

Randomised controlled trial of acute mental health care by a crisis resolution team: the north Islington crisis study

Sonia Johnson, Fiona Nolan, Stephen Pilling, Andrew Sandor, John Hoult, Nigel McKenzie, Ian R White, Marie Thompson, Paul Bebbington

Abstract

Objective To evaluate the effectiveness of a crisis resolution team.

Design Randomised controlled trial.

Participants 260 residents of the inner London Borough of Islington who were experiencing crises severe enough for hospital admission to be considered.

Interventions Acute care including a 24 hour crisis resolution team (experimental group), compared with standard care from inpatient services and community mental health teams (control group).

Main outcome measures Hospital admission and patients' satisfaction.

Results Patients in the experimental group were less likely to be admitted to hospital in the eight weeks after the crisis (odds ratio 0.19, 95% confidence interval 0.11 to 0.32), though compulsory admission was not significantly reduced. A difference of 1.6 points in the mean score on the client satisfaction questionnaire (CSQ-8) was not quite significant ($P = 0.07$), although it became so after adjustment for baseline characteristics ($P = 0.002$).

Conclusion Crisis resolution teams can reduce hospital admissions in mental health crises. They may also increase patients' satisfaction, but this was an equivocal finding.

Introduction

Government policy mandates the introduction throughout England of crisis resolution teams for the management of acute crises experienced by severely mentally ill people,^{1,2} but supporting evidence has remained weak.³ No previous randomised trial has evaluated crisis resolution teams in a modern community mental health system, although our recent naturalistic study suggested reduced admission rates and better satisfaction among patients after their introduction.⁴

Methods

We examined whether involvement of a crisis resolution team in patients' care would result in lower admission rates within eight weeks of a crisis and in greater satisfaction with care.

Sample

All residents of two geographical sectors of the London Borough of Islington who were aged 18 to 65 and experiencing a crisis severe enough for mental health professionals to consider admission were eligible. To achieve a reasonably representative sample, our design allowed us to recruit people who lacked capacity at the time of the crisis, often transiently.

Ethical approval was obtained for recruitment of three groups of participants: people who were willing and able to give informed consent to randomisation and care by the crisis resolution team; people who lacked capacity to make a decision about their care at the time of the crisis but had received information about the trial before it began and had not decided to opt out; and people who lacked capacity at the time of the crisis and had not already been informed about the trial, but whose carers gave assent to their entry.

The local community mental health teams, the casualty department liaison team, and on-call psychiatrists and approved social workers identified people presenting in crisis who fell into one of these three categories and, where feasible, obtained their consent to randomisation. They then discussed them with staff in the crisis resolution team. If staff on the crisis resolution team agreed that people referred met the inclusion criteria, they telephoned a 24 hour randomisation service at the health services research unit, University of Aberdeen, which allocated participants at random to the experimental or control group. Crisis resolution team staff subsequently gave people randomised to the experimental intervention further written information and offered them another opportunity to refuse care from the team. For those who lacked capacity initially, this occurred after they had recovered it. We sought separate consent for the research interview at eight weeks.

People in crisis who did not meet the conditions for trial entry received standard care without the crisis resolution team.

Interventions

In the experimental group, a crisis resolution team augmented existing acute services. Staff were available

Editorial by
McGorry

Department of Mental Health Sciences, Royal Free and University College Medical Schools, University College London, London W1W 7EY
Sonia Johnson
senior lecturer in social and community psychiatry
Paul Bebbington
professor of social and community psychiatry

Camden and Islington Mental Health and Social Care Trust, London NW1 0PE

Fiona Nolan
research fellow in mental health nursing
John Hoult
consultant psychiatrist
Nigel McKenzie
consultant psychiatrist

CORE (British Psychological Psychology), Sub-Department of Clinical Health Psychology, University College London, London WC1E 7HB

Stephen Pilling
director

Central and North West London Mental Health NHS Trust, London W2 6LA

Andrew Sandor
consultant psychiatrist

MRC Biostatistics Unit, Cambridge CB2 2SR

Ian R White
senior scientist

Department of Clinical Psychology, University of Surrey, Guildford, Surrey GU2 7XH
Marie Thompson
trainee clinical psychologist

Correspondence to:
S Johnson
s.johnson@ucl.ac.uk

BMJ 2005;331:599-602



This is the abridged version of an article that was posted on bmj.com on 15 August 2005: <http://bmj.com/cgi/doi/10.1136/bmj.38519.678148.8F>

Table 1 Use of mental health services in eight weeks and six months after psychiatric crisis according to treatment. Figures are numbers (percentages) of participants unless stated otherwise

	Experimental group (n=135*)	Control group (n=125)	Odds ratio (95% CI)	P value
Admission in eight weeks after crisis				
Admitted to:				
Psychiatric ward	29 (22)	74 (59)	0.19 (0.11 to 0.32)	<0.0005
Crisis house	25 (19)	16 (13)	1.5 (0.8 to 3.1)	0.21
Hospital/crisis house	49 (36)	86 (69)	0.26 (0.15 to 0.43)	<0.0005
Bed days in hospital:				
Mean (SD)	6.4 (14.7)	17.4 (21.1)		<0.0005†
Median (IQR)	0 (0)	5 (32)		
Bed days in hospital/crisis house:				
Mean (SD)	9.2 (15.6)	19.5 (20.6)		<0.0005†
Median (IQR)	0 (13.5)	11.5 (33.5)		
Admission in six months after crisis				
Admitted to:				
Psychiatric ward	39 (29)	84 (67)	0.20 (0.12 to 0.34)	<0.0005
Crisis house	33 (24)	22 (18)	1.5 (0.8 to 2.8)	0.18
Hospital/crisis house	63 (47)	94 (75)	0.29 (0.17 to 0.49)	<0.0005
Bed days in hospital:				
Mean (SD)	16.1 (36.5)	35.0 (47.9)		<0.0005†
Median (IQR)	0 (9)	11 (55)		
Bed days in hospital/crisis house:				
Mean (SD)	21.3 (37.9)	38.6 (47.0)		<0.0005†
Median (IQR)	0 (27.5)	23 (61)		
Compulsory detention under Mental Health Act after crisis				
In eight weeks after crisis	16 (12)	24 (19)	0.57 (0.28 to 1.1)	0.10
In six months after crisis	24 (18)	32 (26)	0.63 (0.35 to 1.2)	0.13

*Data missing for one in each group for admission by six months and one in experimental and two in control for bed use at both time points.

†Mann-Whitney test.

24 hours a day. The control group received care from the inpatient unit, crisis houses, and community mental health teams.

Data collection

Baseline—As interviews before randomisation were not feasible, researchers collected baseline data from staff and clinical records as quickly as possible after randomisation. They recorded demographic details, clinical history, and presenting problems, and used the threshold assessment grid (TAG)⁵ and Health of the Nation outcome scales (HoNOS)⁶ to assess risks and severity of clinical and social problems at the time of the crisis.

Primary outcome measures—We established whether participants had been admitted to hospital in the eight

weeks after the crisis using best available information from patients, staff, and clinical records. Patients' satisfaction was assessed at a research interview with the client satisfaction questionnaire (CSQ-8).⁷

Secondary measures—At eight weeks, we collected data on bed days in hospital and crisis houses, and compulsory admissions. Patients were rated with the brief psychiatric rating scale,⁸ Manchester short assessment of quality of life,⁹ Health of the Nation outcome scales, and the life skills profile, a measure of social functioning.¹⁰ At six months, we collected information on service use, ratings on the Health of the Nation outcome scales and life skills profile, and adverse events from staff and clinical records.

Analysis

A power calculation indicated that we needed 134 participants per group. We analysed results on an intention to treat basis.

Results

Randomisation

We randomised 135 people to the experimental group and 125 to the control group. Of these, we interviewed 118 (87%) and 108 (86%), respectively, at eight weeks (see [bmj.com](#) for further details of the randomisation process). Of the people who were admitted during the recruitment period, 104 did not enter the trial. They were more likely to be black Caribbean (21% *v* 5%), having their first contact with mental health services (24% *v* 12%), admitted via the police (23% *v* 10%), and admitted compulsorily (50% *v* 32%) than people in the control group who were admitted.

Some patients may have been managed in the community without referral to the trial, and we had no reliable mechanism for identifying them all. It is unlikely, however, that we missed large numbers of community crises associated with a significant risk of admission. The number of patients each month who either entered the study or were admitted to hospital bypassing the study was similar to that observed in our previous naturalistic study⁴ and in an adjacent area with similar service structures and demographic characteristics.

Characteristics of the patients in the experimental and control groups were similar at baseline (see [bmj.com](#)). Demographic characteristics in this and our previous study⁴ were similar, but in the current study

Table 2 Patients' satisfaction and clinical and social outcomes. Figures are mean (SD) score unless stated otherwise

	Experimental group	Control group	Unadjusted		Adjusted*	
			Mean difference (95% CI)	P value	Mean difference (95% CI)	P value
Outcomes measured at interview eight weeks after crisis (118 interviewed in intervention; 108 in control)†						
Patient satisfaction: CSQ-8	22.8 (6.6)	21.2 (7.3)	1.7 (-0.1 to 3.5)	0.074	3.0 (1.1 to 4.9)	0.002
Symptom severity: total BPRS	36.1 (9.0)	39.0 (10.8)	-2.9 (-5.6 to -0.1)	0.041	-2.2 (-5.1 to 0.7)	0.14
Quality of life: total MANSA	45.6 (13.2)	47.1 (14.7)	-1.5 (-5.2 to 2.2)	0.43	-1.0 (-4.8 to 2.8)	0.61
Outcomes rated by staff eight weeks after crisis (133 in intervention; 124 in control)						
Severity of clinical and social problems: total HoNOS	9.9 (4.5)	11.8 (6.0)	-1.9 (-3.3 to -0.6)	0.004	-2.2 (-3.5 to -1.0)	0.001
Social functioning: total LSP	132.0 (13.2)	129.0 (17.0)	3.0 (-0.8 to 6.9)	0.12	3.3 (-0.1 to 6.8)	0.059
Outcomes rated by staff six months after crisis (133 in intervention; 122 in control)						
Severity of clinical and social problems: total HoNOS	9.8 (5.5)	10.4 (6.4)	-0.6 (-2.2 to 0.9)	0.43	-1.0 (-2.5 to 0.5)	0.21
Social functioning: total LSP	133.2 (14.7)	132.2 (16.1)	1.1 (-3.0 to 5.1)	0.61	1.2 (-2.5 to 4.8)	0.53

CSQ-8=client satisfaction questionnaire-8 item version; BPRS=brief psychiatric rating scale; MANSA=Manchester short assessment of quality of life; HoNOS=Health of the Nation outcome scales; LSP=life skills profile (higher score indicates poorer functioning).

*Adjusted for all baseline variables listed in table 1. To avoid large numbers of independent variables, some categories were combined (for example, all forms of permanent and unsupported housing).

†Of interviewed sample, satisfaction rated for all; missing values for BPRS for 11 experimental and 4 control participants, and for MANSA for 4 experimental and 5 control participants.

patients were significantly less likely to have been compulsorily admitted in the past two years (18% *v* 27%), to be rated by staff as uncooperative at initial assessment (16% *v* 28%), to have a diagnosis of schizophrenia (25% *v* 34%) or to present with psychotic symptoms (55% *v* 65%) or elevated mood (14% *v* 22%), and more likely to present with depressive symptoms (59% *v* 42%). This supported our impression that people who did not enter the trial tended to be severely ill patients who went to hospital, rather than people successfully managed at home by the community mental health teams.

Admissions

Patients in the experimental group were less likely than those in the control group to be admitted during the eight weeks after the crisis (table 1). This effect persisted six months after baseline and when we included admission to crisis houses. Over the initial eight weeks, the number needed to treat to prevent one admission was 2.65. However, there was no significant difference in compulsory detentions.

Satisfaction

Patients in the experimental group were slightly more satisfied with their care ($P=0.07$, table 2). After we adjusted for baseline characteristics the difference became significant ($P=0.002$). However, baseline characteristics should be treated with caution as they were reported by staff after randomisation had occurred: thus adjusted results are not necessarily more valid than unadjusted.

Secondary outcomes

Patients in the experimental group had less severe symptoms at eight weeks, though after we adjusted for baseline characteristics the difference was no longer significant (table 2).³ The adjusted difference in scores on the Health of the Nation outcome scales was significant at eight weeks (better in the experimental group) but not at six months. There were no significant differences over six months in rates of attempted suicide and violence or of participants losing their jobs, becoming homeless, or being victims of violence.

Discussion

Availability of a crisis resolution team was associated with a reduction in the admission rate at eight weeks from 59% to 22%. This indicates that the team achieved its goal of providing an alternative to acute admission, at least in the group recruited to the trial, among whom more severely ill patients at risk of compulsory admission were probably under-represented. The impact, however, was mainly on voluntary admissions.

We found some evidence of an effect on satisfaction, especially after we adjusted for baseline characteristics, though less than we found in our previous study⁴ and less than might have been expected from older controlled studies of home treatment¹¹ and from uncontrolled surveys indicating positive views about crisis teams.^{12 13} The brief global measure we used may have failed to capture variations in views. Some patients may also have had reservations about crisis resolution teams, which have been criticised for lack of continuity of care.³

What is already known on this topic

Crisis resolution teams are currently being introduced throughout England as part of national mental health policy

No randomised evaluation of this service model has been carried out in a modern community mental health system

What this study adds

Crisis resolution teams can prevent some psychiatric hospital admissions, especially voluntary ones

In this group of patients with acute mental health emergencies, people who received care from a crisis resolution team tended to be more satisfied with their care

The lack of substantial persisting differences in clinical and social outcomes is not surprising as the intervention period was brief, against a background of longstanding mental illness and social exclusion among many patients.

Strengths and weaknesses

We succeeded in carrying out a randomised trial with an adequate sample size in an emergency situation, despite the considerable practical difficulties this poses, with good response rates for those included. Lack of assessment before baseline, however, is a limitation. We relied on randomisation to produce comparable groups, and most characteristics were similar. However, we do not know whether the baseline differences we did find—for example, in Health of the Nation outcome scales scores—occurred by chance or were early treatment effects.

More important, however, was the exclusion of a substantial group of admitted patients who were probably more disturbed on average than the group entering the trial and of some patients managed in the community without referral to the trial. Such exclusions are inevitable in randomised controlled trials, though often unreported.¹⁴ While the exclusion of more severely ill patients may exaggerate the effect size in the current study, the routinely collected admissions data for the study area before and after the trial are interesting. In the 12 months before the introduction of the crisis resolution team, there were 340 admissions. In the 12 months after the trial, when randomisation had ended and the crisis resolution team was involved in all decisions to admit, there were 237.

Finally, generalisability is limited by the distinctive characteristics of psychiatric patients in inner London, among whom psychosis, social isolation, substance misuse, and compulsory treatment are common.¹⁵ These characteristics, however, may make our study area a particularly stringent test of the effectiveness of crisis resolution teams, as achieving a reduction in bed use in this setting is especially challenging.

We are grateful to all the patients and clinicians who participated in the study and to Tom Craig (chair), Jonathan Bindman, and Paul McCrone for participating in the trial steering committee.

Contributors: See bmj.com

Funding: Camden and Islington Health Authority and the Department of Health. The contributors are independent of these bodies, except that several of us have contracts with a Mental Health Trust whose services have been commissioned by Camden and Islington Health Authority.

Competing interests: None declared.

Ethical approval: Camden and Islington community research ethics committee (reference 00/23).

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(Accepted 8 June 2005)

doi 10.1136/bmj.38519.678148.8F

A randomised multicentre trial of integrated versus standard treatment for patients with a first episode of psychotic illness

Lone Petersen, Pia Jeppesen, Anne Thorup, Maj-Britt Abel, Johan Øhlenschläger, Torben Østergaard Christensen, Gertrud Krarup, Per Jørgensen, Merete Nordentoft

Editorial by
McGorry

Bispebjerg Hospital,
Department of
Psychiatry,
Bispebjerg Bakke
23, DK-2400
Copenhagen NV,
Denmark; and
Copenhagen Trial
Unit, Centre for
Clinical
Intervention
Research,
Rigshospitalet,
Copenhagen
University Hospital,
Blegdamsvej 9,
DK-2100
Copenhagen Ø,
Denmark

Lone Petersen
research fellow
Merete Nordentoft
associate professor

Bispebjerg Hospital,
Department of
Psychiatry,
Copenhagen NV,
Denmark

Pia Jeppesen
research fellow
Anne Thorup
research fellow
Maj-Britt Abel
research fellow

continued over

BMJ 2005;331:602-5

Abstract

Objectives To evaluate the effects of integrated treatment for patients with a first episode of psychotic illness.

Design Randomised clinical trial.

Setting Copenhagen Hospital Corporation and Psychiatric Hospital Aarhus, Denmark

Participants 547 patients with first episode of schizophrenia spectrum disorder.

Interventions Integrated treatment and standard treatment. The integrated treatment lasted for two years and consisted of assertive community treatment with programmes for family involvement and social skills training. Standard treatment offered contact with a community mental health centre.

Main outcome measures Psychotic and negative symptoms (each scored from 0 to a maximum of 5) at one and two years' follow-up.

Results At one year's follow-up, psychotic symptoms changed favourably to a mean of 1.09 (standard deviation 1.27) with an estimated mean difference between groups of -0.31 (95% confidence interval -0.55 to -0.07 , $P = 0.02$) in favour of integrated treatment. Negative symptoms changed favourably with an estimated difference between groups of -0.36 (-0.54 to -0.17 , $P < 0.001$) in favour of integrated treatment. At two years' follow-up the estimated mean difference between groups in psychotic symptoms was -0.32 (-0.58 to -0.06 , $P = 0.02$) and in negative symptoms was -0.45 (-0.67 to -0.22 , $P < 0.001$), both in favour of integrated treatment. Patients who

received integrated treatment had significantly less comorbid substance misuse, better adherence to treatment, and more satisfaction with treatment.

Conclusion Integrated treatment improved clinical outcome and adherence to treatment. The improvement in clinical outcome was consistent at one year and two year follow-ups.

Introduction

Certain psychosocial treatments, such as assertive community treatment and family intervention, have been shown to have beneficial effects on clinical and social outcomes for patients with schizophrenia.^{1,2} It has also been suggested that early treatment after the onset of psychotic illness provides the best chance of preventing relapse.^{3,4}

Our study (the OPUS trial) is the first large randomised clinical trial of integrated treatment versus standard treatment for patients who had experienced a first episode of psychosis.⁵

Participants and methods

Patients

Patients were included from all inpatient and outpatient mental health services in Copenhagen and Aarhus County. From January 1998 until December 2000, 547 patients aged 18-45 years with a diagnosis in



This is the abridged version of an article that was first posted on bmj.com on 2 September 2005: <http://bmj.com/cgi/doi/10.1136/bmj.38565.415000.E01>