Quality and Efficiency Support Team

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<tr>
<th><strong>NHS Board</strong></th>
<th>NHS Lanarkshire</th>
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<tr>
<th><strong>Title</strong></th>
<th>DCAQ Analysis of Psychological Therapies Teams in NHS Lanarkshire</th>
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</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td>Mental Health</td>
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<td><strong>Background/context</strong></td>
<td>The Scottish Government has introduced a HEAT target in relation to the provision of Psychological Therapies (PT). The target states that, by December 2014, people should wait no longer than 18 weeks for psychological therapy, from referral to treatment commencement. The aim of this project was to collect, analyse, and interpret data on the demand, capacity, and activity within Adult Psychological Therapies Teams in NHS Lanarkshire. This forms part of a development programme to improve access times, outcomes monitoring, and quality of psychological therapies, with reference to the PT HEAT Target. Lanarkshire has a diverse population of approximately 630,000 people, based in both urban and rural centres. There are large differences in indices of multiple deprivation throughout the county. Over 40 per cent of the datazones in Coatbridge are in the 15 per cent most deprived datazones in Scotland. It is estimated that 5,000 people at any one time in Lanarkshire will have significant mental health problems, and 30 per cent of GP time is spent on treating such difficulties. Indeed, people in Lanarkshire receive more psychotropic medication than the Scottish average. The service model for Adult Psychological Therapies was revised in April 2011, restructuring three ‘district’ departments into nine locality-based Psychological Therapies Teams (PTTs). As at 31 March 2014, there were 123.5 WTE staff within Psychological Services. A ‘one-door-access’ (ODA) system operates with uniform...</td>
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structure across all localities, and comprising of psychiatry, psychology, occupational therapy, and community psychiatric nurses. Each locality ODA group reviews all referrals, and allocates to the most appropriate service. The PTTs are multi-professional, comprising Clinical and Counselling Psychologists; CBT therapists; Clinical Associates in Applied Psychology; Senior Charge Nurse Therapists; Mental Health Practitioners, and Counsellors. Practitioners offer a range of evidence-based (the Matrix) psychological interventions within a tiered, matched care model. Individual therapy is supported with group-based psychological interventions, as well as NHS 24 telephone based CBT support.

Effective implementation of the revised service model, along with enhancements in clinical service delivery via investment in staffing, training, and development, has seen a significant reduction in waiting times, from a high of 62 weeks in September 2011, to an average longest wait of approximately 14 weeks. As at 31 May 2014, 20 of 1,464 patients on the waiting list for psychological therapies had waited over 18 weeks to be seen (1.4 per cent). The HEAT target is for 90 per cent of patients to begin treatment within 18 weeks.

However, it is recognised that improved public and clinical awareness, screening, and significant socio-economic challenges will result in increased demand for mental health services, and challenge existing service delivery models. Similarly, in achieving significantly reduced waiting times for psychological intervention, latent demand may become apparent through increased GP referrals. This is already evident within some localities, leading to greater geographical variation in waiting times within Adult Psychological Therapies.

Across the nine locality-based PTTs, there continues to be fluctuation in both demand and capacity for psychological services, with resultant waiting time variation. The aim of this project was to identify the underlying reasons for such variation across localities, in order to develop an action plan to address inequity, efficiency, and quality, of service provision. In order to achieve this, a Demand Capacity Activity Queue (DCAQ) exercise
was undertaken to examine sources of demand, bringing together both referrals, and clinical activity.

| **Problem** | In the reconfiguration of Adult Psychological Therapies services in 2011, clinical staffing was allocated based broadly on population within a locality. Whilst both expedient and pragmatic, this distribution of resources did not address variations in demographics and demand across townships. In consequence, it is evident that some locality PTTs are under-resourced and struggle to meet demand, with concomitant longer waiting times. On the other hand, some PTTs have relatively low waits. Although the aspiration is for low waits across all localities, it is untenable to have waits of up to 23 weeks in one locality, whilst waits in another sit at just 8 weeks. There is an evident need, therefore, to re-balance resources to minimise variation, and reduce the longest waits. |
| **Aim** | The aim of this project was to undertake a comprehensive review of demand, capacity, activity, and queues in order to inform decision making around more efficient and effective management of resources and referrals. Given that psychological therapy is a complex process that can span many months, any decision to re-allocate resources has to be undertaken in a phased manner. For example, in order to begin providing clinical sessions in another locality, it will be necessary for a clinician to wind down, and then stop providing sessions in the original locality. A typical analogy is to compare it to the time it takes to turn around a supertanker. |
| **Action taken** | Due to delays in staffing, the project did not commence until December 2013. The model followed was that identified by QuEST as being the most appropriate vehicle to undertaking a DCAQ analysis. This was designed to:  
- develop a high level understanding of processes within the service  
- collate the required information to undertake a detailed DCAQ analysis |
• complete a DCAQ analysis, and from this, identify opportunities for service improvement

A number of tools have been made available by QuEST to support this analysis process. To record staff activity, an online logging system has been developed by STTS. Each member of staff was provided with a login/password and, for a two week period in January 2014, recorded their daily activity. This included direct clinical work, but also indirect clinical work, admin, travel time, consultation, supervision, etc.

In addition to a focus on staff activity, it was important to review demand in order to determine whether capacity was sufficient to meet this. The QuEST Mental Health DCAQ website recommends using historical activity data to derive assumptions around the predicted number of referrals, average number of contacts per person and the length of each appointment. Estimates of demand were made over a nine month period by reviewing the number of new appointments required, the average number of follow-ups per new appointment and the average length of new and follow-up appointments. In addition, where services were running groups, group work was also fed into the analysis.

Key variables influencing demand included the overall number of referrals, the number of those referrals who opt-out or were returned/referred elsewhere, the new-to-follow up ratio, group work, Did Not Attend (DNA) rates and average clinical and admin time required for different interventions.

**Referrals**

The number of referrals to individual adult PTTs in Lanarkshire was measured using historical data held on the PiMS system for Bellshill, Clydesdale, Motherwell and Wishaw and on Access databases for Airdrie, Coatbridge, Cumbernauld, East Kilbride and Hamilton. Data was extracted from the relevant system on a month-by-month basis for referrals dated from the 1 of April 2013 to the 31 of December 2013 (the nine-month time period).
Opt outs and Returned Referrals

To work out the number of new assessments required, the total number of new referrals had to be adjusted for any opt-outs and for any individuals referred on without being seen by the PTT, or indeed those that are returned to the referrer.

The number of people opting out each month is dependent in part on the number of new referrals received. Therefore it is useful to track the percentage of new referrals each month who opt out to determine whether there exist significant changes to this over time that will impact on demand and, hence, the ability to meet waiting time targets. The number of people opting out each month was extracted from the relevant system (PiMS or Access database as previously noted) and used as a total number across the nine-month time period for the DCAQ analysis. Opt-outs were linked with the original referral, so that the opt-out percentage accurately represented the percentage of a particular month’s referrals that did not opt-in.

The number of referrals that are signposted elsewhere without either being seen by the PTT, or returned to the referrer, were extracted where possible from the relevant system for each PTT locality.

New to Follow Up

Another key influence on the level of demand is the number of times an individual is seen within a service. Tracking the average new to follow-up ratio over time is a useful way to identify if it is reasonable to use the historic average to predict future demand, as a run chart would highlight any existing trends. In order to obtain this information on an individual client basis, a manual case note review of clients discharged within the nine month time period would be required. As many of the clients continued to have follow-up appointments during the data collection time period, this process of obtaining the new to follow-up ratio was not possible. Therefore, the individual PTT locality leads provided
an estimate of the average number of times a client is seen within their team.

**Group Work**

Group work has becoming an increasingly important method of intervention for PTTs, given that it assists in managing demand using a lower capacity than is required with 1-to-1 interventions, whilst also acting as a low-intensity intervention for clients who may not require intervention at Tier 2 or Tier 3. Due to the wide variety of groups running throughout NHS Lanarkshire, delivered by different clinicians and to varying numbers of clients, group work analysis is complex. Estimates were given by the PTT locality managers of the percentages of clients who go only into group work, only into individual work and into both group and individual work. The accuracy of these estimates may differ across the nine teams and client self-referral to group work will influence the appropriateness of the use of these percentages, as they are not always related to the number of referrals that have been recorded to the PTT.

Actual group data was collected for the nine month period, from clinicians within each PTT who deliver groups. This data included the number of times the group was delivered, the number and length of the sessions making up that group, how many clients attended the sessions and how many clinicians delivered them. In order to undertake a demand analysis using the DCAQ tool, the aforementioned data was averaged, such that the data input was the average number of sessions per group, average number of people per group session and average number of staff per group session.

During analysis, it became evident that the DCAQ Tool was somewhat limited in its ability to analyse group work, given that the groups delivered in NHS Lanarkshire vary in size considerably, with for example, stress control classes having up to 26 attendees and mood matters having as few as 3. The DCAQ Tool, as it stands, cannot manage such variability.
In addition, the group work data input section within the DCAQ Tool asks for the number of sessions per group, the number of staff per group and the number of people per group. It only gives one entry point for each factor, taking the average value as previously mentioned, and there is nowhere to input the number of groups run in the analysis time period. This results in a vast underestimation of the number of hours of direct and indirect client activity needed for the delivery of groups within each PTT.

**Other Variables**

There are a number of other key variables which influence demand analysis. These include, for example, the lengths of new and follow-up appointments, the length of group sessions and the administration relating to new, follow-up and group sessions. All of these were estimated per clinician by the locality manager for each of the nine PTTs.

Similarly, the DNA rates for new and follow-up appointments are key variables which have to be considered when analysing demand due to their influence on the capacity allocated to direct client contact to meet the demand. If the DNA rate is high, the demand remains but capacity is often wasted, which may have potential to increase the queue. This is due to the fact that when a client does not attend their appointment without giving more than 24 hours notice, their appointment time is not able to be offered to another client, resulting in unused capacity.

The DNA rate for new and follow-up appointments was calculated using data collected on appointment attendances each month over the nine month time period. The number of appointments marked as DNA, cancellations within 24 hours (C24) and cancellations with more than 24 hours notice were extracted from the relevant system (PiMS and Access as previously noted). When calculating the DNA rate as a percentage of new and follow-up appointments which were offered in the nine-month time period, the DNA number included those appointments where there was a C24 outcome, due to both DNA and C24
resulting in unused appointment slots. The DNA rates calculated for new and follow-up appointments are charted for each Adult PTT in its individual section of this report, as well as being used in the demand analysis carried out by the DCAQ tool. A limitation of this method may be that the DNA rate is calculated from total DNA and C24 numbers, therefore assuming that the DNA rate remained stable across the nine-month time period.

Queue
In order to effectively manage waiting times, it is essential to have data that indicates the length of wait experienced by those referred, and the service/intervention that the wait is for. There is, as yet, limited information on the waiting list profile. This is, largely, due to limited or inefficient IT systems. Within Lanarkshire, the number of clients on the waiting list for each service was not easily obtainable from PiMS or Access, and there was not a consistent or routine way of recording those referrals which had been received but not yet seen. The number of clients on each PTTs’ waiting list was obtained, on a monthly basis over the nine-month time period. This enabled run charts of the queue for some of the PTTs to be produced. In addition, the number of people on the waiting list (i.e., the queue) is a required input for the DCAQ Tool in order to run a full DCAQ analysis, and the tool specifies the need for the number of people still on the waiting list at the end of the snapshot time period. As this is only the waiting list length at the end of the last month in the nine-month time period, this may not provide an accurate reflection of a typical waiting list length. Thus, the mean number of people on the waiting list across the nine-month time period was calculated and included in the DCAQ tool as a ‘scenario analysis’.

Results
The analysis of the data derived from the DCAQ project is, as yet, incomplete. Whilst the online SSTS proved to be an effective way of recording activity data, there were significant delays in obtaining the BOXI reports, which were to have been provided from the activity data, from the SSTS system. Indeed, it was not possible to obtain complete and accurate BOXI reports. In
consequence, a request was made to SSTS to provide simple ‘raw data’, in the form of an Excel spreadsheet. This contained over 9,000 individual data entries, corresponding to the data entered by approximately 85 staff over a two week period.

It took staff a significant amount of time to sort this data into a form that would enable some form of manual calculations – hence one of the reasons for the delay in the reporting of the data. The decision to use the online activity tracker was made on the basis that BOXI reports would be immediately available. Had it been known that this would not be the case, a spreadsheet template could have been used – which would have enabled more timely, and accurate, analysis of the activity data.

Reports have been generated for each of the nine PTTs, focusing on the activity and demand within that locality. These reports are currently in advanced draft format, and have been circulated to team managers for review and comment.

Efficiency savings and productive gains

As yet, the full report on the DCAQ project for Psychological Therapies has not been finalised. Based on the analysis to date, however, it is possible to make a number of points. Thus far, there are a number of clear recommendations for the PTTs:

- There is a need to minimise variation in waiting times across PTTs.
- Failure to attend rates, for both new and return appointments, are high across PTTs, contributing to increased waits.
- The referral process must be made more efficient and effective, including signposting to other, more appropriate, services, and the management of returned referrals.
- All clinical staff should be collecting, recording, and analysing outcomes data for all patients, including patient satisfaction data, and utilising this in case management.
- The amount of time spent on direct clinical activity is, at times, exceeded by indirect clinical activity (consultation, supervision, facilitation, clinical administration, etc.), and
the reasons for this must be determined. It may quite appropriate for consultants to have high levels of consultation and provision of supervision, whilst the level of indirect clinical activity for a psychological therapist may be significantly lower.

- There is significant variation in the amount of clinical activity by designation both within and across PTTs.
- There is evidence that the demand in certain PTT exceeds capacity, and therefore resource allocation must be reviewed.
- There is evidence of wide variation in throughput (i.e., the ratio of new to return appointments).

Further analysis of the data is expected to yield a number of additional recommendations for PTTs.

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<th>Sustainability</th>
<th>A snapshot, point in time data collection exercise is unlikely to be representative of year on year patterns. Accordingly, the data accrued through this DCAQ project will be utilised, longitudinally, in regular audit of referral demand, clinical activity, and system capacity to meet this demand.</th>
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| Lessons learned                 | At this point, it is clear that restructuring of a number of PTTs will be required. In consequence, this will require thorough engagement with all staff, from PTT leads, to clinical, and admin staff.  
A consultative approach will be adopted, to ensure that leads and relevant clinical staff have the opportunity to comment upon, and assist with, the proposed changes to the models and methods in use across PTTs.  
The end result of this process should lead to reduced variation in waiting times across PTT, as well as shorter overall longest waits for psychological therapies. In turn, this should lead to greater consistency, cohesiveness, and quality of service delivery. |