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Suicide prevention topic 11:  
What is the effectiveness of day care versus  
outpatient care versus community care for  
suicidal patients?

*A critical appraisal of the literature*

Katherine Hall

New Zealand  
Health Technology Assessment

Department of Public Health and General Practice  
Christchurch School of Medicine  
Christchurch, NZ.

Division of Health Sciences, University of Otago

NEW ZEALAND HEALTH TECHNOLOGY ASSESSMENT (NZHTA)  
THE CLEARING HOUSE FOR HEALTH OUTCOMES AND  
HEALTH TECHNOLOGY ASSESSMENT

Department of Public Health and General Practice  
Christchurch School of Medicine and Health Sciences  
Christchurch, New Zealand

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## Suicide prevention topic 11:

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versus outpatient care versus  
community care for suicidal patients?

*A critical appraisal of the literature*

Katherine Hall

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## **CONTACT DETAILS**

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New Zealand Health Technology Assessment  
The Clearing House for Health Outcomes and Health Technology Assessment  
Department of Public Health and General Practice  
Christchurch School of Medicine and Health Sciences  
P O Box 4345  
Christchurch  
New Zealand  
Tel: +64 3 364 1152      Fax: +64 3 364 1152

E-mail: [nzhta@chmeds.ac.nz](mailto:nzhta@chmeds.ac.nz)

Web Site: <http://nzhta.chmeds.ac.nz>

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## LIST OF ABBREVIATIONS

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ANCOVA	–	analysis of covariance
c.f.	–	compared with
CPN	–	community psychiatric nurse
MA	–	meta-analysis
OPC	–	outpatient clinic
PSW	–	psychiatric social worker
RCT	–	randomised controlled trial
Rx	–	treatment
SCL-90	–	Symptom Checklist (90 items)
SR	–	systematic review
w.r.t.	–	with respect to

# Scope of systematic review of suicide prevention

The development of this systematic review involved consultation between the NZHTA and the Suicide Working Group.

## LITERATURE SEARCH

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### *Main search terms*

**Medline subject terms (MeSH terms):** suicide, suicide-attempted, day care, outpatients, outpatient clinics-hospital, community mental health services, follow-up studies.

**Psychinfo subject terms:** suicide, attempted suicide, suicidal ideation, suicide prevention, suicide prevention centers, outpatients, outpatient treatment, day care centers, adult day care, partial hospitalization, community mental health, community psychiatry, community mental health services, community mental health centers, outreach programs, group homes, self help techniques, shelters, support groups.

**Additional keywords:** suicid\*, parasuicid\*, suicid\* adj3 threat, parasuicide, day care, day clinic, day hospital, outpatient\*, community adj3 care, aftercare.

Note: the range of questions addressed required multiple searches rather than one large search. The above major search terms were supplemented with additional subject headings and keywords appropriate to each individual search.

### *Principal sources of information*

The following databases were searched using the search strategies outlined in **Appendix 1: Search strategies**.

#### Bibliographic databases

Medline  
Embase  
Cinahl  
Psychinfo  
Current Contents  
Science/Social Science Citation Index  
Index New Zealand

#### Review databases

Evidence-based medicine reviews  
Cochrane Database of Systematic Reviews  
DARE  
NHS Economic Evaluation Database  
Health Technology Assessment Database

The search was restricted to information from 1990 in English.

Note: hand searching of journals, or contacting of authors for unpublished research was not undertaken during the search process.

The complete search strategies are given in **Appendix 1: Search strategies**.

## **INCLUSION AND EXCLUSION CRITERIA**

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Inclusion and exclusion criteria were firstly applied to the abstracts captured by the literature searches. Those papers considered for inclusion in the literature appraisal were retrieved and appraised and this warranted the exclusion of some further papers based on the availability of these in full text.

Peer reviewed studies were considered for this review if they used one of the following study designs:

- systematic review or meta-analysis
- randomised controlled trial (RCT)
- controlled clinical trial (CCT)
- cohort study
- case-control study
- quasi-experimental study – e.g., before and after study
- descriptive study.

Note: the ‘grey’ literature was included, where appropriate, for New Zealand specific studies looking at special population groups: Maori, Pacific Island, Asian and the elderly.

## **STUDY INCLUSION CRITERIA**

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The following criteria were used for all topics to **include** studies for appraisal:

- study population are persons presenting following suicide attempt, expressing suicidal ideation, suicide threat
- study set in emergency department
- study set in tertiary mental health service
- study published in 1990 or later
- study written in English
- outcomes considered include:
  - repeat presentations for suicidality
  - repeat suicide attempts
  - mortality from suicide.

## **STUDY EXCLUSION CRITERIA**

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The following criteria were used for all topics to **exclude** studies from appraisal:

- study population primarily (50% or more) those with deliberate self-harm in the absence of suicide intent
- study population primarily (50% or more) those involved in assisted suicide
- study population primarily (50% or more) presentations for self-mutilation
- study population primarily (50% or more) children 12 years of age and under
- study focus is on the treatment of people with drug/substance abuse or dependence, that is treatment directed to their addiction rather than any suicide attempt
- study population are criminal offenders
- studies on suicide prevention interventions specifically for people with HIV/AIDS
- studies with small numbers of case presentations (one to five cases)
- studies concerned with suicide in homicidal people
- studies concerned with school-based suicide prevention interventions

- studies concerned with economic analyses
- citations which are letters to the editor, comments, editorials, abstract only
- studies where population is primarily a specific population – e.g., patients with underlying personality disorder or affective disorder (and therefore potential confounder of study results and treatments).

## **STUDY SELECTION**

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Studies were selected for appraisal using a two-stage process. Initially, the titles and abstracts (where available) identified from the search strategy were scanned and excluded as appropriate. The full text articles were retrieved for the remaining studies and these were appraised if they fulfilled the study selection criteria outlined above.

One hundred papers were identified via the search strategy and 13 retrieved (three as background only). Three papers were further retrieved from the cross-referencing of the 10 appraised articles, one for appraisal itself and two for further background purposes. The appraisal resulted in three papers being included for analysis and eight excluded. Three papers (Marshall et al. 2001, Van Heeringen et al. 1995 and Van de Sande et al. 1997) previously reviewed for topic 1 ('What kind of follow-up is needed to reduce the risk of repeated suicide attempts/suicide?') were also included in the analysis of this question. Therefore, six papers in total appear in **Table 1 (pages 6-10)**.

## **EVIDENCE TABLE**

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Summaries of appraisal results are shown in tabular form and include:

- study reference and country
- study design
- study quality grading and evidence level
- study arm description of intervention, service, treatment
- patient inclusion and exclusion criteria
- number of patients included in study sample
- study outcomes and p-values and/or 95% confidence intervals
- comments on the study and its internal validity issues arising from the study appraisal.

*P*-values unless otherwise stated relate to between group comparisons.

## **APPRAISAL METHODOLOGY**

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Articles were formally appraised using the checklist schedules and hierarchy of evidence coding system developed by the Scottish Intercollegiate Guidelines Network (SIGN). Validated criteria were used to appraise the studies selected for review. Key facets of the selected studies (including limitations) were documented in the text. Conclusions were drawn based on the study design and the specific problems associated with individual studies. The evidence presented in the selected studies were assessed and classified according to the SIGN grades of guideline recommendation by the suicide prevention guideline group.

Studies retrieved for this topic were a variety of meta-analyses, randomised controlled trials, case-control studies or cross-sectional analyses.

The final grading (1++, 1+, 1-, 2++, 2+ or 2-) code was allocated based upon the study design and study quality.

For a RCT study to receive a 1++ grading, the following criteria needed to be fulfilled:

- clearly defined study question
- a clear description of an adequate randomisation design and process

- absence of baseline differences in demographic variables and other potential confounding variables between intervention groups post-randomisation
- an adequate concealment method and use of single blinding in outcome assessment
- outcomes measured in a standard, valid and reliable way
- all study arms treated equally
- adequate statistical power
- an ITT analysis was presented.

Factors (four or more) that resulted in studies obtaining a 1- grading included:

- open study
- study groups were not treated equally
- ITT analysis not presented, analysis not based on randomised allocation
- baseline study differences
- outcome assessment not blinded to allocation
- inadequate method or description of randomisation and concealment
- significant omissions or errors in patient demographic information and outcome results.

For a case-control or cross-sectional study to receive a 2++ grading, the following criteria needed to be fulfilled:

- clearly defined and appropriate study question
- unbiased selection of subjects from a comparable population(s)
- (for case-control studies only) cases and controls clearly defined and differentiated; controls clearly non-cases
- good reporting of baseline variables and inclusion and exclusion criteria
- blinding of investigators to previous test results or other factors that could bias testing
- outcomes measured in a standard, valid and reliable way
- all subjects in study treated equally
- adequate statistical analysis
- an appropriate follow-up period and prospective, longitudinal analysis.

Papers which met the above criteria with the exception of including an appropriate follow-up period and prospective, longitudinal analysis were given a ranking of 2+.

Factors (four or more) that consigned studies to a 2- grading included:

- ill defined and/or inappropriate study question
- poorly described and/or biased selection process
- poorly defined and/or biased inclusion and/or exclusion criteria
- poor reporting of baseline variables and/or significant baseline study differences between groups (case-control studies)
- baseline study differences
- outcome assessment not blinded to allocation and/or blinding of investigators not described
- inadequate statistical analysis
- significant omissions or errors in patient demographic information and outcome results.

Descriptive studies all received a grading of 3 regardless of quality.

Within each grade, papers are presented in alphabetical order according to first author surname.

## Study limitations

This question examines the effectiveness of various forms of non-inpatient care (daycare, outpatient care and community care) for the treatment of suicidal patients. Unfortunately, very little literature was identified which specifically compared one form of non-inpatient care with another. Indeed, there appeared to be very few studies which compared even *inpatient* care with any form of non-inpatient care. One background paper (Simmonds et al. 2001) provides a meta-analysis of RCTs of inpatient vs non-inpatient treatment programmes and is a useful summary of this similarly, but not identically, focussed literature. For this review, studies which compared hospital inpatient treatment with a non-inpatient alternative were not included as this was beyond the remit of the review question. However, studies which compared combined inpatient and subsequent outpatient clinic care with a non-inpatient alternative were included as this meant that the research arms each contained at least some element of non-inpatient care.

**Table 1 (pages 6-10)** contains all included, critically appraised papers. One paper each was graded 1++, 1+, 1- and 2++ respectively. Two papers were graded 3, being descriptive studies. No New Zealand-based literature was identified. Included papers' references are presented in **Appendix 2**. Excluded papers' references and the reasons for exclusion are presented in **Appendix 3**. Papers were appraised but excluded for several reasons: providing insufficient evidence about suicidal as opposed to psychiatrically ill patients (four papers); not comparing at least two forms of non-inpatient treatment modalities (three papers) and being methodologically unsound (one paper). Papers retrieved for background purposes are presented in **Appendix 4**.

Individual study limitations are described in the comment section in **Table 1 (pages 6-10)**.

General limitations to the review methodology that need to be considered in developing the suicide prevention guideline, include restriction to:

- articles published from 1990 onwards
- the published literature
- English language articles only
- reviewing each study by one researcher only.

In developing a guideline for suicide prevention, consideration will need to be given to studies published pre-1990.

Restriction to the published literature is likely to lead to bias since the unpublished literature tends to consist of studies not identifying a significant result.

Restriction to English language may result in study bias, but the direction of this bias cannot be determined.

None of the articles appraised were set in New Zealand. Therefore, the ability to generalise the results of these studies to the New Zealand setting needs to be considered.

The studies were initially selected by examining the abstracts of these articles. Therefore, it is possible that some studies were inappropriately excluded prior to examination of the full text article.

There is a limitation on space in **Table 1 (pages 6-10)**, therefore, study details have been summarised.

This review was conducted over a limited timeframe (April – May 2002).

**Table 1. Evidence table of appraised articles**

Title of review: What is the effectiveness of day care versus outpatient care versus community care for suicidal patients?

Study; design type; evidence grading; country	Intervention/ comparison  Outcome measure	Criteria for Inclusion/ Exclusion	Results/Outcome	Comments including methodological issues
(Marshall et al. 2001)  SR & MA  Grade 1++  Country: England	Day-hospital versus outpatient care.  Outcome measures: engagement with treatment, hospital readmission, clinical outcomes, cost of care.	Inclusion criteria: RCTs comparing day hospital versus outpatient care for psychiatric disorders.  Exclusion criteria: Majority of patients <18 or >65 years old; primary diagnosis of substance abuse or organic brain disorder.	Weak evidence suggests day treatment programmes superior c.f. outpatient care w.r.t. improved psychiatric symptoms.  No evidence day care centres were better or worse than outpatient treatment on any clinical or social outcome variable, or costs.  One trial's evidence suggests transitional day hospital may be superior c.f. outpatient care w.r.t. keeping patients engaged in Rx.  Authors' conclusions: Limited evidence to justify day treatment and transitional day hospital; no current evidence to support provision of day care centres. Further research needed to clarify situation.	<ul style="list-style-type: none"> <li>▪ Cochrane Library review</li> <li>▪ day hospital care defined as day treatment programme, day care centre or transitional day hospital</li> <li>▪ reviewed five databases (Cochrane Library, Medline, Embase, CINAHL and PsychLit) + f/u of reference lists + personal communications</li> <li>▪ no included studies specifically examined post-suicide attempt patients.</li> </ul>
(Van Heeringen et al. 1995)  RCT  Grade 1+  Country: Belgium	Intervention (Community nurse visits) vs standard care (outpatient appointments).  Outcome measures: Repetition of suicide attempt and compliance with therapy at one year f/u.  Recruitment period from January 1987 to December 1990.	Inclusion criteria: Patients presenting to A&E following suicide attempt; age 15 years or greater; living in Gent.  Exclusion criteria: Requiring in-patient therapy (other than ICU admission).	516 patients (258 in each group).  Nss reduction in repetition of suicidal behaviour in intervention group at one year f/u.  No ssd in compliance with outpatient aftercare after discharge.  Compliance after home visit of non-compliant patients significantly increased from 42.5% to 51.2% by intervention (p=0.010, no CI).	<ul style="list-style-type: none"> <li>▪ aim of study to improve compliance; reduction of suicide attempts a secondary outcome</li> <li>▪ no ssd in demographics between groups. Mean age for intervention group 34 years and 39.2% male; Mean age 33.8 and 47.7% male in control group</li> <li>▪ non-compliance defined as not attended first outpatient appointment or (if no appointment made) seeking an appointment within one week of hospital attendance</li> <li>▪ intervention = one times home visit by community nurse to assess reasons</li> <li>▪ study design does not allow analysis of home visits to define reasons for improved compliance</li> <li>▪ data on suicidal behaviour repetition only available for 75.8% of patients.</li> </ul>

**Table 1. Evidence table of appraised articles (continued)**

Study; design type; evidence grading; country	Intervention/ comparison Outcome measure	Criteria for Inclusion/ Exclusion	Results/Outcome	Comments including methodological issues
(Van der Sande et al. 1997)  RCT  Grade 1-  Country: The Netherlands	Intensive inpatient and community intervention vs standard care.  Outcome measures: Repeat suicide rates at one year and patient wellbeing as assessed by the SCL-90 and Hopelessness scale.  Patients recruited between January 1993 and March 1995.	Inclusion criteria: Patients over 15 presenting to A&E following suicide attempt not in need of subsequent psychiatric hospitalisation.  Exclusion criteria: Habitual self-mutilation; alcohol or drug addiction or heavy user; accidental overdose; non-Dutch speaking; non-resident in hospital catchment area; psychiatric hospitalisation; imprisonment; acute psychosis; recurrent consultations with hospital liaison psychiatry.	140 in intensive intervention group, 134 in standard care.  No ssd in repeat suicide rates between the two groups (p=0.59).  No ssd in psychological wellbeing ratings between the two groups.	<ul style="list-style-type: none"> <li>▪ suicide attempt defined using WHO multicentre study in parasuicide definition</li> <li>▪ intensive intervention = short hospital admission (one to four days) + outpatient therapy with community psychiatric nurse using problem-solving therapy + 24 hour access to unit</li> <li>▪ standard care = A&amp;E assessment and treatment (not described). 25% admitted, 75% referred to OPC</li> <li>▪ f/u assessments done at three, six and 12 months</li> <li>▪ high drop-out of participants particularly in control group (33% intensive intervention and 64% control drop-out by 12 months)</li> <li>▪ analysis done on 'intention to treat' basis</li> <li>▪ nssd in demography between the two groups. For intervention group, mean age 35.8, male 34.3%. Control group mean age 36.6, male 34.3%</li> <li>▪ possible biases: researchers not blinded to allocation, conclusions about wellbeing only based on 60% of group</li> <li>▪ no power analysis performed.</li> </ul>

**Table 1. Evidence table of appraised articles (continued)**

Study; design type; evidence grading; country	Intervention/ comparison  Outcome measure	Criteria for Inclusion/ Exclusion	Results/Outcome	Comments including methodological issues
<p>(Appleby et al. 1999a)</p> <p>Case-control study</p> <p>Grade 2++</p> <p>Country: England</p>	<p>Comparison of patients committing suicide after discharge from psychiatric inpatient care with matched controls.</p> <p>Outcome measures: aspects of psychiatric care and clinical and social variables.</p> <p>Cases recruited from 1 Oct 1993 to 31 March 1996.</p>	<p>Inclusion criteria: Cases = 30 month consecutive sample of all coroner cases in Greater Manchester returning a verdict of suicide or open verdict; inpatient admission in one of eight psychiatric hospitals in study area in the five years prior to death; home address in Greater Manchester area.</p> <p>Controls = similar age within five years; same gender; same clinical diagnosis; similar date of admission (within six months).</p> <p>Exclusion criteria: Cases = high suspicion cause of death not suicide.</p>	<p>158 cases identified as eligible for inclusion in study: 149 studied due to records not being identified for nine individuals.</p> <p>Components of aftercare at time of suicide analysed included: key worker, monthly appointments in the community with CPN/PSW, rehabilitation/occupational therapy, adequate housing, contact with psychiatrist within last three months, and compliance with treatment plan. When all aftercare variables were taken together there was no association with suicide. Suicides were more likely to have had their care reduced (<math>p=0.002</math>) at the final appointment before death.</p>	<ul style="list-style-type: none"> <li>▪ median age of cases 38 years (range 16-93)</li> <li>▪ methodological issues: block randomisation of hospitals used in selecting controls to maximise variability; data collected from coroners' records, inpatient notes, family or GP health services which provided a relatively crude source of data according to authors; analysis attempted to take into account confounding effect of predictable risk assessed at the time of discharge by rating risk using two independent assessors blinded to the allocation to case or control arms; achieved sample size could detect at the 5% level an odds ratio of 2.34 with 80% power.</li> </ul>

**Table 1. Evidence table of appraised articles (continued)**

Study; design type; evidence grading; country	Intervention/ comparison  Outcome measure	Criteria for Inclusion/ Exclusion	Results/Outcome	Comments including methodological issues
<p>(Appleby et al. 1999b)</p> <p>Descriptive survey</p> <p>Grade 3</p> <p>Country: England and Wales</p>	<p>Two year national survey of people committing suicide, especially those in contact with mental health services up to 12 months prior to death.</p> <p>Outcome measures: proportion of suicides in people with recent contact with mental health services; proportion of suicides in inpatients; proportion of people committing suicide and timing of suicide within three months of discharge; proportion receiving high priority care under the care programme approach; proportion who were recently non-compliant and not attending.</p> <p>Study timeframe: April 1996 to March 1998.</p>	<p>Inclusion criteria: Coroner's verdict of death by suicide or open verdict and death occurring in one of 105 health authority districts participating in study and/or Office for National Statistics record of cases recorded as suicide or from undetermined external cause.</p> <p>Exclusion criteria: Highly unlikely death was suicide (in open verdict cases).</p>	<p>10,040 suicides occurred in study timeframe, 2,370 having contact with mental health services within 12 months of death. Data obtained for 2,177 (92%).</p> <p>519 (24% of 2,177) suicides occurred within three months of discharge from inpatient care. Compared with all other suicides among patients in the community who had been previously admitted, these suicides were significantly more likely to be associated with final admissions lasting less than seven days (<math>p &lt; 0.001</math>), readmission within three months of previous admission (<math>p &lt; 0.001</math>), and discharge against medical advice or after patient breach of ward rules (<math>p &lt; 0.001</math>).</p> <p>914 (50% of 2,177) suicides had been given highest priority under the care programme approach.</p> <p>Of the suicides in the community, 546 (25% of 2,177) had been non-compliant with drug treatment in the previous three months.</p> <p>486 (22% of 2,177) suicides in the community occurred after contact had been lost with mental health services.</p> <p>1,069 (49% of 2,177) people had been in contact with mental health services the week prior to committing suicide, 720 (67% of 1,069) of these being in the community and 349 (33% of 1,069) as inpatients.</p>	<ul style="list-style-type: none"> <li>▪ sample characteristics: (n=2177) median age 41 years, range 15-95; (n=2177) male 1434(66%); ethnicity (n=2152) Caucasian 2040(95%), Indian subcontinent 43(2%), 'Black' 39(2%), other 30(1%); primary diagnosis (n=2145) affective disorder 891(42%), schizophrenia 443(21%), personality disorder 228(11%), other 217 (10%), alcohol dependence 200(9%), drug dependence 92(4%), neurotic disorder 74(3%)</li> <li>▪ no details provided in paper about the 'care programme approach'</li> <li>▪ methodological issues: retrospective study, process of obtaining information (mental health service contact assessed by sending details of suicides to the main hospitals providing mental health services to residents of the dead person's health district, identifying the responsible psychiatrist and sending a questionnaire to complete to this psychiatrist) open to recall bias; questionnaire not validated; cases may be missed due to methodology employed.</li> </ul>

**Table 1. Evidence table of appraised articles (continued)**

Study; design type; evidence grading; country	Intervention/ comparison  Outcome measure	Criteria for Inclusion/ Exclusion	Results/Outcome	Comments including methodological issues
(Hydén 1996)  Descriptive study  Grade 3  Country: Sweden	Descriptive study of health care contacts prior to completed suicide.  Outcome measure: Health care utilisation prior to completed suicides.  Study timeframe: 1979 to 1990.	Inclusion criteria: Residence within one of six psychiatric districts in County of Stockholm; 'confirmed and unconfirmed' cases of suicide reported to Statistics Sweden; linkages of cases to the Public Health and Medical Service of the County Council of Stockholm database and/or medical fee-payment records of the county council.  Exclusion criteria: None stated.	1,721 people committed suicide in 12 year study period, 1,115 men (65%) and 606 women (35%).  635 had received inpatient care at some stage. Women were significantly more likely than men to have been institutionalised ( $p < 0.01$ ).  221 had received psychiatric outpatient care but not inpatient care. Women were significantly more likely to have received this form of care (no p value given).  489 had received treatment via primary healthcare.  795 had had no found contact with any form of mental health care. Contact with health care increased from 18.6% in first year of study to 85.6% by the final year ( $p < 0.01$ ) (see notes).	<ul style="list-style-type: none"> <li>▪ the increase in the % having contact with health care professionals per annum during the study was explained as being due to an increase in contacts with non-institutional psychiatric contacts provided by primary healthcare centres</li> <li>▪ methodological limitations: contact groups not completely distinct – some inpatients had contacts with non-institutional and primary health care, some primarily treated via non-institutional care also had contact with primary health care, and some primarily treated by primary health care had both institutional and non-institutional care; limitations of accuracy of database collections.</li> </ul>

# Appendix 1: Search strategies

## MEDLINE

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- 1 suicide/ (17413)
- 2 suicide, attempted/ (7595)
- 3 suicidal ideation.mp. (994)
- 4 (suicidal or parasuicide or (suicid\$ adj3 threat\$)).mp. (6431)
- 5 or/1-4 (24656)
- 6 day care/ (3518)
- 7 day care.tw. (3358)
- 8 partial hospitali\$.mp. (223)
- 9 or/6-8 (6194)
- 10 5 and 9 (37)
- 11 Outpatients/ (2643)
- 12 outpatient.mp. (31586)
- 13 outpatient clinics, hospital/ (9920)
- 14 or/11-13 (40268)
- 15 5 and 14 (320)
- 16 (community adj3 care).tw. (7475)
- 17 Community Mental Health Services/ (11450)
- 18 or/16-17 (18020)
- 19 5 and 18 (264)
- 20 10 or 15 or 19 (590)
- 21 limit 20 to english (517)
- 22 limit 21 to yr=1990-2002 (257)
- 23 from 22 keep (selected references)13)
- 24 from 22 keep (selected references) (29)
- 25 23 or 24 (40)
- 26 (day hospital or day clinic or night clinic).mp. (1608)
- 27 5 and 26 (17)
- 28 27 not 20 (3)
- 29 25 (40)
- 30 from 29 keep (selected references)(6)
- 31 29 not 30 (34)
- 32 Follow-Up Studies/ (247778)
- 33 5 and 32 (952)
- 34 limit 33 to yr=1990-2002 (542)
- 35 limit 34 to english (482)
- 36 35 not 22 (447)
- 37 dt.fs. (864058)
- 38 th.fs. (696921)
- 39 pc.fs. (464265)
- 40 36 and 37 (41)
- 41 36 and 38 (55)
- 42 36 and 39 (103)
- 43 or/40-42 (167)
- 44 from 43 keep (selected references)

**EMBASE**

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- 1 SUICIDE/ or SUICIDE ATTEMPT/ (10979)
- 2 suicidal ideation.mp. (844)
- 3 (suicidal\$ or parasuicide or (suicid\$ adj3 threat\$)).mp. (5438)
- 4 or/1-3 (13514)
- 5 day care/ (1617)
- 6 (day care or day clinic).mp. (2521)
- 7 partial hospitali\$.mp. (114)
- 8 day hospital/ (602)
- 9 or/5-8 (3132)
- 10 4 and 9 (17)
- 11 Outpatient/ (6841)
- 12 Outpatient Department/ (2390)
- 13 outpatient\$.mp. (34939)
- 14 or/11-13 (34939)
- 15 4 and 14 (357)
- 16 Community Care/ (6604)
- 17 home care/ (6106)
- 18 home monitoring/ (1040)
- 19 (community adj3 care).mp. (3692)
- 20 or/16-19 (15721)
- 21 4 and 20 (116)
- 22 10 or 15 or 21 (479)
- 23 limit 22 to yr=1990-2002 (452)
- 24 limit 23 to english (411)
- 25 letter/ (228336)
- 26 24 not 25 (402)
- 27 (personality disorder or depression or bipolar).ti. (21880)
- 28 26 not 27 (336)
- 29 from 28 keep (selected references)

**CINAHL**

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- 1 SUICIDE/ or SUICIDE, ATTEMPTED/ (1867)
- 2 suicidal ideation.mp. (280)
- 3 (suicidal or parasuicide or (suicid\$ adj3 threat\$)).mp. (509)
- 4 or/1-3 (2110)
- 5 day care/ (585)
- 6 (day care or day clinic).mp. (1072)
- 7 (partial hospitali\$ or night clinic).mp. (39)
- 8 day hospital.mp. (163)
- 9 or/5-8 (1190)
- 10 4 and 9 (4)
- 11 OUTPATIENTS/ (11885)
- 12 outpatient\$.mp. (14998)
- 13 11 or 12 (14998)
- 14 4 and 13 (93)
- 15 Community Mental Health Nursing/ or Community Mental Health Services/ (2721)
- 16 (community adj3 care).mp. (3105)
- 17 aftercare.mp. (137)
- 18 or/15-17 (5652)
- 19 4 and 18 (61)
- 20 10 or 14 or 19 (147)
- 21 limit 20 to yr=1990-2002 (132)
- 22 from 21 keep (selected references)(11)

## CURRENT CONTENTS

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- 1 suicidal ideation.mp. (803)
- 2 (suicidal\$ or parasuicide or (suicid\$ adj3 threat\$)).mp. (3720)
- 3 suicide.ti,ab,kw. (9759)
- 4 or/1-3 (11610)
- 5 (day care or day clinic).mp. (1952)
- 6 (day hospital or night clinic or partial hospitali\$).mp. (585)
- 7 5 or 6 (2518)
- 8 4 and 7 (10)
- 9 outpatient\$.mp. (21942)
- 10 4 and 9 (299)
- 11 (community adj3 care).mp. (3917)
- 12 4 and 11 (39)
- 13 8 or 10 or 12 (343)
- 14 limit 13 to english (327)
- 15 letter.pt. (371639)
- 16 14 not 15 (326)
- 17 from 16 keep (selected references)
- 18 aftercare.mp. (550)
- 19 4 and 18 (31)
- 20 from 19 keep (selected references)

## PSYCHINFO

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- 1 suicide/ or attempted suicide/ or suicidal ideation/ or suicide prevention/ or suicide prevention centers/ (13077)
- 2 (parasuicide or (suicid\$ adj3 threat)).mp. (468)
- 3 1 or 2 (13124)
- 4 (day care or day clinic or day hospital).mp. (4289)
- 5 exp Day Care Centers/ (617)
- 6 exp Adult Day Care/ (81)
- 7 exp Partial Hospitalization/ (1229)
- 8 or/4-7 (4948)
- 9 3 and 8 (15)
- 10 outpatients/ (2028)
- 11 outpatient treatment/ (3216)
- 12 outpatient\$.mp. (20359)
- 13 or/10-12 (20359)
- 14 3 and 13 (421)
- 15 community mental health/ or community psychiatry/ or community mental health services/ or community mental health centers/ or outreach programs/ or group homes/ or self help techniques/ or shelters/ or support groups/ (10616)
- 16 (community adj3 care).mp. (3346)
- 17 15 or 16 (12963)
- 18 3 and 17 (102)
- 19 14 or 18 or 9 (530)
- 20 limit 19 to yr=1990-2002 (359)
- 21 limit 20 to english (335)
- 22 from 21 keep (selected references)

## OTHER DATABASES

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Other databases were searched using combinations of the vocabulary given in the above strategies adapted to each individual source.



## Appendix 2: Bibliography of included studies

### INCLUDED, CRITICALLY APPRAISED STUDIES

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Appleby, L., Dennehy, J. A., Thomas, C. S., Faragher, E. B., & Lewis, G. (1999a). Aftercare and clinical characteristics of people with mental illness who commit suicide: a case-control study. *Lancet*, 353, 1397-1400.

Appleby, L., Shaw, J., Amos, T., McDonnell, R., Harris, C., McCann, K., Kiernan, K., Davies, S., Bickley, H., & Parsons, R. (1999b). Suicide within 12 months of contact with mental health services: national clinical survey. *BMJ*, 318, 1235-1239.

Hydén, L. C. (1996). Care utilization and the incidence of suicide - suicide victims' contacts with primary health care and psychiatry in six psychiatric districts in the county of Stockholm from 1979 to 1990. *Acta Psychiatrica Scandinavica*, 93, 442-446.

Marshall, M., Crowther, R., Almaraz-Serrano, A., Creed, F., Sledge, W., Kluiters, H., Roberts, C., Hill, E., Wiersma, D., Bond, G. R., Huxley, P., & Tyrer, P. (2001). Systematic reviews of the effectiveness of day care for people with severe mental disorders: (1) acute day hospital versus admission; (2) vocational rehabilitation; (3) day hospital versus outpatient care. *Health Technology Assessment (Rockville, Md)*, 5, 1-75.\*

Van der Sande, R., Van Rooijen, L., Buskens, E., Allart, E., Hawton, K., Van der Graaf, Y., & Van Engeland, H. (1997). Intensive in-patient and community intervention versus routine care after attempted suicide. A randomised controlled intervention study. *British Journal of Psychiatry*, 170, 35-41.\*

Van Heeringen, C., Jannes, S., Buylaert, W., Henderick, H., De Bacquer, D., & Van Remoortel, J. (1995). The management of non-compliance with referral to out-patient after-care among attempted suicide patients: a controlled intervention study. *Psychological Medicine*, 25, 963-970.\*

\*These references were previously appraised for topic 1.



## Appendix 3: Bibliography of excluded studies

### EXCLUDED, RETRIEVED STUDIES

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Burns, T., Beadsmoore, A., Bhat, A. V., Oliver, A., & Mathers, C. (1993). A controlled trial of home-based acute psychiatric-services. 1: Clinical and social outcome. *British Journal of Psychiatry*, 163, 49-54.

*Paper's focus is primarily on psychiatric illness, not suicide. No suicide assessment tools are used. Two suicides occurred in the hospital-based (largely outpatient care) control group and one in the community-based experimental group.*

Connolly, J., Marks, I., Lawrence, R., McNamee, G., & Muijen, M. (1996). Observations from community care for serious mental illness during a controlled study. *Psychiatric Bulletin*, 20, 3-7.

*Compares exclusively inpatient with non-inpatient care rather than two types of non-inpatient care.*

Curtis, J. L., Millman, E. J., Struening, E. L., & D'Ercole, A. (1998). Does outreach case management improve patients' quality of life? *Psychiatric Services*, 49, 351-354.

*No specific information pertaining to suicide presented in the paper.*

de Man, A., & Labreche-Gauthier, L. (1991). Suicide ideation and community support: An evaluation of two programs. *Journal of Clinical Psychology*, 47, 57-60.

*Small (n=31) non-randomised study comparing two community-based support programmes showing no differences between the two programmes. Multiple and severe methodological limitations including very low participation rates and high potential for study bias.*

Marks, I. M., Connolly, J., Muijen, M., Audini, B., McNamee, G., & Lawrence, R. E. (1994). Home-based versus hospital-based care for people with serious mental illness. *British Journal of Psychiatry*, 165, 179-194.

*Paper's focus is primarily on severe mental illness, not suicide. Because of this, and also the cohort being too small and the data too incomplete, the two research arms (hospital and outpatient care versus community care) could not be compared with respect to suicide attempts, threats and/or ideation.*

Merson, S., Tyrer, P., Onyett, S., Lack, S., Birkett, P., Lynch, S., & Johnson, T. (1992). Early intervention in psychiatric emergencies: a controlled clinical trial. *Lancet*, 339, 1311-1314.

*Paper's focus is on severe mental illness, not suicide. No information presented directly relevant to this topic.*

Pirkis, J., Burgess, P., & Jolley, D. (1999). Suicide attempts by psychiatric patients in acute inpatient, long-stay inpatient and community care. *Social Psychiatry & Psychiatric Epidemiology*, 34, 634-644.

*No comparison made between two different types of non-inpatient care.*

Schene, A. H., Vanwijngaarden, B., Poelijoe, N. W., & Gersons, B. P. R. (1993). The Utrecht Comparative-Study on Psychiatric Day Treatment and Inpatient Treatment. *Acta Psychiatrica Scandinavica*, 87, 427-436.

*Compares exclusively inpatient with non-inpatient care rather than two types of non-inpatient care.*

## Appendix 4: Background papers

The following papers were reviewed for background purposes only:

Morgan, H. G. (1992). Suicide prevention. Hazards on the fast lane to community care. *British Journal of Psychiatry*, 160, 149-153.

Pelosi, A. J., & Jackson, G. A. (2000). Home treatment - enigmas and failures. *BMJ*, 320, 308-309.

Rudd, M. D., Jobes, D. A., Joiner, T. E., & King, C. A. (1999). The outpatient treatment of suicidality: An integration of science and recognition of its limitations. *Professional Psychology - Research & Practice*, 30, 437-446.

Simmonds, S., Coid, J., Joseph, P., Marriott, S., & Tyrer, P. (2001). Community mental health team management in severe mental illness: a systematic review. *British Journal of Psychiatry*, 178, 497-502.

Smyth, M. G., & Hoult, J. (2000). The home treatment enigma. *BMJ*, 320, 305-308.