 2014;65(8):1012-1019.	Not enough data reporting on cost-effectiveness findings
Smits, M. L., Feenstra, D. J., Eeren, H. V., Bales, D. L., Laurensen, E. M. P., Blankers, M., Soons, M. B. J., Dekker, J. J. M., Lucas, Z., Verheul, R., Luyten, P., Day hospital versus intensive out-patient mentalisation-based treatment for borderline personality disorder: Multicentre randomised clinical trial, British Journal of Psychiatry, 216, 79-84, 2020	Not self-harm
Tsiachristas, A., Geulayov, G., Casey, D., Ness, J., Waters, K., Clements, C., Kapur, N., McDaid, D., Brand, F., Hawton, K., Incidence and general hospital costs of self-harm across England: estimates based on the multicentre study of self-harm, Epidemiology & Psychiatric Science, 29, e108, 2020	Study design – no comparative cost analysis
Tsiachristas, A., McDaid, D., Casey, D., Brand, F., Leal, J., Park, A. L., Geulayov, G., Hawton, K., General hospital costs in England of medical and psychiatric care for patients who self-harm: a retrospective analysis, The Lancet Psychiatry, 4, 759-767, 2017	Study design – no comparative cost analysis
Tubef, S., Saloniki, E. C., Cottrell, D., Parental Health Spillover in Cost-Effectiveness Analysis: Evidence from Self-Harming Adolescents in England, Pharmacoeconomics, 37, 513-530, 2019	This study is not a separate study from one already included in the guideline for topic 5.2 (Cottrel 2018). This secondary analysis presents alternative parental health spillover quantification methods in the context of a randomised controlled trial comparing family therapy with treatment as usual as an intervention for self-harming adolescents of (Cottrel 2018), and discusses the practical limitations of those methods
Tyrer, P., Thompson, S., Schmidt, U., Jones, V., Knapp, M., Davidson, K., Catalan, J., Airlie, J., Baxter, S., Byford, S., Byrne, G., Cameron, S., Caplan, R., Cooper, S., Ferguson, B., Freeman, C., Frost, S., Godley, J., Greenshields, J., Henderson, J., Holden, N., Keech, P., Kim, L., Logan, K., Manley, C., MacLeod, A., Murphy, R., Patience, L., Ramsay, L., De Munroz, S., Scott, J., Seivewright, H., Sivakumar, K., Tata, P., Thornton, S., Ukoumunne, O. C., Wessely, S., Randomized controlled trial of brief cognitive behaviour therapy versus treatment as usual in recurrent deliberate self-harm: The POPMACT study, Psychological medicine, 33, 969-976, 2003	Study design - no economic evaluation
Van Roijen, L. H., Sinnaeve, R., Bouwmans, C., Van Den Bosch, L., Cost-effectiveness and Cost-utility of Shortterm Inpatient Dialectical Behavior Therapy for Chronically Parasuicidal	Conference abstract

Study	Reason for Exclusion
BPD (Young) Adults, Journal of Mental Health Policy and Economics, 18, S19-S20, 2015	
van Spijker, B. A., Majo, M. C., Smit, F., van Straten, A., Kerkhof, A. J., Reducing suicidal ideation: cost-effectiveness analysis of a randomized controlled trial of unguided web-based self-help, Journal of medical Internet research, 14, e141, 2012	Not self-harm

Appendix K Research recommendations

Research recommendations for review question: What are the benefits and harms associated with admission to acute general hospital for people who have self-harmed but no longer require physical care?

Research question

Is routine/ automatic admission effective for young people or older adults who have self-harmed?

Why this is important

The 2004 NICE self-harm guideline recommended routine admission for children and young people who self-harmed. This recommendation was based on expert consensus and there is still a lack of research in this area not only for children and adolescents but across all age groups. Clinical practice appears to vary considerably and clearer guidance based on evidence of effectiveness and cost-effectiveness would enhance clinical care. Working age adults who self-harm are not routinely admitted and it is unlikely to be feasible to do so in the current service context. However given the ongoing uncertainty about the existing recommendation to admit children and young people further research is warranted.

Table 8: Research recommendation rationale

Research question	Is routine/automatic admission effective for young people who have self-harmed?
Why is this needed	
Importance to 'patients' or the population	Clinical practice appears to vary considerably in relation to the question whether people who self-harm are admitted to acute general hospital despite not requiring any physical care. The last NICE guidelines on self-harm gave specific recommendations for children and young people, which was based on expert consensus rather than research. Routine admission for a specific population or across all age groups would have considerable resource implication and any recommendation needs to be based on robust evidence. Any benefits or harms need to be clearly identified. Older people are at the highest risk of death by suicide after self-harm. They may be less likely to agree to routine psychiatric admission. Multidisciplinary assessment in hospital may lead to improved outcomes.
Relevance to NICE guidance	Given the lack of evidence the most recent NICE guideline on self-harm was not able to make any recommendations in this regard. The question however remains clinically relevant because it is conceivable that a certain group of people might benefit from routine admission while another might be harmed and vice versa.
Relevance to the NHS	The findings of this research should be relevant for the NHS in terms of avoiding unnecessary and potentially harmful admissions while allocating resources for those who might benefit from admission. This research will allow a more tailored and evidence based approach in a very complex area.
National priorities	Given the relevance of self-harm as an important risk factor for suicide this research will contribute to the national suicide prevention strategy.
Current evidence base	None.

Research question	Is routine/automatic admission effective for young people who have self-harmed?
Equality	There might be subgroups within the target population which might benefit/be harmed by routine admission and this research should include as a representative sample of the population as possible
Feasibility	Individual clinicians may feel uneasy about randomisation (and there are not even observational studies so far). Some other design may be needed to answer which sub-population would benefit from admission. A retrospective design using database records of admissions and outcomes may be possible. Admitting patients is an expensive intervention.
Other comments	None

Table 9: Research recommendation modified PICO table

Criterion	Explanation
Population	People following an episode self-harm who are not judged as needing admission for psychiatric or physical treatment: <ul style="list-style-type: none"> • People aged under 18 • Adults over 75 years
Intervention	Admission to acute hospital
Comparator	Non-admission to acute hospital/discharge into community
Outcomes	<ul style="list-style-type: none"> • Frequency of self-harm and suicide • patient satisfaction • Service utilization • Onward referral • Engagement with aftercare • Quality of life • Service user and carer satisfaction
Study design	RCT – but other designs may be more feasible
Timeframe	2 years
Additional information	Research should be powered to allow analysis for specific subgroups (BAME, gender).

BAME: black and minority ethnic; RCT: randomised controlled trial