

Title: National implementation of a mental health service model: a survey of Crisis Resolution Teams in England

Short title: Crisis Resolution Teams: English national survey

Abstract

In response to pressures on mental health inpatient beds and a perceived “crisis in acute care”, Crisis Resolution Teams (CRTs), acute home treatment services, were implemented nationally in England following the NHS Plan in the year 2000: an unprecedentedly prescriptive policy mandate for three new types of functional community mental health team. We examined the effects of this mandate on implementation of the CRT service model. Two hundred and eighteen CRTs were mapped in England, including services in all 65 mental health administrative regions. Eighty eight percent (n=192) of CRT managers in England participated in an online survey. CRT service organisation and delivery was highly variable. Nurses were the only professional group employed in all CRT staff teams. Almost no teams adhered fully to government implementation guidance. CRT managers identified several aspects of CRT service delivery as desirable but not routinely provided. A national policy mandate and government guidance and standards have proved insufficient to ensure CRT implementation as planned. Development and testing of resources to support implementation and monitoring of a complex mental health intervention is required.

Keywords: Crisis Resolution, mental health services, acute care, home treatment, implementation

Introduction

Crisis Resolution Teams (CRTs) have been advocated as a means of reducing pressure on inpatient beds, reducing health service costs and increasing the acceptability of acute care to mental health service users (Mind 2011, JCPNH 2013). CRTs provide short-term, intensive home treatment to people experiencing a mental health crisis, with the aim of averting hospital admission wherever possible, or supporting people to return home as promptly as possible following an acute admission (Johnson and Thornicroft 2008). By providing treatment in someone's home environment during a crisis, CRTs may also have the advantages of helping people to develop sustainable coping strategies, increasing the feasibility of addressing family and social precipitants of a crisis, and promoting the support and involvement from family and service users' existing support networks (Bridgett and Polak 2003).

Forerunners of the CRT model include the Training in Community Living (TCL) Programme developed in Wisconsin USA in the 1970s, which combined brief intensive CRT-type crisis care with longer term assertive community treatment when required (Stein and Test 1980). The first distinct, recognisable CRT services were developed in the 1980s in the USA (Stein 1991) and Australia (Reynolds et al. 1990), and the model has endured in both countries, without ever being adopted nationally in either (Johnson and Thornicroft 2008). A number of trials from the 1970s-'90s in the USA and Australia (Murphy 2015) provided promising evidence regarding the impact of CRT services on admissions and patient satisfaction. The positive Australian experience of CRTs in particular influenced service development in England: pioneering CRT psychiatrist and academic John Houlst helped establish new CRT services in

North Birmingham and Islington, London in the 1990s, which demonstrated the feasibility of the CRT model in an English context (Glover and Johnson 2008).

Following these developments of the CRT model, the NHS Plan in 2000 (DH 2000) mandated the national implementation of three new types of functional mental health team in England, including Crisis Resolution Teams (CRTs). This represented a bold attempt to find a nationwide solution to a perceived “crisis in acute care” (Appleby 2003), characterised by very high rates of inpatient bed occupancy and widespread dissatisfaction with acute care. It sought to achieve consistent, national implementation of the CRT service model, despite reservations at the time from some clinicians and academics about the applicability of the model to the range of different geographical and socio-demographic contexts across England (Pelosi and Jackson 2000). Government guidance (DH 2001) recommended, consistent with the developed model of CRTs in Australia (Hoult 1991), that CRTs should provide an easy access, rapid response, 24 hour service; should be multi-disciplinary and able to provide medical, psychological and social interventions; and should help facilitate early discharge from acute wards. A key part of this guidance was that CRTs should fulfil a “gatekeeping” function of assessing all patients before admission to acute wards and considering home treatment as an alternative to admission wherever possible. Confirmation of the potential effectiveness of the CRT model in an English context was provided in 2005, with positive results from a trial of an English CRT (Johnson et al. 2005). This trial found that a CRT (developed with input from CRT pioneer John Hoult and working to the specifications of English policy implementation guidance (DH 2001)) reduced hospital admissions and inpatient bed use, and increased service users’ satisfaction with acute care. It remains the only trial of a CRT in an English context: it is included in a recent systematic review from the Cochrane Collaboration, which

concludes that home-based crisis intervention can be an effective alternative to hospital admission (Murphy et al. 2015). There is little empirical evidence about the critical ingredients of CRTs (Wheeler et al. 2015), although there is some support for longer opening hours (Glover et al. 2006) and home-based treatment (Hasselberg et al. 2011).

Unlike the other service models mandated in England by the NHS Plan in 2000 (Assertive Community Treatment Teams and Early Intervention Services for psychosis), and despite the trial evidence for the effectiveness of the CRT model, CRT implementation has not been widespread elsewhere in the UK or internationally (Johnson 2013). Other than in England, CRTs have been implemented nationally only in Norway (Hasselberg et al. 2011). In England, CRTs ceased to be mandated with the change of UK government in 2010, but provision of CRTs with 24-hour, seven day a week access continues to be recommended in contemporary government guidance (DH 2014).

“Scaling up” innovative services to the level of a whole population has been identified as especially challenging when an intervention is complex, and thus hard to standardise (WHO 2008). The extent to which CRT implementation in England has been achieved is therefore of high interest for mental health service policy and planning generally. A national survey of CRT implementation in 2005/6 (Onyett et al. 2008) found wide variation in CRTs’ organisation and service delivery, in mainly newly implemented teams, with only 40% describing themselves as fully established. Little is known about how the national implementation of a complex mental health service model has developed since 2005, although recurrent criticisms from service users have included: poor accessibility to CRT care; poor continuity of care; and a narrow medical focus and lack of choice regarding interventions provided (Mind 2011, Hopkins and Niemiec 2007, Lyons et al. 2009).

Despite trial evidence that CRTs can be an effective service model, evidence regarding their impact nationally in England is equivocal. Two analyses from a nationwide study using routine hospital admissions data reached different conclusions about whether there is any association between CRT implementation and a reduction in inpatient bed use (Glover et al. 2006, Jacobs and Barrenho 2011). Rates of compulsory inpatient admissions in the England have risen over the last decade despite CRT implementation (Keown et al. 2011, HSCIC 2015).

On account of this potential gap between efficacy and effectiveness for the CRT model in England, it is of particular interest to examine how implementation has occurred in practice and how it may have deviated from what was intended. This can provide generalizable knowledge about the process and potential barriers to implementation of complex interventions, and help understand why the anticipated benefits of CRT implementation in England regarding admission rates and user satisfaction, may not have been fully realised. CRT managers constitute an important and well informed stakeholder group: their views about service needs and discrepancies between actual and desirable CRT service provision are therefore of high interest to identify potential priorities for CRT service development and quality improvement.

In this paper we analysed a national survey of managers of CRT teams conducted in 2011/12 in order to explore the impact of a national mandate. We aimed to: map the provision of CRTs in England and describe their organisation and service delivery; explore the extent to which CRTs adhere to key recommendations from government guidance (DH 2001); and compare CRT managers' views on optimal and actual CRT organisation and service delivery.

Method

Setting: We sought to survey all CRTs in England.

Participants: The team manager of each identified CRT was invited to participate in the survey. Where a team manager post was vacant or the manager wished to delegate completing the survey, an alternative senior member of the CRT was invited to participate.

Measures: The study team developed a 90-item questionnaire informed by previous national surveys of CRTs (Onyett et al. 2008) and residential crisis services (Johnson et al. 2009) and refined following piloting in four CRTs. Our main aim was to investigate how far the CRT model appeared to have been implemented as intended. The survey covered: team location and access; team staffing, staff training and induction; joint working with other community and inpatient services; interventions provided and initiatives to improve service users' experience of care; discharge arrangements; information about catchment area and caseload size; any service improvement initiatives. Managers were also asked to rate the usefulness of aspects of the referral process and interventions using a five point Likert scale and provide free text responses regarding provision of complex interventions and priorities for CRT service improvement. The questionnaire took about one hour to complete.

Procedures: The Camden and Islington Research Ethics Committee confirmed that the survey met the criteria for a service evaluation, rather than research (HRA 2013), and as such did not require review by an ethics committee. CRTs were mapped by multiple means including: the website of each area of National Health Service mental health service provision (NHS Mental Health Trusts); contact with NHS Trusts' research (R&D) departments; and national CRT

networks (e.g. the Royal College of Psychiatrists' CRT network). Researchers also checked with participating service managers that all other CRTs within their NHS Trust had been identified. The study researchers contacted the R&D department of each NHS Mental Health Trust in England to seek permission to contact CRT managers. Trusts' approval and registration processes were followed wherever required. Once Trust approvals had been obtained, managers were sent an information sheet about the survey and invited to complete the questionnaire, either via an online survey or as a phone interview with a researcher. Non-responders were followed up by phone. The questionnaire was created as an online survey using University College London's secure "Opinio" system: data were entered directly into Opinio by participants or by a researcher during the phone interview. Once the survey was closed, data were downloaded from Opinio into Excel and transferred to SPSS for Windows for data analysis.

Analysis: Data were analysed and reported in three stages:

i) Data regarding CRTs' organisation and service delivery were collated using descriptive statistics. Free text responses were coded by a study researcher (BP) and codes were reviewed and agreed by other researchers (SJ, BLE): this allowed quantitative description of most frequent responses to free text questions.

ii) Where questionnaire data directly related to recommendations in the original CRT guidance provided by the Department of Health (DH 2001), we recoded or combined questionnaire variables where necessary to allow investigation of how far CRTs were adhering to original guidance in three domains: referral criteria and access; staffing; and interventions (Table 1).

Table 1 about here

The proportion of CRTs adhering to each item of guidance and all items within each domain were reported.

iii) In order to explore any dissonance between actual and perceived desirable CRT practice, for all items with available data, we compared managers' reports of CRT characteristics and service delivery with their ratings of the usefulness of the service characteristic. We compared the proportion of teams where a service characteristic was present and the proportion where it was rated fairly or very useful. Characteristics with a discrepancy of 20% or more between actual and desirable practice were reported. Managers' priorities for CRT service improvement were also collected.

Results

Service mapping identified a total of 218 CRTs, with CRT teams in all 65 mental health NHS Trusts in England. One hundred and ninety two CRTs (88%) took part in the survey. Not all respondents completed the entire questionnaire, but 184 (84%) respondents completed at least two thirds of it. The number of respondents for each question is reported in the results.

i) CRT characteristics and service delivery

Location and access: Over two thirds of CRTs (n=130, 68%) were co-located with a mental health inpatient unit, with just over one third (n=68, 35%) on the same site as one or more

community mental health services. Forty one teams (21%) were co-located with a general hospital with an Accident and Emergency department.

All CRTs accepted referrals from other secondary mental health services. Over three quarters of CRTs (147/190, 77%) accepted referrals directly from GPs. In 56% of CRTs (106/191), service users already known to the service or their families could refer themselves directly to the CRT, but this direct access was only available for people not previously known to services in 21% of teams (40/191).

All CRTs worked with service users aged 18-65. Half of CRTs worked with people age 16 (99/192, 52%); a majority (110/191, 58%) had no upper age limit for service users. Only a minority of CRTs (39/192, 20%) reported that they work with people with dementia, but a majority work with people with Intellectual Disability (111/192, 58%). Most but not all CRTs reported that they work with people with a personality disorder (151/192, 79%).

Workforce: Table 2 presents the professional groups of staff employed in CRTs reported by these respondents. While nearly all teams employed nurses and psychiatrists, representation of other professional groups was much more variable. A typical CRT, based on median data, employed 20 full time equivalent staff and was supporting a team case load of 27 service users.

Table 2 about here

Less than a quarter of CRTs (n=41, 22%) reported offering a CRT-specific training programme for new staff. Where this was offered, it was of about one week's duration (mean length = 40 hours).

Interface with other services:

a) Integration with other services: Sixty one percent of CRTs (116/191) were jointly managed at team level with another service. Most commonly, this joint management was just with other acute services (73% of respondents) rather than acute and community services (17%) or just community services (8%). Thirty three CRTs (17%) reported pooling staff with other services, most commonly with acute wards (n=13) or Psychiatric Liaison services (n=9). Just over two thirds of CRTs (128/187, 68%) reported having dedicated link workers within the CRT team to help communication and continuity with other inpatient or community services.

b) Working with other acute services: One third of CRTs (62/187, 33%) reported that they always assessed service users in person before hospital admission (i.e. the “gatekeeping” role specified in original English policy implementation guidance (DH2001)). Another 56% of CRTs (105/187) reported that they usually do this; 9% of CRTs (16/187) reported no regular role in assessing service users before hospital admission. Only 19% of CRTs (35/187) reported always attending Mental Health Act Assessments, with a further 29% (55/187) usually doing so. Responses (n=155) ranged from 10% - 100% with a mean of 85% (s.d. = 17.9) regarding the proportion of service users admitted to acute wards who were first assessed in person by the CRT.

Of 188 respondents who completed the survey section on early discharge, all but two (99%) reported some mechanisms to identify service users on inpatient wards for whom early discharge with CRT support could be achieved. Discussion with ward staff was the most commonly described approach (161/188 respondents, 86%), with 41% of respondents (n=77) reporting CRT staff attending all ward rounds and 31% reporting that CRT staff met patients in other ways to assess for early discharge.

Just over a third of respondents (65/184, 35%) reported CRT access, for at least some residents in their area, to a crisis house or similar (i.e. non-hospital, residential crisis accommodation); and 22% of CRTs (41/184) had access to an acute day service/day hospital. Three quarters of CRTs (142/187, 76%) reported that there was a written plan for access to and provision of care through acute services (an acute care pathway) within their NHS Trust.

c) Working with other community services: Of 184 respondents, 155 (84%) reported that the CRT routinely arranged a joint discharge meeting for service users at the end of CRT support involving other community mental health teams who would provide continuing care. Nearly three quarters of respondents (n=142, 74%) identified initiatives put in place to improve continuity with Community Mental Health Teams or equivalent services, most frequently: regular meetings (n=85, 60%); joint working during CRT care (n=72; 51%); and developing clear care pathways and protocols (n=22, 16%).

d) Content of care: CRT support for a service user lasted on average about three weeks (median = 21 days (n=141)). Table 3 summarises the interventions reported as provided in CRTs. Medication prescription, delivery and supervision were provided in the large majority of teams; provision of psychosocial interventions, practical support and help with physical healthcare was more variable.

Table 3 about here

Respondents were also asked to describe any structured interventions used to support key aspects of CRT work. One hundred and eighty respondents completed this part of the survey. Typically, the proportion of respondents describing the provision within their CRT of

structured interventions, as opposed to referral or signposting to other services, or non-specific support, was quite small; the most common responses were:

Supporting families: n=122 (68%) respondents described an intervention but these were most commonly: referring or signposting to carers' services (n=29, 24%); providing a carer's assessment (n=27, 22%). More unequivocally structured interventions included: social systems meetings (n=23, 19%); providing family therapy (n=17, 14%).

Medication management: Interventions were described by 134 (74%) respondents but most common was otherwise unspecified compliance monitoring and prompting (n=64, 48%). Structured side-effects monitoring was reported by 48 respondents (36%); also reported were: providing education and information about medication (n=48, 36%); and providing compliance aids (e.g. dosette boxes) (n=37, 28%).

Symptoms and psychological distress: Descriptions of interventions were provided by 158 respondents (88%), most commonly cognitive behavioural therapy (n=59, 37%) and solution-focused therapy (n=20, 12%).

Drug and alcohol problems: 77% of respondents (n=132) reported providing some structured support, but this was most frequently described just as referral on to other specialist services (n=77, 58.5%). Motivational interviewing was the most common approach described as provided within the CRT (n=23, 17%).

Risk management: 77% of respondents (n=138) provided some text describing approaches to risk management, but many just commented generally that this is an important feature of CRT work. Use of structured risk assessment schedules was the most commonly identified structured approach (n=71, 51%).

Table 4 summarises findings from 175 respondents on initiatives to improve service users' and carers' experience of CRT support. Feedback from service users was sought in over 80% of CRTs. Service user and carer involvement in CRT staff recruitment, training and management groups was common, as were systems to limit the number of staff working with individual service users.

Table 4 about here

ii) Adherence to original guidance for CRTs

Where possible, we compared data from our survey with the original English government implementation guidance (DH 2001). Table 5 indicates that overall adherence to the specified CRT model was very low. Only one CRT in our survey reported being adherent in all areas assessed. Most CRTs performed gatekeeping and early discharge functions, and teams were typically as well-staffed as recommended, including with medical cover. However, few teams provided the multi-disciplinary staff team advocated in guidance; delivery of recommended interventions was highly variable.

Table 5 about here

iii) Managers' priorities for service improvement and differences in valued and actual service provision

Free text responses from 163 respondents identified up to three desired changes which could improve the CRT's service. Five things were mentioned by more than 10% of respondents: **more staff** (n=80, 46%); **clearer referral pathways** and better continuity with other services; (n=75, 46%); increased **clinical skills** among CRT staff (n=40, 25%); better access to **crisis/respite accommodation** (n= 26, 16%); and a more **multi-disciplinary staff team** (n=23, 14%). Additional staff were perceived as an urgent need by 27% of respondents (46/171), with more nursing staff most commonly prioritised (by 44/147, 30% of respondents).

Most characteristics of CRT services and service delivery which were frequently provided were also rated as useful by most respondents. Table 6 reports survey items where there was a discrepancy of at least 20% between the proportion of teams reporting a team characteristic and the proportion of teams rating it as fairly or very useful. Sixteen of these 18 discrepant items were deficits – i.e. CRT characteristics valued by the CRT manager but not routinely provided. Two team characteristics where results indicate reservations among respondents relate to working with specific service user groups, namely people with learning difficulties or personality disorder.

Table 6 about here

Discussion

Main findings: CRTs have become an established part of the mental health service system in England – found by our mapping to be available in every NHS Mental Health Trust. However,

our survey found considerable variation in how CRTs in England are organised and the services they deliver. The vision of the NHS Plan (2000), to achieve consistent scaling up of a mental health service model to national level, has been at most partially achieved. Our survey suggests CRTs are providing a less comprehensive service than was originally envisaged, and has been repeatedly reinforced through subsequent national guidelines (JCPMH 2013, DH 2007, NMH DU 2010) and reports of experts' (McGlynn 2006) and stakeholders' opinion (MIND 2011). Almost no services were meeting all elements of the original English government guidance. CRT managers also appeared to advocate more comprehensive CRT services than are currently provided. In this picture of incomplete implementation, it should be noted that there were also areas in which CRTs in England appear to have expanded from their original brief as distinct services for adults of working age. A majority of services are now "ageless", i.e. with no upper age limit; a fifth of teams will offer a service in some circumstances at least to people with dementia as well as mental illness.

Onyett and colleagues (2008) conducted what is, to our knowledge, the only other English national survey of CRT service delivery and organisation. A comparison of our survey findings with those of the previous Onyett survey does not clearly indicate that implementation of the CRT model became more complete or consistent over the intervening six years. Strikingly, in our 2011/12 survey, fewer teams (39%) provided a full 24-hour service, including home visits to service users where required, than in the 2005/6 Onyett survey (55%). Gatekeeping data were hard to compare directly: 89% of teams in our survey reported gatekeeping most admissions to hospital, but only 33% of teams said they did so in person for all admissions; in the Onyett survey, 72% of teams reported that they acted as gatekeepers to inpatient beds. Nurses were the most common professional group in CRTs at both time points: slightly more

teams had staff from other disciplines (e.g. psychologists or occupational therapists) in our survey, but this was still not the norm. Managers' priorities for the development of their CRT service were similar at both time points: they included more staff, a more multi-disciplinary staff team, and more access to crisis or respite beds. One area of notable change relates to medical staffing: in the Onyett survey in 2005/6, only 44% of CRT teams included a consultant psychiatrist; by our survey, medical staffing in CRTs had become the norm, with 87% of teams including a consultant psychiatrist. This increased medical presence in CRT teams may be reflected in the prioritisation of medication prescription and delivery in CRTs which our survey found (Table 3).

In the Onyett survey in 2005/6, 60% of teams described themselves as not yet fully established. By the time of our survey, all teams will have been operational for at least five years, and in many cases for a decade or more. Comparison of the two surveys suggests there has been a lack of marked progress over time towards high fidelity implementation of the CRT model in England: it may be inferred that the policy mandate and guidance provided in England are insufficient to achieve CRT implementation as intended.

Limitations: This paper reports a descriptive survey. The high response rate achieved for this survey (192/218 teams – 88%) gives confidence that responses are representative of CRTs nationally. It has two main limitations. First, it is based on participants' self-report. Although we attempted to minimise social desirability bias by stating prominently on the survey that individual teams would not be identified when the survey was reported, responses may have been influenced by CRT managers wishing to show their service in a good light. While the extent of any such bias is unknown, its likely result would be an over-reporting of CRT

implementation in our survey. We piloted the survey and used feedback from respondents to amend items where necessary to aid clarity. There may have been inconsistency in how questions were understood by respondents however; where interventions are reported as provided, the survey does not allow investigation of their content or the degree of variation among services.

Second, the survey is cross-sectional in nature. The 218 CRTs mapped for this survey were those identified as operating in March 2012, but even during the course of our survey, CRTs were merging or dividing with local service reorganisations. These processes, and changes to the structure or resources of existing teams, will continue to change the nature of CRT service provision. A recent article used Freedom of Information requests to elicit information from NHS Trusts in England about CRT funding and volume of referrals (McNicoll 2016). It reports that, in the period 2010 -2015, funding for CRT services dropped by an average of 8.3% accounting for inflation, while annual referrals rose by an average of 18% over the same period. The impact on CRT organisation and service delivery of these, or other changes to the socio-economic environment in which CRTs operate, cannot be determined from our survey.

Research Implications: As currently implemented, CRTs are not meeting all the expectations or aspirations of service planners and, in CRT managers, an important group of CRT stakeholders. Empirical evidence regarding how CRT implementation relates to teams' effectiveness or acceptability is lacking (Wheeler et al. 2015), but the limitations to CRT implementation we found may explain why CRTs may not have influenced rates of admission (Jacobs and Barrenho 2011, Keown et al. 2011) as much as anticipated.

Our findings regarding national implementation of the CRT model in England cohere with the conclusions of an American national implementation program, that high fidelity implementation of complex interventions in mental health requires systemic commitment at all levels to quality improvement, and effective means to monitor process and outcomes (Drake et al. 2009). The US Evidence Based Practices (EBP) Program (Mueser et al. 2003) provides a template for supporting and evaluating implementation of complex mental health service models with the development and testing of “fidelity scales” for mental health interventions of comparable complexity to CRTs, such as Assertive Community Treatment teams (Teague et al. 1998) and Supported Employment services (Bond et al. 2012). To establish such an empirically-based model of CRT services and evidence about the critical ingredients of CRTs, as well as providing practical tools for assessing service quality and supporting service improvement, there is a need to: i) specify clearly an optimum model for CRTs, consistent with best available evidence and stakeholders’ priorities; ii) develop means to measure teams’ adherence to this model; and iii) investigate the relationship of overall CRT model fidelity and aspects of team structure and organisation to service outcomes (Torrey et al. 2001).

Our survey can also generate more specific questions for future research regarding the content of care and appropriate client groups for CRT care. First: the discrepancy is substantial between how highly CRT managers rate the importance of providing practical help to service users and how infrequently these interventions are provided in many teams. The minorities of teams reporting provision of structured interventions for most aspects of CRT care was also notable. Development and evaluation of initiatives to increase the range of interventions

available in CRTs to support people in crisis, including the amount of social and practical care offered, are therefore desirable.

Second, our survey indicates some reservation among CRT managers about teams' ability to work effectively with people with personality disorders and with comorbid learning difficulties. The suitability of CRTs to support people with personality disorders in particular has been debated. Original government guidance that CRTs should not work with people with a primary diagnosis of personality disorder (DH 2001) was superseded in 2007 by contradictory advice that personality disorder should not be a diagnosis of exclusion for CRTs (NAO 2007). A recent systematic review (Borschmann et al. 2012) found a lack of any evidence about how to provide effective crisis support to people with borderline personality disorder. Our survey found that, while most CRTs do work with people with personality disorder, substantially fewer managers rated this as fairly or very appropriate – suggesting some ongoing reservations about CRTs' ability to support this client group effectively. Further research regarding the outcomes of CRT treatment or other models of crisis support for people with personality disorders would be of high interest.

Implications for policy and practice: Our survey suggests that CRTs are not being fully implemented as intended: this may help to explain the problems with acute care in England identified in recent national reports and surveys (MIND 2011, CQC 2015, Royal College of Psychiatrists 2016): in a survey by the English Care Quality Commission last year, only 14% of patients said they felt they received the right help from mental health services in a crisis (CQC 2015). Our survey supports national service planners' prioritisation of the goal of improving

mental health acute care, reflected in the Department of Health and NHS England's Crisis Care Concordat (DH 2014) and Mental Health Access and Waiting Times initiative (DH 2016).

Consistent implementation of a service model at national level is hard to achieve: more robust model specification, implementation guidance and monitoring than was put in place in England for CRTs may be required. Our survey did not reveal how far variation in CRT service provision reflects local service plans and perceived local needs. It does suggest however, that commissioners and service planners should carefully specify and audit characteristics of CRT services considered desirable, as the content of similarly named services, set up in response to nationally applicable guidance, may vary considerably. Positively, nearly all the items in our survey were being delivered in at least some CRTs, giving some indication of their feasibility. Many CRTs have structures in place designed to achieve aspects of good CRT services advocated by stakeholders (MIND et al. 2001, Lloyd-Evans and Johnson 2014), such as swift direct access, holistic care and a choice of types of support, and good continuity of care. These constitute realistic target areas for CRT service improvement: mechanisms to share knowledge about implementing best practice across CRTs nationally are required.

The experience of CRT implementation in England illustrated by our survey also offers a generalizable lesson for policy makers and service planners internationally – that robust structures to support CRT implementation are required, and consistent practice and outcomes from an evidence-based complex intervention cannot be guaranteed. This is corroborated by findings from a CRT study in Norway, where CRTs are also mandated at national level: Norwegian CRT teams were found not to provide rapid access, 24 hour opening or fulfil a gatekeeping role as envisaged (Hasselberg et al. 2011).

Barriers to implementation identified in mental health care include: lack of role clarity and direction, organisational cultures which are resistant to change, and differences in stakeholders' ideological perspectives (Sandstrom et al. 2015). These may all be relevant in a CRT context. Specific training for staff may be needed in the CRT model and specialised skills required to deliver it, such as social systems working (Bridgett and Polak 2003). This is particularly relevant to the training and continuing professional development of mental health nurses – the most prevalent professional group working in CRTs and the only group represented in all CRTs in our survey.

Conclusion: The challenges of implementation have been identified as a major barrier to maximising the patient benefit from interventions which have good evidence of efficacy in trial conditions (Tansella and Thornicroft 2009). CRTs exemplify these challenges: a complex service model with an evidence base from research trials (Johnson 2005, Murphy et al. 2015) is implemented inconsistently and not fully in accordance with original specifications (DH 2001), and produces variable outcomes (Jacobs and Barrenho 2011). As CRTs have become an established and mature part of the English mental health service system, team organisation and service delivery do not appear to have become more standardised.

The challenge remains of how to scale up to a national system, interventions which can be effective at local level. Further development and testing of strategies to achieve successful implementation are required. For CRTs, these may include: further specification of the CRT model and tools to measure teams' model adherence; development of resources to support model adherence and service improvement, and further use of policy levers such as monitoring of service standards and outcomes. Such action may help to optimise the effectiveness of this important part of mental health acute care.

Relevance to clinical practice: The CRT service model has not been fully implemented in CRTs in England. Commissioners and service planners should clearly specify requirements for CRT service delivery and organisation, and monitor teams' adherence to the CRT model, to help ensure CRT services are functioning as planned. Training and implementation resources are required for CRT staff and managers, most commonly mental health nurses, to support delivery of an optimal CRT service.

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Table 1: Survey responses used to assess adherence to DH guidance for CRTs

DH recommendation*	Relevant survey question	New variable name	Service domain
Provision of community-based treatment 24 hours a day, 7 days a week	Hours in which CRT can provide home visits to service users (Q82) <i>(recoded to: 24 hour home visits – yes/no)</i>	24 hour service	Role and Access
Easy referral processes including direct referral from GPs and former service users and families	Does the CRT accept referrals from GPs and self-referrals from known clients (Q4) <i>(recoded as: does the CRT accept referrals from GPs and known clients – yes/no)</i>	Easy referral routes	
CRT will work with adults age 16-65	What is the age range of service users accepted by the CRT (Q3) <i>(recoded to: Accepts service users 16-65 – yes/no)</i>	Works with adults 16-65	
CRT should act as “gatekeeper” to services, providing rapid assessment and referral for people with acute illness	Does the CRT assess patients in person before hospital admission (Q35) <i>(recoded to: does the CRT usually or always assess in person before admission – yes/no)</i>	Gatekeeping role	
If hospitalisation is necessary, the CRT should provide intensive care at home to enable early discharge	What methods does the CRT use to identify people for early discharge (Q25 and 30) How effectively is early discharge being achieved (Q27 and Q33) <i>(recoded to: some screening methods identified and early discharge arrangements rated as quite or very effective – yes/no)</i>	Early Discharge service	
CRT team should include both consultant and middle grade psychiatrists	Team staffing (Q79) <i>(recoded to: does team include consultant psychiatrist and other medical staff – yes/no)</i>	Medical cover	Staffing
CRT team should be multi-disciplinary, including Nurses, Occupational Therapists (OTs), Psychologists, ASWs/strong links to social services, Support Workers	Team staffing (Q79) <i>(recoded to: does team include: a nurse, an OT, a psychologist, a social worker or AMHP, a support worker – yes/no)</i>	Multi-disciplinarity	
CRT team should include 14 full time equivalent staff for a caseload of up to 30 service users	Team staffing (Q79) and CRT caseload (Q86) <i>(Staffing level variable created to reflect caseload size per 14fte staff, then coded as: is caseload size per 14 full time equivalent staff 30 or less – yes/no)</i>	Staffing level	
CRTs should provide delivery and administration of medication to service users where needed	Interventions – delivering medication (Q61) <i>(recoded to: does the CRT deliver medication to many or all service users who need it – yes/no)</i>	Medication delivery	Interventions
CRTs should provide help with benefits, housing and childcare etc	Interventions – helping with benefits applications or problems (Q61) <i>(recoded to: does the CRT provide help with benefits to many or all service users who need this – yes/no)</i>	Benefits	
CRTs should do relapse prevention work with service users and families	Discharge arrangements – does the CRT formulate written relapse prevention plans with service users (Q58) <i>(Recoded as: does the CRT complete written relapse prevention plans with most or all service users – yes/no)</i>	Relapse prevention	
CRTs should offer access to residential or day care respite facilities	Can the CRT access beds in a crisis house or equivalent (Q45) or an acute Day Hospital (Q51) <i>(Recoded as can the CRT access a crisis house or acute day hospital – yes/no)</i>	Crisis alternatives	

* Department of Health Policy Implementation Guide 2001

Table 2: Staffing in CRTs

Staff professional group/type	CRTs teams employing, or with dedicated time from, staff of this type n/N (%)
Consultant Psychiatrist	148/171 (87%)
Psychiatrist (other grade)	129/171 (75%)
Nurse	171/171 (100%)
Social Worker	122/171 (71%)
Occupational Therapist	72/171 (42%)
Psychologist	50/171 (29%)
Pharmacist	29/171 (17%)
Graduate Mental Health Worker	10/171 (6%)
Other support worker / staff without a mental health professional qualification	145/171 (85%)
Approved Mental Health Professional (AMHP)*	109/173 (63%)
Non-medical prescriber	79/168 (47%)
Number of clinical staff in CRT team (full time equivalent) (n=171)	mean = 20.8 fte (s.d. = 8.7; range 4.4 – 53.6) median = 19.5fte
Caseload size (n=136)	mean = 29.1 (s.d. = 13.9; range 10-80) median = 26.5

* Role defined in 2007 amendment to the Mental Health Act 1983 for a mental health professional with training and responsibility for assessing need for compulsory detention in hospital

Table 3: Content of care provided in CRTs

Type of intervention	Number of CRTs reporting providing this intervention to most or all service users who need it n/N (%)
<i>During CRT care</i>	
Prescribing medication	164/181 (91%)
Delivering medication	139/181 (77%)
Supervising service users taking medication	147/181 (81%)
Going shopping with/for service users	74/181 (41%)
Preparing food with service users	35/181 (19%)
Helping service users to clean their home	23/181(12%)
Helping with problems with welfare benefits	106/181 (59%)
Helping with debt problems	94/181 (52%)
Accompanying service users to the police station or court	30/181 (17%)
Accompanying service users to GP appointments	58/181 (32%)
Physical health checks	118/181 (65%)
Staying with service users for extended periods to ensure safety or mitigate isolation	64/181 (35%)
<i>Discharge support</i>	
Formulating written relapse prevention plans with service users	116/184 (63%)
Using advance directives or crisis cards	68/184 (37%)
Using self-management programmes (e.g. a Wellness Recovery Action Plan)	68/184 (37%)
Offering follow-up phone calls or visits post-discharge	83/184 (45%)

Table 4: Initiatives to improve service users' and carers' experience of CRTs

Initiative	Number of teams using the initiative n/N (%)
Named / key worker system	102/175 (58%)
Limiting number of staff working with each service user	120/175 (69%)
Minimum duration for staff visits	21/175 (12%)
Minimum frequency for staff visits	65/175 (37%)
Collecting service user feedback	144/175 (82%)
Collecting carer feedback	101/175 (57%)
Involving service users in service management / advisory groups	120/175 (69%)
Involving carers in service management / advisory groups	94/175 (54%)
Employing prior service users as staff	45/175 (26%)
Employing carers as staff	27/175 (15%)
Involving service users in staff recruitment	124/175 (71%)
Involving service users in staff training	143/175 (82%)
Client-held records	76/175 (43%)
Other initiative to improve service user / carer experiences	69/164 (42%)

Table 5: CRTs' adherence to original Department of Health 2001 guidance*

CRT Domain	CRT service aspect	Proportion of CRTs meeting DH guidance n/N (%)
Role and access	24 hour service	65/166 (39%)
	Easy referral routes	94/191 (49%)
	Works with adults 16-65	97/192 (51%)
	Gatekeeping role	167/187 (89%)
	Early Discharge service	100/121 (83%)
	All role and access variables	7/110 (6%)
Staffing	Medical cover	121/158 (77%)
	Multi-disciplinarity	17/150 (11%)
	Staffing level	116/134 (87%)
	All staffing variables	8/114 (7%)
Interventions	Medication delivery	147/181 (81%)
	Support with accessing welfare benefits	106/179 (59%)
	Developing relapse prevention plans	116/184 (63%)
	Crisis alternatives (access to crisis houses or acute day services)	87/184 (47%)
	All interventions variables	26/179 (15%)
Teams adherent to original DH guidance for all variables		n=1 [1/82 (1%)]

* Department of Health Policy Implementation Guide 2001

Table 6: Discrepancies between actual and valued CRT service provision

CRT characteristic	% of CRTs providing this (to most or all service users where needed)	% respondents rating this as very or fairly important for CRTs to provide	Discrepancy (%)
Accompanying service users to GP appointments	32%	85%	53%
Staying with service users for extended periods to ensure safety or mitigate isolation	36%	85%	49%
Helping service users to clean their home	12%	59%	47%
Preparing food with service users	19%	69%	40%
Accompanying service users to the police station or court	17%	67%	40%
Employing carers as staff	16%	55%	39%
Employing service users as staff	26%	64%	38%
Helping service users with debt problems	52%	89%	37%
Going shopping with/for service users	41%	78%	37%
Client-held records	43%	79%	36%
Minimum duration for staff visits	13%	48%	35%
Minimum frequency for staff visits	37%	72%	35%
Helping with problems with welfare benefits	59%	91%	32%
CRT accepting self-referrals from service users not previously known to services	21%	44%	23%
CRT providing physical health checks	65%	88%	23%
CRT attending Mental Health Act Assessments	48%	70%	22%
CRT working with people with learning difficulties	58%	36%	-22%
CRT working with people with personality disorder	79%	52%	-27%