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**Citation:** Abbott, S. & Davidson, L. (2000). Easing the burden on primary care in deprived urban areas: a service model. *Primary Health Care Research and Development*, 1(4), pp. 201-206.

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## Development

# Easing the burden on primary care in deprived urban areas: a service model

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The Primary Care Deprivation Initiative (PCDI) has been established in a deprived part of inner-city Liverpool in three health centres, in order to improve the capacity of the primary health care teams (PHCTs) to address the health and social care needs of part of the practice populations. Non-professional PCDI support workers, supervised by an experienced nurse, offer advice, support, information and, where necessary, advocacy to patients referred by PHCT members who present with mixed health and social care needs. The aim of the present study was to discover whether the PCDI eases the burden on the PHCT by reducing presentations to health staff of primarily social problems, or whether PCDI clients might make increased demands on the PHCT as a result of the PCDI being available. Routinely collected data on the use of primary care services were compared. Data collected for 12 months before and after accessing the PCDI showed statistically significant reductions in GP consultations and new prescriptions. There was also a definite but statistically non-significant increase in prescribing as a whole. It is concluded that, in the case of patients presenting with undifferentiated health and social needs, the provision of services to separate and address the latter appears to result in more appropriate use of primary care by patients and more effective prescribing by GPs.

**Key words:** advice services; demand management; prescribing; primary care; socio-economic deprivation

## Introduction

It is widely recognized by GPs working in deprived inner city areas that many of their patients face problems such as poverty, low self-esteem, poor housing and poor support networks (Benzeval *et al.*, 1995). Such a combination results in distress, disability and ultimately reduced life expectancy (Laughlin and Black, 1995). It is also known that such populations are likely to consult more often (McCormick *et al.*, 1995), and the resulting prob-

lems of workload and stress for primary health care teams (PHCTs) working in such areas have been acknowledged (Petchley, 1994; Kirwan and Armstrong, 1995). However, many GPs do not believe that it is appropriate for them to address their patients' social problems themselves (Dowrick *et al.*, 1996).

## Background

In response to such problems, the Primary Care Deprivation Initiative (PCDI) was established. It serves five out of seven practices based in three health centres in inner-city Liverpool where there are high levels of unemployment and poor housing.

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The total practice population served by the five practices (10 GPs) is 18 500. Four of the practices are single-handed, and two of the health centres serve practice populations with high numbers of temporary residents. Local observers note a range of approaches to delivering primary care among the five practices, and this anecdotal evidence is borne out by an analysis of relevant Prescription Analysis and Cost Tabulation (PACT) data, which shows considerable variation in the levels and trends of prescribing.

The aims of the PCDI are as follows:

- to address the unmet needs of some of the registered practice populations;
- to improve the health status, well-being and quality of life of people referred to the scheme;
- to reduce the workload, and consequent stress, felt by PHCT members in relation to the target client group.

The initiative was intended to help a range of people who:

- present with undifferentiated health and social needs which require a range of health and social care interventions;
- need assistance in completing application forms, etc. and/or help in accessing locally available services;
- do not access health services effectively (e.g., due to being transient, having special needs, or not having English as their first language);
- may be helped to follow treatment plans more effectively.

The PCDI team consists of a primary care development nurse and two primary care support workers, each based in a different health centre, who work an average of 4 days per week, and a part-time administrative worker. The nurse and the support workers each work independently with an independent case-load. The development nurse also supervises the work of the support workers, who have relevant skills and experience but are not professionally qualified. Referral to the service is by PHCT members. Following referral, there is a short period of support and advice by a PCDI team member, usually for no more than four sessions. The nature of the interventions depends on individual needs, and may include any of the following:

- helping individuals to identify and prioritize health and social needs;

- assisting in the effective access of health services;
- providing information about locally available services from both statutory and voluntary organizations;
- providing support and empowerment in using these services;
- referral to specialist services.

This model of service provision was developed from the Family Health Project for homeless people. This initiative was successful in improving the health and well-being of homeless people living in temporary accommodation (Gaulton-Berks, 1998). The work of the Family Health Project continues to be carried out by the PCDI team, and takes up about half its time (a team total of 6 out of 12 working days per week). This element of its work is *not* included in the evaluation reported here, as its success has already been demonstrated (Reilly *et al.*, 1996). The PCDI sees about 200 clients a year, in addition to about the same number of homeless people.

## Methods

The evaluation of the initiative sought to investigate the effectiveness of the PCDI in reducing the inappropriate workload for GPs and other members of the PHCT and health centre staff. It did so using quantitative methods. The study also sought the views of service users about whether the PCDI had improved their well-being and/or health. However, it proved difficult to recruit service users to be interviewed (only 34 agreed to participate). Interviews were planned for 6 months after contact with the PCDI, but many clients had moved house by then, leaving no forwarding address, while others, distrustful of officialdom, had changed their minds about participating in the research. The qualitative data is therefore of limited value, although it did show that clients valued the service.

Quantitative data on NHS usage before and after contact with the PCDI were collected for all clients who used the service. These data, which did not include diagnostic information, included the numbers of:

- consultations with members of the PHCT, both in the health centre and at home;
- referrals to other health services outside the health centre;

- self-referrals to Accident and Emergency departments;
- prescriptions (including new drugs);
- screening contacts.

These data were collected from primary care records by members of the PCDI team, and were passed to the research team in an anonymized form. Data were retrospectively collected for the periods 12 months before and 12 months after the contact with the PCDI wherever possible, and for 6 months before and after where this was not possible because of the time constraints imposed by the evaluation timetable. PCDI staff worked together to address difficulties such as omissions, duplications, illegible handwriting, obscure abbreviations, etc., and thereby to ensure consistency of data collection.

A control group was not used, as it was not possible to predict in advance the age, gender, health needs and socio-economic status of those who would use the service. Moreover, it was anticipated that different practices might refer different types of patients, and that referral patterns might change over time as PHCTs learned how best to use the service (both of which turned out to be the case). Furthermore, routine PHCT records would not contain the relevant information required to identify a control group either prospectively or retrospectively which could be matched accurately for relevant variables such as financial, housing and disability status.

## Results

A total of 183 clients were seen by the PCDI during the study period. Quantitative data were collected for 153 clients, whose age, sex and ethnic profile is shown in Table 1. In the remaining 30 cases, three sets of notes were unaccountably missing, and three were significantly incomplete, 17 clients had registered with another GP elsewhere, and seven clients had died and their notes had therefore been removed (average age 74 years).

Because the data were collected for two different time periods, they are presented separately – that is, data for 12 months before and 12 months after contact with PCDI ('the 12-month group', 66 clients who used the service before the end of May 1997), and data for 6 months before and 6 months

**Table 1** Age, sex and ethnic profile of PCDI users whose NHS usage data was analysed

	Total PCDI clients (%) (n = 153)
Age (years)	
15–24	17 (11.1)
25–44	55 (35.9)
45–64	43 (28.1)
≥65	38 (24.9)
Sex	
Male	45 (29.4)
Female	108 (70.6)
Ethnic origin	
White	101 (66.0)
Black UK	19 (12.4)
Somali	14 (9.1)
Other	13 (8.5)
Not known	6 (3.9)

after contact with PCDI ('the 6-month group', 87 clients who used the service between June and November 1997).

Table 2 shows a selection of the data collected, and reveals statistically significant changes in NHS usage in two instances, namely GP consultations (excluding home visits and out-of-hours contacts) and 'new drugs' (i.e., first prescriptions of a particular drug to a patient), both in the 12-month group. (There was also a statistically significant change in practice nurse drop-in contacts in the 12-month group, although this only involved 18 patients, and the service was only available at one health centre. It is also true that while there was an increase in such contacts in the 12-month group, there was a decrease in the 6-month group, which makes interpretation difficult.)

The increase in prescriptions as a whole, although it was not statistically significant, relates to large numbers of patients (81 patients in the 6-month group and 54 patients in the 12-month group), and represents a substantial increase which merits further consideration.

The remaining data for all other categories of activity (i.e., GP home visits and out-of-hours contacts, contacts with non-GP PHCT members, investigations, referrals, Accident and Emergency visits, screening contacts) involved much lower numbers and did not show statistically significant

**Table 2** Changes in NHS usage by PCDI patients: comparison before and after advice

	6-month group (n = 36)			12-month group (n = 67)		
	Before	After	Change (%)	Before	After	Change (%)
GP consultations	348	329	-19 (-5.5)	558	423	-135 (-24.2) <sup>a</sup>
Prescriptions	1068	1131	+63 (+5.9)	1355	1431	+76 (+5.6)
New drugs	266	218	-48 (-18.0)	307	233	-74 (-24.1) <sup>a</sup>

<sup>a</sup>Statistically significant (one-sample *t*-test; level of significance 0.05).

changes. The data suggested no overall pattern of increase or decrease at either 6 or 12 months, and are not presented here.

The 6-month group and the 12-month group were similar with regard to age profile. The proportion of women in the 12-month group was higher than that in the 6-month group (three-quarters and two-thirds, respectively).

## Discussion

The decreases in GP consultations and new prescriptions, and the increase in prescriptions, all merit comment and interpretation. However, the unusual nature of the PCDI as a service means that the possibility of drawing on relevant literature in order to interpret these data is limited. For example, although research has not shown a clear reduction in primary care usage associated with counselling services in primary care (Fletcher *et al.*, 1995; Baker *et al.*, 1998), such studies examined the prescribing of psychotropic drugs to patients who presented with mental health problems. The range of patients and treatments in this study was not restricted to these categories.

A priori, it seemed possible that the PCDI would increase NHS usage, as one of its stated aims was to improve the effective accessing of health services. However, such an increase does not appear to have occurred. Given that there is a decrease in GP consultations, the PCDI appears to have increased the effectiveness of use, rather than the quantity of use.

The statistically significant decrease in GP consultations in the 12-month group represents a decrease of two consultations per patient in the 12 months following the PCDI consultation, from an

average of 8.3 to 6.3 GP consultations per annum. This constitutes a reduction in workload, albeit one that was not necessarily detectable by participating GPs. Nevertheless, this represents a reduction in consultations by individuals who are comparatively frequent attenders (Neal *et al.*, 1998). The average number of PCDI consultations per client was 2.3, and although of course such consultations typically last much longer than do those with GPs, they also involve much lower paid staff.

It may simply be that patients previously wanted someone to listen to their problems as well as requiring health care, and that the PCDI met that need. However, these data suggest that although PCDI clients brought their social problems to GPs, they tended to do so when they also had genuine health needs. If they had been bringing *primarily* social problems prior to their referral to the PCDI, one would have expected the number of consultations to drop immediately, and therefore to have showed a statistically significant decrease in the 6-month group.

An alternative explanation is that the GP consultations prior to referral to the PCDI were taken up with purely nonmedical matters such as letters supporting requests for housing, welfare benefits, etc. (this explanation is supported by those service users interviewed who said that they would not go to the GP for such letters in future, but would ask the PCDI worker instead). However, if this was the major reason for the decrease in consultations, one would again expect the decrease to be as large in the 6-month group as it was in the 12-month group, which was not the case.

Alternatively, it may be postulated that the reason for this apparent association between attendance at the PCDI and reduced attendance at surgery is that once patients are receiving help from else-

where with their social problems, the GP is more able to focus on medical problems, thus clarifying the task and reducing the number of consultations required. This may also explain the decrease in the number of new prescriptions.

Alternatively, or in addition, it may be that as PCDI clients become clearer about the nature and complexity of their various problems and how some or all of these can be addressed, they present less confusing symptomatology to their GP, who may therefore be more able to diagnose accurately and prescribe appropriately. Greenhalgh and Gill (1997) suggest that patients who expect a prescription are many times more likely to receive one than those who do not. This may be of relevance, as it seems possible that patients whose mixed health and social care needs have been disentangled and addressed separately are likely to expect that fewer of their problems indicate a pharmacological treatment. The higher level of prescribing of new drugs prior to referral to the PCDI may also be associated with the fact that patients who report anxiety about their problems are more likely to receive a prescription than those who do not (Webb and Lloyd, 1994).

The overall increase in prescriptions may be explained in several ways. It may be that an increase in repeat prescriptions is associated with the decrease in consultations, there consequently being fewer opportunities for the GP and the patient to review the patient's medication together. It may also be that patients complied better with drug regimes once their lives were more stable or they felt more able to cope. Spaeth (1995) suggests that patients who are struggling to manage their lives are less likely to comply with prescribed medication regimes, and that this is also true of those who do not understand their illness. Many PCDI clients could be so described, as evidenced by the range of advice and support which they required for health and social care problems which they had not always separated and clarified.

The finding that the only statistically significant changes occurred in the 12-month group suggests that for patients with complex health and social problems, it may take more than 6 months before these problems are alleviated, and before a consequent impact on health care can be expected.

## Conclusions

The impact on work load detected by the study was small but significant. The data do not suggest that *all* of the employment costs for the scheme will be recouped by reductions in primary care services. However, some of the investment in such schemes may be offset by savings in primary care inputs. Primary care groups which serve deprived populations may want to consider setting up comparable services, particularly in view of the fact that support workers who are not professionally qualified incur lower employment costs. By grouping together to support such services, practices could more easily address staff problems such as providing adequate supervision, finding suitable accommodation for the service, and addressing the potential isolation of support workers working alone. In addition to suggesting a possible service model, this study illustrates the need to look for changes which occur over time, and the importance to advice services such as this of collecting NHS usage data as a measure of the impact on workload and a proxy measure of health gain.

## Acknowledgements

The research on which this paper is based was funded by the R&D Directorate of the NHS Executive North West.

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