Need for and provision of general practice in London

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SUMMARY. This study examines the spatial distribution of general practice in London, taking into account both practice and population characteristics. While need for general practice is higher in inner London, some areas of outer London experience high levels of need. Inner London tends to have a greater quantity but lower quality of general practice. However, as in the case of the needs indices, this situation cannot be described as a simple inner city/outer city dichotomy. It is concluded that not all inner London areas suffer from high need and poor general practice and not all outer London areas have low need and good general practice.

Introduction

GENERAL practice has attracted less attention than the hospital service in the search for an equitable distribution of health care resources. It has been ignored by the reallocations of both Crossman in 1971 and the Resource Allocation Working Party (RAWP) in 1976: a fact often brought out in critiques of these schemes.[1] However, general practice is important in terms of its place within the health care system, being the initial point of contact for some 90% of the population, with many problems being completely treated at this level and never going on to the secondary (hospital) tier of health care. General medical services are also important as they account for some 8% of expenditure on health services.[2,3] In spite of this, the designated area policy — the policy to control the distribution of general practitioners[4] — has increasingly been seen as incapable of achieving an equitable distribution of general practitioners. As Butler and colleagues wrote in 1973 in their evaluation of the designated area policy: 'the broad patterns of staffing needs have not changed dramatically over the last 20 to 30 years. Areas which are currently facing the most serious shortages seem to have a fairly long history of manpower difficulties, while those which are today relatively well supplied with family doctors have generally had no difficulty in past years in attracting and keeping an adequate number of practitioners'.[4] Moreover, there is the paradox that much of inner London is considered by the Medical Practices Committee to be 'overdoctored',[5] while other sources report that general practice in inner London is under great pressure.[5-7]

This apparent paradox may be explained by examining the underlying assumptions of the designated area policy.[4] These are that all patients have equal needs and that all general practitioners are of equal quality and undertake equal workloads. The ultimate aim is to equalize the list size of general practitioners throughout the country. Originally this was to be achieved via a 'carrot and stick' policy: general practitioners were to be prevented from locating in 'overdoctored' areas (those with low mean list sizes) and attracted to 'underdoctored' areas (those with high mean list sizes) with financial incentives. However, while the national mean list size has decreased over time, the threshold for an area being designated has remained the same and so the number of designated areas has gradually declined to zero. This means that the policy is now solely one of negative direction (for example, preventing new general practitioners from practising in parts of inner London). Nevertheless the underlying objective of the policy — of equalizing provision without any reference to need — contrasts with that in other parts of health care where the aim is to equalize provision taking into account differences in need. Birch and Maynard[8] have suggested that if family practitioner services were distributed on the basis of need, using a RAWP-type policy, the broad result would be a gain of general practitioners for the regions north of a line from the River Exe to the River Tees and a loss of general practitioners for regions south of this line. However, this analysis is at the regional level and it is argued here that any such policy would need to be applied at a much finer spatial scale.

Problems of general practice in London

In London, it is claimed that the current state of general practice needs to be seen in the context of both population characteristics (social factors) and practice characteristics (service factors). However, the designated area policy has the sole aim of equalizing mean list size throughout the country and so ignores both sets of factors. First, general practitioner workload in London is high, even with an average list size, owing to severe social deprivation and the presence of patient groups with a high level of need for care, who are said to create more work for the general practitioner,[5,8] for example, the elderly living alone. Secondly, the delivery of primary health care is said to be less efficient than in other parts of the country. Many elements of what is often perceived to be poor general practice exist: many elderly single handed general practitioners, extremes of list sizes (either large or very small), poor development of health centres and group practice, poor practice premises and a low level of health visitor and district nurse attachment.[5]

While demographic indices for inner London are not radically different from England and Wales as a whole (for example, proportion of elderly living alone, proportion of children aged under five years), socioeconomic indices (for example, percentage of unemployed people, proportion of overcrowded households) all have higher values than for England and Wales, suggesting a higher level of need in inner London. Indeed, three of the four inner London family pracitioner committees (City and East London, Camden and Islington and Lambeth, Southwark and Lewisham) rank first, second and third respectively with respect to the underprivileged area score for the 98 family practitioner committee areas in England and Wales, with the fourth (Kensington, Chelsea and Westminster) ranking sixth.[9]

Practice characteristics for the four inner London family practitioner committees also differ from both outer London and England and Wales as a whole, with higher proportions of general practitioners not in group practice, general practitioners aged 65 years or over and general practitioners born outside the UK.[5] However, there are large variations within inner London, with the west end family practitioner committees of Camden and Islington and Kensington, Chelsea and Westminster appearing somewhat different from the east end family practitioner committees of City and East London and Lambeth, Southwark

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and Lewisham.[6] In particular, the former area has fewer general practitioners in group practice, more elderly general practitioners but fewer born overseas, a lower average list size and a higher proportion of general practitioners with small lists. The mean list size — the criterion of equity assumed in the designated area policy — shows that inner London has more doctors per head of population than average (2151 versus 2277 for England and Wales).

The aim of this paper is to correlate data on the need for and provision of health care in the London area in order to discover whether a situation termed 'territorial justice'[10] exists. The hypothesis is that high need areas tend to have a correspondingly high level of provision and low need areas a lower level of provision.

Method

The main problem with data which are averages for each family practitioner committee is that they may hide variations in need for and provision of health care at a smaller spatial scale. Family practitioner committees in London often overlap two or three district health authorities. Thus it is preferable to use district health authority data to examine the relationship between needs and provision because the smaller areas are likely to be more homogeneous.

Indices of need and provision

The indices used in this analysis (Figure 1) follow the tradition of measuring need for health care with socioeconomic indices.[11] It is generally agreed that patients' age and social (or occupational) class are important dimensions of need. So two indicators represent these dimensions. Other indices also represent 'direct' indicators of need: it has been argued that unemployment, overcrowding in the home, not owning a home and not owning a car are proxy measures for material deprivation.[11] Another index, which measures poor housing, is an 'indirect' measure which gives information on one minority group which tends to experience greater deprivation than the population as a whole. Thus, the need indices reflect recent attempts to measure need for health care.[9,11] It is not considered appropriate to measure need for health care services in terms of use rates since it is unlikely that utilization (a measure of demand) is closely related to need. Some utilization may not be needed ('trivia') while some need may not be turned into utilization (the 'clinical iceberg'). An additional problem in London is that some people in need use accident and emergency departments instead of their general practitioner.

Measuring provision — the quantity and quality — of general practice is also contestable. The most easily accessible data, from family practitioner committee medical lists, are also the crudest. The index of quantity is simply the size of the district health authority population divided by the number of general practitioners in the district health authority (Figure 1). The indices of quality reflect the conventional wisdom that group practice is preferable to single handed practice[5,7] and the more contentious view that practice in a health centre is preferable to other types of practice.[7] Thus, good quality general practice is represented by a high figure for general practitioners per practice, general practitioners in group practice and general practitioners in health centres and a low figure for single handed general practitioners.

Analysis

First, the distribution of need and provision indices were examined, with particular reference to inner and outer London. Then the relationship between need and provision was examined utilizing the Pearson correlation coefficient.

Indices of need for health care	
UPA score	Underprivileged areas score calculated using eight variables[9]
Not owner occupied	Households not in owner occupation as a percentage of all households in the area
No car	Households without a car as a percentage of all households in the area
Overcrowded	Households with more than 1.5 persons per room as a percentage of all households in the area
New Commonwealth	Households headed by a person born in the New Commonwealth and Pakistan as a percentage of all households in the area
No facilities	Households lacking exclusive use of inside toilet and bath/shower as a percentage of all households in the area
Pensioner	Households containing at least one pensioner as a percentage of all households in the area
Unemployed	Persons seeking work or temporarily sick as a percentage of all economically active people in the area
Social class	Households headed by a social class 5 person as a percentage of all households in the area
Indices of provision of health care	
Population per GP	Mean number of people per general practitioner in the area
GPs per practice	Mean number of general practitioners per practice in the area
Single handed GPs	Number of single handed general practitioners as a percentage of all general practitioners in the area
Group practice GPs	Number of general practitioners in groups of three or more as a percentage of all general practitioners in the area
Health centre GPs	Number of general practitioners in health centres as a percentage of all general practitioners in the area

Figure 1. *Definition of indices used to measure need for and provision of health care in a district health authority area.*

Results

Table 1 shows mean values for the eight indices of need for health care in all the inner London and all the outer London district health authorities combined and in London overall. It also shows which health authorities have the highest and lowest values in each sector of London. Most of the indices of needs have their maximum value in the inner city district health authorities (except percentage of New Commonwealth households, which has its highest value in Brent). Similarly, most variables take minimum values in the outer city district health authorities (except Paddington for the percentage of households with a pensioner). In general, then, a pattern of high need in the inner city and low need in the outer city is observed.

However, the data shows that inner London is far from homogeneous with respect to its pattern of both need and provision. For example, Tower Hamlets has twice the unemployment level of Victoria; Haringey has over three times the percentage of New Commonwealth households of Victoria; and Paddington and North Kensington has over four times the rate of households with severe overcrowding of Lewisham and North Southwark. A similar diversity is displayed for outer London district health authorities. Thus, the pattern of need for health care cannot be described as a simple inner/outer dichotomy.

Table 1. Mean values of need indices, with highest and lowest values by district health authorities.

Variable	All London mean value	Inner London			Outer London		
		Mean value	Highest value	Lowest value	Mean value	Highest value	Lowest value
Not owner occupied (%)	*51.4*	*72.7*	*95.4* Tower Hamlets	*56.4* Haringey	*38.2*	*61.4* Greenwich	*25.3* Harrow
No car (%)	*44.7*	*58.6*	*67.4* Tower Hamlets	*54.2* Newham	*36.0*	*46.4* Brent	*23.3* Hillingdon
Overcrowded (%)	*1.3*	*2.1*	*4.4* Paddington and North Kensington	*1.0* Lewisham and North Southwark	*0.8*	*2.6* Brent	*0.3* Bexley
New Commonwealth (%)	*10.0*	*13.4*	*22.0* Haringey	*6.3* Victoria	*7.8*	*24.4* Brent	*2.2* Barking and Havering
No facilities (%)	*7.0*	*10.8*	*15.2* Hammersmith and Fulham	*5.8* Lewisham and North Southwark	*4.7*	*10.9* Waltham Forest	*1.3* Hillingdon
Pensioner (%)	*34.4*	*33.6*	*39.6* Bloomsbury	*28.8* Paddington and North Kensington	*34.9*	*37.5* Waltham Forest	*32.0* Croydon
Unemployed (%)	*8.7*	*11.8*	*15.2* Tower Hamlets	*7.0* Victoria	*6.8*	*10.1* Brent	*5.0* Kingston
Social class 5 (%)	*5.5*	*7.9*	*12.2* Tower Hamlets	*4.5* Hampstead, Victoria	*4.1*	*5.0* Kingston	*2.3* Harrow

Inner London as a whole has higher levels of need than outer London, but individual outer district health authorities have higher levels of need for some indices than inner district health authorities. As Table 1 indicates, for only one of the eight needs indices shown (percentage of households without a car) are all inner London districts more needy than all outer London districts.

Table 2 shows the pattern of values in inner and outer London for the five indices of provision of health care. Although the quantity of general practice is higher in inner London (in terms of a low population per general practitioner), the poorest quality of practice also tends to be found here (in terms of a high proportion of single handed general practitioners and a low proportion in groups of three or more). However, according to the crude structural measures of quality adopted, individual inner city district health authorities such as Hammersmith, City and Hackney and Haringey have some indications of good quality care (low percentage single handed, high percentage in health centres and high percentage in groups of three or more) and outer district health authorities such as Waltham Forest and Brent show some signs of poor quality care. In the case of the indices of provision, the evidence for an inner/outer dichotomy is less strong than it was in the case of the indices of needs. As Table 2 shows, the worst values in outer London are often similar to the worst values in inner London.

Table 3 shows the correlation matrix between the needs indices and the provision indices. Need and provision tend to be negatively correlated for the quantity measure (population per general practitioner), suggesting that areas with high needs have high provision of health care. However, there is a positive correlation with the proportion of single handed general practitioners, and negative correlations with the proportion of general practitioners in group practice and the mean number of general practitioners per practice. Thus, high need areas tend to correlate

Table 2. Mean values of provision indices, with highest and lowest values by district health authorities.

Variable	All London mean value	Inner London			Outer London		
		Mean value	Highest value	Lowest value	Mean value	Highest value	Lowest value
Population per GP (mean no.)	1793	1641	2096 Hampstead	994 Bloomsbury	1893	2263 Barking and Havering	1514 Brent
GPs per practice (mean no.)	1.96	1.84	2.12 Hammersmith and Fulham	1.46 Victoria	2.05	2.61 Brent	1.59 Waltham Forest
Single handed GPs (%)	*25*	*29*	*46* Victoria	*16* Hammersmith	*22*	*41* Waltham Forest	*9* Kingston
Group practice GPs (%)	*50*	*44*	*53* Haringey	*21* Victoria	*53*	*68* Enfield	*36* Brent
Health centre GPs (%)	*15*	*16*	*30* City and Hackney	*2* Victoria	*14*	*40* Houslow	*0* Kingston, Bromley

with poorer quality of practice. The exception is the percentage of doctors in health centres for which there is little association between need and provision. The correlations between the quantity of provision (population per general practitioner) and the quality indices are −0.33 for single handed general practitioners, 0.48 for group practice, 0.33 for the mean number of general practitioners per practice and 0.01 for the general practitioners in health centres.

Discussion

This analysis has highlighted two points. First, it has been shown that high need areas do tend to have higher quantity of provision, but poorer quality of provision. In other words, there appears to be an inverse relationship between quantity and quality. However, it should be noted that some of the correlations between need and quality, although statistically significant, are not particularly strong. Furthermore, only a few simple structural criteria relating to 'size of practice' were examined, although other structural indices such as the age of general practitioners, the percentage of general practitioners with small lists, the percentage of general practitioners not born in the UK and the percentage of general practitioners with attached or employed nurses show, albeit at the family practitioner committee level, a similar spatial pattern.[5]

The important question concerns the trade-off between the criteria of quantity and quality. As Wilkin and colleagues[12] observe, there are few agreed and easily measurable criteria for what is adequate and what is desirable with respect to the quantity and quality of general practice. They argue that there is a danger of measuring what is easily measurable without considering what it means. Indeed, there are many unanswered questions. Can a general practitioner in a group practice manage a larger list than a single handed general practitioner? Can a 'good' doctor manage more patients than a 'bad' doctor, or fewer as he or she may spend more time with each patient? Do professional and patient views on dimensions of quality differ and if so, which view should prevail? Until these questions can be answered, any judgement about the adequacy of general practice in different areas must be open to challenge. More research is needed in developing and applying more sophisticated measures of the quantity and quality of provision so that the equity of delivery of general practice can be evaluated and, if necessary, rectified.

Secondly, this study has shown that the conventional wisdom of an inner city/outer city dichotomy in London is flawed: not all inner city areas suffer from high need and poor general practice, while not all outer city areas have low need and good general practice. A similar conclusion has been reached for Manchester in the study of Wilkin and colleagues.[12] So, it seems inappropriate to use the 'inner city' as a synonym for deprivation or high need since there are deprived areas outside the inner city and less deprived areas inside the inner city. There are also internal variations within district health authorities[9,11,12] and it would appear necessary to focus on even finer spatial units. In some studies data has been collected at electoral ward (average population 5000) and medical practice area level[9,13,14] and these may be the most appropriate levels on which to distribute resources.

As with other public services (for example, the rate support grant) and other forms of health care (for example, the hospital and community health service), the provision of general practice in different parts of the country must be allocated on some notion of need.[3] This principle appears to have been accepted by the government:[3,15] the so-called deprived area allowance. However, the details of the resulting policy are unclear and the impact which this will have on general practitioners and their patients in deprived areas remains to be seen.

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Table 3. Correlation matrix between need and provision indices.

	Population per GP	Single handed GPs	Group practice	GPs per practice	Health centre GPs
Not owner occupied	−0.53**	0.44*	−0.39*	−0.52**	0.20
No car	−0.58**	0.50**	−0.46**	−0.57**	0.16
Overcrowded	−0.71**	0.51**	−0.68**	−0.58**	−0.11
New Commonwealth	−0.32	0.07	−0.11	−0.23	−0.19
No facilities	−0.49**	0.44*	−0.41*	−0.48**	−0.04
Pensioner	0.04	−0.18	0.32	0.23	0.17
Unemployed	−0.35	0.31	−0.28	−0.45*	0.23
Social class 5	−0.34	0.25	−0.24	−0.39*	0.28

Two tailed tests with 29 df: * $P<0.05$, ** $P<0.01$.