**The CORE Service Improvement Programme for mental health Crisis Resolution Teams: results from a cluster-randomised trial**

**Supplementary material**

|  |  |
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| **Supplementary File** | **Page** |
| DS1: CORE CRT Service Improvement Trial: CONSORT Checklist | **2** |
| DS2. Patient records data operational definitions and eligibility | **10** |
| DS3. Service user experience and staff wellbeing: participant recruitment and characteristics | **16** |
| DS4. CRT team fidelity scores | **27** |
| DS5. Service user experience and staff wellbeing: outcomes data | **29** |
| DS6. Inpatient admissions and Readmissions following CRT care: outcomes data | **32** |
| DS7: Relationships between changes in team fidelity scores and outcomes | **45** |
| DS8: Fidelity items targeted in CRTs’ service improvement plans | **63** |

**DS1: CONSORT 2010 - The CORE CRT Service Improvement Programme cluster randomised trial**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Section/Topic | Item No | Standard Checklist item | Extension for cluster designs | Where is this described |
| Title and abstract |  |
|  | 1a | Identification as a randomised trial in the title | Identification as a cluster randomised trial in the title | Title |
| 1b | Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts) | See table 2 | Abstract (see separate table below) |
| Introduction |  |
| Background and objectives | 2a | Scientific background and explanation of rationale | Rationale for using a cluster design | Methods (first paragraph) |
| 2b | Specific objectives or hypotheses | Whether objectives pertain to the the cluster level, the individual participant level or both | Methods (analysis section) |
| Methods |  |
| Trial design | 3a | Description of trial design (such as parallel, factorial) including allocation ratio | Definition of cluster and description of how the design features apply to the clusters | Methods (randomisation section) |
| 3b | Important changes to methods after trial commencement (such as eligibility criteria), with reasons |  | n/a |
| Participants | 4a | Eligibility criteria for participants | Eligibility criteria for clusters  | Methods (participants section) |
| 4b | Settings and locations where the data were collected |  | Methods (setting section) |
| Interventions | 5 | The interventions for each group with sufficient details to allow replication, including how and when they were actually administered | Whether interventions pertain to the cluster level, the individual participant level or both | Methods (intervention section) |
| Outcomes | 6a | Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed | Whether outcome measures pertain to the cluster level, the individual participant level or both | i) Defined measures: methods (measures section)ii) Time points: methods (participants section) |
| 6b | Any changes to trial outcomes after the trial commenced, with reasons |  | n/a |
| Sample size | 7a | How sample size was determined | Method of calculation, number of clusters(s) (and whether equal or unequal cluster sizes are assumed), cluster size, a coefficient of intracluster correlation (ICC or *k*), and an indication of its uncertainty | Methods (analysis section, first paragraph) |
| 7b | When applicable, explanation of any interim analyses and stopping guidelines |  | n/a |
| Randomisation: |  |
|  Sequence generation | 8a | Method used to generate the random allocation sequence |  | Methods (randomisation section) |
| 8b | Type of randomisation; details of any restriction (such as blocking and block size) | Details of stratification or matching if used | Methods (randomisation section) |
|  Allocation concealment mechanism | 9 | Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned | Specification that allocation was based on clusters rather than individuals and whether allocation concealment (if any) was at the cluster level, the individual participant level or both | Methods (randomisation section) [No blinding] |
|  Implementation | 10 | Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions | Replace by 10a, 10b and 10c | Methods (randomisation section) |
|  | 10a |  | Who generated the random allocation sequence, who enrolled clusters, and who assigned clusters to interventions | Methods (randomisation section) |
|  | 10b |  | Mechanism by which individual participants were included in clusters for the purposes of the trial (such as complete enumeration, random sampling) | Methods (participants section) |
|  | 10c |  | From whom consent was sought (representatives of the cluster, or individual cluster members, or both), and whether consent was sought before or after randomisation | Methods (participants section) |
|  |  |  |  |  |
| Blinding | 11a | If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how |  | n/a |
| 11b | If relevant, description of the similarity of interventions |  | n/a |
| Statistical methods | 12a | Statistical methods used to compare groups for primary and secondary outcomes | How clustering was taken into account | Methods (analysis section) |
| 12b | Methods for additional analyses, such as subgroup analyses and adjusted analyses |  | Methods (analysis section) |
| Results |  |
| Participant flow (a diagram is strongly recommended) | 13a | For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome | For each group, the numbers of clusters that were randomly assigned, received intended treatment, and were analysed for the primary outcome | Figure 1 – CONSORT diagram |
| 13b | For each group, losses and exclusions after randomisation, together with reasons | For each group, losses and exclusions for both clusters and individual cluster members | Figure 1 – CONSORT diagram |
| Recruitment | 14a | Dates defining the periods of recruitment and follow-up |  | Methods (second paragraph) |
| 14b | Why the trial ended or was stopped |  | n/a |
| Baseline data | 15 | A table showing baseline demographic and clinical characteristics for each group | Baseline characteristics for the individual and cluster levels as applicable for each group | Details of participants for the primary outcome – Table 1 Full details of all participants in Data Supplement DS3 |
| Numbers analysed | 16 | For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups | For each group, number of clusters included in each analysis | Data Supplements DS5 and DS6 |
| Outcomes and estimation | 17a | For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval) | Results at the individual or cluster level as applicable and a coefficient of intracluster correlation (ICC or k) for each primary outcome | Summary of main results – Table 2Full results –DS5 and DS6. ICC for the primary outcome - DS5, page 31 |
| 17b | For binary outcomes, presentation of both absolute and relative effect sizes is recommended |  | n/a (incidence rate ratios reported for count outcomes) |
| Ancillary analyses | 18 | Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory |  | Table 3 – summary results of relationship of fidelity change to outcome changeFull results in Data Supplement DS7 |
| Harms | 19 | All important harms or unintended effects in each group (for specific guidance see CONSORT for harms) |  | Results (trial recruitment section) |
| Discussion |  |
| Limitations | 20 | Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses |  | Discussion (limitations section) |
| Generalisability | 21 | Generalisability (external validity, applicability) of the trial findings | Generalisability to clusters and/or individual participants (as relevant) | Discussion (limitations section) |
| Interpretation | 22 | Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence |  | Discussion (Implications for research and implications for policy and practice sections) |
| Other information |  |  |
| Registration | 23 | Registration number and name of trial registry |  | Methods (second paragraph) |
| Protocol | 24 | Where the full trial protocol can be accessed, if available |  | Methods – second paragraph (reference to published, open access protocol paper) |
| Funding | 25 | Sources of funding and other support (such as supply of drugs), role of funders |  | Acknowledgements |

*\* Note: page numbers optional depending on journal requirements*

**The CORE CRT Service Improvement Programme cluster randomised trial Extension of CONSORT for abstracts**

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Standard Checklist item | Extension for cluster trials | Where is this described? |
| Title | Identification of study as randomised | Identification of study as cluster randomised | Abstract (aims section) |
| Trial design | Description of the trial design (e.g. parallel, cluster, non-inferiority) |  | Abstract (aims section) |
| Methods |  |  |  |
| Participants | Eligibility criteria for participants and the settings where the data were collected | Eligibility criteria for clusters  | Abstract (methods section)Further detail in main paper (methods section: setting and participants) |
| Interventions | Interventions intended for each group |  | Abstract – methods section |
| Objective | Specific objective or hypothesis | Whether objective or hypothesis pertains to the cluster level, the individual participant level or both | Hypothesis stated in main paper (methods section, first paragraph) |
| Outcome | Clearly defined primary outcome for this report | Whether the primary outcome pertains to the cluster level, the individual participant level or both | Primary and secondary outcomes identified in abstract (methods section) |
| Randomization | How participants were allocated to interventions | How clusters were allocated to interventions | Abstract (methods section)(Further detail in main paper – methods section) |
| Blinding (masking) | Whether or not participants, care givers, and those assessing the outcomes were blinded to group assignment |  | Abstract (Aims section) |
| Results |  |  |  |
| Numbers randomized | Number of participants randomized to each group | Number of clusters randomized to each group  | Abstract (methods section) |
| Recruitment | Trial status[[1]](#footnote-1) |  |  |
| Numbers analysed | Number of participants analysed in each group | Number of clusters analysed in each group | Abstract – methods section |
| Outcome | For the primary outcome, a result for each group and the estimated effect size and its precision | Results at the cluster or individual participant level as applicable for each primary outcome | Abstract – results section |
| Harms | Important adverse events or side effects |  | Main paper only(results section: trial recruitment) |
| Conclusions | General interpretation of the results |   | Abstract (Conclusions section) |
| Trial registration | Registration number and name of trial register |  | Main paper only (Methods second paragraph) |
| Funding | Source of funding |  | Main paper only (Acknowledgements section) |
|  |  |  |  |

**The CORE service improvement programme for mental health Crisis Resolution Teams: results from a cluster-randomised trial**

**Data Supplement DS2: Operational Criteria and eligibility for Patient Records Data**

Anonymised service data for two cohorts of service users were collected at two time points – baseline and follow-up:

(1) A cohort of all service users admitted to the CRT during a 1-month period ending 6 months prior to the study baseline date and another cohort of all service users admitted during month 7 of the study intervention period at each Trust; and

(2) All service users admitted to the acute inpatient services during a 6-month period up to the study baseline date and during months 7–12 of the study intervention period at each Trust.

**Operational Definitions:**

Eligible records for inclusion in the study were identified using the following operational criteria:

Service users

Service users aged 18-64 only were included in the two cohorts, to allow comparability between sites.

Acute admissions

i) Lists of the acute care services within each Trust were obtained or checked with participating CRT managers and/or the site Principal Investigator. These included inpatient acute wards, Crisis Resolution Teams, and any residential crisis houses and acute day units within the Trust. Admissions to non-acute inpatient ward (e.g. planned admissions to rehabilitation wards) were not defined as acute admissions.

ii) Admissions to non-residential acute services (CRTs and acute day units) were only included as acute admissions if they lasted a minimum of two days. [Non-residential admissions resulting in discharge the same day or the following day were viewed as assessments for acute care not resulting in acute admission. Admissions to inpatient wards or crisis houses were included in the cohorts if they included any overnight stay.]

iii) For calculating numbers of readmissions for each patient within the data collection period, continuous periods in acute care was treated as a single acute admission, regardless of how many different acute services were used.

Catchment areas

Definitions of CRT teams’ catchment areas were obtained from CRT managers. CRTs defined their catchment area in one of two ways:

i) By geographical area (e.g. a borough or county, or a defined set of postcode areas). For these teams, service users’ eligibility for the cohorts was checked through their borough of residence or the area digits at the start of their postcode.

ii) By patients’ GP practice. For these teams, service users were included if: a) they were registered with a GP practice served by the CRT; or b) they were registered with a GP located outside the catchment areas of all CRTs within the participating NHS Trust, or were not registered with a GP, but had an address within the area agreed as the best geographical fit for the catchment area of the CRT (following advice from the CRT managers and site PI). Where there were discrepancies between a participants’ GP practice, address and the service used (e.g. registered with a GP in one CRT catchment area, but living in an area usually served by a second CRT, and being supported by a third CRT), these were queried with the relevant Trust. Patients for whom a CRT catchment area could not be confidently identified were excluded from the study.

Days in acute care

i) Total days in acute care were calculated as the number of days within a recording period in which the patient was using any acute care service (i.e. if patients were open to more than one acute service at the same time, these days were not double counted.)

ii) For services other than acute wards, the total number of days spent in each type of acute service were double counted if a patient was open to more than one acute care service (e.g. if a patient was being seen by the CRT and resident in a crisis house)

iii) If a patient was admitted to an acute ward, and also open to a CRT team, these days were counted as acute ward days only. (It was considered that the CRT would not be providing home treatment to a current inpatient.)

**Difficulties arising in data collection:**

The following issues arose during data collection and were addressed as described:

1) Adjusted baseline and discharge dates

 For acute admissions data, where the search used did not apply the correct date limits, start and end dates were adjusted. Where entries were recorded as beginning prior to the data collection period start date, the admission date was changed to this date (see 5 below). Where entries were recorded as ending following the data collection period end date, the discharge date was changed to this date. Data collection period start and end dates were specific to each participating Trust based on their entry to the study. Following start and end date adjustment, ward admissions shorter than one day, and CRT, crisis house, and acute day units admissions shorter than two days, were excluded.

For CRT service use data, where index CRT admissions were shorter than two days, the entire entry was deleted, unless a subsequent CRT admission of two days or longer took place later in the index month for this individual. In this instance, this subsequent CRT admission became the index admission, and the six month data collection period was adjusted.

2) Catchment area issues

Trust 1 (which defined its catchment area by patients’ GP practice): 14 patients were excluded at baseline where they had no registered GP, and their home postcode and locality of the service they used did not match. Where patients had no registered GP but their home postcode and the locality of the service they used did match, they were included. Where patients had a registered GP but this was not in the Trust area, they were included where they were recorded as having a home postcode clearly within the locality of a CRT team. Where patients had a registered GP in the Trust area, they were excluded when this did not match with the locality of the service they used, as we were unable to determine catchment area.

Trust 8 (which defined its catchment area by geographical area): 13 patients’ postcodes were missing, and as the catchment area could only be defined by postcode, those records were excluded.

Catchment area populations for each CRT were calculated, based on data available from 2013 from the UK Office for National Statistics (accessed via: <https://www.nomisweb.co.uk/> ) for number of working age adults at borough and lower super output (LSOA) area. Where CRTs’ catchment area were defined by GP surgery rather than geographical area, the local catchment area population was calculated based on the CRT manager’s best estimation of the geographical area typically served by the CRT. These may not reflect the CRTs’ catchment area populations precisely. These catchment area population figures were used in the second analyses of service use outcomes, reported in the Data Supplement Appendix DS6. They were not used in the main analyses of service use outcomes, reported in the main paper, which adjusted for baseline scores for each outcome, rather than catchment area population.

4) Missing data

*MHA status*: For both baseline and follow up data, MHA status was not requested for ward admissions that started prior to the data collection period start date. MHA status for acute ward admissions at follow-up were not provided by Trust 7. Therefore, the total number of compulsory or voluntary admissions for those entries was coded as missing, but the number of inpatient admissions overall was recorded.

*Missing discharge dates*: For Trust 7 follow-up data, a small number of discharge dates could not be retrieved from patient records (6 in total). This resulted in the number of ward/CRT days and total days in acute care being coded as missing, although the records were retained in analyses for number of admissions.

*Missing diagnoses*: where a diagnosis was not provided as it was not recorded on the electronic patient notes, it was coded as missing data rather than assuming that no diagnosis was given.

5) Data collection periods

Trust 5 and Trust 7: For those two trusts, the baseline date used for data collection from patient records was incorrectly set as 1/05/2014 instead of 17/05/2014. This left a gap of 17 days between the baseline data collection period end date (31/10/2014) and the start of the Resource Pack intervention in those trusts (17/11/2014). For Trust 7, the follow-up period start date for data collection was re-set as the 17/05/2015, which was consistent with months 7-12 of the intervention period (ending on 16/11/2015). For Trust 5, the follow-up data collection start date used was not corrected, but was set as the 1/05/2015 (consistent with the baseline date but not with the intervention, which ended 17 days after the data collection end date).

**Eligibility**

The table below presents the numbers of entries in the raw data that were excluded from the study cohort because they did not meet the operational criteria listed above, or because the catchment area they belonged to could not be determined (‘Catchment area unclear’).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Exclusions** |  |  | **Reasons for Exclusions** |
| Trust\* | Time-point | Sheet | Total before exclusions | Total excluded | Total after exclusions | Age <18 or >64 | Admission <1/2 days | Outside catchment area | Catchment area unclear | Non-acute services | Outside data collection period |
| **1** | Baseline | Acute admissions | 1731 | 631 | 1100 | 10 | 591 | 18 | 12 | 0 | 0 |
|  |  | CRT service use | 260 | 83 | 177 | 1 | 76 | 4 | 2 | 0 | 0 |
|  | Follow up | Acute admissions | 1165 | 304 | 861 | 6 | 298 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 264 | 73 | 191 | 3 | 70 | 0 | 0 | 0 | 0 |
| **2** | Baseline | Acute admissions | 2220 | 906 | 1314 | 16 | 890 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 204 | 26 | 178 | 0 | 26 | 0 | 0 | 0 | 0 |
|  | Follow up | Acute admissions | 2144 | 401 | 1743 | 22 | 379 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 929 | 575 | 354 | 9 | 566 | 0 | 0 | 0 | 0 |
| **3** | Baseline | Acute admissions | 624 | 128 | 496 | 0 | 128 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 167 | 81 | 86 | 0 | 81 | 0 | 0 | 0 | 0 |
|  | Follow up | Acute admissions | 762 | 186 | 576 | 0 | 186 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 219 | 131 | 88 | 0 | 131 | 0 | 0 | 0 | 0 |
| **4** | Baseline | Acute admissions | 845 | 81 | 764 | 8 | 37 | 36 | 0 | 0 | 0 |
|  |  | CRT service use | 91 | 6 | 85 | 1 | 4 | 1 | 0 | 0 | 0 |
|  | Follow up | Acute admissions | 947 | 81 | 866 | 12 | 20 | 49 | 0 | 0 | 0 |
|  |  | CRT service use | 232 | 142 | 90 | 17 | 106 | 18 | 0 | 0 | 0 |
| **5** | Baseline | Acute admissions | 439 | 48 | 391 | 2 | 33 | 13 | 0 | 0 | 0 |
|  |  | CRT service use | 155 | 60 | 95 | 3 | 41 | 16 | 0 | 0 | 0 |
|  | Follow up | Acute admissions | 366 | 47 | 319 | 1 | 30 | 16 | 0 | 0 | 0 |
|  |  | CRT service use | 83 | 33 | 50 | 0 | 23 | 10 | 0 | 0 | 0 |
| **6** | Baseline | Acute admissions | 1641 | 219 | 1422 | 23 | 196 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 214 | 80 | 134 | 1 | 79 | 0 | 0 | 0 | 0 |
|  | Follow up | Acute admissions | 1791 | 284 | 1507 | 26 | 156 | 13 | 0 | 12 | 77 |
|  |  | CRT service use | 286 | 93 | 193 | 2 | 91 | 0 | 0 | 0 | 0 |
| **7** | Baseline | Acute admissions | 1167 | 127 | 1040 | 24 | 103 | 0 | 0 | 25 | 0 |
|  |  | CRT service use | 158 | 6 | 152 | 2 | 4 | 0 | 0 | 0 | 0 |
|  | Follow up | Acute admissions | 2488 | 328 | 2160 | 18 | 245 | 35 | 13 | 17 | 0 |
|  |  | CRT service use | 376 | 66 | 310 | 2 | 64 | 0 | 0 | 0 | 0 |
| **8** | Baseline | Acute admissions | 1098 | 344 | 754 | 4 | 340 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 315 | 176 | 139 | 45 | 131 | 0 | 0 | 0 | 0 |
|  | Follow up | Acute admissions | 924 | 231 | 693 | 4 | 227 | 0 | 0 | 0 | 0 |
|  |  | CRT service use | 277 | 124 | 153 | 38 | 86 | 0 | 0 | 0 | 0 |
| **TOTAL** | Baseline | Acute admissions | 9765 | 2484 | 7281 | 87 | 2318 | 67 | 12 | 25 | 0 |
|  |  | CRT service use | 1564 | 518 | 1046 | 53 | 442 | 21 | 2 | 0 | 0 |
|  | Follow up | Acute admissions | 10587 | 1862 | 8725 | 89 | 1541 | 113 | 13 | 29 | 77 |
|  |  | CRT service use | 2666 | 1237 | 1429 | 71 | 1137 | 28 | 0 | 0 | 0 |

\*Brief description of participating NHS Trusts:

|  |  |
| --- | --- |
| Trust 1 | Mixed urban and rural Trust – Southern/Central England |
| Trust 2 | Outer London Trust |
| Trust 3 | Inner London Trust |
| Trust 4 | Mixed urban and rural Trust – Southern/Central England |
| Trust 5 | Mixed urban and rural Trust – Southern/Central England |
| Trust 6 | Mixed urban and rural Trust – Southern/Central England |
| Trust 7 | Inner London Trust |
| Trust 8 | Outer London Trust |

**The CORE service improvement programme for mental health Crisis Resolution Teams: results from a cluster-randomised trial**

**DS3: Service user and staff participants – recruitment and participant characteristics**

**1. Service user participants: recruitment**

In total, 567 service users were asked to take part in the study at baseline.  Of these, 353 completed the survey, a response rate of 62.3%.  Those declining at first contact with a researcher totalled 95 (16.8%), while 52 (9.2%) did not respond to repeated phone calls, messages, and emails from researchers, and 67 (11.8%) agreed to participate but did not complete the survey.  The breakdown of these numbers by team can be seen below in Table DS3\_1.

*Table DS3\_1:**Service user participants by team (Baseline)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Trust** | **Team** | **Approached** | **Declined** | **Did not respond** | **Did not complete** | **Completed** |
| 1 | 1 | 19 | 2 | 5 | 1 | 11 |
| 2 | 26 | 5 | 3 | 5 | 13 |
| 3 | 23 | 1 | 0 | 3 | 19 |
| 4 | 27 | 5 | 2 | 5 | 15 |
| 5 | 21 | 6 | 3 | 7 | 5 |
| 6 | 22 | 2 | 4 | 2 | 14 |
| 2 | 7 | 28 | 9 | 0 | 3 | 15 |
| 8 | 22 | 4 | 3 | 4 | 13 |
| 9 | 20 | 7 | 3 | 1 | 9 |
| 3 | 10 | 22 | 3 | 0 | 2 | 17 |
| 11 | 24 | 0 | 2 | 6 | 16 |
| 4 | 12 | 22 | 3 | 0 | 4 | 15 |
| 13 | 21 | 3 | 1 | 1 | 15 |
| 5 | 14 | 29 | 14 | 0 | 4 | 11 |
| 15 | 22 | 2 | 1 | 6 | 13 |
| 16 | 23 | 0 | 3 | 5 | 15 |
| 6 | 17 | 19 | 0 | 4 | 0 | 15 |
| 18 | 18 | 1 | 0 | 1 | 16 |
| 19 | 20 | 0 | 2 | 3 | 15 |
| 20 | 18 | 1 | 2 | 0 | 15 |
| 21 | 19 | 1 | 1 | 1 | 16 |
| 7 | 22 | 25 | 9 | 1 | 0 | 15 |
| 23 | 25 | 10 | 0 | 0 | 15 |
| 8 | 24 | 24 | 0 | 7 | 2 | 15 |
| 25 | 28 | 7 | 5 | 1 | 15 |
| **Total** |  | **567** | **95** | **52** | **68** | **353** |

 At follow-up, CRT staff approached a total of 594 service users; 371 of those completed the survey, a response rate of 62.5%. Eighty eight (14.8%) service users declined at first contact with a researcher and 69 (11.6%) did not respond to researchers’ attempts to contact them. Sixty-six (11%) service users agreed to participate but did not complete the survey. Table DS3\_2 below shows the numbers of those service users by team.

*Table DS3\_2: Service user participants by team (Follow up)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Trust** | **Team** | **Approached** | **Declined** | **Did not respond** | **Did not complete** | **Completed** |
| 1 | 1 | 25 | 1 | 6 | 3 | 15 |
| 2 | 31 | 8 | 4 | 4 | 15 |
| 3 | 25 | 3 | 3 | 4 | 15 |
| 4 | 27 | 7 | 5 | 0 | 15 |
| 5 | 27 | 5 | 2 | 5 | 15 |
| 6 | 31 | 9 | 4 | 3 | 15 |
| 2 | 7 | 19 | 1 | 3 | 0 | 15 |
| 8 | 30 | 5 | 8 | 2 | 15 |
| 9 | 22 | 2 | 4 | 1 | 15 |
| 3 | 10 | 17 | 0 | 0 | 2 | 15 |
| 11 | 17 | 2 | 0 | 0 | 15 |
| 4 | 12 | 28 | 8 | 2 | 3 | 15 |
| 13 | 24 | 1 | 3 | 5 | 15 |
|  | 14 | 24 | 4 | 3 | 2 | 15 |
| 5 | 15 | 15 | 4 | 2 | 1 | 8 |
|  | 16 | 27 | 4 | 1 | 7 | 15 |
| 6 | 17 | 21 | 3 | 2 | 1 | 15 |
| 18 | 25 | 4 | 1 | 5 | 15 |
| 19 | 19 | 2 | 0 | 2 | 15 |
| 20 | 21 | 2 | 1 | 3 | 15 |
| 21 | 20 | 0 | 3 | 1 | 16 |
| 7 | 22 | 23 | 2 | 4 | 1 | 16 |
| 23 | 27 | 5 | 2 | 5 | 15 |
| 8 | 24 | 22 | 4 | 2 | 0 | 16 |
| 25 | 27 | 2 | 4 | 6 | 15 |
| **Total** |  | **594** | **88** | **69** | **66** | **371** |

**2. Staff participants - recruitment**

A survey link was sent by email to all eligible clinical staff in each CRT; email reminders to complete the survey were also sent. From a total of 560 eligible staff, 441 completed the survey at baseline (response rate 78.8%). At follow up, 544 staff were eligible to take part, of whom 431 completed the survey (response rate 79.2%). Table DS3\_3 reports staff participant recruitment in each team at baseline and follow up.

*Table DS3\_3:* *Number of* s*taff members who received and completed the survey by team*

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Follow up** |
| **Trust** | **Team** | **Eligible** | **Completed survey** | **Eligible** | **Completed survey** |
| 1 | 1 | 21 | 16 | 22 | 14 |
| 2 | 19 | 17 | 23 | 19 |
| 3 | 25 | 21 | 26 | 21 |
| 4 | 20 | 15 | 23 | 17 |
| 5 | 18 | 13 | 18 | 16 |
| 6 | 19 | 14 | 19 | 12 |
|  | 7 | 28 | 21 | 25 | 19 |
| 8 | 29 | 22 | 31 | 25 |
| 9 | 30 | 21 | 23 | 14 |
| 3 | 10 | 18 | 15 | 16 | 13 |
| 11 | 15 | 11 | 15 | 11 |
| 4 | 12 | 20 | 15 | 20 | 16 |
| 13 | 21 | 15 | 25 | 19 |
| 5 | 14 | 10 | 8 | 15 | 14 |
|  | 15 | 19 | 14 | 15 | 13 |
|  | 16 | 28 | 19 | 19 | 15 |
| 6 | 17 | 20 | 17 | 19 | 20 |
| 18 | 28 | 26 | 24 | 21 |
| 19 | 11 | 11 | 12 | 10 |
| 20 | 26 | 23 | 21 | 14 |
| 21 | 15 | 15 | 15 | 15 |
| 7 | 22 | 17 | 13 | 19 | 17 |
| 23 | 37 | 25 | 34 | 22 |
| 8 | 24 | 33 | 27 | 34 | 25 |
| 25 | 33 | 27 | 31 | 29 |
| **Total** |  | **560** | **441** | **544** | **431** |

**Service user experience participants: characteristics overall**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Baseline** |  | **1 year** |  |
| **Variable** | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** |
| Intervention | 212/353 | 60 | 219/371 | 59 |
|  |  |  |  |  |
| Male | 141/353 | 40 | 140/370 | 38 |
| Female | 210/353 | 59 | 227/370 | 61 |
| Transgender | 2/353 | 1 | 3/370 | 1 |
|  |  |  |  |  |
| Age | 43 | (15) | 42 | (14) |
|  |  |  |  |  |
| White | 305/353 | 86 | 300/371 | 81 |
| Asian | 22/353 | 6 | 21/371 | 6 |
| Black | 20/353 | 6 | 30/371 | 8 |
| Mixed | 6/353 | 2 | 13/371 | 4 |
| Other | 0/353 | 0 | 7/371 | 2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| **NHS Trust** |  |  |  |  |
| 1 | 77/353 | 22 | 90/371 | 24 |
| 2 | 37/353 | 10 | 45/371 | 12 |
| 3 | 33/353 | 9 | 30/371 | 8 |
| 4 | 30/353 | 9 | 30/371 | 8 |
| 5 | 39/353 | 11 | 38/371 | 10 |
| 6 | 77/353 | 22 | 76/371 | 20 |
| 7 | 30/353 | 9 | 31/371 | 8 |
| 8 | 30/353 | 9 | 31/371 | 8 |
|  |  |  |  |  |
| **Times under CRT** |  |  |  |  |
| Once | 140/353 | 40 | 149/370 | 40 |
| 2 to 5 times | 147/353 | 42 | 162/370 | 44 |
| 6 to 10 times | 32/353 | 9 | 41/371 | 11 |
| More than 10 times | 34/353 | 10 | 18/371 | 5 |
|  |  |  |  |  |
| **Mental health inpatient** |  |  |  |  |
| Never | 110/353 | 31 | 108/371 | 29 |
| Once | 59/353 | 17 | 96/371 | 26 |
| 2 to 5 times | 116/353 | 33 | 114/371 | 31 |
| 6 to 10 times | 68/353 | 19 | 53/371 | 14 |
|  |  |  |  |  |
| **Years since first contact with mental health services** |  |  |  |  |
| Less than a year | 130/353 | 37 | 102/371 | 27 |
| 1 to 5 years | 75/353 | 21 | 88/371 | 24 |
| 6 to 10 years | 35/353 | 10 | 52/371 | 14 |
| More than 10 years | 113/353 | 32 | 129/371 | 35 |
|  |  |  |  |  |
| **Length of CRT support during this period of support** |  |  |  |  |
| Less than 1 week | 16/353 | 5 | 15/369 | 4 |
| 1 to 2 weeks | 78/353 | 22 | 100/369 | 27 |
| More than 2 weeks, less than a month | 94/353 | 27 | 103/369 | 28 |
| 1 to 2 months | 91/353 | 26 | 104/369 | 28 |
| Longer than 2 months | 74/353 | 21 | 47/369 | 13 |
|  |  |  |  |  |
| “Early discharge” patient: CRT support following an inpatient admission | 102/352 | 29 | 108/369 | 29 |

**Service user experience participant characteristics by randomised group**

|  | **Baseline** |  |  |  | **1 year** |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Control** |  | **Intervention** |  | **Control** |  | **Intervention** |  |
|  | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** |
| Male | 56/141 | 40 | 85/212 | 40 | 66/152 | 43 | 74/218 | 34 |
| Female | 84/141 | 60 | 126/212 | 59 | 84/152 | 55 | 143/218 | 66 |
| Transgender | 1/141 | 1 | 1/212 | 0.5 | 2/152 | 1 | 1/218 | 0.5 |
|  |  |  |  |  |  |  |  |  |
| Age | 44 | (14) | 42 | (15) | 42 | (14) | 42 | (13) |
|  |  |  |  |  |  |  |  |  |
| White | 121/141 | 86 | 184/212 | 87 | 121/152 | 80 | 179/219 | 82 |
| Asian | 12/141 | 9 | 10/212 | 5 | 9/152 | 6 | 12/219 | 5 |
| Black | 6/141 | 4 | 14/212 | 7 | 14/152 | 9 | 16/219 | 7 |
| Mixed | 1/141 | 1 | 4/212 | 2 | 5/152 | 3 | 8/219 | 4 |
| Other | 0/141 | 0 | 0/212 | 0 | 3/152 | 2 | 4/219 | 2 |
|  |  |  |  |  |  |  |  |  |
| **NHS Trust** |  |  |  |  |  |  |  |  |
| 1 | 24/141 | 17 | 53/212 | 25 | 30/152 | 20 | 60/219 | 27 |
| 2 | 15/141 | 11 | 22/212 | 10 | 15/152 | 10 | 30/219 | 14 |
| 3 | 16/141 | 11 | 17/212 | 8 | 15/152 | 10 | 15/219 | 7 |
| 4 | 15/141 | 11 | 15/212 | 7 | 15/152 | 10 | 15/219 | 7 |
| 5 | 11/141 | 8 | 28/212 | 13 | 15/152 | 10 | 23/219 | 11 |
| 6 | 30/141 | 21 | 47/212 | 22 | 30/152 | 20 | 46/219 | 21 |
| 7 | 15/141 | 11 | 15/212 | 7 | 16/152 | 11 | 15/219 | 7 |
| 8 | 15/141 | 11 | 15/212 | 7 | 16/152 | 11 | 15/219 | 7 |
|  |  |  |  |  |  |  |  |  |
| **Times under CRT** |  |  |  |  |  |  |  |  |
| Once | 59/141 | 42 | 81/212 | 38 | 57/151 | 38 | 92/219 | 42 |
| 2 to 5 times | 58/141 | 41 | 89/212 | 42 | 72/151 | 48 | 90/219 | 41 |
| 6 to 10 times | 12/141 | 9 | 20/212 | 9 | 18/151 | 12 | 23/219 | 11 |
| More than 10 times | 12/141 | 9 | 22/212 | 10 | 4/151 | 3 | 14/219 | 6 |
|  |  |  |  |  |  |  |  |  |
| **Mental health inpatient** |  |  |  |  |  |  |  |  |
| Never | 47/141 | 33 | 63/212 | 30 | 46/152 | 30 | 62/219 | 28 |
| Once | 23/141 | 16 | 36/212 | 17 | 38/152 | 25 | 58/219 | 26 |
| 2 to 5 times | 44/141 | 31 | 72/212 | 34 | 52/152 | 34 | 62/219 | 28 |
| 6 to 10 times | 27/141 | 19 | 41/212 | 19 | 16/152 | 11 | 37/219 | 17 |
|  |  |  |  |  |  |  |  |  |
| **Years since first contact with mental health services** |  |  |  |  |  |  |  |  |
| Less than a year | 53/141 | 38 | 77/212 | 36 | 38/152 | 25 | 64/219 | 29 |
| 1 to 5 years | 32/141 | 23 | 43/212 | 20 | 44/152 | 29 | 44/219 | 20 |
| 6 to 10 years | 11/141 | 8 | 24/212 | 11 | 20/152 | 13 | 32/219 | 15 |
| More than 10 years | 45/141 | 32 | 68/212 | 32 | 50/152 | 33 | 79/219 | 36 |
|  |  |  |  |  |  |  |  |  |
| **Length of CRT support during this period of support** |  |  |  |  |  |  |  |  |
| Less than 1 week | 6/141 | 4 | 10/212 | 5 | 6/150 | 4 | 9/219 | 4 |
| 1 to 2 weeks | 40/141 | 28 | 38/212 | 18 | 39/150 | 26 | 61/219 | 28 |
| More than 2 weeks, less than a month | 32/141 | 23 | 62/212 | 29 | 48/150 | 32 | 55/219 | 25 |
| 1 to 2 months | 28/141 | 20 | 63/212 | 30 | 41/150 | 27 | 63/219 | 29 |
| Longer than 2 months | 35/141 | 25 | 39/212 | 18 | 16/150 | 11 | 31/219 | 14 |
|  |  |  |  |  |  |  |  |  |
| “Early discharge” patient: CRT support following an inpatient admission | 36/141 | 26 | 66/211 | 31 | 51/150 | 34 | 57/219 | 26 |
|  |  |  |  |  |  |  |  |  |

**Staff wellbeing participant characteristics overall**

|  | **Baseline** |  | **1 year** |  |
| --- | --- | --- | --- | --- |
| **Variable** | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** |
| Intervention | 266/441 | 60 | 259/432 | 60 |
|  |  |  |  |  |
| Male | 148/441 | 34 | 155/418 | 37 |
| Age | 43 | (10) | 43 | (10) |
|  |  |  |  |  |
| White | 299/441 | 68 | 272/416 | 65 |
| Asian | 47/441 | 11 | 50/416 | 12 |
| Black | 73/441 | 17 | 75/416 | 18 |
| Mixed | 18/441 | 4 | 12/416 | 3 |
| Other | 4/441 | 1 | 7/416 | 2 |
|  |  |  |  |  |
| **NHS Trust** |  |  |  |  |
| 1 | 96/441 | 22 | 99/432 | 23 |
| 2 | 64/441 | 15 | 58/432 | 13 |
| 3 | 26/441 | 6 | 24/432 | 6 |
| 4 | 30/441 | 7 | 35/432 | 8 |
| 5 | 41/441 | 9 | 42/432 | 10 |
| 6 | 92/441 | 21 | 80/432 | 19 |
| 7 | 38/441 | 9 | 39/432 | 9 |
| 8 | 54/441 | 12 | 55/432 | 13 |
|  |  |  |  |  |
| **Length of time worked in Mental Health services (years)** |  |  |  |  |
| 0 to <1 | 9/441 | 2 | 7/431 | 2 |
| 1 to <2 | 17/441 | 4 | 12/431 | 3 |
| 2 to <3 | 9/441 | 2 | 16/431 | 4 |
| 3 to <4 | 13/441 | 3 | 13/431 | 3 |
| 4 to <5 | 19/441 | 4 | 17/431 | 4 |
| 5 to <10 | 93/441 | 21 | 90/431 | 21 |
| 10 to <15 | 117/441 | 27 | 103/431 | 24 |
| 15 to <20 | 68/441 | 15 | 77/431 | 18 |
| 20 to <25 | 43/441 | 10 | 49/431 | 11 |
| 25 to <30 | 28/441 | 6 | 21/431 | 5 |
| 30+ | 25/441 | 6 | 26/431 | 6 |
|  |  |  |  |  |
| **Length of time worked in current team (years)** |  |  |  |  |
| 0 to <1 | 89/440 | 20 | 80/431 | 19 |
| 1 to <2 | 73/440 | 17 | 65/431 | 15 |
| 2 to <3 | 66/440 | 15 | 52/431 | 12 |
| 3 to <4 | 33/440 | 8 | 53/431 | 12 |
| 4 to <5 | 23/440 | 5 | 29/431 | 7 |
| 5 to <10 | 105/440 | 24 | 88/431 | 20 |
| 10 to <15 | 49/440 | 11 | 59/431 | 14 |
| 15+ | 2/440 | 0.5 | 5/431 | 1 |
|  |  |  |  |  |
| **Occupation** |  |  |  |  |
| Mental Health Nurse | 227/441 | 51 | 193/417 | 46 |
| Nursing Assistant/ Support Worker | 79/441 | 18 | 92/417 | 22 |
| Occupational Therapist | 8/441 | 2 | 11/417 | 3 |
| Psychiatrist | 31/441 | 7 | 36/417 | 9 |
| Clinical Psychologist | 11/441 | 2 | 10/417 | 2 |
| Social Worker | 38/441 | 9 | 30/417 | 7 |
| Trainee Nurse | 1/441 | 0.2 | 1/417 | 0.2 |
| Administrator | 30/441 | 7 | 36/417 | 9 |
| Trainee Psychiatrist | 4/441 | 1 | 3/417 | 1 |
| Pharmacist | 1/441 | 0.2 | 1/417 | 0.2 |
| Associate Mental Health Worker | 5/441 | 1 | 4/417 | 1 |
| Trainee Mental Health Worker | 2/441 | 0.5 | 0/417 | 0 |
| Other | 4/441 | 1 | 0/417 | 0 |
|  |  |  |  |  |
| Team manager | 28/441 | 6 | 21/432 | 5 |
|  |  |  |  |  |
| **Employment status** |  |  |  |  |
| Permanent | 414/440 | 94 | 401/429 | 93 |
| Fixed term | 9/440 | 2 | 6/429 | 1 |
| Locum/ bank/ agency | 13/440 | 3 | 17/429 | 4 |
| On secondment | 3/440 | 1 | 5/429 | 1 |
| Honorary staff | 1/440 | 0.2 |  |  |
|  |  |  |  |  |
| **Highest educational attainment** |  |  |  |  |
| School leaver | 25/441 | 6 | 23/432 | 5 |
| Some college/ tertiary education | 100/441 | 23 | 108/432 | 25 |
| Graduate | 231/441 | 52 | 215/432 | 50 |
| Masters degree | 52/441 | 12 | 50/432 | 12 |
| Doctoral or MD degree | 33/441 | 7 | 36/432 | 8 |
|  |  |  |  |  |
| **Familiarity with the CRT model** |  |  |  |  |
| Not at all familiar | 8/441 | 2 | 17/432 | 4 |
| Slightly familiar | 21/441 | 5 | 23/432 | 5 |
| Moderately familiar | 99/441 | 22 | 84/432 | 19 |
| Very familiar | 197/441 | 45 | 185/432 | 43 |
| Extremely familiar | 116/441 | 26 | 123/432 | 28 |
|  |  |  |  |  |
| **Experience of delivering CRT care** |  |  |  |  |
| 3 months or less | 37/441 | 8 | 36/430 | 8 |
| 4 to 12 months | 58/441 | 13 | 45/430 | 10 |
| 13 months to 3 years | 123/441 | 28 | 112/430 | 26 |
| 4 to 5 years | 63/441 | 14 | 74/430 | 17 |
| 6 to 10 years | 112/441 | 25 | 84/430 | 20 |
| 11 to 15 years | 41/441 | 9 | 65/430 | 15 |
| 16 to 20 years | 6/441 | 1 | 11/430 | 3 |
| More than 20 years | 1/441 | 0.2 | 3/430 | 1 |
|  |  |  |  |  |

**Staff wellbeing participant characteristics by randomised group**

|  | **Baseline** |  |  |  | **1 year** |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Usual service** |  | **Intervention** |  | **Usual service** |  | **Intervention** |  |
|  | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** |
| Male | 69/175 | 39 | 79/266 | 30 | 70/166 | 42 | 85/252 | 34 |
| Age | 43 | (10) | 42 | (10) | 45 | (10) | 43 | (10) |
|  |  |  |  |  |  |  |  |  |
| White | 118/175 | 67 | 181/266 | 68 | 107/164 | 65 | 165/252 | 65 |
| Asian | 18/175 | 10 | 29/266 | 11 | 24/164 | 15 | 26/252 | 10 |
| Black | 28/175 | 16 | 45/266 | 17 | 25/164 | 15 | 50/252 | 20 |
| Mixed | 10/175 | 6 | 8/266 | 3 | 6/164 | 4 | 6/252 | 2 |
| Other | 1/175 | 1 | 3/266 | 1 | 2/164 | 1 | 5/252 | 2 |
|  |  |  |  |  |  |  |  |  |
| **NHS Trust** |  |  |  |  |  |  |  |  |
| 1 | 33/175 | 19 | 63/266 | 24 | 33/173 | 19 | 66/259 | 25 |
| 2 | 21/175 | 12 | 43/266 | 16 | 19/173 | 11 | 39/259 | 15 |
| 3 | 15/175 | 9 | 11/266 | 4 | 13/173 | 8 | 11/259 | 4 |
| 4 | 15/175 | 9 | 15/266 | 6 | 16/173 | 9 | 19/259 | 7 |
| 5 | 8/175 | 5 | 33/266 | 12 | 14/173 | 8 | 28/259 | 11 |
| 6 | 43/175 | 25 | 49/266 | 18 | 35/173 | 20 | 45/259 | 17 |
| 7 | 13/175 | 7 | 25/266 | 9 | 17/173 | 10 | 22/259 | 8 |
| 8 | 27/175 | 15 | 27/266 | 10 | 26/173 | 15 | 29/259 | 11 |
|  |  |  |  |  |  |  |  |  |
| **Length of time worked in Mental Health services (years)** |  |  |  |  |  |  |  |  |
| 0 to <1 | 1/175 | 1 | 8/266 | 3 | 3/173 | 2 | 4/258 | 2 |
| 1 to <2 | 9/175 | 5 | 8/266 | 3 | 5/173 | 3 | 7/258 | 3 |
| 2 to <3 | 4/175 | 2 | 5/266 | 2 | 6/173 | 3 | 10/258 | 4 |
| 3 to <4 | 5/175 | 3 | 8/266 | 3 | 5/173 | 3 | 8/258 | 3 |
| 4 to <5 | 3/175 | 2 | 16/266 | 6 | 7/173 | 4 | 10/258 | 4 |
| 5 to <10 | 37/175 | 21 | 56/266 | 21 | 31/173 | 18 | 59/258 | 23 |
| 10 to <15 | 41/175 | 23 | 76/266 | 29 | 36/173 | 21 | 67/258 | 26 |
| 15 to <20 | 29/175 | 17 | 39/266 | 15 | 36/173 | 21 | 41/258 | 16 |
| 20 to <25 | 19/175 | 11 | 24/266 | 9 | 20/173 | 12 | 29/258 | 11 |
| 25 to <30 | 18/175 | 10 | 10/266 | 4 | 14/173 | 8 | 7/258 | 3 |
| 30+ | 9/175 | 5 | 16/266 | 6 | 10/173 | 6 | 16/258 | 6 |
|  |  |  |  |  |  |  |  |  |
| **Length of time worked in current team (years)** |  |  |  |  |  |  |  |  |
| 0 to <1 | 31/175 | 18 | 58/265 | 22 | 26/173 | 15 | 54/258 | 21 |
| 1 to <2 | 30/175 | 17 | 43/265 | 16 | 25/173 | 14 | 40/258 | 16 |
| 2 to <3 | 27/175 | 15 | 39/265 | 15 | 23/173 | 13 | 29/258 | 11 |
| 3 to <4 | 15/175 | 9 | 18/265 | 7 | 22/173 | 13 | 31/258 | 12 |
| 4 to <5 | 6/175 | 3 | 17/265 | 6 | 16/173 | 9 | 13/258 | 5 |
| 5 to <10 | 45/175 | 26 | 60/265 | 23 | 36/173 | 21 | 52/258 | 20 |
| 10 to <15 | 20/175 | 11 | 29/265 | 11 | 23/173 | 13 | 36/258 | 14 |
| 15+ | 1/175 | 1 | 1/265 | 0.4 | 2/173 | 1 | 3/258 | 1 |
|  |  |  |  |  |  |  |  |  |
| **Occupation** |  |  |  |  |  |  |  |  |
| Mental Health Nurse | 100/175 | 57 | 127/266 | 48 | 81/165 | 49 | 112/252 | 44 |
| Nursing Assistant/ Support Worker | 30/175 | 17 | 49/266 | 18 | 37/165 | 22 | 55/252 | 22 |
| Occupational Therapist | 3/175 | 2 | 5/266 | 2 | 3/165 | 2 | 8/252 | 3 |
| Psychiatrist | 12/175 | 7 | 19/266 | 7 | 16/165 | 10 | 20/252 | 8 |
| Clinical Psychologist | 4/175 | 2 | 7/266 | 3 | 4/165 | 2 | 6/252 | 2 |
| Social Worker | 12/175 | 7 | 26/266 | 10 | 8/165 | 5 | 22/252 | 9 |
| Trainee Nurse | 1/175 | 1 | 0/266 | 0 | 0/165 | 0 | 1/252 | 0.4 |
| Administrator | 12/175 | 7 | 18/266 | 7 | 13/165 | 8 | 23/252 | 9 |
| Trainee Psychiatrist | 0/175 | 0 | 4/266 | 2 | 2/165 | 1 | 1/252 | 0.4 |
| Pharmacist | 0/175 | 0 | 1/266 | 0.4 | 0/165 | 0 | 1/252 | 0.4 |
| Associate Mental Health Worker | 0/175 | 0 | 5/266 | 2 | 1/165 | 1 | 3/252 | 1 |
| Trainee Mental Health Worker | 1/175 | 1 | 1/266 | 0.4 | 0/165 | 0 | 0/252 | 0 |
| Other | 0/175 | 0 | 4/266 | 2 | 0/165 | 0 | 0/252 | 0 |
|  |  |  |  |  |  |  |  |  |
| Team manager | 13/175 | 7 | 15/266 | 6 | 8/173 | 5 | 13/259 | 5 |
|  |  |  |  |  |  |  |  |  |
| **Employment status** |  |  |  |  |  |  |  |  |
| Permanent | 167/175 | 95 | 247/265 | 93 | 161/171 | 94 | 240/258 | 93 |
| Fixed term | 3/175 | 2 | 6/265 | 2 | 3/171 | 2 | 3/258 | 1 |
| Locum/ bank/ agency | 3/175 | 2 | 10/265 | 4 | 6/171 | 4 | 11/258 | 4 |
| On secondment | 1/175 | 1 | 2/265 | 1 | 1/171 | 1 | 4/258 | 2 |
| Honorary staff | 1/175 | 1 | 0/265 | 0 | 0/171 | 0 | 0/258 | 0 |
|  |  |  |  |  |  |  |  |  |
| **Highest educational attainment** |  |  |  |  |  |  |  |  |
| School leaver | 6/175 | 3 | 19/266 | 7 | 9/173 | 5 | 14/259 | 5 |
| Some college/ tertiary education | 41/175 | 23 | 59/266 | 22 | 43/173 | 25 | 65/259 | 25 |
| Graduate | 96/175 | 55 | 135/266 | 51 | 83/173 | 48 | 132/259 | 51 |
| Masters degree | 23/175 | 13 | 29/266 | 11 | 20/173 | 12 | 30/259 | 12 |
| Doctoral or MD degree | 9/175 | 5 | 24/266 | 9 | 18/173 | 10 | 18/259 | 7 |
|  |  |  |  |  |  |  |  |  |
| **Familiarity with the CRT model** |  |  |  |  |  |  |  |  |
| Not at all familiar | 3/175 | 2 | 5/266 | 2 | 11/173 | 6 | 6/259 | 2 |
| Slightly familiar | 7/175 | 4 | 14/266 | 5 | 4/173 | 2 | 19/259 | 7 |
| Moderately familiar | 37/175 | 21 | 62/266 | 23 | 35/173 | 20 | 49/259 | 19 |
| Very familiar | 79/175 | 45 | 118/266 | 44 | 73/173 | 42 | 112/259 | 43 |
| Extremely familiar | 49/175 | 28 | 67/266 | 25 | 50/173 | 29 | 73/259 | 28 |
|  |  |  |  |  |  |  |  |  |
| **Experience of delivering CRT care** |  |  |  |  |  |  |  |  |
| 3 months or less | 11/175 | 6 | 26/266 | 10 | 15/171 | 9 | 21/259 | 8 |
| 4 to 12 months | 25/175 | 14 | 33/266 | 12 | 13/171 | 8 | 32/259 | 12 |
| 13 months to 3 years | 50/175 | 29 | 73/266 | 27 | 46/171 | 27 | 66/259 | 25 |
| 4 to 5 years | 21/175 | 12 | 42/266 | 16 | 37/171 | 22 | 37/259 | 14 |
| 6 to 10 years | 46/175 | 26 | 66/266 | 25 | 31/171 | 18 | 53/259 | 20 |
| 11 to 15 years | 19/175 | 11 | 22/266 | 8 | 24/171 | 14 | 41/259 | 16 |
| 16 to 20 years | 3/175 | 2 | 3/266 | 1 | 5/171 | 3 | 6/259 | 2 |
| More than 20 years | 0/175 | 0 | 1/266 | 0.4 | 0/171 | 0 | 3/259 | 1 |

**The CORE service improvement programme for mental health Crisis Resolution Teams: results from a cluster-randomised trial**

**DS4: CRT teams’ fidelity scores**

|  |
| --- |
| Intervention Teams |
| Team  | NHS Trust | Baseline Fidelity Score | Follow-up Fidelity Score  | Change |
| 3 | 1 | 129 | 130 | 1 |
| 4 | 1 | 97 | 134 | 37 |
| 5 | 1 | 105 | 92 | -13 |
| 6 | 1 | 115 | 93 | -22 |
| 8 | 2 | 98 | 111 | 13 |
| 9 | 2 | 98 | 80 | -18 |
| 11 | 3 | 111 | 122 | 11 |
| 13 | 4 | 133 | 155 | 22 |
| 15 | 5 | 117 | 129 | 12 |
| 16 | 5 | 105 | 123 | 18 |
| 19 | 6 | 107 | 131 | 24 |
| 20 | 6 | 130 | 149 | 19 |
| 21 | 6 | 134 | 153 | 19 |
| 23 | 7 | 129 | 124 | -5 |
| 25 | 8 | 138 | 142 | 4 |
| Mean scores (intervention teams) | 116.4 | 124.5 | 8.1 |
|  |
| Control teams |
| 1 | 1 | 127 | 107 | -20 |
| 2 | 1 | 127 | 115 | -12 |
| 7 | 2 | 104 | 95 | -9 |
| 10 | 3 | 106 | 103 | -3 |
| 12 | 4 | 111 | 109 | -2 |
| 14 | 5 | 117 | 107 | -10 |
| 17 | 6 | 139 | 129 | -10 |
| 18 | 6 | 134 | 118 | -16 |
| 22 | 7 | 112 | 97 | -15 |
| 24 | 8 | 145 | 145 | 0 |
| Mean scores (control teams) | 122.2 | 112.5 | -9.7 |
|  |
| Mean scores (all teams) | 118.7 | 119.7 |  |

Fig DS4\_1: Graphic summary of changes in fidelity scores from baseline to follow up



**Data Supplement 5**

**CORE CRT Service Improvement Programme Trial: Service user and Staff Outcomes**

Prepared by Dr Louise Marston

Service user experience participant outcomes overall

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Baseline** |  | **1 year** |  |
| **Variable** |  |  |  |  |
| Intervention n/N (%) | 212/353 | 60 | 219/371 | 59 |
|  |  |  |  |  |
|  |  |  |  |  |
| CSQ8 Score median (IQR) | 27 | (22, 31) | 28 | (23, 31) |
| Continu-um score mean (SD) | 43 | (10) | 40 | (9) |

(For continuum: where 5a is no, score 5b as 0. Where 11a is no, score 11b as 5. Mean imputation where there are up to 2 items missing.)

Staff wellbeing participant outcomes overall

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Baseline** |  | **1 year** |  |
| **Variable** | **n/N or mean** | **% or (SD)** | **n/N or mean** | **% or (SD)** |
| Intervention n/N (%) | 266/441 | 60 | 259/432 | 60 |
|  |  |  |  |  |
|  |  |  |  |  |
| UWES mean (SD) | 40 | (8) | 39 | (9) |
| MBI Emotional Exhaustion mean (SD) | 18 | (10) | 19 | (11) |
| MBI Personal Accomplishment mean (SD) | 37 | (7) | 37 | (8) |
| MBI depersonalisation mean (SD) | 4 | (4) | 5 | (4) |
| GHQ 12 mean (SD) | 11 | (5) | 10 | (5) |
| WAAQ mean (SD) | 39 | (5) | 39 | (6) |
|  |  |  |  |  |
| CRT fidelity score mean (SD) | 119 | (14) | 120 | (20) |

Service user experience participant outcomes by randomised group

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Baseline** |  |  |  | **1 year** |  |  |  |
| **Variable** | **Usual service** |  | **Intervention** |  | **Usual service** |  | **Intervention** |  |
| CSQ8 Score median (IQR) |  27 | (22, 30) | 27 | (22, 31) | 28 | (23, 31) | 28 | (24, 32) |
| Continu-um score | 42 | (10) | 43 | (10) | 40 | (9) | 40 | (10) |

Staff wellbeing participant outcomes by randomised group

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Baseline Usual service** |  | **Intervention** |  | **1-year Usual service** |  | **Intervention** |  |
| UWES | 39 | (8) | 40 | (8) | 38 | (9) | 40 | (8) |
| MBI Emotional Exhaustion | 18 | (10) | 18 | (10) | 20 | (10) | 18 | (11) |
| MBI Personal Accomplishment | 37 | (7) | 38 | (7) | 36 | (8) | 37 | (8) |
| MBI Depersonalisation | 5 | (4) | 4 | (4) | 5 | (4) | 4 | (5) |
| GHQ 12 | 10 | (5) | 11 | (5) | 12 | (6) | 11 | (5) |
| WAAQ | 38 | (6) | 40 | (5) | 39 | (5) | 39 | (6) |
|  |  |  |  |  |  |  |  |  |
| CRT fidelity score | 122 | (14) | 116 | (15) | 113 | (15) | 125 | (22) |

**Results of mixed modelling from the service user and staff participant data.**

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Coefficient\*** | **95% CI** |
| **Service User experience outcomes** |  |  |
| CSQ | 0.97 | (-1.02, 2.97) |
| Continu-um | -0.06 | (-2.78, 2.66) |
|  |  |  |

\*For the intervention group.

|  |  |  |
| --- | --- | --- |
| **Outcome** | **Coefficient\*** | **95% CI** |
| **Staff wellbeing outcomes** |  |  |
| Unadjusted |  |  |
|  |  |  |
| UWES | 1.30 | (-1.02, 3.62) |
| MBI Emotional Exhaustion | -1.86 | (-4.78, 1.07) |
| MBI Personal Accomplishment | 0.35 | (-1.40, 2.10) |
| MBI Depersonalisation | -0.30 | (-1.33, 0.74) |
| GHQ 12 | -1.17 | (-2.32, -0.03) |
| WAAQ | 1.50 | (0.26, 2.74) |
|  |  |  |
| Adjusted for mean baseline score |  |  |
|  |  |  |
| UWES | 1.07 | (-0.81, 2.96) |
| MBI Emotional Exhaustion | -1.92 | (-4.30, 0.46) |
| MBI Personal Accomplishment | 0.19 | (-1.39, 1.78) |
| MBI Depersonalisation | -0.26 | (-1.13, 0.60) |
| GHQ 12 | -1.29 | (-2.39, -0.20) |
| WAAQ | 1.16 | (0.07, 2.25) |

\*For the intervention group.

CSQ – higher score more satisfied

Continuum – higher score worse continuity of care

UWES – higher score, better work engagement

MBI EE – higher score, more burnout

MBI PA – lower score, more burnout

GHQ – higher score, worse illness

**Intraclass correlation (ICC) for the primary outcome (CSQ-8)**

Unadjusted ICC: 0.15 (95% CI 0.04, 0.25)

ICC adjusted (for baseline CSQ, randomisation group, accounting for CRT team as a random effect): 0.12 (95% CI 0.05, 0.24)

**Data Supplement 6**

**CORE CRT Service Improvement Programme: Service Use outcomes**

Prepared by Dr Louise Marston, checked by Dr Gareth Ambler

25/05/2017

**1) Inpatient admissions dataset**

Overall individual level acute admissions data from patient records

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Follow up** |
|  | **n/N** | **%** | **n/N** | **%** |
| Trust |  |  |  |  |
| 1 | 1100/7281 | 15 | 861/8725 | 10 |
| 2 | 1314/7281 | 18 | 1743/8725 | 20 |
| 3 | 496/7281 | 7 | 576/8725 | 7 |
| 4 | 764/7281 | 10 | 866/8725 | 10 |
| 5 | 391/7281 | 5 | 319/8725 | 4 |
| 6 | 1422/7281 | 20 | 1507/8725 | 17 |
| 7 | 1040/7281 | 14 | 2160/8725 | 25 |
| 8 | 754/7281 | 10 | 693/8725 | 8 |
|  |  |  |  |  |
| Intervention | 4085/7281 | 56 | 4865/8725 | 56 |
| Male | 3719/7016 | 53 | 4165/8409 | 50 |
| Age mean (SD) | 39 | (12) | 39 | (12) |
|  |  |  |  |  |
| White | 4954/6651 | 74 | 5457/7941 | 69 |
| Black | 636/6651 | 10 | 831/7941 | 10 |
| Asian | 545/6651 | 8 | 827/7941 | 10 |
| Other | 516/6651 | 8 | 826/7941 | 10 |
|  |  |  |  |  |
| New inpatient admissions  |  |  |  |  |
| 0 | 4037/7281 | 55 | 5452/8725 | 62 |
| 1 | 2744/7281 | 38 | 2843/8725 | 33 |
| 2 or more | 500/7281 | 7 | 430/8725 | 5 |
|  |  |  |  |  |
| New compulsory inpatient admissions  |  |  |  |  |
| 0 | 5851/7126 | 82 | 6796/7696 | 88 |
| 1 | 1157/7126 | 16 | 830/7696 | 11 |
| 2 or more | 118/7126 | 2 | 70/7696 | 1 |
|  |  |  |  |  |
| New voluntary inpatient admissions |  |  |  |  |
| 0 | 5166/7126 | 73 | 6251/7696 | 81 |
| 1 | 1688/7126 | 24 | 1282/7696 | 17 |
| 2 or more | 272/7126 | 4 | 163/7696 | 2 |
|  |  |  |  |  |
| Bed days median (IQR) | 0 | (0, 18) | 0 | (0, 13) |
|  |  |  |  |  |
| Number of CRT admissions |  |  |  |  |
| 0 | 2065/7281 | 28 | 2112/8725 | 24 |
| 1 | 4508/7281 | 62 | 5767/8725 | 66 |
| 2 or more | 708/7281 | 10 | 846/8725 | 10 |
|  |  |  |  |  |
| Acute care days median (IQR) | 23 | (10, 49) | 26 | (11, 54) |
|  |  |  |  |  |
| Acute Care episodes |  |  |  |  |
| 1 | 6157/7281 | 85 | 7418/8725 | 85 |
| 2 | 904/7281 | 12 | 1027/8725 | 12 |
| 3 or more | 220/7281 | 3 | 280/8725 | 3 |

There was a greater percentage of males in the intervention group compared with the control at both time points. Mean age was similar at both time points and between the two groups. The greatest percentage of white people was at baseline control at 78%, while the smallest percentage of whites was at follow up intervention. A greater percentage of people had no new admissions to mental health at follow up; which was highest in the intervention group (64%); there was a similar pattern for voluntary admissions.

Individual level admission data by randomised group

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Follow up** |
|  | **Control** | **Intervention** | **Control** | **Intervention** |
|  | **n/N** | **%** | **n/N** | **%** | **n/N** | **%** | **n/N** | **%** |
| Trust |  |  |  |  |  |  |  |  |
| 1 | 324/3196 | 10 | 776/4085 | 19 | 248/3860 | 6 | 613/4865 | 13 |
| 2 | 480/3196 | 15 | 834/4085 | 20 | 584/3860 | 15 | 1159/4865 | 24 |
| 3 | 282/3196 | 9 | 214/4085 | 5 | 317/3860 | 8 | 259/4865 | 5 |
| 4 | 311/3196 | 10 | 453/4085 | 11 | 391/3860 | 10 | 475/4865 | 10 |
| 5 | 162/3196 | 5 | 229/4095 | 6 | 136/3860 | 4 | 183/4865 | 4 |
| 6 | 763/3196 | 24 | 659/4085 | 16 | 813/3860 | 21 | 694/4865 | 14 |
| 7 | 428/3196 | 13 | 612/4095 | 15 | 959/3860 | 25 | 1201/4865 | 25 |
| 8 | 446/3196 | 14 | 308/4095 | 8 | 412/3860 | 11 | 281/4865 | 6 |
|  |  |  |  |  |  |  |  |  |
| Male | 1540/3087 | 50 | 2179/3929 | 55 | 1780/3712 | 48 | 2385/4697 | 51 |
| Age mean (SD) | 39 | (13) | 39 | (12) | 39 | (12) | 39 | (12) |
|  |  |  |  |  |  |  |  |  |
| White | 2299/2944 | 78 | 2655/3707 | 72 | 2568/3553 | 72 | 2889/4388 | 66 |
| Black | 214/2944 | 7 | 422/3707 | 11 | 279/3553 | 8 | 552/4388 | 13 |
| Asian | 202/2944 | 7 | 343/3707 | 9 | 346/3553 | 10 | 481/4388 | 11 |
| Other | 229/2944 | 8 | 287/3707 | 8 | 360/3553 | 10 | 466/4388 | 11 |
|  |  |  |  |  |  |  |  |  |
| New inpatient admissions |  |  |  |  |  |  |  |  |
| 0 | 1766/3196 | 55 | 2271/4085 | 56 | 2330/3860 | 60 | 3122/4865 | 64 |
| 1 | 1202/3196 | 38 | 1542/4085 | 38 | 1320/3860 | 34 | 1523/4865 | 31 |
| 2 or more | 228/3196 | 7 | 272/4085 | 7 | 210/3860 | 5 | 220/4865 | 5 |
|  |  |  |  |  |  |  |  |  |
| New compulsory inpatient admissions  |  |  |  |  |  |  |  |  |
| 0 | 2580/3139 | 82 | 3271/3987 | 82 | 2933/3320 | 88 | 3863/4376 | 88 |
| 1 | 514/3139 | 16 | 643/3987 | 16 | 361/3320 | 11 | 469/4376 | 11 |
| 2 or more | 45/3139 | 1 | 73/3987 | 2 | 26/3320 | 1 | 44/4376 | 1 |
|  |  |  |  |  |  |  |  |  |
| New voluntary inpatient admissions  |  |  |  |  |  |  |  |  |
| 0 | 2265/3139 | 72 | 2901/3987 | 73 | 2653/3319 | 80 | 3598/4377 | 82 |
| 1 | 734/3139 | 23 | 954/3987 | 24 | 587/3319 | 18 | 695/4377 | 16 |
| 2 or more | 140/3139 | 4 | 132/3987 | 3 | 79/3319 | 2 | 84/4377 | 2 |
|  |  |  |  |  |  |  |  |  |
| Bed days median (IQR) | 0 | (0, 18) | 0 | (0, 18) | 0 | (0, 13) | 0 | (0, 12) |
|  |  |  |  |  |  |  |  |  |
| Number of CRT admissions |  |  |  |  |  |  |  |  |
| 0 | 892/3196 | 28 | 1173/4085 | 29 | 929/3860 | 24 | 1183/4865 | 24 |
| 1 | 1984/3196 | 62 | 2524/4085 | 62 | 2545/3860 | 66 | 3222/4865 | 66 |
| 2 or more | 320/3196 | 10 | 388/4085 | 9 | 386/3860 | 10 | 460/4865 | 9 |
|  |  |  |  |  |  |  |  |  |
| Acute care days median (IQR) | 24 | (10, 50) | 23 | (10, 48) | 25 | (11, 49) | 27 | (11, 56) |
|  |  |  |  |  |  |  |  |  |
| Acute care episodes |  |  |  |  |  |  |  |  |
| 1 | 2689/3196 | 84 | 3468/4085 | 85 | 3281/3860 | 85 | 4137/4865 | 85 |
| 2 | 406/3196 | 13 | 498/4085 | 12 | 434/3860 | 11 | 593/4865 | 12 |
| 3 or more | 101/3196 | 3 | 119/4085 | 3 | 145/3860 | 4 | 135/4865 | 3 |

Using the collapsed dataset for the 25 Teams

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Follow up** |
|  | **Control** | **Intervention** | **Control** | **Intervention** |
|  | **Median** | **(IQR)** | **Median** | **(IQR)** | **Median** | **(IQR)** | **Median** | **(IQR)** |
| Inpatient admission | 170 | (129, 245) | 152 | (60, 219) | 170 | (121, 236) | 119 | (42, 179) |
| Inpatient compulsory admissions | 70 | (26, 77) | 54 | (19, 77) | 56 | (32, 72) | 42 | (23, 72) |
| Inpatient bed days | 6061 | (4331, 6683) | 4294 | (2614, 5703) | 4685 | (2846, 9296) | 3830 | (2356, 6161) |

Models have the Trust as the random effect. In each pair of results, one has the baseline admissions as the exposure and the other has the population of the catchment area as the exposure. This is significant for inpatient admissions where the exposure is baseline admissions IRR 0.88, 95% CI 0.83, 0.94. For inpatient bed days, both analyses are statistically significant. For the analysis where the exposure is baseline bed days, the IRR is 0.96 (95% CI 0.95, 0.97).

Results of modelling in terms of the intervention

|  |  |  |
| --- | --- | --- |
| **Variable** | **IRR** | **95%CI** |
| Inpatient admissions (exposure, baseline admissions, RE Trust) | 0.88 | (0.83, 0.94) |
| Inpatient admissions (exposure, catchment area population, RE Trust) | 1.01 | (0.95, 1.08) |
|  |  |  |
| Inpatient compulsory admissions (exposure, baseline admissions, RE Trust) | 1.03 | (0.91, 1.17) |
| Inpatient compulsory admissions (exposure, catchment area population, RE Trust) | 1.20 | (1.05, 1.37) |
|  |  |  |
| Inpatient bed days (exposure, baseline bed days, RE Trust) | 0.96 | (0.95, 0.97) |
| Inpatient bed days (exposure, catchment area population, RE Trust) | 1.17 | (1.15, 1.18) |

Plot of baseline versus follow up aggregate (by team) inpatient admissions



a=intervention, c=control

Plot of baseline versus follow up aggregate (by team) compulsory inpatient admissions



a=intervention, c=control

Plot of baseline versus follow up aggregate (by team) bed days



a=intervention, c=control

**2. Readmissions following CRT care dataset**

The CRT use data shows 46% of people are male and mean age is 38 years at both baseline and follow up. Just under three quarters are white at both time points. Twenty four percent were admitted to CRT from an acute mental health ward at baseline compared with 16% at follow up. At baseline around a quarter of people were referred to CRT by each of Community Mental Health teams, Inpatient mental health wards and A&E psychiatric liaison. At follow up, around a quarter were referred my primary care, 20% by “other”, 19% by A&E psychiatric liaison and 18% by Community Mental Health teams.

There was a lot of missing data for diagnosis. This was missing for the same people for all diagnoses, so was not possible to assume missing = no for a given diagnosis.

**Overall individual level admissions data for the CRT routine data**

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Follow up** |
|  | **n/N** | **%** | **n/N** | **%** |
| Trust |  |  |  |  |
| 1 | 177/1046 | 17 | 191/1429 | 13 |
| 2 | 178/1046 | 17 | 354/1429 | 25 |
| 3 | 86/1046 | 8 | 88/1429 | 6 |
| 4 | 85/1046 | 8 | 90/1429 | 6 |
| 5 | 95/1046 | 9 | 50/1429 | 4 |
| 6 | 134/1046 | 13 | 193/1429 | 14 |
| 7 | 152/1046 | 15 | 310/1429 | 22 |
| 8 | 139/1046 | 13 | 153/1429 | 11 |
|  |  |  |  |  |
| Intervention | 599/1046 | 57 | 813/1429 | 57 |
| Male | 485/1046 | 46 | 655/1429 | 46 |
| Age mean (SD) | 38 | (13) | 38 | (12) |
|  |  |  |  |  |
| White | 735/989 | 74 | 929/1333 | 70 |
| Black | 106/989 | 11 | 133/1333 | 10 |
| Asian | 81/989 | 8 | 131/1333 | 10 |
| Other | 67/989 | 7 | 140/1333 | 11 |
|  |  |  |  |  |
| Admitted to CRT from acute mental health ward | 251/1046 | 24 | 223/1429 | 16 |
|  |  |  |  |  |
| Referred to CRT by |  |  |  |  |
| Self/ family | 32/1041 | 3 | 29/1429 | 2 |
| Primary Care | 90/1041 | 9 | 343/1429 | 24 |
| Secondary mental health | 8/1041 | 1 | 12/1429 | 1 |
| Community mental health | 271/1041 | 26 | 255/1429 | 18 |
| Specialist mental health | 19/1041 | 2 | 25/1429 | 2 |
| Inpatient mental health ward | 254/1041 | 24 | 212/1429 | 15 |
| A&E psychiatry liaison | 244/1041 | 23 | 265/1429 | 19 |
| Other | 123/1041 | 12 | 288/1429 | 20 |
|  |  |  |  |  |
| Schizophrenia/ schizo affective | 172/701 | 25 | 168/863 | 19 |
| Bipolar depressive episode | 40/701 | 6 | 30/863 | 3 |
| Bipolar manic episode | 63/701 | 9 | 53/863 | 6 |
| Other psychosis | 148/701 | 21 | 167/863 | 19 |
| Depression | 163/701 | 23 | 209/863 | 24 |
| Anxiety | 73/701 | 10 | 66/863 | 8 |
| PTSD | 15/701 | 2 | 10/863 | 1 |
| Emotionally unstable personality disorder | 117/701 | 17 | 156/863 | 18 |
| Other personality disorder | 46/701 | 7 | 44/863 | 5 |
| Substance misuse | 140/701 | 20 | 203/863 | 24 |
| Other diagnosis | 170/701 | 24 | 235/863 | 27 |
|  |  |  |  |  |
| Discharged to |  |  |  |  |
| Acute mental health ward | 97/985 | 10 | 67/1360 | 5 |
| Home | 887/985 | 90 | 1289/1360 | 95 |
| Other | 1/985 | 0.1 | 4/1360 | 0.3 |
|  |  |  |  |  |
| Periods of acute care during data collection period |  |  |  |  |
| 1 | 790/1046 | 76 | 1068/1429 | 75 |
| 2 | 184/1046 | 18 | 272/1429 | 19 |
| 3+ | 72/1046 | 7 | 89/1429 | 6 |
|  |  |  |  |  |
| Days in acute care median (IQR) | 25 | (12, 50) | 26 | (11, 54) |
|  |  |  |  |  |
| Admitted to acute inpatient | 213/1046 | 20 | 211/1429 | 15 |
|  |  |  |  |  |
| Number of new admissions to acute inpatient ward |  |  |  |  |
| 0 | 835/1046 | 80 | 1218/1429 | 85 |
| 1 | 161/1046 | 15 | 166/1429 | 12 |
| 2+ | 50/1046 | 5 | 45/1429 | 3 |
|  |  |  |  |  |
| Acute inpatient bed days median (IQR) | 0 | (0, 0) | 0 | (0, 0) |
|  |  |  |  |  |
| Number of new admissions to a CRT |  |  |  |  |
| 1 | 820/1046 | 78 | 1098/1429 | 77 |
| 2 | 167/1046 | 16 | 271/1429 | 19 |
| 3+ | 59/1046 | 6 | 60/1429 | 4 |
|  |  |  |  |  |
| Number of days using CRT median (IQR) | 20 | (9, 37) | 22 | (9, 43) |
|  |  |  |  |  |
| Admitted to an acute day hospital | 23/1046 | 2 | 20/1361 | 1 |
| Number of days used an acute day hospital median (IQR) | 0 | (0, 0) | 0 | (0, 0) |
|  |  |  |  |  |
| Admitted to a crisis house | 53/1046 | 5 | 52/1361 | 4 |
| Number of days used a crisis house median (IQR) | 0 | (0, 0) | 0 | (0, 0) |
|  |  |  |  |  |
| Days from end of initial period of care until 1st readmission (for those readmitted) median (IQR) | 38 | (14, 72) | 40 | (14, 71) |

**Individual level readmissions following CRT care data by randomised group**

In both the intervention and control there was a lower percentage admitted to CRT from acute mental health ward at follow up than baseline. Slightly higher percentages were discharged to home in both the control and intervention at follow up compared with baseline. Days in acute care was similar between groups and over time.

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Follow up** |
|  | **Control** | **Intervention** | **Control** | **Intervention** |
|  | **n/N** | **%** | **n/N** | **%** | **n/N** | **%** | **n/N** | **%** |
| Trust |  |  |  |  |  |  |  |  |
| 1 | 39/447 | 9 | 138/599 | 23 | 41/616 | 7 | 150/813 | 18 |
| 2 | 71/447 | 16 | 107/599 | 18 | 124/616 | 20 | 230/813 | 28 |
| 3 | 54/447 | 12 | 32/599 | 5 | 39/616 | 6 | 49/813 | 6 |
| 4 | 24/447 | 5 | 61/599 | 10 | 49/616 | 8 | 41/813 | 5 |
| 5 | 43/447 | 10 | 52/599 | 9 | 22/616 | 4 | 28/813 | 3 |
| 6 | 82/447 | 18 | 52/599 | 9 | 111/616 | 18 | 82/813 | 10 |
| 7 | 56/447 | 13 | 96/599 | 16 | 145/616 | 24 | 165/813 | 20 |
| 8 | 78/447 | 17 | 61/599 | 10 | 85/616 | 14 | 68/813 | 8 |
|  |  |  |  |  |  |  |  |  |
| Male | 207/447 | 46 | 278/599 | 46 | 292/616 | 47 | 363/813 | 45 |
| Age mean (SD) | 38 | (13) | 38 | (13) | 38 | (12) | 38 | (12) |
|  |  |  |  |  |  |  |  |  |
| White | 326/428 | 76 | 409/561 | 73 | 418/577 | 72 | 511/756 | 68 |
| Black | 37/428 | 9 | 69/561 | 12 | 44/577 | 8 | 89/756 | 12 |
| Asian | 31/428 | 7 | 50/561 | 9 | 52/577 | 9 | 79/756 | 10 |
| Other | 34/428 | 8 | 33/561 | 6 | 63/577 | 11 | 77/756 | 10 |
|  |  |  |  |  |  |  |  |  |
| Admitted to CRT from acute mental health ward | 102/447 | 23 | 149/599 | 25 | 96/616 | 16 | 127/813 | 16 |
|  |  |  |  |  |  |  |  |  |
| Referred to CRT by |  |  |  |  |  |  |  |  |
| Self/ family | 14/442 | 3 | 18/599 | 3 | 11/616 | 2 | 18/813 | 2 |
| Primary Care | 46/442 | 10 | 44/599 | 7 | 135/616 | 22 | 208/813 | 26 |
| Secondary mental health | 1/442 | 0.2 | 7/599 | 1 | 7/616 | 1 | 5/813 | 1 |
| Community mental health | 136/442 | 31 | 135/599 | 23 | 101/616 | 16 | 154/813 | 19 |
| Specialist mental health | 11/442 | 2 | 8/599 | 1 | 10/616 | 2 | 15/813 | 2 |
| Inpatient mental health ward | 102/442 | 23 | 152/599 | 25 | 96/616 | 16 | 116/813 | 14 |
| A&E psychiatry liaison | 97/442 | 22 | 147/599 | 25 | 113/616 | 18 | 152/813 | 19 |
| Other | 35/442 | 8 | 88/599 | 15 | 143/616 | 23 | 145/813 | 18 |
|  |  |  |  |  |  |  |  |  |
| Schizophrenia/ schizo affective | 63/301 | 21 | 109/400 | 27 | 59/367 | 16 | 109/496 | 22 |
| Bipolar depressive episode | 21/301 | 7 | 19/400 | 5 | 14/367 | 4 | 16/496 | 3 |
| Bipolar manic episode | 30/301 | 10 | 33/400 | 8 | 27/367 | 7 | 26/496 | 5 |
| Other psychosis | 73/301 | 24 | 75/400 | 19 | 62/367 | 17 | 105/496 | 21 |
| Depression | 72/301 | 24 | 91/400 | 23 | 96/367 | 26 | 113/496 | 23 |
| Anxiety | 32/301 | 11 | 41/400 | 10 | 29/367 | 8 | 37/496 | 7 |
| PTSD | 11/301 | 4 | 4/400 | 1 | 5/367 | 1 | 5/496 | 1 |
| Emotionally unstable personality disorder | 59/301 | 20 | 58/400 | 15 | 66/367 | 18 | 90/496 | 18 |
| Other personality disorder | 23/301 | 8 | 23/400 | 6 | 23/367 | 6 | 21/496 | 4 |
| Substance misuse | 63/301 | 21 | 77/400 | 19 | 92/367 | 25 | 111/496 | 22 |
| Other diagnosis | 81/301 | 27 | 89/400 | 22 | 114/367 | 31 | 121/496 | 24 |
|  |  |  |  |  |  |  |  |  |
| Discharged to |  |  |  |  |  |  |  |  |
| Acute mental health ward | 49/447 | 11 | 48/538 | 9 | 38/616 | 6 | 29/744 | 4 |
| Home | 398/447 | 89 | 489/538 | 91 | 578/616 | 94 | 711/744 | 96 |
| Other | 0/447 | 0 | 1/538 | 0.2 | 0/616 | 0 | 4/744 | 0.5 |
|  |  |  |  |  |  |  |  |  |
| Periods of acute care during data collection period |  |  |  |  |  |  |  |  |
| 1 | 335/447 | 75 | 455/599 | 76 | 457/616 | 74 | 611/813 | 75 |
| 2 | 81/447 | 18 | 103/599 | 17 | 113/616 | 18 | 159/813 | 20 |
| 3+ | 31/447 | 7 | 41/599 | 7 | 46/616 | 7 | 43/813 | 5 |
|  |  |  |  |  |  |  |  |  |
| Days in acute care median (IQR) | 25 | (12, 49) | 25 | (11, 51) | 26 | (10, 50) | 26 | (12, 57) |
|  |  |  |  |  |  |  |  |  |
| Admitted to acute inpatient | 92/447 | 21 | 121/599 | 20 | 104/616 | 17 | 107/813 | 13 |
|  |  |  |  |  |  |  |  |  |
| Number of new admissions to acute inpatient ward |  |  |  |  |  |  |  |  |
| 0 | 356/447 | 80 | 479/599 | 80 | 512/616 | 83 | 706/813 | 87 |
| 1 | 66/447 | 15 | 95/599 | 16 | 78/616 | 13 | 88/813 | 11 |
| 2+ | 25/447 | 6 | 25/599 | 4 | 26/616 | 4 | 19/813 | 2 |
|  |  |  |  |  |  |  |  |  |
| Acute inpatient bed days median (IQR) | 0 | (0, 0) | 0 | (0, 0) | 0 | (0, 0) | 0 | (0, 0) |
|  |  |  |  |  |  |  |  |  |
| Number of new admissions to a CRT |  |  |  |  |  |  |  |  |
| 1 | 345/447 | 77 | 475/599 | 79 | 469/616 | 76 | 629/813 | 77 |
| 2 | 73/447 | 16 | 94/599 | 16 | 116/616 | 19 | 155/813 | 19 |
| 3+ | 29/447 | 6 | 30/599 | 5 | 31/616 | 5 | 29/813 | 4 |
|  |  |  |  |  |  |  |  |  |
| Number of days using CRT median (IQR) | 20 | (9, 35) | 21 | (9, 38) | 21 | (9, 39) | 23 | (9, 45) |
|  |  |  |  |  |  |  |  |  |
| Admitted to an acute day hospital | 18/447 | 4 | 5/599 | 1 | 12/616 | 2 | 8/745 | 1 |
| Number of days used an acute day hospital median (IQR) | 0 | (0, 0) | 0 | (0, 0) | 0 | (0, 0) | 0 | (0, 0) |
|  |  |  |  |  |  |  |  |  |
| Admitted to a crisis house | 26/447 | 6 | 27/599 | 5 | 20/616 | 3 | 32/745 | 4 |
| Number of days used a crisis house median (IQR) | 0 | (0, 0) | 0 | (0, 0) | 0 | (0, 0) | 0 | (0, 0) |
|  |  |  |  |  |  |  |  |  |
| Days from end of initial period of care until 1st readmission (for those readmitted) median (IQR) | 38 | (13, 73) | 36 | (15, 72) | 38 | (16, 69) | 42 | (13, 73) |

Using the collapsed dataset for the 25 Trusts

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Follow up** |
|  | **Control** | **Intervention** | **Control** | **Intervention** |
|  | **Median** | **(IQR)** | **Median** | **(IQR)** | **Median** | **(IQR)** | **Median** | **(IQR)** |
| Readmissions | 16 | (10, 22) | 12 | (7, 16) | 22 | (8, 31) | 12 | (3, 25) |

These models have the Trust as the random effect. In each pair of results, one has the baseline admissions as the exposure and the other has the population of the catchment area as the exposure. Neither is statistically significant, and IRR are close to 1 (no difference).

Results of modelling in terms of the intervention

|  |  |  |
| --- | --- | --- |
| **Variable** | **IRR** | **95%CI** |
| Readmissions (exposure, baseline readmissions, RE Trust) | 0.87 | (0.72, 1.06) |
| Readmissions (exposure, catchment area population, RE Trust) | 1.01 | (0.84, 1.21) |

Plot of baseline versus follow up aggregate (by team) readmissions



a=intervention, c=control

**Data Supplement 7:**

**Relationships at CRT team level between change in fidelity score and change in outcomes in the CORE CRT Service Improvement Programme**

Prepared by Dr Gareth Ambler

14 June 2017

**1) New Inpatient Admissions**

We explored the relationship between change in CRT teams’ fidelity scores and change in the number of inpatient admissions in each CRT team’s catchment area between baseline and follow up.

Table: Inpatient admissions for each team

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trust** | **Team** | **Group** | **Admissions before** | **Admissions after** | **Admissions ratio (after/before)** |
| 1 | 1 | control | 58 | 58 | 1 |
| 1 | 2 | control | 56 | 91 | 1.63 |
| 1 | 3 | intervention | 16 | 42 | 2.63 |
| 1 | 4 | intervention | 60 | 72 | 1.2 |
| 1 | 5 | intervention | 46 | 27 | 0.59 |
| 1 | 6 | intervention | 61 | 41 | 0.67 |
| 2 | 7 | control | 299 | 182 | 0.61 |
| 2 | 8 | intervention | 233 | 119 | 0.51 |
| 2 | 9 | intervention | 207 | 133 | 0.64 |
| 3 | 10 | control | 132 | 131 | 0.99 |
| 3 | 11 | intervention | 93 | 108 | 1.16 |
| 4 | 12 | control | 225 | 282 | 1.25 |
| 4 | 13 | intervention | 302 | 289 | 0.96 |
| 5 | 14 | control | 129 | 121 | 0.94 |
| 5 | 15 | intervention | 9 | 14 | 1.56 |
| 5 | 16 | intervention | 100 | 86 | 0.86 |
| 6 | 17 | control | 245 | 236 | 0.96 |
| 6 | 18 | control | 249 | 320 | 1.29 |
| 6 | 19 | intervention | 166 | 163 | 0.98 |
| 6 | 20 | intervention | 219 | 179 | 0.82 |
| 6 | 21 | intervention | 176 | 179 | 1.02 |
| 7 | 22 | control | 157 | 222 | 1.41 |
| 7 | 23 | intervention | 324 | 417 | 1.29 |
| 8 | 24 | control | 182 | 158 | 0.87 |
| 8 | 25 | intervention | 152 | 149 | 0.98 |

Figure: Inpatient admissions for each team



Analysis: Normalised change in inpatient admissions versus change in fidelity

A normalised change score was created

$$z=\frac{(AdmissionsFollowUp-AdmissionsBaseline)}{\sqrt{AdmissionsBaseline}}$$

which is positive for increases in admissions and negative for decreases. This is plotted against change in fidelity below. The correlation between these variables is -0.05 which has the expected sign but is very close to zero. A regression analysis suggests no relationship between the variables (P=0.81).



**2) Inpatient Bed Days**

We explored the relationship between change in CRT teams’ fidelity scores and change in the number of inpatient bed days used in each CRT team’s catchment area between baseline and follow up.

Table: Inpatient bed days for each team

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trust** | **Team** | **Group** | **Bed Days before** | **Bed Days after** | **Bed Days ratio (after/before)** |
| 1 | 1 | control | 2270 | 2373 | 1.05 |
| 1 | 2 | control | 2666 | 2542 | 0.95 |
| 1 | 3 | intervention | 372 | 2929 | 7.87 |
| 1 | 4 | intervention | 2614 | 2356 | 0.9 |
| 1 | 5 | intervention | 1390 | 656 | 0.47 |
| 1 | 6 | intervention | 2675 | 1331 | 0.5 |
| 2 | 7 | control | 7552 | 4422 | 0.59 |
| 2 | 8 | intervention | 6489 | 2921 | 0.45 |
| 2 | 9 | intervention | 5703 | 3853 | 0.68 |
| 3 | 10 | control | 6546 | 4948 | 0.76 |
| 3 | 11 | intervention | 4694 | 3830 | 0.82 |
| 4 | 12 | control | 6499 | 7143 | 1.1 |
| 4 | 13 | intervention | 9551 | 10095 | 1.06 |
| 5 | 14 | control | 4331 | 2846 | 0.66 |
| 5 | 15 | intervention | 136 | 384 | 2.82 |
| 5 | 16 | intervention | 3250 | 2954 | 0.91 |
| 6 | 17 | control | 7070 | 9995 | 1.41 |
| 6 | 18 | control | 5372 | 9296 | 1.73 |
| 6 | 19 | intervention | 3309 | 5533 | 1.67 |
| 6 | 20 | intervention | 5002 | 6417 | 1.28 |
| 6 | 21 | intervention | 5450 | 6161 | 1.13 |
| 7 | 22 | control | 6683 | 9970 | 1.49 |
| 7 | 23 | intervention | 15534 | 17227 | 1.11 |
| 8 | 24 | control | 5622 | 4280 | 0.76 |
| 8 | 25 | intervention | 4294 | 5891 | 1.37 |

Figure: Inpatient bed days for each team



Analysis: Normalised change in inpatient bed days versus change in fidelity

A normalised change score was created

$$z=\frac{(InptBedDaysFollowUp-InptBedDaysBaseline)}{\sqrt{InptBedDaysBaseline}}$$

which is positive for increases in bed days and negative for decreases. This is plotted against change in fidelity below. The correlation between these variables is 0.06 which does not have the expected sign but is very close to zero. A regression analysis suggests no relationship between the variables (P=0.76). Omitting the obvious outlier hardly changes the results.



**3) Readmissions to Acute Care**

We explored the relationship between change in CRT teams’ fidelity scores and change in the number of readmissions to acute care following a period of CRT service use between baseline and follow up.

Table: Readmissions to acute care for each team

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trust** | **Team** | **Group** | **Readmit acute care before** | **Readmit acute care after** | **Readmit ratio (after/before)** |
| 1 | 1 | control | 1 | 3 | 3 |
| 1 | 2 | control | 9 | 6 | 0.67 |
| 1 | 3 | intervention | 6 | 5 | 0.83 |
| 1 | 4 | intervention | 8 | 5 | 0.63 |
| 1 | 5 | intervention | 8 | 11 | 1.38 |
| 1 | 6 | intervention | 8 | 14 | 1.75 |
| 2 | 7 | control | 11 | 32 | 2.91 |
| 2 | 8 | intervention | 12 | 28 | 2.33 |
| 2 | 9 | intervention | 10 | 51 | 5.1 |
| 3 | 10 | control | 17 | 14 | 0.82 |
| 3 | 11 | intervention | 9 | 23 | 2.56 |
| 4 | 12 | control | 9 | 11 | 1.22 |
| 4 | 13 | intervention | 17 | 14 | 0.82 |
| 5 | 14 | control | 12 | 5 | 0.42 |
| 5 | 15 | intervention | 6 | 1 | 0.17 |
| 5 | 16 | intervention | 2 | 3 | 1.5 |
| 6 | 17 | control | 9 | 17 | 1.89 |
| 6 | 18 | control | 9 | 27 | 3 |
| 6 | 19 | intervention | 4 | 2 | 0.5 |
| 6 | 20 | intervention | 11 | 16 | 1.45 |
| 6 | 21 | intervention | 5 | 2 | 0.4 |
| 7 | 22 | control | 16 | 19 | 1.19 |
| 7 | 23 | intervention | 23 | 18 | 0.78 |
| 8 | 24 | control | 19 | 25 | 1.32 |
| 8 | 25 | intervention | 15 | 9 | 0.6 |

Figure: Readmissions to acute carefor each team



Analysis: Normalised change in readmissions to acute care versus change in fidelity

A normalised change score was created

$$z=\frac{(ReadmitAcuteCareFollowUp-ReadmitAcuteCareBaseline)}{\sqrt{ReadmitAcuteCareBaseline}}$$

which is positive for increases in readmissions and negative for decreases. This is plotted against change in fidelity below. The correlation between these variables is -0.38 which has the expected sign and suggests a moderate association. A regression analysis suggests some evidence of a relationship between the variables (P=0.06). However, removing the ‘outlier’ (top left) weakens this association considerably.



**4) Service user Satisfaction (CSQ)**

We explored the relationship at team level between changes in fidelity score and changes in mean score on the Client Satisfaction Questionnaire, a measure of service user satisfaction.

Table: Mean CSQ score for each team

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Trust** | **CRT\_team** | **group** | **Mean Baseline CSQ** | **Mean Follow-Up CSQ** |
| 1 | 1 | 0 | 26 | 22.8 |
| 1 | 2 | 0 | 23 | 22.5 |
| 1 | 3 | 1 | 27.3 | 27.9 |
| 1 | 4 | 1 | 24.5 | 24.5 |
| 1 | 5 | 1 | 27.4 | 24 |
| 1 | 6 | 1 | 22.4 | 21.5 |
| 2 | 7 | 0 | 25.2 | 21.6 |
| 2 | 8 | 1 | 18.3 | 25.4 |
| 2 | 9 | 1 | 23 | 23.1 |
| 3 | 10 | 0 | 23.8 | 28.2 |
| 3 | 11 | 1 | 25.5 | 26.7 |
| 4 | 12 | 0 | 28.7 | 27.7 |
| 4 | 13 | 1 | 27.9 | 27.6 |
| 5 | 14 | 0 | 21.4 | 26.9 |
| 5 | 15 | 1 | 26 | 26.3 |
| 5 | 16 | 1 | 23.9 | 30.5 |
| 6 | 17 | 0 | 26.1 | 28.4 |
| 6 | 18 | 0 | 26.2 | 23.4 |
| 6 | 19 | 1 | 26.6 | 31 |
| 6 | 20 | 1 | 25.7 | 29.1 |
| 6 | 21 | 1 | 28.5 | 28.1 |
| 7 | 22 | 0 | 23.7 | 28 |
| 7 | 23 | 1 | 27.9 | 28.1 |
| 8 | 24 | 0 | 27.6 | 27.2 |
| 8 | 25 | 1 | 22.1 | 25.5 |

Figure: Change in team mean CSQ score versus change in team fidelity score (baseline – follow up)



(Dark circles = intervention group teams; light circles = control group teams)

This figure shows there is a weak correlation between the two variables: a change of 10 fidelity points corresponds to a change of 0.65 CSQ points. The correlation coefficient is 0.34 (p = 0.1).

**5) Staff positive work engagement (UWES)**

We explored the relationship at team level between changes in fidelity score and changes in mean score on the Utrecht Work Engagement Scale, a measure of staff work engagement.

Table: Mean UWES score for each team

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NHS Trust** | **CRT team** | **group** | **Mean baseline UWES score** | **Mean follow-up UWES score** |
| 1 | 1 | 0 | 34.1 | 30.5 |
| 1 | 2 | 0 | 37.2 | 40.7 |
| 1 | 3 | 1 | 40.3 | 36.7 |
| 1 | 4 | 1 | 36.9 | 37.6 |
| 1 | 5 | 1 | 35.9 | 41.6 |
| 1 | 6 | 1 | 33.8 | 34.8 |
| 2 | 7 | 0 | 38.4 | 35.9 |
| 2 | 8 | 1 | 39.5 | 42.6 |
| 2 | 9 | 1 | 43.0 | 39.9 |
| 3 | 10 | 0 | 42.1 | 40.2 |
| 3 | 11 | 1 | 41.2 | 38.9 |
| 4 | 12 | 0 | 40.3 | 38.0 |
| 4 | 13 | 1 | 42.3 | 41.2 |
| 5 | 14 | 0 | 40.0 | 37.7 |
| 5 | 15 | 1 | 41.8 | 39.1 |
| 5 | 16 | 1 | 39.4 | 42.1 |
| 6 | 17 | 0 | 41.5 | 43.4 |
| 6 | 18 | 0 | 38.0 | 36.0 |
| 6 | 19 | 1 | 39.9 | 36.6 |
| 6 | 20 | 1 | 39.7 | 39.1 |
| 6 | 21 | 1 | 36.3 | 33.6 |
| 7 | 22 | 0 | 43.0 | 38.4 |
| 7 | 23 | 1 | 41.4 | 42.2 |
| 8 | 24 | 0 | 40.7 | 40.5 |
| 8 | 25 | 1 | 44.4 | 42.6 |

Analysis: Change in UWES vs Change in Fidelity

Figure: Change in team mean CSQ score versus change in team fidelity score (baseline – follow up)



This figure suggests the correlation between the two variables is close to zero (0.026). There is no evidence of an association from regression / correlation (P=0.90).

**Relationship between change in fidelity subscale scores and change in outcome scores from baseline to follow-up.**

In this section, we explore the relationship to change in outcome scores of change in each of the four CORE CRT Fidelity Scale Outcome scores:

Access and referrals (items 1-10)

Content and delivery of care (items 11-26)

Staffing and team procedures (items 27-36)

Timing and location of care (items 37-39)

**Inpatient Admissions**

Below are the correlations between change in Admissions (normalised) and change in Fidelity domains. Negative values suggest that an increase in fidelity is associated with a decrease in admissions.

Access: -0.32

Content: 0.14

Staff: -0.19

Timing: 0.06

The relationship with the Access domain is shown below. Removing the ‘outlier’ increases the corresponding correlation to -0.49.



A regression analysis suggests that the four domains explain 18% of the change in admissions. The Access domain explains 10% on its own.

**Inpatient Bed Days**

The correlations with change in Bed Days (normalised) are lower.

Access: -0.12

Content: 0.15

Staff: -0.02

Timing: 0.13

The relationship with the Access domain is shown below.



A regression analysis suggests that the four domains explain just 6% of the change in bed days. The Access domain explains 2% on its own.

**Acute Care Readmissions**

The correlations with change in Readmissions to Acute Care (normalised) are below.

Access: -0.16

Content: -0.34

Staff: -0.27

Timing: -0.45

A regression analysis suggests that the four domains explain 28% of the change in readmissions. The Timing domain explains 20% on its own.

**CSQ User Satisfaction**

The correlations with change in CSQ are shown below.

Access: 0.19

Content: 0.36

Staff: 0.16

Timing: 0.08

The relationship with the Content domain is shown below.



A regression analysis suggests that the four domains explain 17% of the change in CSQ. The Content domain explains 13% on its own.

**UWES Staff Work Engagement**

The correlations with change in UWES are shown below.

Access: 0.12

Content: -0.04

Staff: 0.02

Timing: 0.10

A regression analysis suggests that the four domains explain just 3% of the change in UWES.

**Below: Change in Fidelity Access (after – before) by domain** (Note: Blue circles indicates teams allocated to intervention)



**Additional file DS8: CRT Service Improvement Trial: Fidelity items targeted in teams’ service improvement plans**

**Table DS8.1: Number of fidelity items targeted in intervention group CRTs’ service improvement plans (SIPs)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Team** | 3 | 4 | 5 | 6 | 8 | 9 | 11 | 13 | 16 | 15 | 19 | 20 | 21 | 23 | 25 |
| **Trust** | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 7 | 8 |
| **No.of items in SIP** | 4 | 12 | 8 | 11 | 8 | 6 | 12 | 22 | 6 | 4 | 6 | 5 | 7 | 14 | 9 |

Median items targeted in teams’ service improvement plans: 8

Range: 4-22 items

Interquartile range: 5-12 items

**Figure DS\_8.1: CRT Fidelity items most commonly targeted in intervention group CRTs’ service improvement plans**

1. [↑](#footnote-ref-1)