

ONLINE DATA SUPPLEMENT

Table DS1 Studies addressing whether CRTs affected voluntary and compulsory in-patient admissions				
Study (year, country)	Research design	Study sample	Results	Limitations
Hubbeling <i>et al</i> ⁷ (2012, international)	Systematic review	20 articles in total, 16 related to bed use	Concluded that all studies showed reduction in admission, and most showed reduction in bed use, but may be possible to reduce admissions without introducing CRTs	Limited number of studies; heterogeneous samples; lack of description or analysis of moderating variables (e.g. treatment provided)
Jacobs & Barrenho ¹⁶ (2011, UK)	Comparison of areas of England with and without CRT	229 primary care trusts	No significant differences in admission rates	Lack of statistical power
Barker <i>et al</i> ¹¹ (2011, UK)	Pre- and post-CRT comparison	470 000 in catchment area	In year after CRT implementation significant differences included: 24.6% decrease in acute psychiatric admissions; mean duration of in-patient stay fell by 6.5 days (22% decrease); 17% reduction in MHA admissions; 4% decrease in readmissions; 93% of patients reported clinical improvement during CRT care; 27% felt totally recovered at discharge; 90% felt safe during CRT treatment; 94% of carers said the patient got better with CRT input	Retrospective – no control population; confounding factors – remodelling of service at this time resulted in fewer beds anyway
Forbes <i>et al</i> ¹⁴ (2010, UK)	Pre- and post-CRT comparison	82 000 in catchment area	No significant differences in admission rates or duration of hospital stay; increase in proportion of compulsory admission and in rates of all civil compulsory orders in year following CRT implementation	Staff limited; measured over short time period, so increase in compulsory admissions may be just natural fluctuations
Tyrer <i>et al</i> ¹⁵ (2010, UK)	Pre- and post-CRT comparison in one area compared with another area with no CRT (control area)	86 622 residents in CRT area, 214 393 in control area	Overall bed usage unchanged: frequency and duration of compulsory admissions increased by 31% in the CRT and by 7% in the control service; informal admissions reduced in CRT (23.5%) compared with control group (13.3%)	Only covered 9 months; not randomised; the two teams are not strictly comparable because of differences in therapeutic skills and performance
Sjølie <i>et al</i> ¹ (2010, international)	Systematic review	35 articles in total, 21 relating to outcomes in general	Concluded that CRTs are effective in reducing admissions	Covered a wide range of diverse mental health services; use of different terms to describe CRT may have resulted in unintentionally excluding relevant papers
Furminger & Webber ²¹ (2009, UK)	Pre- and post-CRT comparison of MHA assessments	119 pre-CRT and 120 post-CRT MHA assessments	Overall, no significant reduction in MHA assessments; significant increase in use of MHA Section 2; significant decrease in use of MHA Section 3	Study in one county in south-east England so not necessarily generalisable; variables that affected MHA need further investigation other than in focus group; some missing data from approved social workers
Robin <i>et al</i> ²³ (2008, France)	Prospective comparison of CRT and in-patient treatment over 5-year period	68 CRT patients and 196 in-patient controls	Highly significant immediate decrease in number of admissions and duration of hospital stay observed, maintained over the 5 years (days in hospital after 5 years in CRT group – 37.1, in control group – 51.8)	Mean duration of hospital stay lower for this department than other departments of the hospital; control group all admitted; patients not randomised
Uddin & Byrt ²⁴ (2007, UK)	Pre- and post-CRT comparison	615 000 in catchment area	Overall reduction in admission rates seen, but no statistical testing reported	No data reported
Jethwa <i>et al</i> ²⁵ (2007, UK)	Pre- and post-CRT comparison	750 000 in catchment area; 4353 admissions in 3-year period of study	37.5% significant reduction in monthly admissions after introduction of CRT	Effects of planned reduction in hospital beds might have created an expectation towards admission rates: threshold for admission and the decision-making process might have been influenced; team was newly formed so performance may change when team more established; uncontrolled; no data reported on bed days

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Table DS1 Studies addressing whether CRTs affected voluntary and compulsory in-patient admissions (<i>continued</i>)				
Study (year, country)	Research design	Study sample	Results	Limitations
Keown <i>et al</i> ¹² (2007, UK)	Pre- and post-CRT comparison	450 000 in catchment area	Admission rate decreased by 45% with CRT implementation, although the median length of stay increased from 15.5 to 25 days (both significant); increase in Section 2 and Section 3 MHA admissions; gender and age differences: reduction in female bed occupancy, greater reduction in admissions of younger adults	Use of routinely collected data
Glover <i>et al</i> ¹⁷ (2006, UK)	Observational study of local health areas between 1998 and 2003	229 local health areas (99 of which had CRTs by 2003)	Overall admissions fell by 11%: 23% for younger and 0.5% for older people; admissions fell by 10% more in teams in place since 2001 and 23% more in CRTs that were on call 24/7 by 2004; reductions in bed use were smaller	No control group; other factors might have influenced admission (e.g. government sensitivity about shortages of in-patient beds)
Damsa <i>et al</i> ²⁶ (2005, Luxembourg)	Pre- and post-comparison	563 pre-crisis and 644 post-crisis	Significant decrease in rate of voluntary hospitalisations after crisis intervention, especially for women (20% admitted pre-CRT and 13% post-CRT); significant increase in out-patient consultations	Short-term data collection of 6 months – the crisis team could be postponing hospitalisation; could not completely match the two patient samples; staff only available 8am–6pm
Adesanya ¹³ (2005, Australia)	Pre- and post-CRT comparison	Number of residents in catchment area not reported	69 admissions pre-CRT, 53 admissions post-CRT; no statistically significant differences found	Small sample size; intermittent shortages of staff in team
Johnson <i>et al</i> ¹⁰ (2005, UK)	Pre- and post-CRT comparison	77 pre-CRT; 123 post-CRT	6 weeks after a crisis: admission rates for pre- and post-CRT were 71% and 49% respectively and a 6.2-day difference in mean bed use (both statistically significant); at 6 months: 75% of pre-CRT and 60% of post-CRT had been admitted at least once (statistically significant); no significant difference in mean bed use; no difference in compulsory admissions	Lack of randomisation; successive rather than simultaneous recruitment of the groups means differences in outcome might have resulted from a change other than CRT implementation; once the CRT began work, pre-CRT members could access them after the initial 6 weeks, and 15 did (13 of those were admitted, so should not have affected admission rates)
Johnson <i>et al</i> ⁹ (2005, UK)	RCT: 24-hour CRT v. standard care from in-patient services and CMHTs (control group)	135 CRT patients and 125 controls	CRT patients less likely to be admitted to hospital 8 weeks and 6 months after a crisis (at 6 months: 29% admitted in CRT group and 67% admitted in control group); compulsory admission not significantly reduced; at 6 months, a significant difference found in mean in-patient bed days (16.1 for CRT group v. 35.0 for control group)	Generalisability limited by distinctive characteristics of psychiatric patients in inner London; lack of assessment before baseline; exclusion of substantial group of admitted patients who are probably more disturbed on average than group entering trial – e.g. those excluded were more likely to be admitted compulsorily (50% v. 32%)
Ford <i>et al</i> ²⁷ (2001, UK)	Pre- and post-CRT comparison in one area, compared with in-patient care only in another area (control area)	106 people assessed; 150 000 in CRT catchment area, 68 000 in control area	Admissions reduced from 237 to 148 per 100 000 and occupied bed days reduced from 9936 to 6120 per 100 000 after CRT introduced; in control area, admissions reduced from 508 to 446 per 100 000; no statistical testing reported	No statistical testing reported; no two areas are identical and patients are not randomly assigned; not enough follow-up assessments
Guo <i>et al</i> ²⁸ (2001, USA)	Pre- and post-CRT comparison: a community-based mobile crisis intervention group was matched with a hospital-based intervention group	2200 adults (1100 in crisis intervention)	The community-based intervention reduced hospitalisation by 8%; clients treated in the community were not subsequently at any greater risk of hospitalisation	Not randomised; data did not include all variables that might have been included had study employed primary data collection

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Table DS1 Studies addressing whether CRTs affected voluntary and compulsory in-patient admissions (*continued*)

Study (year, country)	Research design	Study sample	Results	Limitations
Dunn ²⁹ (2001, UK)	Comparison of MHA assessments in two catchment areas, one with a CRT and one without	181 assessments (for 129 individuals); CRT area had population of 89 584 and non-CRT area 105 134	CRT area had: absolute and relative reduction in numbers of MHA assessments (107 per 100 000 v. 81 per 100 000 in non-CRT area); decrease in likelihood of detention under Section 3; involvement of CRT decreased likelihood of Section 3 decision even further (46% more likely if CRT not considered)	Use of one data source; did not separate data on use of Section 2 and Section 4; CRT not 24-hour service
Scott ³⁰ (2000, USA)	Comparison of psychiatric emergencies handled by mobile crisis team or regular police intervention	73 psychiatric emergencies handled by mobile crisis team; 58 handled by regular police intervention	55% of crisis team emergencies v. 28% of police emergencies managed without admission (statistically significant difference); 36% of crisis team admissions v. 67% of police admissions compulsory (statistically significant difference)	No data reported on bed days or length of admissions; no statistical testing reported

CMHT, community mental health team; CRT, crisis resolution team; MHA, Mental Health Act 1983; RCT, randomised controlled trial.

Table DS2 Studies addressing demographic and clinical profile of patients admitted despite presence of CRTs and team characteristics that affected admission				
Study (year, country)	Research design	Study sample	Results	Limitations
Brooker <i>et al</i> ³² (2007, UK)	Study of recorded referrals and admission decisions made by CRT	375 referrals made to CRT	Higher risk of admission associated with more deprived areas of the city; those admitted had lower health and social functioning scores and worse ratings of dangerousness, support systems and ability to cooperate	Service studied did not undertake full range of functions provided by a CRT, which limits ability to generalise
Cotton <i>et al</i> ³⁴ (2007, UK)	Observational study of 3 CRTs	358 analysable cases (129 of which had data available on timing of admission)	Lower risk of admission in the North Islington team, for those with depression as presenting problem, those at risk of 'deliberate' self-harm, or self-referrals; higher admission rate for patients rated as uncooperative by staff, for those with psychotic symptoms as a presenting problem, those at risk of violence or unintentional harm to self (i.e. self-neglect or reckless behaviour), males, Black African ethnic group, those with social problems, history of being admitted, or referred by police	Study incorporated data collected from 3 different studies using recruitment methods that were not identical; study did not adjust for multiple testing; based their test on literature and clinical grounds, but may have left out some important variables; all findings are associations only and do not necessarily show causality
Glover <i>et al</i> ¹⁷ (2006, UK)	Observational study of local health areas between 1998 and 2003	229 local health areas (99 of which had CRTs by 2003)	Greater reductions in admission rates for older working-age women (35–64 years); teams always on call associated with additional reductions for older men and younger women	No control group; other factors might have influenced admission (e.g. government sensitivity about shortages of in-patient beds)
Tomar <i>et al</i> ³³ (2003, UK)	Observational study of 2 CRTs	40 patients with first-episode psychosis	No significant differences between those admitted and those treated by CRT in demographic variables, diagnostic category and initial BPRS; most common reason for requiring admission was risk to self	Small sample size; cover only provided 9am–9pm
Brimblecombe <i>et al</i> ³¹ (2003, UK)	Observational study of 2 CRTs	293 individuals in 2 intensive home treatment teams over 1 year	Most common reason for admission was risk to self (53.2%); increased risk of hospitalisation if high suicidal ideation and previous hospital admission, but only weakly predictive of whether admission would actually take place	Not necessarily generalisable; only quantitative measures used
Harrison <i>et al</i> ³⁵ (2001, UK)	Study of recorded referrals and admission decisions made by CRT	195 patients referred to CRT; 101 (52%) accepted	Home treatment more likely if female, younger, referred by senior doctor or from community or out-patients; if referred in normal working hours and if already known to the service; 20% of CRT patients were admitted later in care; 21% of those referred were immediately admitted; no difference in diagnosis between CRT patients and in-patients	Service described as hybrid between home treatment and day hospital services
Guo <i>et al</i> ²⁸ (2001, USA)	Pre- and post-CRT comparison: a community-based mobile crisis intervention group was matched with a hospital-based intervention group	Matching process using 1696 from crisis intervention and 4106 from hospital-based intervention resulted in 2200 adults (1100 in crisis intervention)	Statistically significantly more likely to be admitted to hospital if young, homeless, experiencing acute problems, referred by psychiatric hospitals, the legal system or other treatment facilities, had primary diagnosis of schizophrenia or other psychosis, substance misuse, unemployed, and with severe intellectual disability	Not randomised; data did not include all variables that might have been included had study employed primary data collection

BPRS, Brief Psychiatric Rating Scale; CRT, crisis resolution team.

Table DS3 Studies addressing whether CRTs are cost-effective				
Study (year, country)	Research design	Study sample	Results	Limitations
Hubbeling <i>et al</i> ⁷ (2012, international)	Systematic review	20 articles in total, 5 related to cost-effectiveness	Concluded that CRTs are cheaper than in-patient care; local circumstances determine whether overall service costs have decreased	Limited number of studies; heterogeneous samples; lack of description or analysis of moderating variables (e.g. treatment provided)
Sjølie <i>et al</i> ¹ (2010, international)	Systematic review	35 articles, 21 relating to outcomes in general	Concluded that CRTs seem to be 'cost-effective to a degree'	Covered a wide range of diverse mental health services; use of different terms to describe CRT may have resulted in unintentionally excluding relevant papers
McCrone <i>et al</i> ³⁷ (2009, UK)	RCT: 24-hour CRT v. standard care from in-patient services and CMHTs (control group)	135 CRT patients and 125 controls (same patients as from Johnson <i>et al</i> ¹⁰)	A CRT patient cost on average £2438 less than an in-patient	Generalisability limited by distinctive characteristics of psychiatric patients in inner London; lack of assessment before baseline; exclusion of substantial group of admitted patients who are probably more disturbed on average than group entering trial – e.g. those excluded were more likely to be admitted compulsorily (50% v. 32%)
McCrone <i>et al</i> ³⁶ (2009, UK)	Pre- and post-CRT comparison	77 pre-CRT and 123 post-CRT (using patients from Johnson <i>et al</i> ⁹)	Mean costs were £1681 less for post-CRT patients (but not statistically significantly different); £2189 statistically significant difference between patients with any CRT contact compared with none	Focused on cost only when it may be more beneficial to combine cost and outcome; may be other unmeasured differences between groups due to naturalistic method
McCrone <i>et al</i> ³⁸ (2007, UK)	Developed a decision model to assess costs	Uses a decision model – no participants; assumes 50% of patients in crisis are considered for home treatment	Expected cost of home treatment approximately £2200 per patient over a 28-day period, compared with £2900 when home treatment was not considered; if the proportion of patients considered for home treatment is increased to 90% from the current 50%, the total savings to the NHS could be about £53 million	Used a simplified decision tree to work out cost (e.g. if patient admitted, assumed they were there for 28 or 14 days only)
Ford <i>et al</i> ²⁷ (2001, UK)	Pre- and post-CRT comparison in one area, compared with in-patient care only in another area (control area)	106 people assessed; 150 000 in CRT catchment area, 68 000 in control area	CRT results in lower cost per individual: > 6 weeks after entry £2833 per patient for CRT, £3745 for control; 6–24 weeks after entry £2703 for CRT, £4227 for control (£1524 difference); increase in number of patients receiving care meant no difference in overall service cost	No statistical testing reported; no two areas are identical and patients are not randomly assigned; not enough follow-up assessments
Scott ³⁰ (2000, USA)	Comparison of psychiatric emergencies handled by mobile crisis team or regular police intervention	73 psychiatric emergencies handled by mobile crisis team; 58 handled by regular police intervention	Average cost of case handled by mobile crisis team was US\$1520 and US\$1963 for police intervention (23% lower)	No data reported on bed days or length of admissions; no statistical testing reported

CMHT, community mental health team; CRT, crisis resolution team; NHS, National Health Service; RCT, randomised controlled trial.

Table DS4 Studies addressing whether patients and carers are satisfied with CRTs				
Study	Research design	Study sample	Results	Limitations
Hubbeling <i>et al</i> ⁷ (2012, international)	Systematic review	20 articles in total, 2 related to patient satisfaction	Concluded that patients were more satisfied with CRT care	Limited number of studies; heterogeneous samples; lack of description or analysis of moderating variables (e.g. treatment provided)
Barker <i>et al</i> ¹¹ (2011, UK)	Pre- and post-CRT comparison with quantitative and qualitative analysis of PSQ-18	470 000 in catchment area; 175 replies (29%) to PSQ-18	Mean response rate 29%: 93% of patients reported clinical improvement during CRT care; 27% felt totally recovered at discharge; 89% felt safe during CRT treatment; 78% felt ready when they were discharged from CRT care; 94% of carers said the patient got better with CRT input	Low response rate; retrospective – no control population
Winness <i>et al</i> ⁸ (2010, Norway)	Systematic review	13 papers from January 1995 to January 2009	Three themes identified: (1) access and availability (e.g. easy access 24/7 and rapid response when help was needed); (2) being understood as 'normal' human beings (e.g. being able to participate in care processes as equal partners); (3) dealing with crises in an everyday life context (e.g. encouraged to carry on with some of day-to-day activities)	Limited number of studies included in review
Khalifeh <i>et al</i> ⁴² (2009, UK)	Qualitative analysis of service evaluation of CRT using semi-structured interviews	18 mothers and 5 of their children	Response rate 51%; most mothers preferred home treatment because felt safer and better looked after at home, although common difficulties with meeting children's physical needs and depending too much on them; most children preferred parental hospital admission because relieved them of distress and responsibility; mothers reluctant to seek help with parenting for fear of losing children	Low participation rate and women with positive experience of CRT may be more likely to participate; focused on mothers and not fathers
Clark <i>et al</i> ⁴⁵ (2008, UK)	National audit using qualitative and quantitative analysis of surveys and focus groups	29 CRTs	Service users and carers reported positive aspects (e.g. able to remain in familiar environment and retain links with everyday activities) and areas of concern (e.g. communication problems between in-patient and CRT teams on discharge)	Lack of control over sampling and data collection; no standardised survey template; lack of consistent details on age, gender and ethnicity
Hopkins & Niemiec ⁴³ (2007, UK)	Qualitative analysis of service evaluation of CRT using semi-structured interviews	70 CRT patients	70 out of 694 contacted patients took part (10.1%); 7 themes identified: accessibility, availability, consistency, quality, choice/negotiation, communication, changes and endings occur	Not necessarily generalisable
Ruggeri <i>et al</i> ³⁹ (2006, Italy)	Quantitative analysis of comparison between a south Verona CRT and a south London CRT using the Verona Service Satisfaction Scale (VSSS)	40 from Verona and 48 from London	Response rate 68%; users in Verona were generally more satisfied with emergency intervention than users in London: main differences between samples were due to contacts outside the hospital setting; users of a service with a well-developed community-oriented approach outside hospital setting are more satisfied than when interventions relied mostly on hospital facilities	Transcultural differences between Italian and English users in expressing satisfaction; probably more differences between the two services apart from type of emergency interventions provided

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Table DS4 Studies addressing whether patients and carers are satisfied with CRTs (*continued*)

Study	Research design	Study sample	Results	Limitations
Johnson <i>et al</i> ⁹ (2005, UK)	Quantitative analysis of pre- and post-CRT comparison using CSQ-8	77 pre-CRT, 123 post-CRT	Response rate 64% for pre-CRT and 63% for post-CRT; pre-CRT group showed mild dissatisfaction; post-CRT group showed very positive satisfaction – highly significant difference of 5.7	Lack of randomisation; successive rather than simultaneous recruitment of the groups means differences in outcome might have resulted from a change other than CRT implementation; once the CRT began work, pre-CRT members could access them after the initial 6 weeks, and 15 did (13 of those were admitted, so should not have affected results)
Johnson <i>et al</i> ¹⁰ (2005, UK)	RCT: 24-hour CRT v. standard care from in-patient services and CMHTs (control group)	135 CRT patients and 125 controls	Response rate 87% for CRT group and 86% for control group; difference of 1.7 in client satisfaction was not significant, but trend towards higher satisfaction in CRT group	Generalisability limited by distinctive characteristics of psychiatric patients in inner London; lack of assessment before baseline; exclusion of substantial group of admitted patients who are probably more disturbed on average than group entering trial – e.g. those excluded were more likely to be admitted compulsorily (50% v. 32%)
Goldsack <i>et al</i> ⁴⁴ (2005, New Zealand)	Qualitative interviews – thematic analysis	12 interviews with service users, 6 with family members	12 out of 29 patients (41.1%) and 6 out of 7 family members (85.7%) agreed to participate; patients and families reported many positive aspects (e.g. practical help, information about mental illness, service flexibility) and a few negative aspects (e.g. not helpful having so many different staff members)	No quantitative aspect to study
Kalucy <i>et al</i> ⁴⁰ (2004, Australia)	Quantitative analysis of service evaluation of CRT using satisfaction surveys	71 in CRT and 214 in in-patient unit	Response rate 41% for patients and 46% for carers; 92% of responding patients said they would use the service again; 88% of carers said it was disruptive to their normal routine, 59% said they left paid work; but carers' overall response was 'highly favourable' (statistical tests not reported)	Unclear what survey was used to measure satisfaction; statistical tests of satisfaction not reported; no follow-up; no comparison with in-patient unit; satisfaction with survey does not necessarily mean patients and carers would have preferred CRT to in-patient unit
Khan & Pillay ⁴¹ (2003, UK)	Quantitative analysis of service evaluation of CRT using structured interviews	61 (35 Asian and 26 White patients)	61 out of 116 took part in study (52.6%); overall preference for home treatment over in-patient care; overall no difference in attitudes towards home treatment, but differences in diet, stigma, treatment concordance, religious practices and faith healing; greater patient satisfaction found when quality of care reactive to individual needs	Did not compare CRT patient satisfaction with satisfaction with in-patient care
Scott ³⁰ (2000, USA)	Quantitative comparison of psychiatric emergencies handled by mobile crisis team or regular police intervention	22 individuals and 10 family members treated by crisis team	Response rate unclear; patient satisfaction favourably rated by users as 27.4 out of 32 (85.6%) and family members as 27.7 out of 32 (86.6%)	Small sample size; no statistical testing reported

CMHT, community mental health team; CRT, crisis resolution team; CSQ-8, Client Satisfaction Questionnaire; PSQ-18, Patient Satisfaction Questionnaire Short Form; RCT, randomised controlled trial.