Evaluation of new models of Child and Adolescent Mental Health Services in Oxfordshire and Buckinghamshire

Interim report and project plan

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This is a project jointly funded by the Oxfordshire and Buckinghamshire CCGs with matched funding from the Oxford Collaboration for Leadership in Applied Health Research and Care (CLARHC), Early Intervention Theme.

This evaluation is timely for two main reasons. Firstly, there is increasing dissatisfaction with the traditional ‘tiered’ CAMHS model. Second, there has been significant investment in the transformation of CAMHS services, new models of services are emerging but little is known about their effectiveness. This includes new school-based mental health services and clinical collaboration with third sector partners. Therefore, it is now possible to identify the more efficient and effective way of organising CAMHS services with comparisons across services possible as traditional and ‘transformed’ services are both available for study. Although these changes have been welcomed by user groups, this does not negate the need to evaluate whether outcomes have improved.

Evaluation plan

Aims:
1. Provide map of the changes in CAMHS services across Oxon and Bucks
2. Evaluation of the new CAMHS models being rolled out by examining their:
   a. Implementation
   b. Effectiveness
   c. Cost-effectiveness

Rationale
The changes or ‘transformation’ of two separately commissioned CAMHS services will be evaluated with detailed qualitative and quantitative methods. These services are both delivered by Oxford Health NHS Foundation Trust with uniform use of electronic health records and data management systems, enabling analysis. Oxford Health also delivers 3 other separately commissioned CAMHS services in Swindon, BaNES and Wiltshire and as access to the same data is available, we can use these services for further comparison if needed.

These CAMHS services share common goals (e.g. improve ‘front-door’ accessibility and availability of early intervention, responsiveness, and third sector cooperation in care and management) and have a similar structure as they involve community partners and local schools. However, they are organised and provided differently. We will describe these services in detail, as for example, Bucks CAMHS is working closely with Barnardo’s to deliver services (since 2016) and Oxfordshire CAMHS is working with Barnardo’s in a different model with seven other partner third sector organisations offering different components of the new ‘transformed’ services (all starting late 2017). The services represent urban, rural and semi-urban settings and were early adopters of the same electronic patient record (2010), and to supplement this, the Clinical Record Interactive Search System (CRIS),
has been introduced which enables access to anonymised mental health records to capture the most in-depth information available to any health care system.

The effectiveness and cost-effectiveness of the CAMHS services can therefore be assessed in this observational and longitudinal study using routinely collected data to assess the CAMHS services on a range of outcomes and costs including patient engagement, school attendance, routine clinical outcomes and patient satisfaction and experience. The data analysis will have a (quasi-)baseline measurement (i.e. before the CAMHS transformation) and a follow-up period of at least 2 years.

We will study the elements that influence successful change and will explore in detail the impact of contextual, process and content factors on outcomes. This will be informed by a seminal study in eight Health Authorities, highlighted factors differentiating receptive from non-receptive contexts for change including availability of key people leading change; the intensity, scale, and orchestration of external environmental pressure; and the fit between the change agenda and the locale.

Study design
The sites to be studied will be pre-selected to represent the range of CAMHS services across Oxon and Bucks – we will aim to investigate 10 different sites across these CAMHS services. For each CAMHS site, it is planned that at least five interviews will be conducted with stakeholder representatives chosen at random from the relevant stakeholder groups: service managers, clinical Leads, community nurses; psychiatrists; social workers; occupational therapists (if present); clinical psychologists; psychotherapists; assistant workers; third sector workers; school staff; children/Adolescents; parents.

Interview schedule
A semi-structured interview schedule will be developed to potentially include (depending on context and appropriateness/fit of question to stakeholder group) current practice and determine different aspects relevant to the transformation of services (as derived from change management theories) including:

- Environmental pressure
- Supportive organisational culture
- Local Change agenda
- Clarity of goals
- Cooperative interorganisational networks
- The state of managerial and clinical relations
- Key people leading change,
- Quality and coherence of policy

Data collection and analysis
Data collection will take place in 2 phases:

Phase 1. Baseline
- Semi-structured interviews with CCG leads, service managers and clinical leads: discussion of decision-making structures and key people involved, the use (or not) of priority setting frameworks, the collection of evidence (type, personnel/skills involved, analysis and
These respondents may suggest other personnel to be interviewed who are key to priority setting decisions.

- Documentary material: strategy and policy documents (general/contextual and specifically related to CAMHS transformation such as the Quarterly reports submitted to the CCG), minutes of key meetings (board, executive team, meetings dedicated to CAMHS transformation etc.).

**Phase 2. Evaluation of change**

- Observations: key management meetings (e.g. school project board; meetings to set commissioning priorities and draw up commissioning plans, meetings relating to needs assessment), observations of identified CAMHS team meetings
- Semi-structured interviews of CAMHS stakeholders (including children and primary caregivers)
- Documentary material: trust websites and reports, minutes of key meetings, contract documents, needs assessments, briefing papers about priorities, Board papers, business cases,

Team members will be interviewed at their place of work during their working day in a room with no-one else present. Observations of team meetings and functioning will focus upon the changes taking place in the services, and will seek to look for evidence in the meetings they attend of any impact that appears to flow from stated priorities.

Analysis will be carried out as a team using the constant comparative method and aided by the NVivo data management system. The qualitative data analysis will be ongoing from the start of the project in order to inform subsequent stages.

**Summative evaluation of effectiveness and cost-effectiveness of the service**

**Study design:**

In an observational, longitudinal, comparative study, we will assess the effectiveness and cost-effectiveness of the two CAMHS services by comparing them on a broad range of outcomes and costs. Based on theory and literature, the assumption will be that the more a CAMHS service has progressed in the transformation process the more effective and cost-effective it will be when compared to CAMHS at earlier phases of transformation.

Considering that CAMHS transformation is a gradual process, our study will be designed to take a year of transformation as a (quasi-)baseline year. Similar to other complex health interventions, CAMHS transformation is a continuous process and can last longer than one year. Thus, the CAMHS transformation is expected to have continuous impact on outcomes and costs. Considering the timeline of the suggested study and available data, the study will hopefully have a one year of follow-up period (i.e. a year following the transformation year) depending on data availability. We will also collect data two years prior to the transformation year for each CAMHS.

The results of the effectiveness and cost-effectiveness analysis will be interpreted in conjunction with the findings of the process evaluation to facilitate an in-depth understanding of what has worked, why and for whom; all essential for further (re-)design of CAMHS.

**Data:**
We are in a unique position to undertake this quantitative evaluation as the CAMHS to be evaluated are provided by Oxford Health NHS Foundation Trust which has one of the most comprehensive and complete electronic databases in the country. Having the full support of the Trust, the following databases of routinely collected data can and will be accessed: a) The NHS Performance Assessment Framework, b) Routine Outcome Measures as part of the CYP IAPT Project and the True Colours project, c) CAMHS electronic patient record, d) We aim to retrieve data for all patients registered in the CAMHS databases in the observation years.

Outcomes and costs:

The effectiveness will be measured on a broad range of outcomes measured at two levels. At the CAMHS level, outcomes will include a set of performance indicators related to access to care (by looking at numbers of new referrals, re-referral rates, waiting times, and staff to patient ratio), patient participation and engagement, and transfer between services within CAMHS. At the patient level, we will measure effectiveness in terms of school attendance, clinical outcomes (i.e. Routine Outcome Measures such as the Revised Child Anxiety and Depression Scale (RCADS) and the Strengths and Difficulties Questionnaire (SDQ), avoided hospital admissions, patient’s disease specific quality of life, patient satisfaction and experience (measured by the Experience of Service Questionnaire), and waiting times. Depending on data availability, the cost side will include the costs to develop and implement the CAMHS models, GP costs, social care costs and inpatient mental hospital costs. To measure the development and implementation costs of the integrated CAMHS model, a costing tool will be adapted and used. The inpatient costs will be calculated by combining the number of admissions and psychiatric in-patient bed days with NHS reference costs (i.e. unit costs).

Statistical analysis and Economic evaluation:

Descriptive statistical analysis (e.g. t-test, chi-square test) will be performed to explore changes in outcomes and costs after the transformation of each CAMHS. Multivariate regression analysis will be performed to estimate differences in outcomes and costs in the follow-up period (i.e. at least one year after the transformation year) after adjusting for patient and CAMHS characteristics (i.e. observed confounders) using two-year historical data (i.e. two years prior to CAMHS transformation). Multi-level regression analysis will be considered for utilisation in view of the hierarchical structure of the data (i.e. patients clustered in CAMHS).

Considering the broad range of health outcomes, non-health outcomes, and costs for inclusion in the evaluation of integrated care, a cost-consequence analysis (CCA) will be adopted to perform the economic evaluation because it facilitates the presentation of a range of outcomes alongside costs. CCA probably fits better with real-world decision-making, in which decisions are made based on other criteria besides cost-effectiveness. However, it does not support a systematic ranking of the five CAMHS based on their cost-effectiveness. Therefore, we will use Multi-Criteria Decision Analysis (MCDA) to overcome this limitation where different outcomes (e.g. patient satisfaction and patient quality of life) are weighted according to their relative importance to the decision by different stakeholders, including patients. The weights will be elicited from patients and their families, care providers, and local authorities. The application of this sophisticated method that incorporates several outcomes and views will provide results relevant for policy making and clinical practice.

Work conducted so far:

1. Full clarification of the evaluation plan
2. Research team: Appointment of Post-doctoral Qualitative researcher
3. Full NIHR HS & DR application submitted
4. Oxfordshire School In-Reach evaluation commenced: collation of early findings

Research team
Mina Fazel, a research fellow with the department of psychiatry and consultant in child and adolescent psychiatry is leading this work (0.6 PAs) in collaboration with Apostolos Tsiachristas (0.25 Pas) in the Department of Population health who will be leading the quantitative aspects of the work, in particular the cost-effectiveness. He is part of the CLARHC team, alongside Belinda Lennox (Department of Psychiatry), Margaret Glogowska (Department of Primary Care) and Oxford Health staff including Wendy Woodhouse and Donna Clarke.

We have recruited Melissa Stepney (0.8 PAs) to work as a post-doctoral researcher on the qualitative components of the evaluation. She comes with extensive experience from working in the Department of Primary Care and will take up her post in January 2018. An advert has been placed to recruit a post-doctoral quantitative researcher to work on the project who will hopefully be in place in 2018.

HS & DR application made

The team have submitted a proposal of research to extend the evaluation of this project under a recent commissioned HS & DR call (17/09 - Services to support early intervention and self-care for children and young people referred to Children and Young People's Mental Health Services/CAMHS). The bid is entitled: The Needs of the Contemporary Child: Mapping the implementation of novel mental health services in the UK. M Fazel, S Dopson; B Lennox; A Tsiachristas; P Stallard; D Clark; D Clarke; W Woodhouse. £763,451.52.

We were invited to submit a full application after completing the first stage of the application process. The outcome of this bid is expected in February 2018.

Early description of Oxfordshire CAMHS InReach school work:
Over 1000 log sheets of the work conducted in secondary schools as part of the InReach service have been gathered. Of these, 400 have been analysed, some of the findings of interest are summarised in the charts below:

Q6: If you have seen an INDIVIDUAL: What have you done?
Answered: 337 Skipped: 64

![SurveyMonkey](https://www.surveymonkey.com)
Q11: If you have carried out any of the activities below, please tick relevant boxes.
Answered: 100  Skipped: 301

Q13: Area of need (either for the individual or group work conducted)
Answered: 232  Skipped: 169

Q15: Possible impact (we understand this will likely be a best guess)?
Answered: 228  Skipped: 175
Q16: How long did you spend

Answered: 265  Skipped: 136