

Regional distribution of family practitioner services: implications for National Health Service equity and efficiency

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SUMMARY. *In this study the total expenditure on family practitioner services in England was analysed in terms of its distribution between National Health Service regions. Expenditure was then allocated on the basis of estimated regional needs, taking into account the demographic mix of the population and the differentials in health between regions. A comparison between the two regional distributions highlighted the inequalities and inefficiencies in the current system of financing and providing family practitioner services. A coordinated approach to the planning of the separate elements of NHS provision is required which recognizes the interface between primary and secondary health care.*

Introduction

THE report of the Resource Allocation Working Party¹ published in 1976 led to the introduction of a budget allocation formula, the 'RAWP formula', as a means of determining the regional distribution of resources for hospital and community health services in England. The purpose of the report was to promote the provision of equal health care resources for equal need. Its authors, noting that hospital and community health services formed only one part of the total National Health Service (NHS) provision, advocated the integration of the resources for these services when planning the provision of family practitioner services, local authority social services and other caring services. To date such integration has not taken place, indeed the recent Department of Health and Social Security (DHSS) review of the operation of the RAWP formula² saw no case in principle for making any allowance for the levels of provision of family practitioner services in the allocation of resources for hospital and community health services.

The DHSS's explanation of the failure to integrate family practitioner services into the allocational formula, or to adopt any policy on the distribution of primary care services is that the provision of family practitioner services, unlike hospital and community health services, is not cash limited but demand determined. It does not follow, however, that demands and needs for family practitioner services coincide. Indeed, demand can follow supply and not the other way round.^{3,4} For instance, it is noticeable that the regional levels of provision of family practitioner services in terms of population per general practitioner are inversely related to observed and generally accepted notions of the regional differences in ill health.^{5,6}

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A similar picture was uncovered for the regional distribution of hospital and community health services when the Resource Allocation Working Party first looked at the problem over 10 years ago. However, the continued application of the RAWP formula has led to a gradual reduction in these regional inequalities — by 1986-87 no region was more than 3.9% below its estimated target share of the total resources compared with six of the 14 regions in 1979-80.

Despite the reluctance of the DHSS to consider differentials in the regional levels of provision of family practitioner services, there are a number of reasons why the issue should not be overlooked. First, family practitioner services represent the first point of contact with the NHS for the vast majority of patients. Hence, even if resources for hospital and community health services are allocated in accordance with estimated needs, the principle NHS objective of equal access for equal needs would still require a more equitable level of provision of family practitioner services. Secondly, imbalance in services relative to needs implies inefficiency as well as inequity. The total impact on population health, and hence the total benefits produced by the services, could be increased by redistribution of the existing levels of provision. Thirdly, the regional differentials in provision of family practitioner services coincide with the differentials in provision of hospital and community health services and hence the imbalances may reinforce rather than compensate for each other. Finally, policy initiatives such as the accelerated development of community care for the elderly, mentally ill and mentally handicapped have imposed increasing demands on family practitioner services. These increased burdens emphasize the interdependence of the primary care and hospital sectors and hence the need to extend regional and sub-regional policy on resource distribution to the family practitioner services.

The aim of this study was to compare the expenditure on family practitioner services of regional health authorities in England with the expected expenditure given the age and sex distributions and health profiles of regional populations. The effects of applying a RAWP policy to the provision of resources for family practitioner services have been considered.

Method

The expenditure on family practitioner services that would be incurred by each region if its population made the same mean age and sex specific demands on the service as the population of England as a whole was calculated. Adjustments were made to allow for recorded regional differences in health and the estimated expenditure needs of the regions were then compared with observed levels of expenditure. Two alternative methods were used to estimate relative expenditure needs using data for 1983. (A technical appendix giving full details of the calculations is available from the authors.)

In the first method expected expenditure by region was calculated by applying the observed age specific expenditure on family practitioner services per head for England to the age and sex specific population of each region. These population based expenditure needs were then weighted by each region's standardized mortality rates by sex to allow for regional variations in health care needs. Expected expenditure on births was weighted

by the ratio of the regional perinatal mortality rate to that for England as a whole to allow for regional variation in service needs for infants.

In the second method the average utilization rates of family practitioner services in England were applied to regional populations. For general medical services the age and sex specific mean number of general practice consultations per head for England was applied to regional age and sex specific populations and weighted by sex specific regional standardized mortality rates. For pharmaceutical services the sex specific mean number of prescriptions per head for England was applied to regional sex specific populations and weighted as above. For general dental and optical services the average number of dental treatment courses and sight tests per head for England were applied to regional populations to estimate expected utilization.

Standardized mortality rates are limited as an indicator of differential needs, but in the absence of suitable data on regional morbidity they are used in the RAWP formula to introduce some element of differential needs. They were used here for the same reason since regional differentials in standardized mortality rates do reflect, albeit imperfectly, the regional distribution of morbidity and hence make some allowance for differential needs.⁷

A resource distribution based solely on the size and demographic mix of regional populations was calculated thus providing a conservative estimate of the inequalities in the levels of family practitioner services provided.

Results

Table 1 shows the effects of allocating resources for family practitioner services based on expenditure for 1983–84 data. The regions further north — Northern, Yorkshire, Trent, West Midlands, Mersey and North Western — would gain from this method of allocating resources at the expense of the remaining regions. Table 1 also shows the application of these results to general practitioner manpower. It can be seen that Northern and North Western regions need to gain 203 and 345 doctors respectively (13.9% and 18.4% of their 1983 stock) while North West Thames and South Western regions should lose 310 and 230 general practitioners respectively (16.7% and 13.8%).

Estimating resource needs in terms of expected utilization generates similar results (Table 2) — Trent and Northern regions need to gain over 7% of actual expenditure while in North West Thames and South Western regions cuts of 9% and 12% in cur-

rent expenditure respectively are required.

Although the resource distribution based solely on the size and demographic mix of regional populations reduces the extent of the estimated inequality, the general picture remains the same; Trent and West Midlands need to gain most (£14 million and £8 million respectively) while South Western and North West Thames regions should lose almost identical amounts respectively.

Discussion

The results of this application of a RAWP formula to family practitioner services highlight the considerable inequalities in levels of finance and service provision which coincide with the existing inequalities in provision of hospital and community health services. The results appear to be insensitive to the method used to calculate level of need. However, whereas the use of the RAWP formula (and the corresponding formulae in Northern Ireland, Scotland and Wales) has narrowed inequalities in hospital and community health services, as yet little attempt has been made by government to mitigate these inequalities in family practitioner services.

The inequalities cannot be defended in terms of provision being demand determined, since the ability of patients to express needs as demands is conditional upon the availability of services. Furthermore, the poorer health profile of northern regions cannot be explained simply in terms of relative 'ignorance' or less concern about health while differentials in the availability of family practitioner services persist. Lennon, for example, reported that social class differentials in attendance for dental care were significantly smaller in areas with greater availability of dentists per capita.⁸ This suggests that the availability, and hence ease of access, of services may explain at least some of the observed differentials in health. However, greater availability need not generate improved levels of health.^{3,4} Since expressed demand is conditional upon availability of supply it would be more accurate to describe the current distribution of family practitioner services as supply determined.

There are two policy implications for improving resource allocation. First, an increased degree of budgetary control over expenditure on family practitioner services is required, since under any other arrangement, no matter what initiatives the government may use to allocate resources in accordance with need, the suppliers would still retain the power to override the

Table 1. Allocation of expenditure and of general practitioners by region based on expected expenditure.

Region	Percentage expenditure		Gain or loss in expenditure required		Number (%) of GPs		Gain or loss in no. of GPs required (%)	
	Target	Actual	% of regional provision	£m	Target	Actual		
North Western	9.7	8.8	+10.5	+25.50	2215 (9.7)	1870 (8.2)	+345	(+18.4)
Northern	7.3	6.7	+8.6	+16.08	1661 (7.3)	1458 (6.4)	+203	(+13.9)
Mersey	5.6	5.2	+7.9	+11.37	1271 (5.6)	1167 (5.1)	+104	(+8.9)
Yorkshire	8.1	7.7	+5.5	+11.64	1850 (8.1)	1742 (7.6)	+108	(+6.2)
West Midlands	11.5	10.7	+7.1	+21.07	2613 (11.5)	2459 (10.8)	+154	(+6.3)
Trent	10.1	9.3	+8.2	+21.07	2292 (10.1)	2109 (9.3)	+183	(+8.7)
Oxford	4.6	4.9	-6.6	-8.87	1039 (4.6)	1117 (4.9)	-78	(-7.0)
East Anglian	3.7	4.2	-11.0	-12.75	852 (3.7)	918 (4.0)	-66	(-7.2)
South Western	6.3	7.2	-12.2	-24.40	1438 (6.3)	1668 (7.3)	-230	(-13.8)
Wessex	5.5	5.9	-7.1	-11.64	1255 (5.5)	1361 (6.0)	-106	(-7.8)
North West Thames	6.8	7.7	-11.7	-24.95	1545 (6.8)	1855 (8.1)	-310	(-16.7)
North East Thames	7.6	7.7	-1.2	-2.49	1743 (7.7)	1849 (8.1)	-106	(-5.7)
South East Thames	7.3	7.7	-5.1	-10.81	1670 (7.3)	1785 (7.8)	-115	(-6.4)
South West Thames	5.9	6.3	-6.1	-10.53	1337 (5.9)	1428 (6.3)	-91	(-6.4)

Table 2. Allocation of expenditure and of general practitioners by region based on expected utilization.

Region	Percentage expenditure		Gain or loss in expenditure required		Number (%) of GPs		Gain or loss in no. of GPs required (%)	
	Target	Actual	% of regional provision	£m	Target ^a	Actual		
North Western	9.4	8.8	+6.5	+15.80	2206 (9.7)	1870 (8.2)	+336	(+18.0)
Northern	7.2	6.7	+7.5	+13.86	1668 (7.3)	1458 (6.4)	+210	(+14.4)
Mersey	5.5	5.2	+6.2	+8.87	1278 (5.6)	1167 (5.1)	+111	(+9.5)
Yorkshire	8.0	7.7	+3.5	+7.48	1843 (8.1)	1742 (7.6)	+101	(+5.8)
West Midlands	11.4	10.7	+6.4	+19.13	2618 (11.5)	2459 (10.8)	+159	(+6.5)
Trent	10.0	9.3	+7.6	+19.68	2294 (10.1)	2109 (9.3)	+185	(+8.8)
Oxford	4.7	4.9	-2.9	-3.88	1048 (4.6)	1117 (4.9)	-69	(-6.2)
East Anglian	3.9	4.2	-6.4	-7.48	852 (3.7)	918 (4.0)	-66	(-7.2)
South Western	6.3	7.2	-12.1	-24.11	1429 (6.3)	1668 (7.3)	-239	(-14.3)
Wessex	5.6	5.9	-6.1	-9.98	1244 (5.5)	1361 (6.0)	-117	(-8.6)
North West Thames	7.0	7.7	-9.2	-19.68	1559 (6.8)	1855 (8.1)	-296	(-16.0)
North East Thames	7.6	7.7	-0.4	-0.83	1745 (7.7)	1849 (8.1)	-104	(-5.6)
South East Thames	7.4	7.7	-4.5	-9.70	1672 (7.3)	1785 (7.8)	-113	(-6.3)
South West Thames	5.9	6.3	-5.1	-8.87	1333 (5.8)	1428 (6.3)	-95	(-6.7)

^aBased on GP expenditure — dentists, opticians and pharmacists have been excluded.

effects of such a policy. Secondly, greater attention needs to be paid to the levels of real service provision and the outputs produced by these services. At present little is known about the use made of the differing levels of provision. Where information is available, as for general practitioner referral rates⁹ and primary dental care,¹⁰ there is considerable evidence of gross inequalities in the levels of treatment. These inequalities match the inequalities in resource provision and raise serious questions about the efficiency of the care provided and of the services as a whole.¹¹

A coordinated approach to the planning of the separate elements of NHS provision which recognizes the interface between primary and secondary health care is required. Policies should be designed and implemented which ensure that the component parts of the NHS use their resources to provide an integrated system of care for patients which is both equitable and efficient.

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