CAMHS Payment by Results (PbR) Project

Briefing Note

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Proposed CAMHS Pilots for PbR
Introduction

The current CAMHS PbR project started in November 2011. Development work on specific aspects of CAMHS PbR had, however, already been undertaken by various groups, notably in London, the West Midlands and Liverpool. The current project team have been able to build on the lessons learnt from this previous work to shape their thinking.

The proposed next phase of the project (October 2012 - July 2014) is for up to 19 pilot sites to work with us to refine the proposed set of clusters. This will involve sites using the CYP IAPT assessment tool, collecting key data items, allocating service users to a cluster and returning the data to us for analysis (see appendix 4 for map of sites). We will use the data to develop an algorithm for PbR clustering.

A major driver in the development of these proposals has been the need to ensure that they fit with the CYP IAPT programme which seeks to transform the way all CAMHS are delivered and has strong ministerial and policy support. CYP IAPT sites use a standard assessment and routine monitoring of outcomes. Although the full CYP IAPT data set is not part of the CAMHS minimum data set (which is itself not mandated until April 2013), proposals have been made to add the extra data items to the mandated set and this is supported by the Information Centre and the Child Outcome's Forum. The CYP IAPT dataset is already in widespread use with 50 plus sites currently involved with the intention being that eventually all services will be included. If the same assessment processes can be used to allocate children to CAMHS PbR resource groups, then the two developments (CAMHS PbR and CYP IAPT) will be completely aligned.

Four clusters, provisionally named Clinically Meaningful Resource Groups (CMRGs), have been developed based on analysis of retrospective data and learning from previous work. The aim of this pilot is to collect prospective data to complement these learnings and lead to the development of a clustering tool that will reliably predict resource use in CAMHS.

What will the piloting process involve?

As the proposed CAMHS PbR pilot aligns closely with the CYP IAPT programme, pilot sites will be asked to collect the CYP IAPT data set. This contains the following data items:

- o Clinician assessment of presenting problem, severity and complexity factors, and impact on life of young person (including employment, education and attainment) (see Appendix 1).
- o Patient reported assessment of presenting problem, severity and impact.
- o Patient reported outcomes (collected on a sessional basis wherever possible) which measure change in problem type, severity, complexity and impact.
- o Clinician reported outcomes (where relevant) which measure change in problem type, severity, complexity and impact (HoNOSCA and CGAS are not mandated for the PbR pilot).
- o Resource usage as defined by:

  - o out-patient activity
  - o number of days of in-patient / day-patient treatment
  - o contact duration
  - o contact type (direct, indirect, liaison work where possible)
  - o staff discipline
  - o staff cost
  - o site (clinic, home, community, school, in-patient, day hospital) to account for travel and overheads

The pilot will also aim to collect (where possible) non-face-to-face contacts, since these activities will factor in measures of resource use.

Clinicians will be asked to make a provisional allocation to one of the four Clinically Meaningful Resource Groups (CMRGs). At this stage we will not be using a 'clustering tool' to allocate to clusters, instead we will be providing training focussing on effective use of assessment tools to guide clinical estimates of resource need. The development of a reliable clustering tool and associated algorithm is dependent on ongoing comprehensive analysis of assessment, activity and outcome data, which will iteratively refine our thinking.

One key focus for the piloting process is identifying what is provided for the small minority of adolescents with ongoing mental health difficulties who need to be transferred to adult mental health services. At this stage the aim is to track the resource use of these young people as they progress through CAMHS in order to better understand this subset of the CAMHS population and to help inform predictions of future resource use at transition.

The pilot will also aim to identify the resource needs of CYP with learning disabilities and associated mental health problems focussing particularly on the later transition to AMH services and involvement of educational/other healthcare providers.

Another key focus is linking resource usage with outcomes. Whilst the exact measures to be used have not been prescribed, all participating services will be using relevant outcome measures, including PROMS and PREMS, and will draw on the analytic approach being adopted in CYP IAPT.

Clinicians involved in the pilots will be trained in using the CYP IAPT assessment tools (assessment pro-forma attached as Appendix 1), and in how to make the provisional clustering allocation (attached as Appendix 2). A training schedule has been agreed with sites. The pilots are expected to last for 18 months.

The training is aimed at promoting consistency in the way the assessment is completed, monitoring data accuracy and minimising missing data, as well as procedure for the uploading of data to the central storage facility on a quarterly basis.

The data will be analysed to:

- o Determine which assessment factors drive resource use.
- o Determine how resource use relates to outcomes and from that decide how outcome measures can feed into the CAMHS PbR process.
- o Examine the proposed provisional clusters.
- o Develop the algorithm – the clustering tool. (Please note: it is proposed that clinicians will be able to override the cluster proposed by the algorithm, but the algorithm will indicate/suggest the most likely resource usage given the assessment information supplied).

How were the pilot sites selected?

Participation in the CAMHS PbR pilot is on a voluntary basis. All sites were self-nominated for inclusion. The following criteria were then used to select from candidate sites:

- o Sites must be able to support the pilot process (have the necessary IT systems, clinician and managerial commitment etc.)
- o Represent large and small CAMH services
- o Represent urban and rural CAMH services
- o Represent all regions in England
- o Represent the NHS and the independent sector
- o Cover the full range of provision, both outpatient and in-patient
- o Prioritisation to ensure inclusion of sufficient specialist services and transition cases (e.g. learning disabilities, eating disorders, psychosis)

o   Prioritisation of services collecting or able to collect non-face-to-face activity data.

24 services volunteered to take part in the pilot, of which 19 are able to support the pilot process. If all continue, this will mean that more than 1,000 clinicians and 50,000 cases will be involved in the pilot.

The selected pilot sites include NHS, non-statutory and independent providers, and cover the full range of provision, including both out-patient and in-patient.

A map of the selected sites is attached as Appendix 4.

What are the proposed provisional clusters?

Four clusters (CMRGs) are being proposed (see Appendix 2). These are provisional and will be modified in the light of data collected from the pilot sites. Initially, seven clusters were suggested, which were derived from analysis of NICE guidelines and expert consensus (see project report April 2012). Four of these were based on severity of need (rather than just diagnosis), whilst the remaining three covered different types of CAMHS work. The approach was well supported in consultation with the wider CAMHS community, by the CAMHS expert advisory group, and by the CAMHS project board (Appendix 5). However, following analysis of two large retrospective data sets, focussing particularly on current resource use, only four clusters were easily differentiated. The analysis did support the proposal that complexity and severity, as well as diagnosis, affect resource use (see Appendix 6).

The initial seven clusters have, therefore, been condensed to four, based on severity of need. They are set out in Appendix 2, together with illustrative descriptors drawn from the analysis of existing datasets, to highlight the sort of factors that might influence allocation. These will be revised and refined as it becomes clear from the pilot which factors in the assessment have the most impact on resource use.

Once the factors that have most impact on resource use have been identified, they will be built into an algorithm, which will allow a predicted cluster to be generated from the assessment (although clinicians will always be able to over-ride this prediction if this can be justified).

While not wishing to pre-empt the findings of the pilot, we do expect to find a link between resource use and certain problem categories or diagnoses, such as those explicitly catered for in the higher need clusters in the AMH model (i.e. psychosis, emerging personality disorders and eating disorders). We also expect to find a link between complexity factors (relating to the system around the child) and resource use.

The group requiring the greatest resource use has been called Extended Plus (Appendix 2). From the current data available, it appears that this will comprise about 10% of the caseload, but use as much as 45% of resources. The distribution of resource use within this cluster is wide, and this group will contain some cases whose care is very expensive. These cases are currently negotiated on a case-by-case basis with commissioners. With further evidence from the pilots it is possible that this cluster group may be split further or some cases may simply be excluded on the basis that they will continue to need case-by-case commissioning.

Next steps

Below is a summary of key dates:

September
11th - Sign off from Project Board
(Note: if sign off is not achieved, then all pilot sites will need to be informed and piloting delayed)

12th and 18th - Two introductory events for pilot sites, mostly focussing on process and IT issues

October
8th-Training starts. On site, half-day training of clinicians on using the assessment tools and collecting the dataset. At least one training session will be provided per pilot site.

Early 2013
First tranche of data received and analysis begins.

Summer 2014
Data analysis completed.
Final CMRGs proposed.
Algorithm finalised.
Proposals for use of outcome measures to drive payments finalised.

Links with Adult Mental health - specific questions answered

How does CAMHS PbR address the issue of transition to Adult MH Services?

We are committed to helping ensure appropriate and smooth transition between CAMHS and AMHS, and are only too aware that currently this is frequently lacking nationally. It is perhaps also important to note in this context that we are equally committed to facilitating appropriate and smooth transition between child mental health and child physical health, learning disability, forensic and social care services.

We regard the real issue on transition from CAMHS to AMHS or LD services as one of how the different services operationally relate to each other to ensure that, when patients reach the age of 18 and are still in need of MH services, they are directed to the appropriate adult service and there is a formal handover process to ensure that care is continuous. At the time of transition to adult services a patient would, in any case, be reviewed and at that point could be re-clustered into the adult model. Indeed, this is in many ways appropriate, as the services and support offered are often very different to those delivered by CAMH services.

We believe that transition to AMHS is best supported by clear transition policies and local protocols regardless of the PbR system in use (either in CAMHS or AMHS). Policy advises negotiated transition periods, with joint work, to facilitate successful transition marked by engagement in AMHS. During this transition period, AMHS could then make a judgement regarding the appropriate clustering for a young person as they enter AMHS.

We know from the literature, data analysis and expert consensus, that only a very small percentage of CAMHS cases necessitate onward referral to adult mental health services (somewhere in the region of 0.05%-0.1% of the total CAMHS population based on research by Singh and colleagues (2010) and analysis completed for this project by Dr Howey on NTW data (2012).The cases most likely to be referred on to AMHS are frequently those who have severe and enduring mental health problems and are not representative of the majority of cases seen within CAMHS. To plan a clustering approach based on less than 1% of a given population would not be resource-effective.

We propose that our assessment and clustering model would be applicable to those rare (though highly desirable) clinical services that offer input to adolescent/adult transitional services, e.g. early onset psychosis teams, learning disability services, or other late teen to early adulthood services. If such specialist services considered that their population would be more appropriately served by the use of AMH clusters, then our suggestion is that the service would be able to make a decision in collaboration with their commissioners as to which clustering framework makes most sense.

Why is this approach different to the proposal for adults with mental health problems?

The CAMHS PbR approach has been designed to meet the needs of the CAMHS user population, which differs in important ways from the Adult MH population. The needs of children do not easily map onto the service configuration implicit in the Adult MH PbR cluster model. For example, developing clinically meaningful clusters for primary school age children with emotional, behavioural or neuro-developmental disorders is unlikely to map in any clear way onto AMH clusters.

Children (and most young people) are necessarily dependent on adults to make significant contributions to their treatment through making decisions on their behalf, supporting and/or engaging with their treatment (e.g. in family or systems interventions). This means that the relationship between presenting disorder and resource use is mediated by a range of complexities and contextual factors which are likely to have a significant impact on cluster assignment in ways that may differ from those presenting to Adult MH services.

Children and young people present with a wide range of problems and a far higher degree of co-morbidity than adults (for example, ADHD and conduct problems; or emotional and conduct problems). Children may not easily fit into one stream or problem super-cluster as envisaged in a model styled on the Adult PbR clustering. This point has been stressed by CAMHS stakeholders throughout.

We are aware that some colleagues, who are more familiar with the adult mental health model, have raised a query about how "clinically meaningful" the provisional CAMHS clusters are. The proposed clusters have been designed to be in line with what CAMHS clinicians consider to be the important factors that determine resource use and are meaningful within a CAMHS context. Too rigid a classification, based on primary diagnosis, would risk missing the importance of co-morbidity, especially with neuro-developmental and specific learning difficulties, as well as the wide range of complexities arising from the essential dependence of children on the adult systems around them. Nonetheless, we do expect there to be a clear link between resource use and certain diagnostic presentations, for example those that fall into the higher need clusters in the AMH model (i.e. psychosis, emerging personality disorders and eating disorders).

We have also taken some lessons from the process by which the Adult MH clusters were formed. The Adult clusters were based on a natural diagnostic carving of service use, a clustering tool formed to reliably discriminate such cases and only latterly, data collection to establish the resource use in each cluster and attempts to develop meaningful outcome measures for clusters. Building on learning from this approach, we have reversed this process and started with the constraint that each cluster should have a unique resource use signature, with minimal variance, covering a meaningful proportion of presenting cases and linking to positive outcomes. We expect that this approach will support a final clustering that clearly links payment to a level of service delivery in each CMRG. This will be integral to clinical decision-making, from the establishment of assessment of difficulties, to the formulation and implementation of treatment and evaluation of outcomes.

Appendices

Appendix 1: CYP IAPT assessment tool

Current View

Session N°

CYP Name .... NHS ID: ....

Practitioner's Name .... Practitioner's ID ....

	PROBLEM DESCRIPTION	None	Mild	Moderate	Severe	Do not know
1	Depression/low mood (Depression)					
2	Behavioural difficulties (CD or ODD)					
3	Anxious away from home (Separation anxiety)					
4	Anxious in social situations (Social anxiety/phobia)					
5	Anxious generally (Generalized anxiety)					
6	Disturbed by traumatic event (PTSD)					
7	Compelled to do or think things (OCD)					
8	Panics (Panic disorder)					
9	Avoids going out (Agoraphobia)					
10	Avoids specific things (Specific phobia)					
11	Difficulties sitting still or concentrating (ADHD/Hyperactivity)					
12	Eating issues (Eating disorder)					
13	Gender discomfort issues (Gender identity disorder)					
14	Severe relationship difficulties (Emerging personality disorder)					
15	Problems in attachment to parent/carer (Attachment problems)					
16	Doesn't get to toilet in time (Elimination problems)					
17	Severe mental health issues (Psychosis or bipolar disorder)					
18	Self harm (Self injury or self harm)					
19	Drug and alcohol difficulties (Substance abuse)					
20	Repetitive problematic behaviours (Habit problems)					
21	Does not speak (Selective mutism)					
22	Carer management of CYP behaviour (e.g., Management of child with challenging behaviour)					
23	Family relationship difficulties					

Choose which most applies for CYP re. Home, School and Community context

	None	Mild	Moderate	Severe	Don't know
HOME ISSUES e.g. family substance abuse					
SCHOOL ISSUES e.g. bullying					
COMMUNITY ISSUES e.g. violence					

	SELECTED COMPLEXITY FACTORS	YES	NO	DO NOT KNOW
1	Looked after child			
2	Young carer status			
3	Learning Disability			
4	Serious physical health issues (including Chronic Fatigue)			
5	Pervasive Developmental disorder (including autism and Asperger's)			
6	Neurological issues such as tics or Tourette's			
7	Current protection plan			
8	Deemed "child in need" of social service input			
9	Refugee or asylum seeker			
10	Experience of war, torture or trafficking			

NB. Some minor changes to this tool have been proposed and are currently under review.

Appendix 2: Provisional Clusters for piloting Oct 2012

Clinically Meaningful Resource Group (CMRG): The higher the complexity the more likely the need for liaison, consultation, inter-agency working and involvement of other professionals and potentially the more lengthy the case work	Likely levels of: Severity and types of presenting problems and complexity factors so far found or hypothesised to be most frequently associated with this cluster/CMRG	Likely number of: Face to face meetings within a care package(given only for indication of level of resource needed)	Likely % caseload: In generic non specialist CAMHS	Likely resource use: In generic non specialist CAMHS
CORE Complexity factors and comorbidity may indicate shift to CORE PLUS	Impact of mild-moderate difficulties in one or more areas at home, school or with peers • Common anxiety problems • Family issues	Around 1-6 meetings with a MH professional, plus liaison and review meetings	**50%**	**10%**
CORE PLUS Complexity factors and comorbidity may indicate shift to EXTENDED	Significant impact of difficulties at home, school or with peers • Mixed anxiety and depression • Conduct disorders (CD) • PTSD • Mixed CD and emotional Looked after child	Around 7-12 meetings with a MH professional, plus liaison and review meetings and possible medication	**25%**	**20%**
EXTENDED Complexity factors and comorbidity may indicate shift to EXTENDED PLUS	Major impairment in functioning at home, school or with peers • OCD • Major depression • Comorbid ADHD and CD Parental mental health issues	Around 13-24 meetings with a MH professional plus liaison and review meetings and possible medication	**15%**	**25%**
EXTENDED PLUS May need bespoke arrangements re specialist commissioning for small number of extremely high resource use CYP	Major impact on all aspects of life • Treatment-resistant OCD • Severe relationship difficulties and self-harm • Severe CD • Eating disorder • Psychosis • Bipolar disorder	Around 25-215 meetings with a MH professional, plus liaison and review meetings and possible medication, possible intensive outreach or inpatient work	**10%**	**45%**

Appendix 3: Project Group and Reporting Structures

MH PbR Project Board

Expert Reference Group

MH Product Review Group
Chair Martin Campbell

Children's Project Board

8 Other Groups
(including specialist areas – e.g., IAPT, learning disability; technical areas – e.g., quality and outcomes, and costing)

DH CAMHS PbR project board
Chair: Martin Campbell

Expert Advisory Group
Chair: Ann York

Steering Group:
Simon Young (Chair)
Bruce Clark
Rob Senior
Pat Howley

Barbara Fittall

Wider Project Team:
Kate Martin
Tony Martin
Deirdre Moroney
Roger Davies

Core Project Group:
Miranda Wolpert (joint project director)
Panos Vostanis (Joint project director)
Melanie Jones
Andy Fugard

Service Users /Advocates

Statistician Health Economist (as required)

Consultants:
David Cottrell
Paul Wilkinson

CAMHS Expert Advisory Group
(Present at consultation *)

Chair: Dr Ann York, South West London and St Georges *
Healthcare Professional Organisations
Dr Duncan Law, *The British Psychological Society*
Dr Margaret Murphy, *The Royal College of Psychiatrists*
Andy Cotgrove, *The Royal College of Psychiatrists and Tier 4* *
Fiona Smith, *Royal College of Nursing*
Max Davie, *Royal College of Paediatrics and Child Health*
Tbc, *Royal College of General Practitioners*
Tbc, *Allied Health Professionals*
Commissioners/Providers
Roger Cook, *West Midlands Specialist Commissioners* *
Ian McPherson, *MH Providers Forum* *
John Hoar, *Independent Sector* *
Dr Susan Jennings, *Oxleas* *
Prof Susan Bailey (forensic*), PresidentRoyal College of Psychiatrists*
Experience of PbR currency development
Jon Painter, Care Pathways and Packages Project *
Jonathan Lovett, West Midlands
Damian Hart, Merseyside Youth Association
Data
Netta Hollings, Information Centre
Stakeholders and Officials
Sarah Brennan, Children and Young People's Mental Health Coalition *
Kathryn Pugh, Department of Health/CYP-IAPT
Tim Coulson, Association of Directors of Children's Services
Rob Willoughby (Wolverhampton), Association of Directors of Children's Services
Caroline Twitchett, Department of Health *
Bhupinder Bhoday, Department for Education *
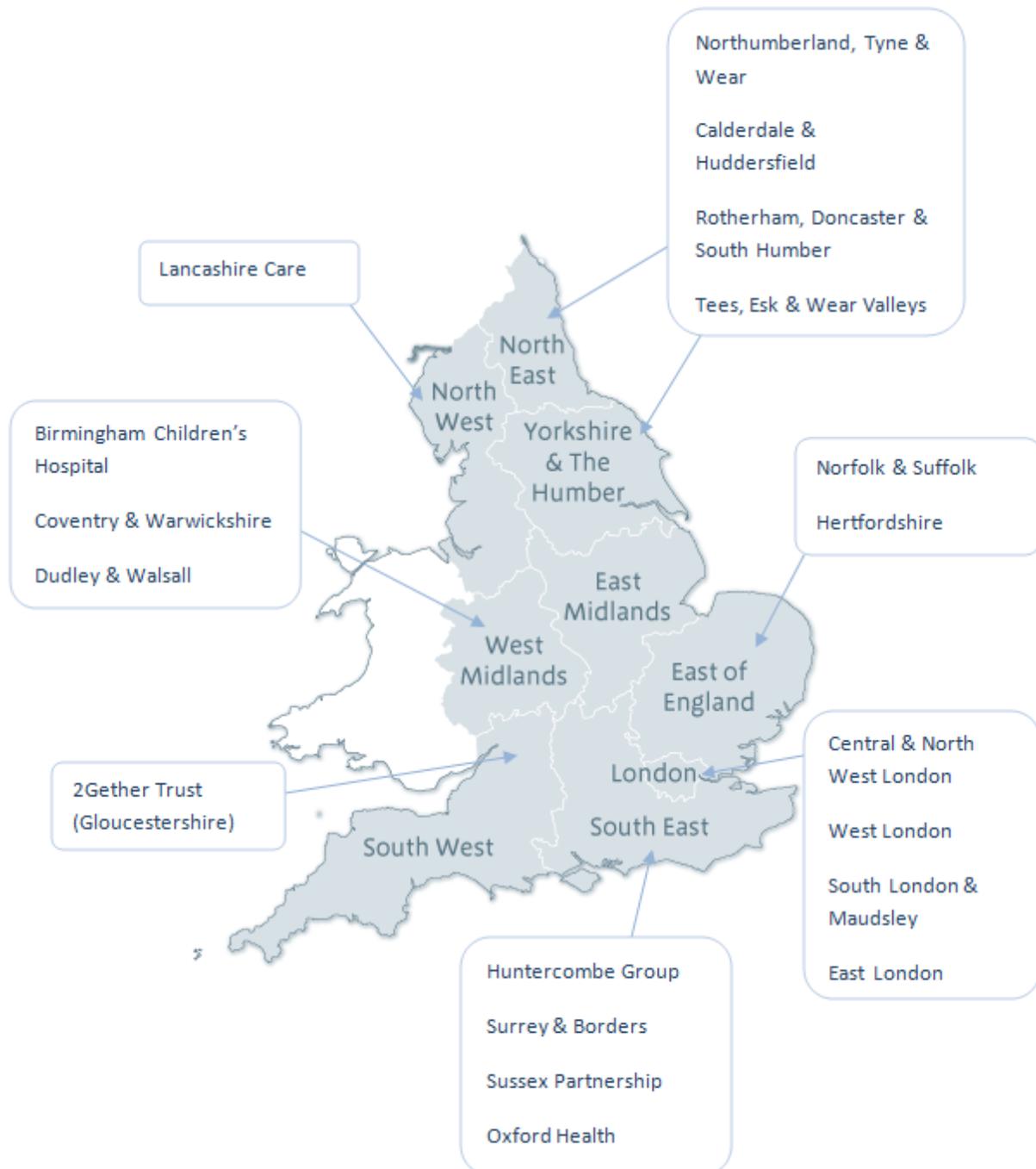Laura Cunningham, Department for Education
Howard Jasper, Youth Justice Board *
Raphael Kelvin, Department of Health professional adviser CAMHS *
Anne Spence, Department of Health/CAMHS *
David Daniel, Department of Health/Adult (Retired) *

Appendix 4: Map showing participating Pilot sites

Northumberland, Tyne & Wear

Calderdale & Huddersfield

Rotherham, Doncaster & South Humber

Tees, Esk & Wear Valleys

Lancashire Care

Birmingham Children's Hospital

Coventry & Warwickshire

Dudley & Walsall

Norfolk & Suffolk

Hertfordshire

2Gether Trust (Gloucestershire)

Central & North West London

West London

South London & Maudsley

East London

Huntercombe Group

Surrey & Borders

Sussex Partnership

Oxford Health

Appendix 5: Consultation with CAMHS community

High levels of engagement have been achieved across the CAMHS community. 198 stakeholders from across England responded to an online national survey in February 2012 (7% from the North West, 8% from the North East, 2% from the East of England,12 % from the Midlands, 6% from the West and South West, 14% London, 13% South East and Home counties, 4% from the South). Respondents included NHS clinicians (66%), managers, finance directors and other service provider stakeholders (19%), voluntary sector providers (7%) commissioners (6%), social care providers (2%) and service users (2%).

100 people answered the question posed, "In your experience could children, young people and families accessing CAMHS be allocated to the provisional clusters?" 91% of respondents endorsed the approach (whilst also raising useful comments about the need to develop in time best ways to determine cluster membership and prevent gaming). In particular, there were several positive comments about the fact that the approach did not focus on diagnoses, and an appreciation that the clusters are based on severity and complexity.

A selection of illustrative comments on this theme are given below:

- "Excellent to have needs-led and not diagnosis-led system. Neither is perfect, but it is need and complexity that will determine input to a case; diagnosis is a poor indicator." (Clinician – Greater London)

- "The clusters make sense, are easily understandable, and do relate to need. A diagnostic approach would distort services." (Clinician – Yorkshire and Humber)

- "Good decision to make needs-led. Good to recognise impact of differing levels of non-mental health complexity." (Clinician – South East)

- "Great to focus on need and not diagnosis." (Clinician – Greater London)

- "Important to focus on resource need and not pathways determined by diagnosis. Better approach than clusters determined by clinical need/diagnosis." (Clinician)

- "More in favour of this approach than diagnostic adult PbR approach." (Voluntary sector – Greater London)

- "Pleased to see needs-led rather than diagnosis-led approach." (Clinician – North West)

- "Fits well with model already in use (RISC - Risk Intensity Severity Complexity) for thinking about thresholds/levels of intervention, e.g. a tier 4 case will have at least three of these." (Clinician – North West)

- "Imaginative approach, it makes sense at referral and assessment." (Clinician – Greater London)

- "Impressed overall. Reflects clinical experience, simple to use, face validity." (CAMHS Team - West Midlands)

- Most members of the West Midlands PbR group liked the perseverance with a needs led rather than a diagnosis led approach and there was broad support for the model proposed. (PbR Group - West Midlands)

There were also some concerns raised by a minority of stakeholders such as:

- *"*Clusters would not fit with the complexity of presentation (cannot be boxed). Previous attempts to develop teams according to treatment pathways have been difficult." (Clinician – Yorkshire and Humber)

- "Will need clearer definitions of need and complexity (over and above current examples), and some links with diagnostic categories." (Clinician – Greater London)

- "Concern that CYP may end up being clustered by diagnosis anyway." (Voluntary Sector – Greater London)

We presented our approach at stakeholder engagement events in London and Leeds in March 2012 and used these events to further refine our approach. These events were well received, with 100% of participants saying they had found them useful and 72% saying they approved of the approach being suggested.

Participants took part in a number of exercises to help review the approach, including a fruitful consultation on what might be the key complexity factors that inform clustering, such as the central importance of parental mental health and involvement with youth justice.

Appendix 6: Drawing on data analysis

The current proposed clusters have been developed drawing on analysis of existing datasets. The team have also been able to access work done by the CAMHS Outcomes Research Consortium (CORC) and to conduct analysis on the UK (and Europe)'s largest active CAMHS community dataset (South London and Maudsley NHS Trust - SLAM), which includes a sample of over 1500 cases. The team has also had access to analyses of over 450 cases undertaken across Tees, Esk and Wear Valleys FT (TEWV) and Northumberland Tyne and Wear (NTW).

Key findings from the analysis of retrospective data included:

- Severity impacts on resource use: This was found to be the case globally and there was evidence for this within individual presenting problems (such as depression). This is not to say that diagnostic categories did not predict resource usage (they did), but the impact was in many cases moderated by severity. This, combined with stakeholder commitment to non-diagnostic categorisation in CAMHS, strengthened our view on the need to keep the CMRGs/clusters focussed on levels of severity.

- Complexity impacts on resource use: Complexity factors (i.e. psychosocial factors additional to the presenting problems) were found to have a statistically significant impact on resource usage, even when adjusting for severity, primary diagnosis and team type. This, combined with expert clinicians' view that complexity had a major impact on resource use, led us to continue to consider complexity factors in our thinking on developing clusters.

- Resource usage (as measured by direct contacts) across CAMHS is not normally distributed: Replicating a result found repeatedly in data of this nature, activity data was found to have a positively skewed distribution, indicating that Gaussian distribution assumptions are inappropriate. This led us to consider statistical models that can take the distribution of data into account. Our data analyst on the project, Dr Fugard, is currently exploring the use of negative binomial distribution regression models, in conjunction with colleagues at Brunel University, to aid current and future analysis. This allows appropriate mean durations to be computed as a function of presenting problems, context, and severity information. Two main types of analysis have been performed: the first takes into consideration the distribution of the data, so that it is possible to infer how long likely treatment durations are for individual patients; the second computes mean durations, so that total cost for a collection of patients may be inferred. This latter type of model will be important for linking to work on tariffs.

- A large number of CYP seen by CAMHS receive a small amount of resources, and a small proportion of CYP receive a large amount of resources: 50% of cases took up only 11% of the CAMHS direct session input (involving only up to 6 direct sessions), whilst 10% of cases took up 45% of the CAMHS direct session input (involving 25 or more direct sessions). This led us to consider simplifying our categories and, given that the vast majority of CYP were seen for short periods of contact, we felt it made sense to consider this in terms of a core CMRG and to consider the other categories similarly.

We also considered data and feedback on the care pathways, resource use and commissioning of Tier 4 services (e.g. West Midlands network). In light of the often rapid movement of CYP between the CAMHS tiers, and the frequent need for joint working, it was considered crucial to include Tier 4 services in our clustering model to properly understand the resource implications of this work and to reflect a seamless/comprehensive CAMHS model.