

An evaluation of the implementation of a multidisciplinary persistent pain service in the inner London Borough of Tower Hamlets

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Aim: The aim of this study was to evaluate the implementation phase of a multidisciplinary persistent pain service (PPS). **Background:** A multidisciplinary PPS was established in January 2008 at the London Borough of Tower Hamlets. Referral is made into the service via general practitioners (GPs). Patients see an appropriate mix of clinicians; they include a pain specialist, physiotherapists, an occupational therapist, psychologists and/or health and advice worker. **Method:** Data were collected by using patient questionnaires, monthly activity reports from clinicians, service administration and patient and staff interviews. **Findings:** Service activity steadily increased to full capacity after nine months. Eighty-two percent (31/38) of Tower Hamlets GP clinics referred patients to the service; the referrals were appropriate. The discharge rate at nine months was 5% while 9% failed to attend or declined to attend. Patients saw on average two clinical specialities, post multidisciplinary team discussion and had four appointments. The majority of patients were female (89/144, 62%); between 41 and 60 years old (55%), unemployed (79%), received disability or incapacity allowances (28%), had pain for more than 10 years (27%) and were not fluent in English (37%). The patient and practitioner interviews highlighted: difficulties keeping track of patients as they progressed through the service, inconsistent administration that affected patient satisfaction, lack of understanding of treatment process and plans and cross discipline learning benefit for staff. **Conclusion:** Implementing a multidisciplinary service requires forethought, and regular monitoring to ensure efficiency. For multidisciplinary services we recommend: GP education, clear delineation of responsibilities between staff, efficient systems for tracking patient progress, regular staff meetings and jointly negotiated treatment plans that patients can keep.

Key words: chronic pain; implementation; multidisciplinary

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Introduction

Multidisciplinary approaches to chronic painful conditions have been advocated as an effective intervention for chronic pain (Ospina and Harstall, 2003). In 2006, Tower Hamlets Primary Care Trust

(now Tower Hamlets Community Health Services) adopted the idea of providing a multidisciplinary approach to care for individuals in the borough with chronic pain. Previous studies in Tower Hamlets had shown that chronic pain patients were often inappropriately referred to multiple secondary care services and had experienced complex care pathways (Carnes *et al.*, 2008). The aim of the new primary care based multidisciplinary chronic pain service was to reduce the pressure on orthopaedics,

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neurology, rheumatology and the pain clinic where chronic pain patients were typically referred.

The persistent pain service (PPS) was launched in January 2008 and staffed by a 0.2 whole time equivalent (WTE) specialist pain anaesthetist, a 0.5 WTE extended scope physiotherapist, a full time physiotherapist, 1.5 WTE psychologists, a 0.5 WTE extended scope occupational therapist and a health and advice worker. We felt that this mix of professionals could provide the expertise to deliver a truly biopsychosocial model of care with clear delineation of responsibilities. Other services have used similar mixes of professionals that have been effective (Ospina and Harstall, 2003), although we recognise that others have used nurse and pharmacist led options (Briggs *et al.*, 2008).

Patients are referred to the service via their general practitioner (GP) and are triaged to establish their most appropriate route of care. This may be back to their GP, to physiotherapy, to a more appropriate service or to the multidisciplinary team (MDT) assessment at the PPS. At the MDT, a care package is determined according to the patient's needs. The business plan estimated that 82 patients per month would be referred from GPs into the PPS, and that 50% of referrals would go directly to physiotherapy, 45% to MDT and 5% back to the referring GP.

Prior to the start of the PPS, the implementation team visited a number of general practices to update and educate GPs about chronic pain management in primary care. We also presented details about the new service and patient referral guidelines, to ensure GPs referred appropriate patients, that is, the ones that they could no longer manage. Additionally, we ran a chronic pain management session for GPs as part of the primary care trust's 'protected learning time' education sessions. A bespoke electronic referral form was developed for the service and inclusion and exclusion criteria for referral were circulated.

To ensure an initial supply of patients, suitable Tower Hamlets chronic pain patients on the waiting list at the pain clinic at Barts and The London Trust were offered the opportunity of being transferred to the new service. Long-term referrals were to come from GPs only, avoiding the need for secondary care input.

In this report, we present data from the first nine months of service operation and the process of implementation. This was a pragmatic study, the

purpose of which was to illustrate, with data, some of the issues and complexities involved in establishing and implementing a multidisciplinary service. We do not present cost or effectiveness data in this paper, these data will be published at a later date once the service has had time to become fully operational. We hope the findings may be of use to other Primary Care Trusts undertaking such projects.

Method

To comprehensively evaluate the implementation phase of the service, we collected both quantitative (patient questionnaire and service activity data) and qualitative data (interviews). We gathered data from three sources: the patients, the clinicians and the service administrator. We describe the quantitative methods first and qualitative second.

Quantitative information

Patient questionnaire survey

Patient information was collected using self-report questionnaires on entry into the PPS, at discharge and at the three months follow-up stage.

We collected demographic data on: gender, age, employment status, educational background, ethnicity and English language fluency. Additionally, we asked about pain extent, duration of pain and previous health resource use. We used the Chronic Pain Grade (Von Korff *et al.*, 1992) to measure pain severity and pain-related disability. Overall these two scores give an overall pain grade. We chose to use the data for pain severity and disability separately. Pain severity and pain-related disability are composite mean scores. The mean lies on a scale from 0 to 10, ten being the worst score. The General Health Questionnaire, GHQ12 (Goldberg and Williams, 1998) measures psychological distress. This scale ranges from 0 to 12; scores of six or more indicate significant distress. We used the Stanford short self efficacy questionnaire (Lorig *et al.*, 2005) to measure confidence about managing pain. A score of six indicates no confidence at all in managing pain and a score of 30 indicates total confidence.

The Health and Advice worker assisted those with poor English language ability to complete the questionnaire at entry. In this paper, we report the baseline questionnaire (entry) data only to ascertain the characteristics of the patients referred. The discharge

and follow-up questionnaire data will be used at a later date to evaluate effectiveness of the treatment, patient satisfaction and cost effectiveness.

Activity data

Data were collected on the following: number of referrals to the service, new patients seen, new patients who did not attend (DNAs), new patient's cancellations, follow ups seen, follow-up DNAs and cancellations, discharges and referrals to other clinicians. We collected this data monthly from both the clinicians and the administrators to check accuracy of the data.

Qualitative information

Patient experience and satisfaction interviews

Semi-structured interviews were performed with a consecutive sample of willing male and female patients who had completed the baseline questionnaire and indicated that they were willing to take part in further research. Each interview took approximately 30 min and was conducted by telephone. The interviews were transcribed and analysed using the Framework method (Ritchie and Lewis, 2003). This involved reviewing all the interview transcripts and identifying emergent themes and sub-themes from the data. Data were then organised and classified according to the themes and sub-themes. Further analysis then occurred to identify associations between and within themes and sub-themes, and models of behaviour.

The topic guide for the interviews covered: the PPS administration, patient expectation and understanding of the service, patient experiences of using the service, satisfaction and attitudes toward their condition. Owing to the large Bengali community in Tower Hamlets many of the PPS patients speak either Bengali or Sylheti. The interviewer conducted interviews either in Bengali, Sylheti or in English depending on the preference of the interviewees. The interviewer was impartial to the clinical team and the PPS and not known to the interviewees, so the participants were assured anonymity. Ethics approval was granted by East London and the City Ethics Committee 3 (07/H0705/64).

Clinician and staff interviews about PPS

Every member of the PPS staff was invited to be interviewed to discuss their experience to date

in the PPS. They were asked about the advantages and disadvantages of working as a MDT and whether, in retrospect, they would have done anything in the implementation phase differently. They were also asked to comment on the service in general. These interviews were conducted at the PPS and lasted around half an hour each. Anonymity of data was assured. The study team evaluator conducted the PPS interviews as background knowledge and understanding of the PPS was essential to probe/question effectively. These data were not transcribed, but detailed notes were taken and common themes, consensus and dissent were noted and evaluated overall.

Results

Our findings from the evaluation of the implementation phase of the study are presented. The quantitative data is reported first followed by the qualitative data.

Quantitative data

Eighty-two percent of Tower Hamlets GPs referred patients to PPS in the first nine months. Since inception, nearly 95% of patients referred to PPS went onto MDT assessment, indicating either appropriate referral, and/or inclusive selection.

After nine months, 290 patients had been invited to attend a MDT consultation, of these 205 attended their appointments, 8% (17) cancelled or did not attend and the remaining patients were not contactable or booked for a future appointment. Only 8% (17) of patients had been discharged at nine months. Of those attending the MDT, 9% (18) failed to attend or declined to attend other consultations during the evaluation of the implementation period.

Figure 1 shows the referral pathways into PPS and after the MDT. Psychology and physiotherapy received most referrals post-MDT. In the initial business plan, we anticipated that 10% of patients would be referred to psychology. The actual numbers were nearly double those expected. Interestingly, 15% were referred back to the MDT. In reality, this was often to see one specific member of the team to follow-up on advice and/or review results of tests/interventions and/or

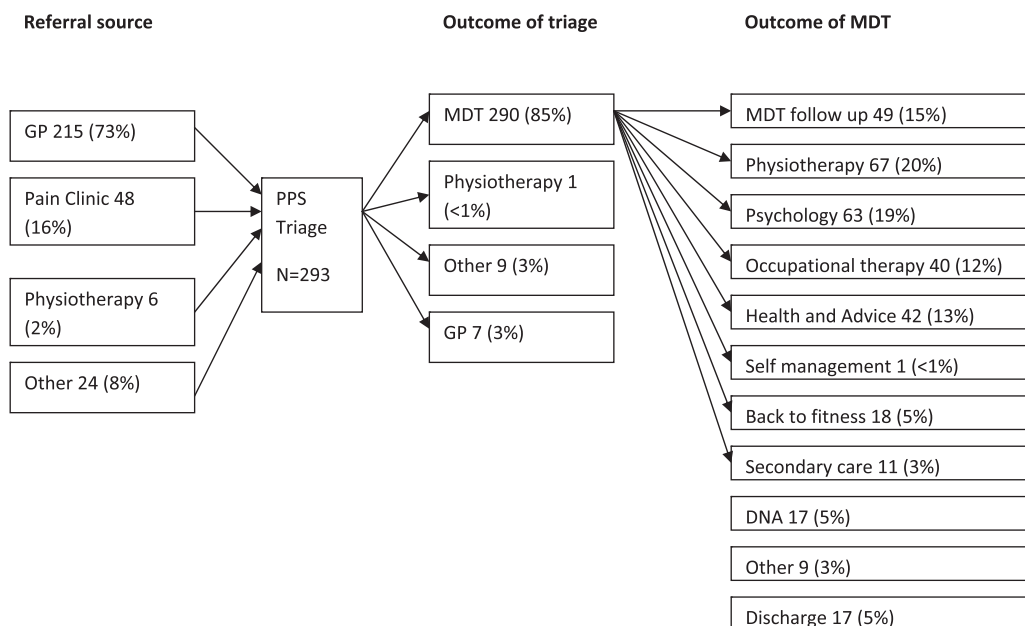


Figure 1 Referrals in to PPS, outcome of triage and outcome of MDT. GP, general practitioner; PPS, persistent pain service; MDT, multidisciplinary team.

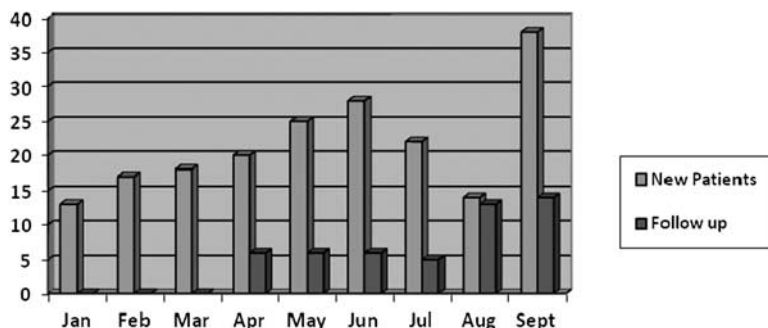


Figure 2 Monthly MDT and follow-up data, number of patients. *The dip in August is due to staff holidays and patient lack of availability through the summer period. MDT, multidisciplinary team.

drug prescribing. The referral pathways were all well utilised except for the self-management pathway, which was serviced by an external provider. Considering the low uptake of the physiotherapy group course in this period, this is not a surprising finding as patients would normally be referred on to self management from the physiotherapy exercise based course.

The intake of new patients to MDT showed a general month on month increase to 95% (38/40 patients) of full capacity at nine months (Figure 2).

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Patient Questionnaire responder data

Seventy percent (140/205) of PPS patients completed the baseline questionnaire. By using the baseline questionnaires data, patients saw an average of two clinical specialities post-MDT (includes follow-up appointments; range 1–4) and had an average of four appointments within PPS (range 1–19). They saw a psychologist on average three times (range 1–8), a physiotherapist twice (range 1–7), an occupational therapist twice (range 1–3) and a health and advice worker twice (range 1–7).

Patient profile/characteristics

Sixty-two percent (89/144) of patients were female, 55% (77) patients were between 41 and 60 years. The majority, 79% (114) of patients were unemployed, of these 38% (32) were not working due to poor health. Twenty-eight percent (39) of patients considered themselves registered disabled (i.e. receiving disability living allowance or incapacity benefit). The educational profile indicated a lower than national average educational level. Fourteen percent (20) received no formal education at all, and a further 6% (8) received education to the age of 12 or under. Forty-two percent (59) were educated to 16 years with the remaining 37% educated beyond 16 years (52). Additionally, 37% (52) were not fluent in English. This has implications for care and costs for advocacy support.

Health data

The descriptive health data showed that the patient profiles matched the referral criteria, that is, patients with long-term pain. Twenty-eight percent had pain for more than 10 years and in multiple sites (mean sites of pain = 8/19). Pain was severe (mean = 8.3/10) and disabling (mean = 7.7/10). They also reported high levels of distress (mean = 8/12). Distress scores above six indicate severe distress (Goldberg and Williams, 1998). Patient self-confidence in managing their pain condition (Stanford Short Self-efficacy Scale) was below the mid-range score of 18 (mean = 15) (Table 1). The overall profile of patients seen within the PPS indicated poor physical and mental health.

Previous health care utilisation

The mean number of GP consultations in the last year was 15, range 2–52, SD 11.8 ($n = 118$). Eighteen percent (25) had visited accident and emergency and 49% (70) reported seeing a hospital doctor. We are unable to say whether these

consultations were related to chronic pain. The large number of patients who reported seeing a hospital doctor may have been due to the initial patients who were referred from the secondary care pain clinic waiting list.

Qualitative data

Patient satisfaction survey

Forty-eight percent (69) of patients who returned their baseline questionnaires were willing to be interviewed. Twenty patients completed a semi-structured telephone interview, 10 females and 10 males. Of those interviewed four were white British, 15 were Bengali and one was Eastern European. We cannot accurately say whether or not this sample reflected the profile of the PPS population. In Tower Hamlets, the ethnic population is varied. Descriptions of ethnicity can be based on: place of birth, nationality of either one or both parents, culture and/or religion. In the questionnaire, we asked patients a free response question to describe their ethnicity, unfortunately as result of this, the question was poorly completed. Two clear and predominant issues arose from the patient interviews:

1. Patients reported a need for clear understanding about the process of care. There was poor awareness about treatment plans: which clinicians they were due to see and why, how long their treatments may be and/or the order or sequence of treatments.
2. There was a reported difference between patient expectation and the treatment given; expectations could be grouped into four categories (Table 2). The data indicated that if expectations were unmet and/or unchallenged, patients were not satisfied. Table 2, illustrates the different types of expectations the participants described. For example, the

Table 1 Descriptive statistics regarding: extent, pain severity, disability and self-efficacy

	N	Minimum	Maximum	Mean	SD
Number of sites of pain (maximum 19 sites)	142	1	19	7.5	4.4
Pain severity, scale 1–10 (worst)	139	5	10	8.3	1.4
Disability level scale 1–10 (worst)	137	2	10	7.7	2.0
Self efficacy scale 6–36 (total confidence)	135	6	30	14.9	5.7
Psychological distress scale 0–12 (6 or more serious distress)	138	0	12	8.2	4.0

Table 2 Patient expectation of treatment in persistent pain service

Type of treatment expectation at entry	Examples
Advice only	Patients expectation centred around constructive clinician advice and the same treatment they were used to in primary care. <i>'I thought they would suggest good things for me to decrease my pain'</i>
Advice and active and passive involvement in treatment	Patient expectation that they would receive support and constructive advice but with an expectation that they may be given new treatments around which they could actively engage <i>'the main thing is to provide me with confidence, I need to work and (know) what's available to me'</i>
Active treatment	Expectation that they may be given new treatments around which they could actively engage. <i>'I have to live with it, so instead of being down about it I can deal with it (by doing things differently and adopting new approaches)'</i>
Passive treatment	Expectation of treatment that involved little change to self and lifestyle such as, a new and better pill that would cure their pain, or passive physiotherapy <i>'I thought they would massage me'</i>

dissonance was illustrated by patients who expected passive physiotherapy treatment and were asked to do rehabilitative exercises at home and those who came into PPS expecting advice and guidance about coping and were given powerful prescription drugs.

Increasing patient satisfaction centred on managing, challenging and tempering patient expectations. Determining patient expectation at the outset appeared essential.

Clinician interviews

All the PPS clinicians contributed to this part of the study. The outcome of the PPS staff interviews suggested:

- a positive gain of knowledge and experience from working in a MDT
- management responsibilities and roles needed to be clearly defined to maximise the potential benefit of the multidisciplinary approach
- implementation of a transparent administrative process to track patient movement between clinicians
- clinicians, patients and administration needed clearly annotated patient treatment plans. Plans needed to include information about: clinicians to be seen; estimated number of appointments and duration with each clinician; order of seeing each clinician and an estimated discharge date with a clearly named clinician responsible for final contact

- discharge from the service needed to be more formally organised and recorded
- information days where new potential patients could come to find out about the service, this would help modify patient expectations so only those keen to participate would then be referred to MDT.

Discussion

The pre-service education sessions with the local GPs were positively beneficial to the service. GPs provided appropriate referrals from the outset; only 3% of referred patients were referred back to their GPs or to another service.

Patients referred had high levels of distress, low self efficacy and high levels of pain and disability, and in common with other studies we noted that most had multiple sites of pain (Davies *et al.*, 1998; Croft *et al.*, 2005; Carnes *et al.*, 2007). The severity level and chronicity of the patient profile was very poor, which may have been as a result of using the secondary care pain clinic waiting list to boost patient supply at the start. It is possible that the patient profile may change as GP referrals become the sole source of referral and the service becomes more selective at triage.

The high number of non-English speaking patients (37%) created communication issues and added extra costs to the service for advocacy presence. The steady increase in referrals indicated

a demand for the service but there is a danger that the service may become over burdened due to the low discharge rates (8%). Confusion over discharge responsibility was an issue that needed addressing and this was, in part, due to the lack of patient tracking and unclear treatment plans. The lack of discharged patients may create long-term problems for the service.

There were a number of factors that the service encountered, which unduly affected the embedding process for operational effectiveness. The interviews highlighted the need for clearly defined non-clinical roles and relationships. There was a need to assign clear responsibilities for operational (day-to-day) management and clinical governance (quality of care issues). Communication and regular team meetings were essential to optimise integration of care and avoid each clinician acting in isolation of each other. Strong operational leadership was deemed essential for a true multidisciplinary approach to work (Ospina and Harstall, 2003).

We noted that as the service grew, the administrative processes needed to evolve and develop with it. An efficient patient tracking system was essential. The patient interviews showed that low satisfaction was, in part, related to poor experience with administration. The efficiency of administration and the interface between the administrator and the patient should not be underestimated.

Patients, administrators and clinicians needed a clear understanding of the patient journey through the service. Jointly negotiated treatment plans were required to help manage patient expectations and increase patient understanding of their care. Treatment plans needed to be given to the patient, and stored in the patient files, for reference. The plan would enable the patient, the administrator and the clinicians to request action and appointments. In addition a written estimated date for discharge would set a goal for everyone and thus create an expectation of independence as opposed to dependence.

At present, 95% of patients triaged are going forward to MDT. The clinicians suggested that it might be prudent to consider a PPS 'taster' information/introduction session before patients went to MDT. The aim of the 'taster' session would be to temper and modify expectation of treatment and introduce the idea of a biopsychosocial model of care. We know from the cognitive behavioural approach to pain management (Cole *et al.*, 2005;

Nicholas *et al.*, 2005), from acceptance and commitment therapy (McCracken and Vowles, 2008) and self management (Kennedy *et al.*, 2007) that encouraging change in behaviour and facilitating chronic pain patients to be proactive and self manage is difficult. We are also aware that different people respond to different treatment approaches (Turk, 2005), and that preference affects outcome (Tilbrook, 2008). Therefore, a screening process may help to optimise service provision.

The quantitative data were collected by the evaluation team and the administrative service. It presented a reasonably accurate representation of activity, but definitive data were difficult to source due to administrative difficulties. The patient survey data provided secondary validation. Patient data were self reported and is therefore problematic due to memory distortion and loss. The survey data were also limited because we did not seek detailed information about hospital and GP visits, so health care utilisation may have been for other non-chronic pain-related conditions.

We recognise that the qualitative patient data may be slightly biased due to consecutive and convenience sampling (based on availability). However, a range of views, characteristics and ideas were presented and both negative and positive commentaries were gained. At present, we cannot comment on either the cost-effectiveness or effectiveness of the service as we have limited discharge and follow-up data to analyse. The long lead time to discharge may continue to affect the overall service effectiveness evaluation. This study illustrates that protracted care remains a fundamental characteristic of chronic pain patients and an issue in their treatment and care (Croft, 2000; Maetzel and Li, 2002).

Conclusions

There is definitely a demand for multidisciplinary care for chronic pain patients in Tower Hamlets. Managing the complex inter-action and intra-action of individualised care programmes requires comprehensive and meticulous administration, clearly described treatment plans, regular team communication and clear allocation of responsibilities. Terminating and transferring care is an issue. We continue to evaluate the service and collect data to assess long-term effectiveness.

We hope that the information given in this paper will be helpful to other organisations implementing similar multidisciplinary services and integrated pathways of care.

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