

Best Evidence Summaries of Topics in Mental Healthcare

BEST in MH *clinical question-answering service*

Question

In adults with mental health conditions in secure services who are being discharged into the community, how effective are extensive follow up systems/services, compared to no or minimal follow up systems/services, in reducing re-admittance to inpatient care?

Clarification of question using *PICO* structure

Patients: Adults with mental health conditions in secure services

Intervention: Follow up systems/services

Comparator: No/minimal follow up systems/services

Outcome: Reducing patients readmitting into inpatient care

Plain language summary

There is limited high quality evidence that demonstrates that follow up services are effective in reducing re-admittance to inpatient care. More rigorous research is needed in this area.

Clinical and research implications

One moderate quality and two low quality randomised controlled trials (RCTs) showed no evidence that continued involuntary outpatient commitment, a model of integrated care, or a cognitive behavioural therapy program reduced re-admittance to inpatient care or prison. Overall, there was a lack of high quality evidence, particularly with regards to follow-up services in the UK as the evidence was from RCTs conducted in the USA and Switzerland.

One RCT recommended that the use of outpatient commitment is not a substitute for intensive treatment as to be effective it needs a substantial commitment of treatment resources (Swartz et al. (1999)). The number of re-admissions was not the primary outcome in any of the RCTs and the follow-up periods may have been too short to detect differences in admission rates so further research using follow-up over several years is required. Further research into the needs of women with mental health conditions in prison is also needed.

What does the evidence say?

Number of included studies/reviews (number of participants)

Three RCTs (n = 491) provided evidence for this question. One RCT was conducted in the USA in 264 adults with schizophrenia or another psychotic disorder receiving intensive treatment for 2 years and awaiting a period of court-ordered outpatient commitment. This compared 12 months of a continued involuntary outpatient commitment with release from outpatient commitment into a mental health program (Swartz et al. (1999)).

One RCT was conducted in a university hospital in Switzerland in 178 adults with any psychiatric diagnosis apart from substance use and compared a model of integrated care in mental health with standard inpatient treatment (Theodoridou et al. (2015)). The third RCT was a small pilot trial of 49 women with PTSD in a residential substance abuse program in a minimum security prison wing in the USA. It compared a cognitive behavioural therapy program (Seeking Safety) plus treatment as usual with treatment as usual alone (Zlotnick et al. (2009)).

Main findings

The RCT comparing involuntary outpatient commitment with discharge into a mental health programme found no significant between group differences in the number of hospital admissions, psychiatric admissions or duration of hospital stay during the 12 month study period (Swartz et al. (1999)). When analysing by the duration of outpatient commitment they found that outpatient commitment for more than 180 days had significantly fewer psychiatric hospital admissions compared to the control group (mean 0.45 vs. 1.05) and significantly fewer days in hospital (mean 7.52 vs. 27.92).

There were no significant differences between a model of integrated care in mental health and standard inpatient treatment for the number of inpatient or outpatient re-admissions, or days in inpatient or outpatient institutions (Theodoridou et al. (2015)). However, they found that the time to re-admission was significantly shorter with the integrated care model compared to standard

inpatient treatment (mean 91.5 vs. 156.8 days). The pilot RCT found no significant differences between a cognitive behavioural therapy package and treatment as usual in the number of women returning to prison within 3 and 6 months (Zlotnick et al. (2009)).

Authors' conclusions

Swartz et al. (1999) concluded that outpatient commitment can reduce hospital admissions and the total time spent in hospital when court orders are sustained and combined with intensive treatment in people with psychotic disorders.

Theodoridou et al. (2015) concluded that integrated care did not reduce the duration of inpatient stay and showed no difference in readmissions and the durations of inpatient and outpatient stay compared with standard care.

Zlotnick et al. (2009) concluded that there were no significant differences between Seeking Safety and treatment as usual on any outcome measures but both treatments showed significant improvements from baseline to 3 and 6 months in PTSD, substance use disorder, psychopathology and legal problems.

Reliability of conclusions/Strength of evidence

One trial was considered to be moderate quality and two were low quality. The moderate quality trial was by Theodoridou et al. (2015) and it used an appropriate method of randomisation, included most participants in the analysis and reported all outcomes. Zlotnick et al. (2009) and Swartz et al. (1999) were both low quality as neither reported the methods used for randomisation and allocation concealment, one did not report all outcomes (Swartz) and the other excluded 10% of participants from the analysis (Zlotnick). None of the trials blinded the participants, caregivers or researchers to the treatment allocation, but due to the types of intervention under evaluation this would not have been possible.

There was a lack of high quality evidence to answer this question, particularly with regards to follow-up services in the UK as the evidence was from RCTs conducted in the USA and Switzerland.

What do guidelines say?

NICE guidelines do not comment on follow up systems/services for adults with mental health conditions.

Date question received: 23/02/2016

Date searches conducted: 24/05/2016

Date answer completed: 02/05/2016

References

Randomised controlled trials

Swartz, MS., Swanson, JW., Wagner, HR., Burns, BJ., Hiday, VA., Borum, R. (1999). Can Involuntary Outpatient Commitment Reduce Hospital Recidivism? Findings From a Randomized Trial with Severely Mentally Ill Individuals. *The American Journal of Psychiatry* 156(12): 1968-75.

Theodoridou, A., Hengartner, MP., Gairing, SK., Jäger, M., Ketteler, D., Kawohl, W., Lauber, C., Rössler, W. (2015). Evaluation of a New Person-Centered Integrated Care Model in Psychiatry. *The Psychiatric Quarterly* 86(2): 153.

Zlotnick, C., Johnson, J., Najavits, LM. (2009). Randomized Controlled Pilot Study of Cognitive-Behavioral Therapy in a Sample of Incarcerated Women with Substance use Disorder and PTSD. *Behavior Therapy* 40(4): 325-336.

Results

Randomised controlled trials

Author (year)	Inclusion criteria	Number of participants	Summary of results	Risk of bias
Swartz et al 1999 North Carolina, USA	<p>Participants: Adults (≥ 18 years) with a diagnosis of schizophrenia, schizoaffective disorder, or other psychotic disorder or major affective disorder for ≥ 1 year; significant functional impairment in the activities of daily living; intensive treatment within the past 2 years; and awaiting a period of court-ordered outpatient commitment.</p> <p>Intervention: Continued involuntary outpatient commitment with case management for 12 months, after hospital discharge</p> <p>Comparator: Released from outpatient commitment and discharged into one of four participating mental health programmes.</p> <p>Outcomes:</p> <ol style="list-style-type: none"> 1) The mean number of psychiatric hospital admissions. 2) The numbers with at least one 	N = 264 (Intervention = 129, Control = 135)	<p>Fifty percent of the participants were male with an average age of 39.7 years; 39% had schizophrenia; 21.6% had schizoaffective disorder; 6.4% had other psychotic disorders; 26.1% had bipolar disorder and 6.4% had major depression; 57.6% were substance users.</p> <p>There were no significant differences in the number of hospital admissions during 12 months (including any psychiatric or substance use admission), psychiatric hospital admissions and days in hospital between the outpatient commitment and control participants.</p> <p>Further analyses compared outcomes by the duration of outpatient commitment (< 180 days vs. ≥ 180 days) to the control group. Outpatient commitment for ≥ 180 days resulted in significantly fewer psychiatric hospital admissions compared to the control group (mean 0.45 vs. 1.05, $p = 0.04$), and significantly fewer days in hospital (mean 7.51 vs. 27.92, $p = 0.01$). However there were no</p>	<p>High</p> <p>No details were given about the methods of randomisation and allocation concealment.</p> <p>The participants, treatment providers and court judges were not blinded to the treatment groups. It was unclear if hospital admission data were collected blinded to group.</p> <p>All participants were included in the analyses but not all the outcomes were</p>

	<p>psychiatric hospital readmission.</p> <p>3) The mean number of hospital days during the study year.</p> <p>Measured by interview at 4, 8, 12 and 16 months.</p>		<p>significant differences in the proportions of participants with at least one admission (32% vs. 48%, $p = 0.10$).</p>	<p>reported, others were reported in separate papers.</p>
<p>Theodoridou et al 2015</p> <p>Switzerland</p>	<p>Participants: Adults (aged 18 to 65 years) admitted to a university hospital, any psychiatric diagnosis except those due to psychoactive substance use.</p> <p>Intervention: Model of integrated care in mental health comprising of a combination of personal, team and cross-boundary continuity in an acute psychiatric setting.</p> <p>Comparator: Standard inpatient treatment</p> <p>Outcome: Length of stay, number and length of re-admissions, overall satisfaction and psychopathology. Follow-up was for 12 months.</p>	<p>N = 178 (Intervention = 93, Control = 85)</p>	<p>Fifty five percent of the participants were male with a mean age of 40.2 years; most were single (59%); 45% had psychiatric disorders; 28% had mood disorders; 19% had neurotic, stress-related and somatoform disorders; and 8% had disorders of adult personality and behaviour.</p> <p>Psychopathological and social functioning impairment at admission were significantly higher in the integrated care group than the control group.</p> <p>The mean number of days before re-admission was significantly shorter for the integrated group compared to the control group (mean 91.5 vs. 156.8 days, $p = 0.046$). There were no significant differences between groups in the mean number of inpatient re-admissions (mean 0.55 vs. 0.38, $p = 0.191$); outpatient re-admissions (mean 0.07 vs. 0.09, $p = 0.688$); days in inpatient institutions (mean 9.39 vs. 10.34, $p = 0.765$) and days in outpatient institutions (mean 5.11 vs. 4.54, $p = 0.851$). Other outcomes showed a significant reduction in psychopathological impairment and a</p>	<p>Moderate</p> <p>Randomisation used a random number table but it was unclear if there was allocation concealment.</p> <p>It was not possible to blind the participants and caregivers, and it was unclear whether admission data were collected blind to treatment group.</p> <p>The drop-out rate was low, with 12 participants (6.7%) lost to follow-up due to changing address. All outcomes were reported.</p>

			significant improvement in psychosocial functioning with the integrated care model.	
Zlotnick et al 2009 USA	<p>Participants: Women with current or subthreshold PTSD recruited from a residential substance abuse treatment program in a minimum security wing of a women's prison; scheduled for release within 12 to 16 weeks.</p> <p>Intervention: Seeking Safety (a cognitive behavioural therapy) with treatment as usual (including relapse prevention and substance use education). Seeking Safety consisted of a voluntary group treatment during incarceration and individual treatment after prison release. Delivered to groups of 3 to 5 women, 3 times a week for 90 minutes, for 6 to 8 weeks</p> <p>Comparator: Treatment as usual including relapse prevention and substance use education. This involved 180 to 240 hours of individual and group treatment over 6 to 8 weeks.</p> <p>Outcome: PTSD (clinician-Administered PTSD scale and trauma symptom checklist scores), substance use (drug and alcohol addiction severity index), psychopathology (brief symptom</p>	N = 49 (Intervention = 27, Control = 22)	<p>The average age of the women was 34.6 years, 53.1% were high school graduates, 55.1% had never been married and 89.8% had been in prison before. They had on average 6.5 previous convictions and had been incarcerated for 2 months (range 0 to 7 months) prior to entering the study; most had experienced sexual or physical abuse with an average onset age of PTSD of 15.6 years.</p> <p>There were no significant differences between Seeking Safety and treatment as usual in the numbers of women who returned to prison after 3 months (4% vs. 9%) or 6 months (22% vs. 45%).</p> <p>There were no significant between group differences for PTSD, substance use disorder, psychopathology and legal problems. However, this was a small pilot study and was not designed to detect significant differences.</p>	<p>High</p> <p>No details of the randomisation and allocation concealment methods were given, apart from that they used "simple randomisation".</p> <p>It was not possible to blind the participants and caregivers and it was unclear if admissions data were collected blind to treatment group.</p> <p>Five (10%) participants were excluded from the analysis. All outcomes were reported.</p>

	<p>inventory), legal problems (legal addiction severity index and recidivism, return to prison after release), treatment utilization (treatment services review, brief interview), seeking safety measures (client satisfaction questionnaire and end of treatment questionnaire). Measured after 12 weeks (1 week prior to prison release) and 3 and 6 months after release.</p>			
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Risk of bias

Randomised controlled trials

Study	RISK OF BIAS					
	Random allocation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective Reporting
Swartz et al 2009	?	?	☹	?	😊	☹
Theodoridou et al 2015	😊	?	☹	?	😊	😊
Zlotnick et al 2009	?	?	☹	?	☹	😊

😊 Low risk

☹ High risk

? Unclear risk

Search details

Source	Search Strategy	Number of hits	Relevant evidence identified
<i>Guidelines</i>			
NICE	Follow up Mental health	0	
MEDLINE	<ol style="list-style-type: none"> 1. Medline; (secure adj3 (services OR care OR psychiatric OR treatment OR setting OR hospital)).ti,ab; 971 results. 2. Medline; ((low OR medium OR high) adj2 (secure OR security)).ti,ab; 1256 results. 2. Medline; ((low OR medium OR high) adj2 (secure OR security)).ti,ab; 1256 results. 3. Medline; (forensic* adj3 (service* OR hospital* OR setting* OR unit* OR inpatient* Or (mental ADJ health) OR (psychiatric))).ti,ab; 3167 results. 4. Medline; ((correctional* OR mental* OR psychiatric OR forensic*) adj3 institution*).ti,ab; 3352 results. 5. Medline; offender*.ti,ab; 8458 results. 6. Medline; (mentally adj3 (prisoner OR offender)).ti,ab; 80 results. 7. Medline; (mentally adj3 (prisoner* OR offender*)).ti,ab; 644 results. 8. Medline; exp FORENSIC NURSING/ OR exp FORENSIC PSYCHIATRY/; 60458 results. 9. Medline; exp PRISONERS/ OR exp PRISONS/; 19722 results. 9. Medline; exp PRISONERS/ OR exp PRISONS/; 19722 results. 9. Medline; exp PRISONERS/ OR exp PRISONS/; 19722 results. 10. Medline; 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9; 89175 results. 11. Medline; (follow-up OR (follow ADJ up) OR followup).ti,ab; 718604 results. 12. Medline; (aftercare OR (after ADJ care) OR after-care).ti,ab; 7351 results. 12. Medline; (aftercare OR (after ADJ care) OR after-care).ti,ab; 7351 results. 13. Medline; exp AFTERCARE/; 6846 results. 14. Medline; exp PUBLIC HEALTH SURVEILLANCE/; 1145 results. 15. Medline; 11 OR 12 OR 13 OR 14; 729603 results. 16. Medline; 10 AND 15; 2222 results. 17. Medline; 16 [Limit to: (Document type Meta-analysis or Randomized Controlled Trial or Review)]; 340 results. 	340	

EMBASE	<p>18. EMBASE; (secure adj3 (services OR care OR psychiatric OR treatment OR setting OR hospital)).ti,ab; 1177 results.</p> <p>19. EMBASE; ((low OR medium OR high) adj2 (secure OR security)).ti,ab; 1637 results.</p> <p>20. EMBASE; ((correctional* OR mental* OR psychiatric OR forensic*) adj3 institution*).ti,ab; 3475 results.</p> <p>21. EMBASE; offender*.ti,ab; 11210 results.</p> <p>22. EMBASE; (mentally adj3 (prisoner* OR offender*)).ti,ab; 926 results.</p> <p>23. EMBASE; exp FORENSIC NURSING/; 357 results.</p> <p>24. EMBASE; exp PRISON/ OR exp PRISON NURSING/ OR exp PRISONER/; 22710 results.</p> <p>24. EMBASE; exp PRISON/ OR exp PRISON NURSING/ OR exp PRISONER/; 22710 results.</p> <p>25. EMBASE; secure.ti,ab; 22619 results.</p> <p>25. EMBASE; secure.ti,ab; 22619 results.</p> <p>26. EMBASE; exp MENTAL HOSPITAL/ OR exp FORENSIC PSYCHIATRY/; 38891 results.</p> <p>27. EMBASE; 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26; 92582 results.</p> <p>28. EMBASE; (follow-up OR (follow ADJ up) OR followup).ti,ab; 1054510 results.</p> <p>29. EMBASE; (aftercare OR (after ADJ care) OR after-care).ti,ab; 4433 results.</p> <p>30. EMBASE; exp FOLLOW UP/; 1033321 results.</p> <p>30. EMBASE; exp FOLLOW UP/; 1033321 results.</p> <p>31. EMBASE; exp AFTERCARE/; 1038307 results.</p> <p>31. EMBASE; exp AFTERCARE/; 1038307 results.</p> <p>31. EMBASE; exp AFTERCARE/; 1038307 results.</p> <p>32. EMBASE; 28 OR 29 OR 30 OR 31; 1380108 results.</p> <p>33. EMBASE; 27 AND 32; 6116 results.</p> <p>34. EMBASE; 33 [Limit to: (EBM-Evidence Based Medicine Evidence Based Medicine or Meta Analysis or Systematic Review) and (Clinical Trials Clinical Trial or Randomized Controlled Trial or Controlled Clinical Trial or Multicenter Study)]; 24 results.</p> <p>35. EMBASE; 33 [Limit to: (Publication Types Article or Journal or Report or Review)]; 6112 results.</p>	6112	
PsycINFO/CINAHL	<p>36. PsycInfo; (secure adj3 (services OR care OR psychiatric OR treatment OR setting OR hospital)).ti,ab; 1140 results.</p> <p>37. PsycInfo; ((low OR medium OR high) adj2 (secure OR security)).ti,ab; 1699 results.</p> <p>38. PsycInfo; ((correctional* OR mental* OR psychiatric OR forensic*) adj3 institution*).ti,ab; 5254 results.</p> <p>38. PsycInfo; ((correctional* OR mental* OR psychiatric OR forensic*) adj3 institution*).ti,ab; 5254 results.</p> <p>39. PsycInfo; offender*.ti,ab; 26864 results.</p> <p>40. PsycInfo; (mentally adj3 (prisoner* OR offender*)).ti,ab; 1395 results.</p>	111	

	<p>41. PsycInfo; exp FORENSIC PSYCHIATRY/ OR exp FORENSIC PSYCHOLOGY/; 7464 results. 41. PsycInfo; exp FORENSIC PSYCHIATRY/ OR exp FORENSIC PSYCHOLOGY/; 7464 results. 42. PsycInfo; exp PRISONERS/ OR exp PRISONS/; 13237 results. 43. PsycInfo; exp MENTALLY ILL OFFENDERS/; 3358 results. 43. PsycInfo; exp MENTALLY ILL OFFENDERS/; 3358 results. 44. PsycInfo; 36 OR 37 OR 38 OR 39 OR 40 OR 41 OR 42 OR 43; 50360 results. 45. PsycInfo; (follow-up OR (follow ADJ up) OR followup).ti,ab; 94370 results. 46. PsycInfo; (aftercare OR (after ADJ care) OR after-care).ti,ab; 3267 results. 47. PsycInfo; exp AFTERCARE/; 1021 results. 48. PsycInfo; 45 OR 46 OR 47; 97162 results. 49. PsycInfo; 44 AND 48; 1950 results. 50. PsycInfo; 49 [Limit to: (Methodology Meta Analysis or Systematic Review or Treatment Outcome/Clinical Trial)]; 111 results.</p>		
CENTRAL	<p>#1 secure adj3 (services or care or psychiatric or treatment or setting or hospital) 173 #2 (low or medium or high) adj2 (secure or security) 159 #3 forensic* adj3 (service* or hospital* or setting* or unit* or inpatient* or (mental ADJ health) or psychiatric) 15 #4 (correctional* or mental* or psychiatric or forensic*) adj3 institution* 374 #5 MeSH descriptor: [Forensic Psychiatry] explode all trees 199 #6 MeSH descriptor: [Prisons] explode all trees 104 #7 mentally adj3 (prisoner or offender) 8 #8 #1 or #2 or #3 or #4 or #5 or #6 or #7 877 #9 follow-up or (follow ADJ up) or followup 145916 #10 aftercare or (after ADJ care) or after-care 2732 #11 MeSH descriptor: [Aftercare] explode all trees 462 #12 MeSH descriptor: [Public Health Surveillance] explode all trees 9 #13 #9 or #10 or #11 or #12 146392 #14 #8 and #13 633</p>	633	

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