Abstract

Crisis Resolution Teams provide treatment at home to people experiencing mental health crises, as an alternative to hospital admission. Previous research, based on self-report surveys, suggests that a loosely specified model has resulted in wide variations in in CRTs' service delivery and organisation, and outcomes. A fidelity scale (developed through evidence review and stakeholder consensus) provided a means of objectively measuring adherence to a model of good practice for CRTs, via one-day fidelity reviews of UK crisis teams. Reviews included interviews with service users, carers, staff, and managers, and examination of data, policies, protocols, and anonymised case notes. Of the 75 teams reviewed, 49 (65%) were assessed as moderate fidelity and the rest as low fidelity, with no team achieving high fidelity. The median score was 122 (range: 73-151; inter-quartile range: 111-132). Teams achieved higher scores on items about structure and organisation, e.g. ease of referral, medication, and safety systems, but scored poorly on items about the content of care and interventions. Despite a national mandate to implement the CRT model, there are wide variations in implementation in the UK and no teams in our sample achieved overall high fidelity. This suggests that a national policy is not in itself sufficient to achieve good quality implementation of the model. The CRT Fidelity Scale provides a feasible and acceptable means to objectively assess model fidelity in crisis teams. There is a need for development and testing of interventions to enhance model fidelity and facilitate service improvement in crisis teams.

Keywords: Clinical audit; Crisis intervention; Cross-Sectional Survey; Mental Health; Patient Participation; Model Fidelity; Crisis Resolution Team

Introduction

The NHS Plan 2000 (DoH, 2000), a policy initiative of unusual prescriptiveness regarding service configurations nationally, mandated the development of Crisis Resolution Teams (CRTs) throughout England. The aim was to provide short-term, intensive home treatment to people experiencing a mental health crisis, in order to avert hospital admission wherever possible, or to support people to return home as promptly as possible following an acute admission (Johnson & Thornicroft, 2008). The CRT model was not highly specified, but the Department of Health guidelines (Department of Health, 2001) advised that CRTs should provide an easy access, rapid response, 24-hour service, be multi-disciplinary and be able to provide medical, psychological, and social interventions. In addition, they should help to facilitate prompt discharge from acute wards, and support relapse prevention planning. The guidelines outline that the teams should "gatekeep", that is, assess all patients before admission to acute wards and considering home treatment as an alternative to admission wherever possible (DoH, 2001). The aim of these mandated services and national guidelines was to eliminate unwarranted variations in practice regarding community crisis care. A randomised controlled trial (Johnson et al., 2007) suggested that, well-implemented, CRTs could achieve substantial reductions in admissions, and the model has been introduced in a number of other countries (Johnson, 2013).

Previous national surveys of CRT practice have found wide variation in their CRTs' resourcing, organisation, and service delivery: an early national survey (Onyett et al., 2006) found that around 40% of teams considered themselves to be fully implementing the CRT model. More recent national surveys conducted in 2012 and 2016 (Lloyd-Evans et al., 2017; Lloyd-Evans et

al., 2018) found that very few teams were fully adhering to the implementation guidelines for

CRTs (DoH, 2001) which followed the national requirement to introduce them. These surveys,

however, relied on CRT managers' self-reported data and were not rooted in a robust and

theoretically-driven model of good practice, or in a well-developed method for measuring

adherence to this. For example, these surveys provide no information from service users,

carers, or other mental health teams with which to corroborate CRT teams' self-report, and to

report their experiences of using or working with CRTs.

We have previously published details of the development and psychometric testing of a fidelity

scale for CRTs (Lloyd-Evans et al., 2016a), designed to measure adherence to good practice. The

CRT Fidelity Scale specifies a 1-day review process to assess fidelity across 39 items, assessing 4

service domains: referrals and access, content and delivery of care, staffing and team

procedures, and timing and location of care. Each of the 39 items is scored on a 5 point scale,

with 5 indicating high fidelity. Fidelity items and scoring criteria were based on best available

quantitative and qualitative evidence, and covered aspects identified as most relevant to CRT

service quality by stakeholders (Morant et al., 2017; Wheeler, 2015). The items covered issues

such as: accessibility; rapid responses; staff continuity; involvement of family or other carers;

range and choice of treatments; providing treatment at home; and continuity with other

services.

The current paper reports results from a national survey of model fidelity in 75 UK CRTs, using

the CRT Fidelity Scale. In this paper we investigate: what are the consequences of a nationwide

directive to implement a specific model, and how far does such a directive result in a

consistently implemented service model that conforms well to consensus on good practice?

Understanding what happens following such a nationwide mandate is of particular interest

given the almost uniquely prescriptive nature of guidance to adopt specific mental health

service models nationwide (Ham, 2009). The previous and current national policies around

crisis care (DoH, 2001; DoH, 2014; DoH, 2016) indicate the desire at the policy level for such

services, but there is a lack of robust evidence about the extent to which these policies have

been implemented. The primary aim of this project was to describe variations in CRT fidelity to

a model of best practice. The secondary aim was to assess the extent to which key aspects of

national policy guidance have been implemented, and, by comparison with previous surveys, to

consider change over time in CRT implementation.

Methods

Setting

Forty-seven of the 65 National Health Service (NHS) Mental Health Trusts were approached

regarding their CRTs' participation in the survey. Purposive sampling was used, and CRTs were

selected to include urban and rural settings, and to cover England, Scotland, and Wales. CRTs

have only been implemented nationally in England, with over 200 having been set up (Lloyd-

Evans et al., 2017), and only a few elsewhere in the UK. It should be noted that the Scottish

government outlined different guidance for CRTs than those in England and Wales (NHS

Scotland, 2006). Teams were recruited from August 2013 to March 2014.

Measures

The CRT Fidelity Scale (Lloyd-Evans et al., 2016a) assesses teams' adherence to a model of best

practice for CRTs. The psychometric properties of this measure, and the fidelity review

process, are fully described in a previous paper (Lloyd-Evans et al., 2016a). The scale consists

of 39 items, with each item scored out of 5, giving a scoring range of 39-195. As well as a total

score, four subscale scores can be derived from the measure: referrals and access (items 1-10);

content and delivery of care (items 11-26); staffing and team procedures (items 27-36); and

location and timing of help (items 37-39). Scoring is completed by a team of three reviewers

(for the purposes of this survey, the teams included one clinician, one service user or carer, and

one researcher), following a one-day audit of services. The measure has demonstrated

acceptable inter-rater reliability in testing with vignettes (correlation between individual

ratings = 0.65 (95%CI 0.54-0.76); intra-class correlation between averaged ratings across

raters= 0.97 (95%CI 0.95-0.98); Lloyd-Evans et al. 2016a). A total score of 39-116 is considered

poor fidelity to the model, a total score of 117-155 is considered moderate fidelity to the

model, and a score of 156-195 is considered good fidelity to the model.

Procedures

The chair of the London–Camden & Kings Cross Research Ethics Committee confirmed that the

survey met the criteria for work they consider to be audit (examining how standard care is

delivered, rather than testing changes in care: HRA, 2016), and thus did not require approval

from a Research Ethics Committee. Participating NHS Trusts' procedures for registering and

approving fidelity reviews as audit were followed.

A full description of the fidelity review process is reported elsewhere (Lloyd-Evans et al.,

2016a). In brief, CRT managers were contacted regarding participation and provided with

information about what would be needed for the review. Participating teams prepared data

before the review day, including anonymised case notes, policies and protocols, and routine

data monitoring documents. On the review day interviews were conducted with: the CRT

manager; a group of CRT staff; six service users discharged in the past three months, and six

carers/family members; and other service managers (e.g. of an inpatient ward, Emergency

Department liaison team, Community Mental Health Team, or equivalent, i.e. teams which

referred to and liaised with the CRT).

Each review was conducted by a team of three reviewers, which always included: i) a service

user or carer, drawn from the Crisis Resolution Team Optimisation and Relapse Prevention

(CORE) service user/carer working group or from those CORE team staff who had used mental

health services themselves or been a carer for someone who has used services; ii) a clinician,

drawn from the NHS trusts involved in the study or the clinicians involved in the research team;

and iii) a researcher from the CORE study research team (one of the study leads or research

assistants). No reviewers ever assessed a CRT team with which they were personally

connected, for example, one in which they had worked or one they had used.

After the review the reviewers complied a written report with the rating for each scale item,

which was sent to the CRT manager to check for factual inaccuracies before being finalised by

the research team. All data collected during the review were stored in locked filing cabinets at

UCL, and electronic reports kept on secure UCL servers. No service user or carer contact details

or case notes were removed from CRT premises.

Analysis

Results from the 75-team fidelity survey were summarised using descriptive statistics. The

most frequently high- and low-scoring CRT Fidelity Scale items were identified and variations in

patterns of fidelity among teams identified. To address the question regarding policy

implementation, items were identified that mapped directly onto guidance from the UK

government's 2001 CRT policy guidance for implementation which accompanied the national mandate for CRTs (DoH, 2001): the number of teams adhering to these items fully or partially was reported. While the three previous national CRT surveys are limited by using only self-report data, they were robustly conducted pieces of work (high response rates and comprehensive questionnaires) and the results from each are at least indicative of CRT practice at the time. As such, it was considered valuable to compare the results, where comparable items were assessed, to data from the current study. The guidelines from the CRT policy implementation document (DoH, 2001) are provided in Appendix 1, with the relevant fidelity criterion and survey questions from the current and previous CRT surveys.

Results

Forty-seven NHS Trusts were approached, which included 149 CRTs. Of these, 75 CRTs took part in the survey, from 27 Trusts. Twenty Trusts either declined (n=5) or did not respond to invitations to participate (n=15). Those that declined cited pressure of work on their teams and reorganisation of services as reasons for non-participation. The study sample of 75 teams comprised 70 teams in England, 1 team in Scotland, and 4 teams in Wales.

In the 75 teams surveyed, the total fidelity scores ranged from 73 to 151, with the mean score being 121.33 (standard deviation, 14.75), which is just above the dividing line between low and moderate fidelity of 117 (i.e. a mean score of 3 per item). The median survey score for each item and the number of teams achieving each score for each item are reported in Appendix 2. The maximum range of scores (1–5) was obtained for 33 items (with the remaining items obtaining scores of 1-4 or 2-5), showing that for each item there were some teams achieving high fidelity, and some achieving low fidelity. There were 26 teams that demonstrated low

fidelity (a total score of 116 or below), with the remaining 49 teams demonstrating moderate fidelity (a total score of 117-155), and no teams demonstrating high fidelity (a total score of 156 or above).

The mean item score and the corresponding standard deviation for each subscale are reported in Table 1. The mean item score for the first and third subscales (referrals and access, and staffing and team procedures) indicated moderate fidelity; the mean score for the second and fourth subscales (content and delivery of care, and location and timing of help) indicated low fidelity.

Table 1 about here

Table 2 shows the median scores for each item. Items where most teams scored one or two (demonstrating poor or very poor fidelity to the model) were mainly from the content of care domain, and include aspects of treatment considered very important by service users and families (family involvement, holistic care with choice of interventions, planning for future crises) (Morant et al., 2016; Wheeler et al., 2015). Items where most teams scored four or five (demonstrating good or very good fidelity) were spread more evenly across the four domains, and included more structural elements, such as ease of referral, medication review and prescription, staffing, and safety systems.

Table 2 about here

Comparison of results with previous guidelines and surveys

Table 3 represents the extent to which teams met the recommendations of the original Department of Health guidelines for CRTs (DoH, 2001), and compares these results with the

other three available CRT surveys. In addition to the data from the reviews conducted for this

survey, data were collected via self-report questionnaires in 2005/06 (Onyett et al., 2008),

2011/12 (Lloyd-Evans et al., 2017), and 2016 (Lloyd-Evans et al., 2018). While the survey

method of evaluation in previous national research into CRTs was quite different to the method

described in this study, we believe it is worth considering the trends over time that comparison

of this work offers.

Table 3 about here

Possibly the most distinctive aspect of CRTs is the 24/7 nature of the service provided, and the

proportion of teams offering home treatment 24/7 has increased over time. However, there

has been no sustained improvement in how easy the referral process is. While only a fifth of

CRTs in this survey met the target of responding to referrals within four hours, this has

increased to nearly a half according to the most recent figures. While working with service

users' family and friends is an important part of the CRT model, evidence from this survey

shows this is done in under a quarter of teams. The number of CRTs acting as gatekeepers to

inpatient services has fallen over time, as has the proportion of teams working with 16-65 year

olds, with the majority of teams working with those aged 18 or older. Relatively few teams are

fully multidisciplinary, but nearly all teams now have time from psychiatrists. Around three-

quarters of teams have sufficient staffing, but very few teams offer intensive support or relapse

prevention work.

Discussion

Main findings

There are three main findings from this survey. Firstly, the introduction of a national policy mandating CRTs does not in itself appear to have been sufficient to achieve good quality implementation of the model (Bond et al., 2009). While for each fidelity item there were some teams achieving high model fidelity, no team appeared to be implementing all aspects of the model optimally, with only 49 teams (65%) achieving an average item score of 3 or more (a total score of 117 or more), indicating moderate fidelity. In particular, critical ingredients outlined in the DoH guidelines (DoH, 2001) such as intensive visits, crisis planning, and support for carers were rarely provided at optimal levels, and without these elements one would not expect the model to function as intended (Johnson, 2008). Secondly, while findings from this survey broadly align with those from surveys of CRT managers (Lloyd-Evans et al., 2017; Lloyd-Evans et al., 2018; Onyett et al., 2006) on issues relating to the organisational and structural aspects of CRTs, they are discrepant on the content of care (e.g. crisis planning, working with families). It may be that organisational and structural issues are easier for CRT managers to assess objectively, and less vulnerable to response bias in self-report surveys. Thirdly, there are some trends over time evident across the four surveys. For example, the number of teams meeting the four hour response to referrals criteria has increased, suggesting that the relatively recent 'Achieving better access to mental health services by 2020' (DoH, 2016) document setting out standard access expectations and wait times has had the desired impact. Conversely, there has been a decrease in the number of teams offering intensive support, relapse prevention work, and work with families/carers, which are all fundamental aspects of the CRT model.

Several of these areas of concern regarding poor model implementation have been raised elsewhere. For example, the median score for the scale item assessing teams' procedures

around management of risk demonstrated poor fidelity (median score = 2), suggesting that this

key aspect is not being provided to a high level. Given the concerns about the rate of suicides

amongst those using CRTs, the failure to reduce admission rates nationally, and high

readmission rates (NCISH, 2015), the ability of CRTs to manage risk should be of particular

concern. Similarly, the high rates of readmission to CRTs found by Werbeloff and colleagues

(2017) supports the finding that there is a lack of intensive working (i.e. several visits per day in

the early stages of a crisis, with at least one being 30 minutes or more). The finding that there

was generally low fidelity to the 'content of care' subscale items echoes the CQC (2015) report

that shows very low rates of people feeling that they received the right support in a crisis.

A concern about CRTs has been that, despite their being set up as an alternative to inpatient

admission, there has not been a clear fall in acute admissions since their implementation.

While acute wards provide quite intensive monitoring of risk and adherence, the evidence from

this survey about intensity of service suggests that a CRT visiting less than once daily is not a

convincing substitute for this. It appears that national policy has resulted in CRTs that have

some areas of high fidelity, namely structure and staffing, but are not providing what was

intended in terms of the content and intensity of care.

Strengths and limitations

This was a comprehensive assessment with a robust fidelity review process. The CRT Fidelity

Scale was the result of a rigorous development process that produced a valid measure; and the

review process included reviewers with different backgrounds (service users, carers, clinicians,

and researchers), creating multi-perspective reviewing teams (Lloyd-Evans et al., 2016a). The

scale was able to discriminate between services on all the main sub-scales, with both individual

item scores and overall total scores showing a large range, and demonstrating that all items were attainable. The objectivity of this method, compared to self-report questionnaires, is an important strength of the survey.

Another key strength of this investigation of fidelity is its large sample. It represents around 1/3 of teams in the UK at the time it was carried out, and so provides the largest scale assessment of CRTs' model fidelity undertaken to date. This also demonstrates the feasibility of using this measure, and acceptability to teams of the fidelity review process. The reviewers were able to engage staff, service users, carers and referrers, and to make use of existing records and data in assessing CRTs' fidelity to the model.

There were three main limitations of the survey. First, while we invited teams in a purposive sampling, invited teams self-selected as to whether they participated or not, and the possibility of selection bias means that teams which agreed to this voluntary audit may not be typical of services generally. It could be that teams that volunteered to participate were those who felt they would score highly, or alternatively, were concerned about their own performance. This may limit how representative the survey is of CRTs across the UK. However, the range of scores achieved does suggest a variety of teams were included.

Second, reviewers scored services based on the evidence available to them. In some CRTs, which were usually those achieving lower total scores, not all the evidence required for the review was provided. Some CRTs struggled in particular to identify sufficient carers or family members willing to participate in the survey. Although CRTs were asked to contact consecutively discharged service users to avoid selecting people they believed would give positive views, there was no way for the review team to ensure this method was adhered to.

In addition, CRTs were not always able to provide six service users and six carers, or were unable to contact people on the review day, in which case as many interviews as possible were completed. Reviewers sought to mitigate this by providing CRTs with clear guidance and prompting about what was needed for the review in advance, and offering to come back on a second day if any aspects of the review could not be completed on the first. However, some scores may have been artificially deflated by a lack of available evidence, and thus provided an inaccurately negative picture of the teams' routine practice.

Third, although every effort was made via training and extensive guidance notes to maintain consistency in scoring reviews between different CRTs, it is possible that having multiple reviewing teams introduced some discrepancies in scoring. An inter-rater reliability exercise was carried out (rater n = 17) and demonstrated an intraclass correlation coefficient of 0.97 (CI 0.95-0.98) for total scores and 0.65 (CI 0.54-0.76) for individual items. For practical reasons, an extended vignette was constructed from anonymised examples of review paperwork for use in the exercise, rather than data from in vivo reviews. As a result, the extent to which these results reflect the inherent reliability of the scale is still unclear (Lloyd-Evans et al., 2016a).

In addition to these limitation with the survey itself, the comparison of results with other national CRT questionnaire surveys also poses some challenges. The three questionnaire surveys provide data about a range of issues, but use varying criteria and definitions, making it difficult to directly compare results. Direct comparisons between the previous survey results must be treated with caution.

Implications for policy and practice

This survey suggests that most UK CRTs are not fully meeting the expectations of service planners, or meeting the expectations of stakeholders regarding good crisis care. The inconsistent and incomplete implementation of the CRT model may help to explain the inconsistent outcomes evident in CRTs, which often fall short of what trial evidence suggests is possible (Johnson et al., 2005). For example, there is evidence that CRTs are not consistently reducing admissions (Jacobs & Barrenho, 2011; Wheeler et al., 2015). In addition, recent reports by the Care Quality Commission (CQC, 2015) and the Royal College of Psychiatrists (RCP, 2015) support the findings of this survey: while there are examples of good crisis care across the country, there is wide variation in the quality of care and the experiences of service users and carers. These reports demonstrate considerable evidence of CRTs failing to reduce admissions as intended, and of service user dissatisfaction. Preventing admission and improving the service user experience were fundamental to the original CRT model (Hoult, 1986). The limited evidence for use of key elements – particularly intensive working, and engagement with families – mean that it is unsurprising that the original goals are not clearly being met, despite evidence that this can potentially be achieved.

The results of this survey indicate that priority areas to target for improvement in CRTs include: increasing support for carers; planning for future crises; and increasing the frequency of visits to service users. These closely reflect the reported priorities of service users and carers for CRTs (Morant et al., 2017; Wheeler et al., 2015). The limitations of care in these areas help explain findings such as that from a government survey (CQC, 2015) that only 14% of service users felt they received the right care from mental health services during a crisis. In addition, fewer than half the CRTs in our survey scored highly on the supervision and training item. The importance of supervision in enabling staff to provide high quality care has been noted for

some time (RCN, 2017) and is closely monitored by the Care Quality Commission (CQC, 2013), with penalties for organisations which do not ensure regular supervision for front line staff. Given that three-quarters of teams meet the suggested staffing levels, this survey suggests that there is a need for ongoing training and a focus on the content of care being delivered.

This survey is of relevance both in the UK and internationally, and is consistent with the findings of the Evidenced Based Practice programme in the USA (Bond, 2009), that high fidelity delivery of complex interventions in mental health requires concerted service improvement input and support. This is supported more broadly by the implementation science literature, which suggests implementation is a recursive process requiring ongoing attention, and that there are a number of core implementation components necessary for complex interventions to be successful (evaluation, data systems, administrative supports, systems interventions, recruitment and selection, training, and coaching) (Fixsen et al., 2009).

The results of this survey should be of interest to countries also attempting to systematically implement specific models of care on a national basis (Hasselberg, 2011). Current initiatives within mental health services in England reflect the widespread recognition that more active implementation support is required. Policy initiatives in England such as the Crisis Care Concordat (CCC, 2014) and the MH Taskforce 5-year Forward View (MHT, 2016) emphasise the need for quality improvement in mental health crisis services and advocate clearer standards and monitoring, and the development of resources to help services provide high quality care to those in mental health crisis. A current English government initiative, the Achieving Better Access programme (DoH, 2016), seeks to achieve better access to treatment across mental health services, including CRTs. Our survey suggests this programme starts from a low base:

only 2.7% of CRTs in this audit met the highest standards in terms of rapid assessment (90% of

assessments carried out within 4 hours), and only 64% met even the lowest standards (50% of

assessments carried out the same day as referral).

The increasing level of service expected from CRTs gives further support for the need to

provide adequate guidance and resources in how to implement this model most effectively.

Currently available resources to support service improvement in CRTs in England include: the

CORE CRT Resource Pack, a publicly available online manual of resources to support CRT

implementation (Lloyd-Evans et al., 2016b); and the Royal College of Psychiatrists' Home

Treatment Accreditation Scheme (HTAS, 2016). The discrepancies found between the finding

of these external fidelity reviews, and the self-report data from managers (Lloyd-Evans et al.,

2017; Lloyd-Evans et al., 2018; Onyett et al., 2008) suggest that there may be a need for

external audit of CRT, at least with respect to the content of care provided.

Implications for research

Priorities for the development and validation of the CORE CRT Fidelity Scale are discussed

elsewhere (Lloyd-Evans et al., 2016a): they include further exploration of its reliability;

establishing its criterion validity, and its relationship to key CRT outcomes; and testing its

international applicability in non-UK settings. The feasibility of utilising the scale in research

has been demonstrated by its use in a cluster-randomised trial of a CRT service improvement

intervention (Lloyd-Evans et al., 2019).

Two implications for future research from this survey are: i) An audit of the model fidelity of

complex mental health services on a national scale is feasible and can generate useful

information about service implementation which can help to understand service outcomes.

This could be applied to other service models, especially those with international mandates; and ii) the evaluation of resources to enhance model fidelity in CRTs is needed to establish effective ways to support quality improvement in services. In a national project in the USA, the Evidence-Based Practice (EBP) programme found that an assertive programme of implementation support (a trainer providing monthly training and support) and fidelity monitoring was able to help a majority of services achieve excellent implementation of similarly complex mental health interventions (McHugo, 2007). The EBP programme has not been replicated outside the USA, but its work, together with the results of the current survey of model fidelity, suggest that an approach of this kind is likely to be necessary for the successful implementation of policies. The development and testing of a similar implementation programme for CRTs in a UK context is required.

Work in this area has been undertaken as part of the CORE study. The results of a cluster randomised trial evaluating a CRT service improvement programme (Lloyd-Evans et al., 2016b; Lloyd-Evans et al., 2019) demonstrate that such interventions feasible, acceptable, and can increase model fidelity and reduce in-patient admissions. Better understanding of the impact of, and barriers and facilitators to, implementation of such improvement programmes is needed, and a qualitative analysis of these issues will be available shortly.

Conclusion

Fully implementing interventions, particularly very complex services such as CRTs, is challenging, and can be a barrier to transferring scientific knowledge into patient benefit (Tansella & Thornicroft, 2009). This is exemplified by our CRT fidelity survey, which found wide variation in the extent to which CRTs are consistently offering an alternative to admission. The

data collection methods used in this survey, of teams of reviewers unconnected to the services, assessing adherence to a clear and detailed set of criteria, could potentially be replicated in any service providing healthcare, and in any country. These methods were based on those used in the EBP programme (McHugo, 2007), and this survey demonstrates their applicability across diverse contexts.

In the UK, the bold plans to transform mental health services, which mandated CRTs in the NHS Plan of 2000, (and are continued in the 'Five Year Forward View', DoH, 2014; and the 'Achieving better access' report, DoH, 2016) are yet to be fully realised: although CRTs have been established across the country, they are only partially offering the service they were directed to (DoH, 2001), and only partially meeting the expectations of stakeholders regarding critical ingredients of a good CRT service (Morant et al., 2017). Thus the potential benefits of CRT care for people in mental health crisis demonstrated by randomised trials (Johnson et al., 2005; Murphy et al., 2015) may not be fully realised. The CORE CRT Fidelity Scale specifies a clear model for CRTs and a means to assess teams' performance. This survey demonstrates that a national CRT audit is feasible and can provide useful benchmarking data for policy makers and local service planners. It also demonstrates the need for service improvement initiatives to support CRTs in offering an alternative to admission. The challenge of optimising CRT service provision – which is far from being consistently achieved currently (CQC, 2015) – remains a priority for mental health services.

Relevance for clinical practice

CRTs are an important element of the acute mental healthcare landscape in the UK and other countries. Yet despite a national UK mandate to implement CRTs, this study found wide variation, with no team meeting the highest standards across all elements of a model of best

practice. <mark>This suggests that service managers and planners can only have confidence in data demonstrating reduced admissions where it is clear that the CRT model has been implemented as intended</mark>. The in-depth one-day reviews used in this study demonstrate the feasibility and acceptability of this fidelity review methodology, and provide more objective and detailed data than previous self-report surveys have been able to. The CRT Fidelity Scale offers a tool for CRTs to use to self-assess their current practice and identify areas for improvement.

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Tables

Table 1. Fidelity scale subscale scores in the 75-team UK CRT survey

	Range (mean score per item)	Mean score per item (sd)	Median Of mean item scores
Referrals and Access (10 items)	2.10 – 4.70	3.36 (0.57)	3.40

Content and Delivery of Care (16 items)	1.56 – 3.70	2.31 (0.47)	2.31
Staffing and Team Procedures (10 items)	2.10 – 4.60	3.38 (0.52)	3.40
Location and Timing of Help (3 items)	1.67 – 4.33	2.87 (0.53)	2.67

Table 2. Fidelity scale items ranked by median score in the 75-team UK CRT survey

Median score	Fidelity level	Item descriptions
1	Very poor fidelity to the model	Item 17: CRT provides psychological interventions; Item 24 CRT helps plan service users' and service responses to future crises; Item 37: CRT can access a range of crisis services to help provide an alternative to hospital admission for service users experiencing mental health crisis.

2	Poor fidelity to the model	Item 1: CRT responds quickly to new referrals; Item 14: CRT assesses carers' needs and offers carers emotional and practical support; Item 16: CRT promotes service users' and carers' understanding of illness and medication and addresses concerns or problems; Item 18: CRT assesses and addresses service users' physical health needs; Item 22: CRT prioritises good therapeutic relationships between staff and service users and carers; Item 29: CRT is a full multi-disciplinary staff team; Item 31: CRT has comprehensive risk assessment and risk management procedures (safeguarding children and vulnerable adults living with CRT service users); Item 36: CRT has systems to provide consistency of staff and support to a service user during a period of CRT care; Item 38 CRT provides frequent visits to service users.
3	Moderate fidelity to the model	Item 3: CRT accepts referrals from all sources; Item 7: CRT facilitates early discharge from hospital; Item 9: CRT responds appropriately to enrolled service users' and carers' requests for help from the service; Item 12: CRT provides clear information to service users and families about treatment plans and visits;

		Item 13: CRT closely involves and works with families and wider social networks in supporting service users;
		Item 20: CRT provides individualised care;
		Item 21: CRT staff visits are long enough to discuss service users' and families' concerns;
		Item 25: CRT plans aftercare with all service users;
		Item 26: CRT works to provide acceptable ending of care for service users and families;
		Item 30: CRT provides a thorough induction programme for new staff and ongoing training and supervision in core competencies for CRT staff;
		Item 34: CRT works effectively with other community services.
4	Good fidelity to the model	Item 2: CRT easily accessible to all eligible referrers;
		Item 4: CRT will consider working with anyone who would otherwise be admitted to adult acute psychiatric hospital;
		Item 5: CRT provides a 24 hour, 7 day a week service;
		Item 6: CRT has a clearly defined "gatekeeping" role to screen and make decisions to hospitals;
		Item 8: CRT provides explanation/direction to other services, service users, carers and referrers for referrals not accepted;
		Item 10: CRT is a distinct service which only provides crisis assessment and brief home treatment;

		Item 11: CRT conducts a comprehensive assessment for all service users accepted for CRT support; Item 23: CRT offers service users choice regarding location, timing and types of support; Item 33: CRT has effective record keeping and communication procedures to promote teamwork and information sharing between CRT staff; Item 35: CRT takes account of equality and diversity in all aspects of service provision.
5	Very good fidelity to the model	Item 15: CRT reviews, prescribes and delivers medication for all service users when needed; Item 19: CRT helps service users with social and practical problems; Item 27: CRT has adequate staffing levels; Item 28: CRT has a psychiatrist or psychiatrists in the CRT team, with adequate staffing levels; Item 32: CRT has systems to ensure the safety of CRT staff members; Item 39: CRT mostly assesses and supports service users in their home.

Table 3. CRT implementation: Comparison of three CRT surveys with DoH guidelines 2001

Department of Health guidelines 2001	Lloyd-Evans et al., 2018 Data: 2016	CRT fidelity survey Data: 2013/14	Lloyd-Evans et al., 2017 Data: 2011/12	Onyett et al., 2008 Data: 2005/06
Provision of home treatment 24 hours a day, 7 days a week	70%	55%	39%	55%
Easy referral process	42%	65%	49%	N/A
Rapid response to referrals (4 hours)	45%	21%	N/A	N/A
Gatekeeper to inpatient services	50%	53%	89%	72%
Works with adults 16-65	22%	57%	51%	N/A
Staff includes consultant and	94%	96%	77%	44%

lower grade psychiatrists				
Staff team is multidisciplinary	15%	29%	11%	<50%
14 FTE staff per caseload of 30 patients	76%	67%	87%	N/A
Intensive support	N/A	3%	N/A	N/A
Relapse prevention work undertaken	N/A	1%	63%	N/A
Work with families/carers	N/A	23%	68%	N/A

Appendix 1

Table 4. Summary of DoH guidelines with associated fidelity criterion and survey questions

Department of Health guidelines 2001	Lloyd-Evans et al., 2018 Data: 2016		CRT fidelity survey Data: 2013/14		Lloyd-Evans et al., 2017 Data: 2011/12		Onyett et al., 2008 Data: 2005/06	
	Question	%	Question	%	Question	%	Question	%
Provision of home treatment 24 hours a day, 7 days a week	The CRT can provide home treatment 24 h a day, 7 days a week [Coded as: the CRT can provide home visits to patients on its caseload at any time of the day or night]	70%	Item 5: The CRT provides a 24 hour, 7 day a week service	55%	Hours in which CRT can provide home visits to service users (Q82) (recoded to: 24 hour home visits – yes/no)	39%	The team provides a 7-day per week, 24-h home-visiting assessment service	55%

Easy referral process	The CRT has easy referral processes including accepting direct referral from GPs and patients/ families	42%	Item 2: The CRT is easily accessible to all eligible referrers	65%	Does the CRT accept referrals from GPs and self-referrals from known clients (Q4) (recoded as: does the CRT accept referrals from GPs and known clients – yes/no)	49%	N/A	N/A
Rapid response to referrals (4 hours)	The CRT starts an assessment within 4 hours of accepting a referral	45%	Item 1: The CRT responds quickly to new referrals	21%	N/A	N/A	N/A	N/A
Gatekeeper to inpatient services	The CRT should act as gatekeeper to in-patient services	50%	Item 6: The CRT has a fully implemented 'gatekeeping' role	53%	Does the CRT assess patients in person before	89%	The team acts as the gatekeeper to the acute in-patient beds	72%

	[Coded as: does the CRT always assess voluntary patients in person before hospital admission?]			hospital admission (Q35) (recoded to: does the CRT usually or always assess in person before admission – yes/no)	by assessing people referred for hospital admission
Works with adults 16-65	The CRT will work with adults aged 16–65 years	22%	Item 4: The CRT will consider working with anyone who would otherwise be admitted to adult acute psychiatric hospital	57%	What is the age range of service users accepted by the CRT (Q3) (recoded to: Accepts service users 16–65 – yes/no)	51%	Unavailable	44%

Staff includes consultant and lower grade psychiatrists	The CRT includes a psychiatrist [Coded as: the CRT includes a consultant or staff grade psychiatrist]	94%	Item 28: The CRT has a psychiatrist(s) in the team, with adequate staffing levels	96%	Team staffing (Q79) (recoded to: does team include consultant psychiatrist and other medical staff – yes/no) 77%	Staff team includes consultant psychiatrists 44% Staff team includes lower grade psychiatrists 27%
Staff team is multidisciplinary	The CRT team should be multidisciplinary [Coded as: the CRT includes psychiatrist, nursing, social work, psychologist and occupational	15%	Item 29: The CRT has a full multidisciplinary staff team	29%	Team staffing (Q79) (recoded to: does team include: a nurse, an OT, a psychologist, a social worker or AMHP, a support worker – yes/no) 11%	Unavailable <50%

	therapist staff and support workers]					
14 FTE staff per caseload of 30 patients	The CRT should include at least 14 full time equivalent staff for a team caseload of up to 30 patients [Coded based on current caseload from survey responses]	76%	Item 27: The CRT has adequate staffing levels	67%	Team staffing (Q79) and CRT caseload (Q86) (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)	87%	N/A	N/A

Intensive support	N/A	N/A	Item 38: The CRT provides frequent visits to service users	3%	N/A	N/A N/A	N/A
Relapse prevention work undertaken	N/A	N/A	Item 24: The CRT helps plan service users' responses to future crises	1%	Discharge arrangements – does the CRT formulate written relapse prevention plans with service users (Q58) (Recoded as: does the CRT complete written relapse prevention plans with most or all service users – yes/no)	63% N/A	N/A

Work with families/carers			Item 13: The CRT closely involves and works with families and wider social networks in supporting service user						
	N/A	N/A		23%	N/A		N/A	N/A	N/A

Appendix 2

Table 5. Median item scores for all CRTs for all items in the 75-team UK CRT survey

		Item score				
		(% of teams attaining this score)				
Item	**Median**	**5**	**4**	**3**	**2**	**1**
1 The CRT responds quickly to new referrals	2	2.7	18.7	13.3	30.7	34.7
2 The CRT is easily accessible to all eligible referrers	4	42.7	22.7	30.7	4.0	0
3 The CRT accepts referrals from all sources	3	26.7	16.0	24.0	13.3	20.0
4 The CRT will consider working with anyone who would otherwise be admitted to adult acute psychiatric hospital	4	43.3	30.7	22.	1.3	0
5 The CRT provides a 24 hour, seven day a week service	4	40.0	14.7	20.0	2.7	22.7

	Item score				
	(% of teams attaining this score)				
Item	**Median**	**5**	**4**	**3**	**2**	**1**
6 The CRT has a fully implemented "gatekeeping" role, assessing all patients before admission to acute psychiatric wards and deciding whether they are suitable for home treatment.	4	32.0	21.3	17.3	5.3	24.0
7 The CRT facilitates early discharge from hospital	3	13.3	20.0	21.3	16.0	29.3
8 The CRT provides explanation and direction to other services for service users, carers and referrers regarding referrals which are not accepted	4	18.7	36.0	28.0	16.0	1.3
9 The CRT responds to requests for help from service users and carers whom the CRT is currently supporting	3	14.7	26.7	26.7	22.7	9.3
10 The CRT is a distinct service which only provides crisis assessment and brief home treatment	4	26.7	38.7	21.3	9.3	4.0

		Item score				
		(% of teams attaining this score)				
Item	**Median**	**5**	**4**	**3**	**2**	**1**
11 The CRT conducts a comprehensive assessment with all service users accepted for CRT support	4	37.3	14.7	14.7	10.7	22.7
12 The CRT provides clear information to service users and families about treatment plans and visits	3	1.3	26.7	58.7	9.3	4.0
13 The CRT closely involves and works with families and wider social networks in supporting service users	3	8.0	21.3	26.7	26.7	17.3
14 The CRT assesses carers' needs and offers carers emotional and practical support	2	1.3	2.7	22.7	28.0	45.3
15 The CRT reviews, prescribes and delivers medication for all service users when needed	5	70.7	14.7	13.3	1.3	0

		Item score				
		(% of teams attaining this score)				
Item	**Median**	**5**	**4**	**3**	**2**	**1**
16 The CRT promotes service users' and carers' understanding of illness and medication and addresses concerns or problems with medication	2	0	8.0	13.3	46.7	32.0
17 The CRT provides to psychological interventions	1	6.7	4.0	13.3	25.3	50.7
18 The CRT assesses and addresses service users' physical health needs	2	1.3	20.0	5.3	37.3	36.0
19 The CRT helps service users with social and practical problems	5	50.7	4.0	28.0	9.3	8.0
20 The CRT provides individualised care	3	22.7	18.7	38.7	12.0	8.0
21 CRT staff visits are long enough to discuss service users' and families' concerns	3	1.3	17.3	46.7	26.7	8.0

		Item score				
		(% of teams attaining this score)				
Item	**Median**	**5**	**4**	**3**	**2**	**1**
22 The CRT prioritises good therapeutic relationships between staff and service users and carers	2	5.3	13.3	28.0	40.0	13.3
23 The CRT offers service users choice regarding location, timing and types of support	4	41.3	49.3	6.7	1.3	1.3
24 The CRT helps plan service users' and service responses to future crises	1	0	1.3	1.3	17.3	80.0
25 The CRT plans aftercare for all service users	3	6.7	29.3	21.3	37.3	5.3
26 The CRT works to provide acceptable ending of care for service users and families	3	14.7	25.3	28.0	25.3	6.7
27 The CRT has adequate staffing levels	5	53.3	13.3	17.3	5.3	10.7

| | | Item score | | | | |
| | | (% of teams attaining this score) | | | | |
Item	Median	5	4	3	2	1
28 The CRT has a psychiatrist or psychiatrists in the CRT team, with adequate staffing levels	5	62.7	9.3	13.3	8.0	6.7
29 The CRT is a full multi-disciplinary staff team	2	9.3	20.0	18.7	22.7	29.3
30 The CRT provides a thorough induction programme for new staff and ongoing training and supervision in core competencies for CRT staff	3	9.3	34.7	26.7	21.3	8.0
31 The CRT has comprehensive risk assessment and risk management procedures, including procedures for safeguarding children and vulnerable adults living with CRT service users	2	26.7	8.0	0	37.3	28.0
32 The CRT has systems to ensure the safety of CRT staff members	5	56.0	33.3	5.3	4.0	1.3

		Item score				
		(% of teams attaining this score)				
Item	**Median**	**5**	**4**	**3**	**2**	**1**
33 The CRT has effective record keeping and communication procedures to promote teamwork and information sharing between CRT staff	4	8.0	57.3	28.0	5.3	1.3
34 The CRT works effectively with other community services	3	21.3	14.7	32.0	22.7	9.3
35 The CRT takes account of equality and diversity in all aspects of service provision	4	6.7	44.0	26.7	21.3	1.3
36 The CRT has systems to provide consistency of staff and support to a service user during a period of CRT care	2	2.7	13.3	28.0	34.7	21.3
37 The CRT can access a range of crisis services to help provide an alternative to hospital admission for service users experiencing mental health crisis	1	6.7	1.3	10.7	25.3	56.0

| | | Item score | | | | |
| | | (% of teams attaining this score) | | | | |
Item	Median	5	4	3	2	1
38 The CRT provides frequent visits to service users	2	1.3	1.3	21.3	33.3	42.7
39 The CRT mostly conducts assessments and supports service users in their home	5	96.0	1.3	1.3	1.3	0