

Reviewing RAWP

Making access to health care more equal: the role of general medical services

GWYN BEVAN, JOHN CHARLTON

Abstract

The Resource Allocation Working Party (RAWP) recognised the need to consider both health authority and primary care services in achieving its objective. RAWP and the subsequent Advisory Group on Resource Allocation (AGRA) found (but did not publish) considerable variation in resources used by both services but could not find a clear relation between them. Statistics provided by the DHSS were used to compare spending by 80 area health authorities in 1980-1 with expenditure per head on general medical services by their corresponding family practitioner committees. There was considerable variation in the provision of resources for both services and no clear relation between the variations in spending on each service. Only 40 of the 80 areas had both health authority and family practitioner committee spending levels within 10% of "target."

Subregional inequalities in resources tend to be related to variations in admission rates, which in turn are related to general practitioners' referral behaviour. These results emphasise the importance of finding out more about inequalities in the provision of general medical services and their relation to the use of hospital services. They also suggest that RAWP's aim of equality of opportunity of access to health care resources may be achieved only if general medical services are brought into the equation as well.

Introduction

This series on the Resource Allocation Working Party (RAWP) began with Mays's review² of the ways of accounting for morbidity and social deprivation, because these are at the centre of the current review of RAWP by the National Health Service Management Board.³ This emphasis in turn reflects preoccupations in the debate about RAWP's methods over the past decade. Here we consider a related issue raised by the working party over the exclusion of family practitioner services from its terms of reference. The concern of both the review of RAWP and the green paper on primary health care⁴ with the problems of inner cities, where high morbidity, severe social deprivation, and poor general practice may occur together, suggests that these two issues may be related. As the report on the current review of RAWP points out, such problems can also occur outside cities. This makes the concern more general and brings

the emphasis back to the working party's interpretation of its underlying objective: "to secure through resource allocation that there would eventually be equal opportunity of access to health care for people at equal risk."¹

The working party argued that both health authority and family practitioner services would have a significant impact on each other, as each responds to the same criteria of need. The available evidence suggested considerable disparities in the levels of provision of both, and RAWP argued that these disparities were unlikely to be compensatory or causally related.

In 1978 the Advisory Group on Resource Allocation (AGRA) was appointed to consider research relevant to resource allocation. Its studies confirmed the substantial variations between health authorities in levels of expenditure on family practitioner services per head of population and showed a lack of relation between spending on primary care and hospital services.⁵ Before it was wound up in 1980 the advisory group identified this subject as one of the important matters on which research was still needed.⁵

Birch and Maynard⁶ and Williams⁷ have recently drawn attention to regional inequalities in spending on family practitioner services. Inequality tends to be greater within rather than between regions, but it has so far been difficult to get comparable statistics for subregional spending on family practitioner and health authority services because they are calculated on different bases for different geographical areas.

Spending by family practitioner committees includes ophthalmic, dentistry, pharmaceutical, and general medical services provided by family doctors. The last is of the most interest in the overlap between family practitioner and health authority services. During research to identify the reasons for the sizable subregional variations in the incidence of "avoidable deaths" the DHSS provided us with statistics for 1980-1 on spending by area health authority and spending on general medical services by the corresponding family practitioner committee. Our analysis of these figures, described here, suggests considerable subregional disparities in the level of provision of both services.

Method

There are 90 English family practitioner committees, which correspond to the former area health authorities. The DHSS supplied data on revenue spending and targets for all except five area health authorities and expenditure on general medical services for all except (a different) five family practitioner committees. So comparable data were available for 80 family practitioner committees and area health authorities.

The "distance from target" for each area health authority was calculated. This is a percentage ratio with the difference between spending and RAWP target as numerator and RAWP target as denominator; a positive distance from target means that spending exceeds the RAWP target and vice versa.

Department of Community Medicine, United Medical and Dental Schools, St Thomas's Campus, London SE1 7EH

GWYN BEVAN, MA, senior lecturer in health economics

JOHN CHARLTON, MSc, lecturer in statistics (now statistician at the department of health and social security)

Correspondence to: Mr Bevan.

To measure variation in resource provision for general medical services we simply used crude population to give mean expenditure per head for each family practitioner committee and the national average (for the 85 committees for which these data were available). To correspond to an area health authority's distance from target a "distance from mean" statistic was calculated for each family practitioner committee. This is a percentage ratio with the difference between the family practitioner committee's spending per head and the national average as numerator and the national average mean expenditure per head as denominator; a positive distance from mean shows that the committee's mean expenditure per head exceeds the national average expenditure and vice versa. The Jarman score of underprivileged areas,^{10,11} developed to indicate demand on general medical services, was used to examine whether variation in spending per head on general medical services by family practitioner committees was due to the differing demands of their populations.

Results

Table I summarises the data supplied by the DHSS on distance from target for 85 area health authorities and distance from mean and mean expenditure per head on general medical services for 85 family practitioner committees. These statistics suggest that inequality is as great for family practitioner committees as it is for health authorities.

TABLE I—Statistics for expenditures by area health authorities and by family practitioner committees on general medical services

Type of expenditure	Mean	Standard deviation	Range	
			Minimum	Maximum
Family practitioner committees' expenditure on general medical services per head (£)	6.76	0.64	4.76	8.77
Family practitioner committees' distance from mean* (%)	0.0	9.5	-30	+30
Area health authorities' distance from target† (%)	3.9	8.6	-23.7	+23.0

*Distance from mean is a percentage ratio with difference between each family practitioner committee's mean and national average expenditure per head on general medical services as numerator and national average mean expenditure per head as denominator. The national average was calculated for the 85 family practitioner committees for which these data were available.

†Distance from target is a percentage ratio with actual expenditure less RAWP target as numerator, and RAWP target as denominator. RAWP targets were calculated by DHSS.

Sources—Area health authorities' expenditure and targets for 1980-8: DHSS. Family practitioner committee—mean general medical services expenditure per head: expenditure from general medical services family practitioner committee accounts for 1980-81; population statistics from OPCS.

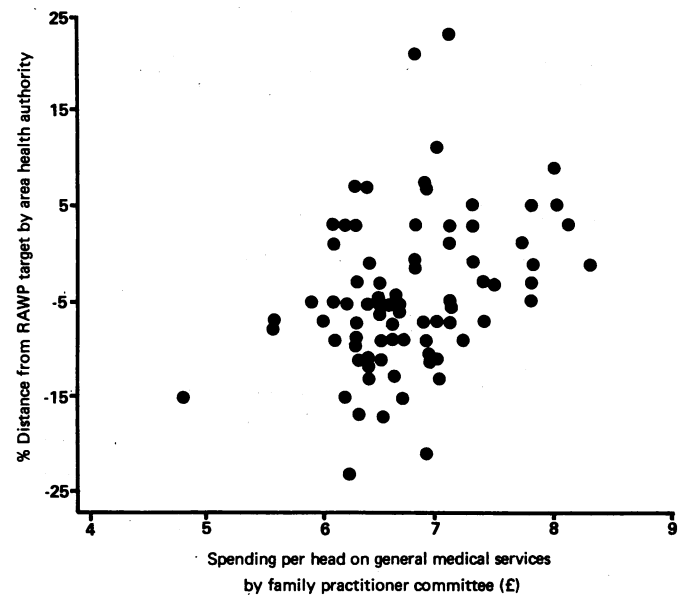
The figure shows the relation between health authorities' distance from target and family practitioner committees' spending per head and shows a weak but statistically significant positive correlation ($r=0.36$; $p<0.01$) between the levels of spending on the two services.

Table II gives numbers of authorities and committees with distances from both targets and means larger (positive or negative) than 10% and 15%. The centre column identifies authorities with spending within 10% of the target. The centre row identifies authorities with mean spending per head by their family practitioner committee within 10% of the national average. Only 40 of the 80 authorities had both revenue spending within 10% of target and general medical services spending within 10% of the national average. So for half of the health authorities their own spending differed from target by more than 10% or spending on general medical services differed from the national average by more than 10%. It was exceptional, however, for both differences to be greater than 10%; the only two authorities for which this was observed were Wiltshire (distance from target -17%, distance from mean -30%) and Staffordshire (-24% and -10%, respectively).

Mean expenditure per head on general medical services was slightly negatively correlated with the Jarman score of each family

TABLE II—Distances from target of area health authorities and distances from mean of corresponding family practitioner committees

No of family practitioner committees with distance from mean	No of area health authorities with distance from target:					Total
	>15% below	-15% to -10%	-10% to 10%	10% to 15%	>15%	
>15% below	1	0	3	0	0	4
-10% to -15%	1	0	7	0	0	8
-10% to 10%	3	13	40	1	2	59
10% to 15%	0	0	5	0	0	5
>15%	0	0	4	0	0	4
Total	5	13	59	1	2	80



Distance from target and spending per head on general medical services.

practitioner committee ($r=0.07$; $p>0.10$), a result suggesting that high mean expenditure per head on general medical services was unlikely to be justified by higher demand for those services.

Discussion

SHIFTS IN EMPHASIS SINCE RAWP REPORTED

These results are consistent with those reported by both RAWP¹ and AGRA.⁵ We found considerable variation in the provision of resources for area health authorities and for the general medical services of their corresponding family practitioner committees. There was no clear relation between the variations in spending on each service. There are two reasons why investigation of the interaction between health authority services and general medical services can only be more timely now than when RAWP called for such a study in 1976.

Firstly, RAWP's emphasis was on achieving regional equality, but on RAWP's criteria this should have been virtually achieved by the 1990s: the revenue expenditures of regional health authorities should be close to target levels. If we assume equality between these authorities' expenditures and then ask what is likely to be crucial in achieving RAWP's underlying objective within each region our answer must include general medical services as well as district RAWP targets. Indeed, in terms of frequency of contact, general medical services are obviously overwhelmingly important. If general practitioners are the gatekeepers to hospitals it is important for everyone to have good access to the gatekeeper. An idea which may warrant serious consideration is to secure RAWP's objectives

by ensuring that everyone has equal access to general practitioners and by giving general practitioners good information on waiting times in different hospitals. General practitioners could then refer patients to hospitals in other districts as necessary.

Secondly, RAWP envisaged regional equality being achieved through growth, and much progress has been made in this way. But some district health authorities in inner London are now experiencing real reductions in financial allocations.¹² The London Advisory Group saw the need in such circumstances for reductions in hospital services to be accompanied by increased resources for community (and other) services and primary care,¹³ and the Acheson report identified inadequacies in London's primary care.¹⁴

RAWP's methods emphasise studying how one service might be compensated for inadequacies in the other; indeed, both RAWP and AGRA saw the issue this way. By contrast, the report on the current review of RAWP asserted that inadequacies in primary care "should be tackled at source rather than compensated for through the RAWP formula."¹⁵ Williams points out that this robust view will prove constructive provided that inadequacies are indeed tackled at source.⁷ But first they need to be identified. This raises questions about the capacity to do this for general medical services.

EQUITY AND GENERAL MEDICAL SERVICES

A common criterion of equity in general medical services is list size of general practitioners. But this can be misleading: the Acheson report showed how in London, although the mean list size was small, access to general practitioners was poor and people often experienced great difficulty in even getting registered.¹⁴ A similar difficulty bedevils the problem of making inferences about provision of general medical services from data on spending per head. For hospital services there are strong relations between authorities' relative levels of spending and supply and delivery of services, but there is no equivalently strong relation for general medical services. The Acheson report observed that spending per head on these services was high in London for various reasons quite unconnected with the services delivered. Thus surrogate indicators of access, whether based on list size or expenditure, can be misleading. The difficulties in relating spending to access spring from the complex nature of general medical services finances and limitations in information. For example, Dowson and Maynard, in their survey of general practice,¹⁵ described information on manpower, activity, and cost as "woefully inadequate" in terms of knowing the full extent of changes that are taking place and their impact on the standard of provision and quality of care.

It is illuminating to compare the bases that underlie allocations to health authorities, aimed at securing equity, with payments for general medical services. Health authority targets attempt to allow in detail for the relative needs of age and sex and relative morbidity. Payments for general medical services do not. The capitation element of payment is crudely related to the needs of the population with different rates for people aged less than 65, over 65 but less than 75, and over 75. But the data of the general household survey show variation in consultation rates not only by age group for the under 65s but also by sex within each group.¹⁵ There is also no provision in general medical services for geographical variations in relative morbidity.⁷

The complex rules regarding payments for general medical services result in a variety of payment methods, which form an immediate obstacle to making general inferences about inequality resulting from variations in spending per head. But this obstacle is not as severe as might be supposed. Jarman's survey of primary care in London included a table that analysed the composition of payments for London family practitioner committees compared with the national average.¹⁶ This showed that the bulk of payments are from a few main methods (basic practice allowance and capitation fees), with broad consistency in the sums paid by each method. Analysis of a sample of committee accounts using the general medical services data on which this paper is based again showed broad consistency in their composition in terms of the main payment methods.

Furthermore, the variation that did exist was not related to variations in expenditure per head. The complexities of general medical services finances ought not to obscure disparities in spending per head in 1980-1 between family practitioner committees where the composition of accounts might be expected to be similar: for example, why should expenditure per head on general medical services by Somerset's residents have been nearly twice that of Wiltshire's? At a regional level Birch and Maynard have shown that inequalities in spending persist in the face of various weightings of the regions' populations.⁶

POLICY ISSUES

RAWP's concern over the interaction between family practitioner and health authority services appears to have been misdirected: analysis suggests that health authorities whose spending is above target also tend to have more than their fair share of spending on general medical services, although the correlation is not strong; thus allocating more resources to health authorities in the same way as now will not compensate for deficiencies in general medical services. What emerges is a need to identify deficiencies and take steps to achieve equity in payments made for a fundamental part of the NHS. Neither the green paper on primary health care⁴ nor Butler's review¹⁷ of responses to it mentions the issue of equity, but Williams⁷ calls for this to be at the centre of debate now that the report³ of the review of RAWP sees no case for allowing for family practitioner committee services in the formula.

Equally important is further consideration of interaction between the services. Subregional inequity in resources currently allocated to district health authorities tends to be due to a corresponding variation in hospital admission rates. Thus a more equitable allocation of resources implies reducing this variation. General practitioners play a crucial part in the process through which an individual may or may not be admitted to hospital. The green paper on primary health care drew attention to possible variations in general practitioner referral rates to hospitals.⁴ But a referral is an unusual outcome of any consultation even for a general practitioner with high rates and may thus not appear to be of central concern to those responsible for family practitioner services. The imbalance of interest in this issue from the perspective of patients is indicated by the attempts to link hospital admission rates with measures of morbidity and social deprivation, disregarding the role of the general practitioner.²

In the first paper of this series Mays questioned attempts to use data on district health authority admission rates to measure relative need because these data are biased by the current distribution of supply. Subsequent papers in this series examine in different ways difficulties arising from variations in admission rates in determining district health authority allocations by subregional RAWP. The points we wish to emphasise here are: the importance of getting better measures of what an equitable distribution of resources for general medical services would look like; developing indicators of access to them; and understanding the role of general practitioners in influencing variations in admission rates between health authorities. When RAWP suggested compensating health authorities for inadequacies in family practitioner services these issues were not well understood. Now our analysis shows more clearly the need to understand the relation between the two services if RAWP's objective is to be achieved.

We thank Walter Holland, Nicholas Mays, David Morrell, and Lucy Gardner for comments and the DHSS for financial support. The usual disclaimer applies.

References

- 1 Department of Health and Social Security. *Sharing resources for health in England. Report of the resource allocation working party (RAWP)*. London: HMSO, 1976.
- 2 Mays NB. Reviewing RAWP: Measuring morbidity for resource allocation. *Br Med J* 1987;295:703-6.
- 3 Department of Health and Social Security. *Review of the resource allocation working party formula*. London: Department of Health and Social Security, 1986.

- 4 Department of Health and Social Security. *Primary health care: an agenda for discussion*. London: HMSO, 1986. (Cmnd 9771.)
- 5 Department of Health and Social Security. *Report of the advisory group on resource allocation (AGRA)*. London: Department of Health and Social Security, 1980.
- 6 Birch S, Maynard A. *The RAWP review: RAWPing primary care; RAWPing the United Kingdom*. York: Centre for Health Economics, University of York, 1986. (Discussion Paper 19.)
- 7 Williams BT. RAWPing general practice. *Br Med J* 1987;294:1114-5.
- 8 Cottrell K. An acute indicator for an acute problem. *Health and Social Services Journal* 1985;September:1196-7.
- 9 Charlton JRH, Hartley R, Silver R, Holland WW. Geographical variation in mortality from conditions amenable to medical intervention in England and Wales. *Lancet* 1983;i:691-6.
- 10 Jarman B. Identification of underprivileged areas. *Br Med J* 1983;286:1705-8.
- 11 Jarman B. Underprivileged areas: validation and distribution of scores. *Br Med J* 1984;289:1587-92.
- 12 King's Fund. *Planned health services for inner London*. London: King Edward's Hospital Fund for London, 1987.
- 13 Department of Health and Social Security. *Acute hospital services in London*. London: DHSS, 1981. (London Advisory Group report.)
- 14 Department of Health and Social Security. *Primary Health Care in London*. London: DHSS, 1980. (Acheson report.)
- 15 Dowson S, Maynard A. General practice. *Health Care UK 1985*. London: CIPFA, 1985: 15-26.
- 16 Jarman B. *A survey of primary care in London*. London: Royal College of General Practitioners, 1981.
- 17 Butler JR. Thirst for new wine: responses to "agenda for discussion." *Br Med J* 1987;294:1066-8.

Personal Paper

Diet and dialysis

PEDER K K KNUDSEN

Abstract

Personal experience shows that subjective and objective improvements can be achieved in chronic renal failure treated with dialysis. These aims were achieved by limiting energy intake to 8 MJ a day and by substituting cassava for bread and potatoes, thereby reducing the intake of protein, sodium, potassium, and phosphorus. Water soluble vitamins were added to the diet. With this regimen blood urea concentrations vary between 2.5 and 12 mmol/l for most of the week and the packed cell volume between 0.30 and 0.37.

Introduction

It is difficult to reach scientifically valid or proved guidelines for treating patients with chronic renal failure, given their varied diets and lifestyles. I have been on haemodialysis for nine years and have visited several renal units other than my main unit. Generally I have failed to find any consensus on treatment with haemodialysis combined with diet. I have also found some resignation to a once fatal condition and a lack of commitment to make the best of things. Patients do not know enough about their disease and are not motivated to keep to a suitable diet. But, in my view, this is an absolute must: my well being did not start to improve until I took an active hand in my own treatment.

The following is based on the experience of a patient who is also a surgeon with nine years of dialysis and nine years of trial and error behind him. A 62 year old man, I have cysts in my remaining kidney. Over the period of observation (1981-6) my weight has fallen from 65.5 kg to 61 kg, remaining at 61 kg for three to four years; over this time both muscle volume and strength have increased, but urinary output has fallen from 50 ml/day to about 5 ml/day. Creatinine clearance is zero.

My own experience shows that patients with chronic renal failure do not have to feel ill. It is possible with diet and dialysis alone to

bring the blood concentrations of urea, potassium, and phosphorus back to normal. As a result and without added erythropoietin the packed cell volume will rise to 0.30 or above. It is an admission of failure if a patient has to resort to blood transfusions and aluminium hydroxide.

Seeing the light

I passed my watershed on 8 June 1983. Until then I had undergone dialysis for five hours three times a week. Without enough understanding of the importance of diet at that time I became anaemic and had to have transfusions of two units of blood every month. I had several bouts of uraemic pericarditis and pleurisy and was admitted to hospital three times with endocarditis. In those days my blood urea concentration was about 30 mmol/l. I accepted my condition as inevitable, thinking that this was what it was like to have chronic renal failure. During the winter of 1982-3 I made some observations that proved that I could provoke haemopoiesis if I could improve the dialysis. I took up the challenge.

On 8 June 1983 I increased the speed of the blood pump from 200 ml/min to 350 ml/min, to get maximal clearance. I extended the dialysis time from five hours to five and a half hours. I exchanged my DAK 90 dialyser for a DAK 135. Finally, I tightened my diet still further. My blood urea concentration fell below 20 mmol/l for the first time, and after some months my packed cell volume slowly rose to a plateau of 0.30. Then I imported some cassava from England to replace the potatoes and most of the bread in my diet, and the packed cell volume rose to 0.37 (see graph).

The diet

The main problem for patients with renal disease is to get enough energy and essential amino acids without too much protein, potassium, and phosphorus. I try to limit my intake to fewer than 8.36 MJ (2000 kcal)/day and my protein intake to less than 40 g/day. These are distributed between two meals, morning and evening (more meals than this entails difficulties in limiting the total intake).

I decided that cereals and potatoes were of no use as my main staple. If they are relied on as the main source of energy both bread and potatoes provide too much protein, and potatoes also provide too much potassium. I rejected them in favour of cassava (*Manihot*

8300 Odder, Denmark

PEDER K K KNUDSEN, MD, consultant surgeon

Correspondence to: Mr Knudsen, Hagemannsgade 2, 8300 Odder, Denmark.