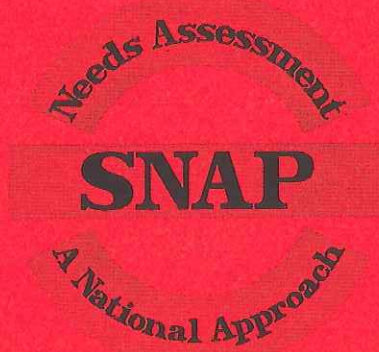


# Scottish Needs Assessment Programme



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## UNDERSTANDING THE SHIFTS BETWEEN PRIMARY AND SECONDARY CARE IN SCOTLAND AND IMPLICATIONS FOR FUTURE POLICY

SPECIAL PROJECT COMMISSIONED BY SNAP

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# Scottish Needs Assessment Programme

## Understanding the Shifts between Primary and Secondary Care in Scotland and Implications for Future Policy

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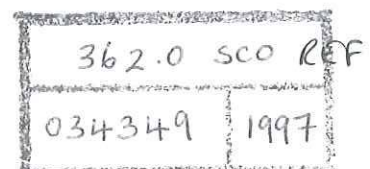
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## 1 Executive summary

The increased emphasis on a 'primary care centred' NHS has far reaching implications for the future structure of the Scottish Health Service. Although primary care workload is apparently increasing, so is activity in the secondary care sector. In short, the current pattern and direction of shifts in the balance of care are unclear.

The aim of this paper is to attempt to clarify these issues using routinely held data. More explicitly, the objectives are to:

- define major 'programmes' of expenditure by care setting in Scotland;
- examine and quantify changes in the relative size of these programmes between 1991/92 and 1995/96;
- assess the 'evidence-base' for shifts between programmes; and
- evaluate the approach used as a framework for assessing these issues.

For Scotland as a whole, the key results from this paper are that:

- real expenditure on the secondary care programme has remained stable;
- real expenditure on the primary care programme has increased at a rate ahead of total growth; and
- due to these differential growth rates, 3% of total expenditure has 'shifted' from the secondary care programme to the non-hospital programmes.
- a programme budgeting approach is a useful methodology for monitoring broad policy objectives.

Using routine data, it is found that, at the aggregate level, there is evidence of changes over time in the balance of resource allocation between care settings: relative investment into primary care has increased. However, it is important to note that this investment is from growth money and so it is difficult to conclude that services have actually 'shifted' from secondary and into primary care. Furthermore, the 'shifts' are relatively small, slow, localised to a minority of Health Boards, and are unevaluated as to their effects on costs and benefits to patients.

Aggregate data can not pinpoint whether specific services have 'shifted'. Broadly, however, secondary care spend has remained stable, despite significant reductions in inpatient maternity and mental health expenditure. The dominant area, expenditure on acute inpatients, has remained constant. Within primary care, over half of the increase in expenditure can be attributed to increased prescribing activity and costs, with practice nurses being the other key area of increase. It is important to note that two of the largest changes, the rise in admissions in the secondary care sector and the rise in drug expenditure, have been unplanned.

A 'primary care centred' NHS implies a shift in activity to primary care. However, it can also encompass the devolvement of decision making to primary care. For the shift in activity, it is crucial to gather evidence on the costs and benefits of such shifts before they are adopted. The type of analysis presented in this paper is also important for monitoring shifts over time against policy objectives.

## **1.1 Recommendations**

- NHS policies should be constantly monitored against objectives.
- Shifts of service between care setting should be properly evaluated on a case by case basis.
- Further research needs to be conducted into the changes in costs and benefits of shifts to primary care.



## 2 Background

As the Scottish Health Service continues with fundamental structural change, the role of needs assessment and evidence based practice becomes crucial in assessing the appropriateness of new policies. The 'shift to primary care' is one such policy and has been central to the development of the NHS for the past five years. The Scottish Needs Assessment Programme (SNAP) commissioned this research for two broad reasons:

- i) to ask sensible questions about the 'need' for, and the appropriateness of, planned and unplanned shifts in primary care; and
- ii) to explore the value of a more economics based approach to needs assessment, including the use of comparative routine data.

Part of the motivation in taking this approach is to discover the utility of taking a broader definition and wider methodological approach to 'needs assessment' than has hitherto been the case. 'Need' has been previously defined as the 'capacity to benefit'. However, from an economic and commissioning perspective, knowing about benefit is only helpful if it can be set alongside costs.

### 2.1 *The shift to primary care*

There are many forces that can determine the shift to primary care. In the UK, the NHS reforms of 1990/91, and particularly the introduction of GP fundholding, were the main policy changes that were designed to encourage such shifts. In 1994, the increasing trend towards a primary care led NHS was given impetus by the document, '*Developing NHS purchasing and GP fundholding. Towards a primary care led NHS.*' (Department of Health, 1994). This heralded the introduction of total fundholding, which, combined with pressures in the secondary care sector (e.g. day surgery, early discharge, care in the community), the trend towards a primary care centred NHS seemed assured.

However, doubts about the extent to which this policy is being achieved have been revealed by increases in hospital admissions in certain specialties, (e.g. adult medicine) and increases in accident and emergency activity (Capewell, 1996; Kendrick, 1996). Combined with evidence that it is only GP practices in affluent areas and in areas of population growth that tend to be innovative (Leese and Bosanquet, 1995), it therefore remains unclear the extent to which a primary care centred NHS is being achieved and the extent to which the benefits outweigh the costs (Coulter, 1995; Scott 1996).

Furthermore, the actual definition of a primary care focused NHS is unclear. A primary care *centred* NHS, which implies an increasing proportion of activity takes place in primary care settings, is potentially different from a primary care *led* NHS. Here, it is decision making power that is devolved to primary care (rather than activity). These definitions are not mutually exclusive and are concurrent with a variety of forces (such as advances in technology) and policy changes that lead to the transfer of activity and power between the two sectors. The appropriateness and impact of the policy of creating a primary care focused NHS has to be interpreted in the context of these wider changes.



### 3 Methods

The aims of this paper are:

- a) to define, using routine data, a primary care 'programme' and a secondary care 'programme' in Scotland;
- b) to examine and quantify changes in the size of the primary and secondary care programmes between 1991/92 and 1995/96;
- c) to assess the 'evidence-base' for shifts between primary and secondary care; and
- d) to assess the worth of the approach used as a framework for assessing these issues.

Scotland is an appropriate setting for this analysis for two reasons. First, there are routinely collected data on activity and costs that allow this broader picture to emerge more fully than is currently the case for other parts of the UK. Second, Scotland is a distinct economic and decision making system that is still relatively small.

In tackling objectives (a) and (b), this work uses a programme budgeting methodology to analyse changes over time in the balance of NHS resource allocation with respect to care setting (Donaldson et al., 1995). Total NHS revenue expenditure for the 15 Scottish Health Boards has been grouped into four blocks or 'programmes': primary care, secondary care, community care and a residual. Primary and community care were combined into a 'non-hospital' programme for some analyses. Capital allocations have been excluded as have all other resources not governed by Health Boards, e.g. The State Hospital. GP purchasing resources are included as part of the secondary programme, while GMS is included in primary care. Data were analysed for both Scotland as a whole and for each Health Board.

The primary care programme budget is based on the historically defined family health budget allocation. It consists of all expenditure (cash and non-cash limited) on General Medical Services (GMS), General Dental Services (GDS), GP Pharmaceutical Services and General Ophthalmic Services (GOS) not provided in a hospital. It also includes expenditure on laboratory services available directly to GP's (direct access).

The secondary care programme consists of all hospital based services and is based on the Hospital and Community Health Services (HCHS) budget allocation, net of community and purchaser overhead expenditure. This programme also includes expenditure on all other direct access services available to GPs, such as physiotherapy.

The community care programme consists of expenditure on district nursing, community midwifery, health visiting, community psychiatric nursing, and immunisation. The residual programme includes all other Health Board expenditure including: Board administration including corporate management; contract negotiation and monitoring; strategic planning and assessment of need; primary care administration; health promotion; local health councils and other Board services.

The study period for this time series analysis is 1991/2 - 1995/6, the five years post NHS reforms. The principal source for expenditure data is the Scottish Health Service Costs Blue Books 1991/2 - 1995/6. 1991/2 has been used as the base year for all trend analyses as 1990/1 data excludes capital charges that were introduced in that year. Expenditure data are presented in nominal and real terms.

Blue book expenditure data have been compared, at the macro level, with the Scottish Office Annual Audited Accounts 1991/2 - 1995/6. This involved the comparison of differences between the two data sources. It was found that Blue Book data for 1991/2 - 1993/4 do not include cash-limited budgets for GP Pharmaceuticals and GMS, whilst the Audited Accounts and the 1994/5 and 1995/6 Blue Books do. Also Audited Accounts primary care budgets do not include any resources for direct access services, all these are within HCHS budgets. In order to allow for these inconsistencies several amendments have been made. Thus the results presented here are not simply as shown in the Scottish Health Service Costs Blue Books.

Given that labour makes up the largest share of the cost of health care, analysis of staffing trends within programmes may aid understanding of any shifts. To supplement (and validate) data on programme budgets, total numbers and skill-mix of staff employed were analysed by programme. In addition, measures of activity were examined.

To address objective (c), an assessment of the evidence base for shifts to primary care, studies were identified from electronic databases (Medline, Excerpta Medica, and Social Sciences Citation Index) using keywords related to the balance of care, general practice, and the evaluation of community care. Studies were also identified from the citations of the articles retrieved and from previous reviews of the literature. The search strategy was based on Dickersin et al. (1991) but did not include hand searching of journals or contacting the authors of studies. Papers excluded from the review were letters, burden of illness studies, and case studies. Studies performed outside the UK were not included because they were considered not to be relevant. Studies undertaken before 1983 were also excluded, since the debate on community care of the elderly and mentally ill commenced with the publication of *Care in the Community* (DHSS, 1983). Only economic evaluations of shifts in the balance of care were retrieved since a full assessment of the appropriateness of such shifts can only be made on the basis of changes in both costs and benefits (i.e. health gain and other benefits to patients). The main criteria for including studies in the review were that they included a comparison of primary/community care with secondary/long stay care.

Finally, to tackle objective (d), a report showing preliminary findings was drafted and a workshop convened to obtain feedback from Health Boards. General Managers, Directors of Public Health and representatives from Primary Care from all Scottish Health Boards were invited to attend. 30 people from 13 Health Boards attended the meeting. The workshop had several objectives: to gain broad agreement on the quality of the data used; to develop the thinking in the paper; to identify further work; and to discuss policy implications and dissemination. A 'parallel thinking' approach was used, where discussion is channeled, first only to points of information; second only to 'gut reactions'; third only to critical appraisal and fourth only to creative thinking.



## 4 Results

### 4.1 Programme Budgets for Scotland

Trends in expenditure for the primary, secondary, community and non-hospital (primary and community together) care programmes are shown in Tables 1 and 2 and Figures 1 and 2. The trends in staffing in the primary and secondary care programmes are shown in Tables 3 and 4.

Over the 5 year study period, the 15 Scottish Health Boards received a total of £727 million of 'growth' money. Secondary care received 45% (£325m) of this whilst primary care received 40% (£290m). In total, more growth money has been invested in secondary care than primary care. However, incrementally the proportion of growth money spent in primary care is greater than the proportion of existing resources spent in primary care, the effect of which is to tip the balance of resources towards primary care.

**Table 1: Programme Budgets**

	91/2 £millions	92/3 £millions	93/4 £millions	94/5 £millions	95/6 £millions	91/2 %	92/3 %	93/4 %	94/5 %	95/6 %
1. Primary (real terms)	£764.3 (£885.7)	£ 829.0 (£898.8)	£916.8 (£961.4)	£976.6 (£999.0)	£1,054.0	100	108.5 (101)	120.0 (109)	128.8 (113)	138.0 (119)
2. Secondary (real terms)	£2,113.6 (£2,449.3)	£2,249.3 (£2,438.8)	£2,370.0 (£2,485.2)	£2,411.3 (£2,466.6)	£2,438.7	100	106.4 (100)	112.1 (101)	114.1 (101)	115.4 (100)
3. Community (real terms)	£252.9 (£293.1)	£272.4 (£295.4)	£288.9 (£302.9)	£303.1 (£310.1)	£337.5	100	107.7 (101)	114.2 (103)	119.8 (106)	133.5 (115)
<i>Non-Hospital (real terms)</i>	<i>£1,017.2 (£1,178.8)</i>	<i>£1,101.4 (£1,194.2)</i>	<i>£1,205.7 (£1,264.3)</i>	<i>£1,279.7 (£1,309.0)</i>	<i>£1,391.5</i>	<i>100</i>	<i>108.3 (101)</i>	<i>118.5 (107)</i>	<i>125.8 (111)</i>	<i>136.8 (118)</i>
4. Residual (real terms)	£200.7 (£232.6)	£201.6 (£218.6)	£156.2 (£163.8)	£ 200.6 (£205.2)	£228.3 (£228.3)	100	100.4 (94)	77.8 (70)	100.0 (88)	113.8 (98)
Total (real terms)	£3,331.4 (£3,860.6)	£3,552.3 (£3,851.6)	£3,731.9 (£3,913.4)	£3,891.6 (£3,980.9)	£4,058.5	100	106.6 (100)	112.0 (101)	116.8 (103)	121.8 (105)

Computing actual annual increases by programme as a percentage of actual annual increases in total expenditure, shows a 'blip' in 1993/4. More generally, however, the data shows that primary care is *increasing* its share of annual 'growth money' (29% to 46%), whilst the trend for secondary care is *downward* (61% to 16%) (see bottom half of Table 2).

Broadly, total nominal revenue expenditure for all Scottish Health Boards *increased* at a *decreasing* rate during the study period. Nominal annual growth rates for total spend fell from 6.6% in 1992/3 to 4.5% in 1995/6 (Table 2). To reflect actual purchasing power across the years in the study period all costs have also been expressed at a constant general price level: in 'real terms'. Applying the HCHS pay and prices indices<sup>1</sup> (Policy Appraisal and Health, DoH 1995), in real terms (at 1995/6 prices) total spend fell by 0.2% in 1992/3, rose by 1.6% in 1993/4, increased by 1.7% in 1994/5 and by 2.0% in 1995/6. (Table 2)

By programme, growth rates (nominal and real) have been *fastest* in primary care for every year of the study period (except in 1995/6 when community care gained most) (Table 2).

**Primary care.** Primary care has been the *fastest* growing programme over the study period. Of the £727m total increase in expenditure, the absolute increase for primary care is £290m (40%). Nominal expenditure *increased* by 38% compared to base year (19% in real terms), a rate ahead of both the secondary programme and total expenditure (Table 1). Figure 1 shows that the primary care share of total revenue expenditure *increased* by three percentage points (from 22.9% to 26.0%). This represents a 13% increase of primary care's share since 1991/2 (Figure 1a).

Within primary care WTE numbers of all staff types have *increased* (Table 3). Total WTE primary care staff have *increased* by 11% compared to base year. The total numbers of GPs have *increased* by 2.2%. The total numbers of Practice Nurses (WTE) have *increased* by 26% and the total numbers of all other Practice Ancillary staff (WTE) have *increased* by 11.4%.

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<sup>1</sup> HCHS Pay & Prices Index : 1978/9 = 100; 1991/2 = 338.7; 1992/3 = 362.0; 1993/4 = 374.3; 1994/5 = 383.7; 1995/6 = 392.5 (estimate).

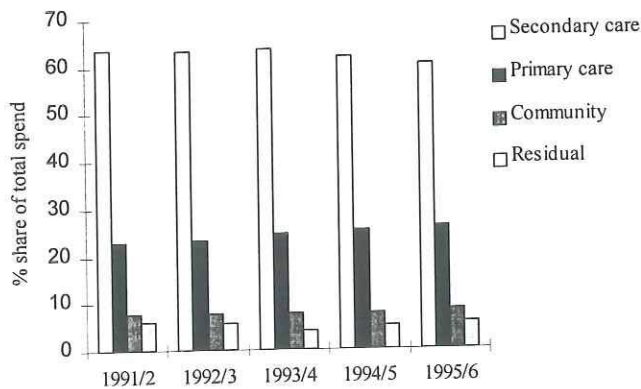


**Table 2: Programme Statistics<sup>1</sup>**

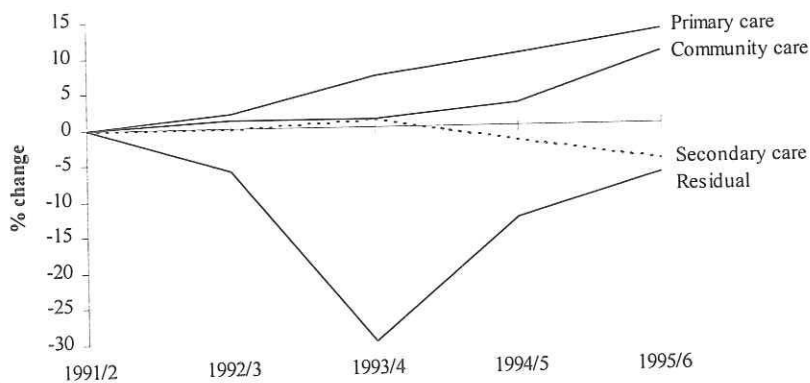
	91/2	92/3	93/4	94/5	95/6	91/2	92/3	93/4	94/5	95/6
Primary as % of total	22.9	23.3	24.6	25.1	26.0	100	102	107	110	113
Secondary as % of total	63.4	63.3	63.5	62.0	60.1	100	100	101	98	95
Community as % of total	7.6	7.7	7.7	7.8	8.3	100	101	101	103	110
Residual as % of total	6.0	5.7	4.2	5.2	5.6	100	94	70	87	93
<u>Change on previous year</u>										
Total: (£millions)		£220.9	£179.6	£159.7	£166.9		100	81	72	76
<u>Change on previous year</u>										
Total (%)		6.6	5.1	4.3	4.5		100	77	65	68
(real terms)		(-0.2)	(1.6)	(1.7)	(2.0)					
Primary (%)		8.5	10.6	6.5	7.9		100	125	77	94
(real terms)		(1.5)	(7.0)	(3.9)	(5.5)					
Secondary (%)		6.4	5.4	1.7	1.1		100	84	27	18
(real terms)		(-0.4)	(1.9)	(-0.7)	(-1.1)					
Community (%)		7.7	6.1	4.9	11.3		100	79	64	147
(real terms)		(0.8)	(2.6)	(2.3)	(8.9)					
Non-Hospital (%)		8.3	9.5	6.1	8.7		100	114	74	106
(real terms)		(1.3)	(5.9)	(3.5)	(6.3)					
Residual (%)		0.4	-22.5	28.4	13.8		-	-	-	-
(real terms)		(-6.0)	(-25.1)	(25.3)	(11.3)					
<u>% of growth spent on:</u>										
Primary		29.3	48.9	37.4	46.4		100	167	128	158
Secondary		61.4	67.2	25.9	16.4		100	109	42	27
Community		8.8	9.2	8.9	20.6		100	104	101	233
Non-Hospital		38.1	58.1	46.3	67.0		100	152	122	176
Residual		0.4	-25.3	27.8	16.6		-	-	-	-

Notes: 1 = all percentages have been rounded up to one decimal place.

**Figure 1: Change in the share of total expenditure for each programme**



**Figure 1a: Per cent change in the share of total expenditure compared to base year (1991/92)**



**Secondary care.** Secondary care expenditure has expanded at a rate less than the growth in total revenue expenditure. The absolute growth is £325m (45% of total growth), a 0.5% decrease in real terms. Hence, the secondary care share of total revenue expenditure has *contracted* by just over three percentage points, from 63.4% to 60.1% (Figure 1 and Table 2). This represents a fall of secondary care's share of 5% compared to base year (Figure 1a)

Over the study period, total WTE staff numbers in the four key areas shown in Table 4 have *decreased* by 1%. At the start of the study period there were close to *ten* secondary care workers for every *one* in primary care. By 1994/5, the ratio had reduced to close to *nine* to *one*. Within secondary care, there have been clear changes in skill mix as well as in totals. The total numbers of medical and dental staff have *increased* steadily (up 11% on base year). Total nursing numbers have *gone down* slightly. Administrative and clerical staff numbers have *increased* significantly year on year (up 10% from base year).



Over the study period total acute inpatient discharges *increased* steadily year on year (up 8% in total) (Table 5). Total bed days have *decreased* significantly (down 17% on base year). The decrease in acute bed days has been much smaller (down 6%). The total number of acute day case discharges and new outpatient attendances has *risen* rapidly in every year of the study period (by 76% and 31% over the whole period, respectively).

The community programme has expanded each year, resulting in a 15% increase in real expenditure over the study period (Table 1). The rate of increase has fluctuated but the programme has increased its share of total expenditure (Table 2).

The residual programme has remained fairly constant over time<sup>2</sup>. This translates to a 2% decrease in real expenditure over the study period. As a percentage of total spend, the residual programme has *decreased* by nearly 0.4% (Table 2).

At the start of the study period, for every £100 spent in primary care £277 was spent in secondary care. This ratio has fallen steadily and by 1995/6 the ratio was £100: £231.

**Table 3: Primary care staff<sup>1</sup>**

	91/2 WTE	92/3 WTE	93/4 WTE	94/5 WTE	95/6 WTE	91/2 %	92/3 %	93/4 %	94/5 %	95/6 %
General Practitioners	3,805	3,848	3,861	3,890	3,866	100	101	102	102	102
Practice Nurses	695	736	772	813	875	100	106	111	117	126
All other Practice Staff	4,643	4,800	5,034.2	5,173	5,375	100	103	108	111	116
Total Staff	9,143	9,384	9,668	9,876	10,116	100	103	106	108	111

Note: 1 = all figures rounded up to zero decimal places.

**Table 4: Secondary care staff (NHSiS manpower summary)**

	1991 WTE	1992 WTE	1993 WTE	1994 WTE	1995 WTE	1991 %	1992 %	1993 %	1994 %	1995 %
All hospital and dental	5,969	6,133	6,255	6,478	6,642	100	103	105	109	111
Nursing and Midwifery <sup>1</sup>	52,648	52,829	52,635	52,521	52,416	100	100	100	100	100
Admin and Clerical <sup>2</sup>	16,061	16,839	17,387	17,754	17,598	100	105	108	111	110
Ancillary	15,022	13,974	13,286	12,323	11,858	100	93	88	82	79
Total Staff	89,700	89,775	89,563	89,076	88,514	100	100	100	99	99

Notes: 1 = Nurse learners excluded for all years, as transferred to higher education mid-period.  
2 = Includes obsolete management grades and management trainees.

<sup>2</sup> Except for 1993/4 when resources were apparently 'transferred' to the secondary programme.

**Table 5: Secondary care total activity**

	1991/2 000's	1992/3 000's	1993/4 000's	1994/5 000's	1995/6 000's	1991/2 %	1992/3 %	1993/4 %	1994/5 %	1995/6 %
Bed days (all)	14,462	13,915	13,109	12,536	11,992	100	96	91	87	83
Bed days (acute)	4,015	3,997	3,894	3,779	3,762	100	99	97	94	94
Discharges (inpatient acute)	625	644	656	667	677	100	103	107	108	108
Discharges (day case acute)	169	207	248	287	298	100	122	146	169	176
Outpatient (new attends)	908	994	1,105	1,165	1,186	100	109	122	128	131

#### **4.2 Programme budgets by Health Board**

The aggregate result that the share of total expenditure spent on primary care has *increased* and the share spent on secondary care has *decreased* over the study period is not replicated in all Health Boards. In fact, only six Health Boards (Forth Valley, Grampian, Greater Glasgow, Highland, Lothian and Tayside) actually increased the share of total expenditure spent on primary care *and* decreased the share spent on secondary care within the five year study period (Tables 6 and 7). The remaining Health Boards<sup>3</sup> (serving 40% of the population) increased the share of total expenditure spent on secondary care. Thus, it was mainly the larger Boards which increased the proportion of their resources allocated to primary care over the study period.

Variation *between* Health Boards in the share of the total that each programme receives has decreased. However, shares remain very different between Boards. Analysis of changes in the balance between programmes must also take into account the relative magnitude of each programme compared to other Health Boards.

<sup>3</sup> Argyll & Clyde Health Board increased the share spent on both programmes.



**Table 6: Expenditure on primary care by Health Board**

	1991/2	1992/3	1993/4	1994/5	1995/6
	Primary care spend (£000s)				
	% of total spend				
	% real growth p.a.				
Average % spend of all Health Boards	24.4	23.6	23.2	24.2	24.6
Ayrshire & Arran	59,581 29.0 -	63,173 26.7 -0.80	66,435 26.5 1.71	72,258 27.0 6.10	76,469 27.0 3.46
Borders	15,401 25.2 -	16,788 23.5 1.99	17,702 23.2 1.98	19,395 22.7 6.88	20,252 23.0 2.08
Argyll & Clyde	68,183 26.8 -	73,841 25.1 1.33	77,318 25.1 1.27	87,046 26.4 9.82	92,920 27.5 3.65
Fife	48,428 26.8 -	51,207 24.6 -1.07	55,208 24.3 4.27	60,186 24.7 6.35	63,994 25.4 3.94
Greater Glasgow	145,335 18.5 -	158,371 21.1 1.96	167,307 21.5 2.17	185,251 24.0 8.01	200,303 25.0 5.70
Highland	33,464 24.2 -	35,386 24.5 -1.06)	37,709 24.8 3.06)	41,451 25.3 7.23)	45,033 25.8 6.21)
Lanarkshire	81,750 28.6 -	87,902 26.6 0.60)	92,658 26.4 1.95)	100,616 27.4 5.93)	107,883 27.6 4.82)
Grampian	67,066 22.1 -	76,093 22.6 6.16)	83,344 23.6 5.93)	87,003 23.4 1.83)	92,824 24.0 4.30)
Orkney	3,085 27.1 -	3,400 23.7 3.12)	3,575 22.1 1.69)	4,136 23.3 12.86)	4,243 23.2 0.29)
Lothian	108,416 21.3 -	117,528 22.1 1.43)	125,725 22.9 3.46)	134,695 23.4 4.51)	142,997 23.9 3.78)
Tayside	61,914 20.4 -	67,474 21.4 1.97)	71,884 22.6 3.03)	79,231 24.1 7.52)	83,536 24.6 3.07)
Forth Valley	40,630 24.4 -	44,112 25.5 1.58)	47,311 25.3 3.73)	52,483 26.8 8.21.)	55,488 26.8 3.36)
Western Isles	4,667 24.6 -	5,442 20.6 8.4)	5,792 15.9 2.93)	6,407 19.0 7.91)	6,868 19.5 4.79)
Dumfries & Galloway	23,280 24.9 -	24,770 24.0 -0.45)	26,285 24.3 2.63)	29,320 24.7 8.81)	30,124 24.5 0.44)
Shetland	3,050 22.7 -	3,487 21.4 6.97)	3,689 20.0 2.23)	4,285 21.2 13.40)	4,526 21.8 3.26)

**Table 7: Expenditure on secondary care by Health Board**

	1991/2	1992/3	1993/4	1994/5	1995/6
	Secondary care spend (£000s)				
	% of total spend				
	% real growth p.a.				
Average % spend of all Health Boards	59.3	61.3	63.6	60.8	58.6
Ayrshire & Arran	119,880 58.4 -	144,645 61.2 12.89)	156,621 62.4 4.72)	161,721 60.3 0.73)	168,525 59.5 1.87)
Borders	36,679 60.0 -	44,549 62.4 13.64)	47,601 62.4 3.34)	53,618 62.9 9.88)	54,421 61.9 -0.78)
Argyll & Clyde	151,021 59.4 -	183,950 62.4 13.96)	197,195 64.0 3.68)	206,389 62.6 2.10)	203,697 60.6 -3.52)
Fife	104,796 58.0 -	126,768 60.8 13.18)	144,018 63.3 9.87)	147,846 60.8 0.14)	149,971 59.4 -0.84)
Greater Glasgow	542,981 69.1 -	495,679 66.0 -14.59)	520,922 66.8 1.64)	486,807 63.0 -8.84)	496,213 61.9 -0.35)
Highland	81,860 59.2 -	86,412 59.8 -1.23)	93,058 61.2 4.15)	97,983 59.7 2.71)	101,626 58.1 1.39)
Lanarkshire	168,357 58.9 -	203,544 61.7 13.12)	218,957 62.4 4.04)	221,953 60.4 -1.12)	237,448 60.7 4.58)
Grampian	193,459 63.7 -	216,709 64.4 4.81)	225,055 63.6 0.44)	231,428 62.4 0.31)	238,454 61.5 0.73)
Orkney	5,463 48.0 -	7,726 53.8 32.32)	9,400 58.2 17.67)	9,553 53.9 -0.86)	10,207 55.7 4.45)
Lothian	328,608 64.5 -	340,082 64.0 -3.17)	363,647 66.3 3.42)	369,369 64.2 -0.91)	375,287 62.7 -0.68)
Tayside	205,154 67.5 -	207,981 66.1 -5.15)	207,263 65.1 -3.62)	208,563 63.5 -1.84)	213,535 62.8 0.09)
Forth Valley	103,131 61.9 -	104,010 60.2 -5.64)	114,566 61.4 6.53)	118,579 60.6 0.97)	124,391 60.0 2.55)
Western Isles	9,721 51.1 -	15,579 59.0 49.95)	25,989 71.5 61.34)	21,437 63.7 -19.54)	18,639 52.9 -15.0)
Dumfries & Galloway	55,912 59.8 -	62,517 60.5 4.62)	69,179 63.9 7.02)	70,392 59.3 -0.74)	74,195 60.2 3.04)
Shetland	6,602 49.1 -	9,192 56.4 30.27)	11,381 61.6 19.75)	11,119 54.9 -4.70)	8,509 41.0 -25.19)



### 4.3 Defining areas of growth and decline - analysis of sub-programmes

Within the primary care programme General Medical Services and GP Pharmaceutical Services are potentially the most relevant sub-programmes. Although Table 8 shows the broad areas of growth and decline, these data do not provide any more detail of expenditure within these sub-programmes. It is therefore difficult from this data to identify specific areas of growth and decline.

Real expenditure has increased in all areas. The proportion of total expenditure spent on GP Pharmaceutical Services and General Ophthalmic Services have been *increasing*, while the relative proportions spent on General Medical and Dental Services has *decreased* steadily. The increase in expenditure on pharmaceutical services accounted for 54% of the total increase in primary care spending over the study period. Further analysis showed that this expenditure is principally on drugs, as Pharmacy costs have remained relatively stable.

Table 9 is based on *provision of health care* in Scotland and not 'health care purchased' as presented above. However, it shows that within secondary care the acute inpatient sub-programme has expanded at the same rate as total inpatient hospital running costs and so has maintained a *constant* 41% share of the total. The rate of expenditure on inpatient geriatric assessment has *increased* fastest (up 29% in real terms). Non-inpatient hospital expenditure has also *increased* rapidly as might be expected with the rise of ambulatory care. Expenditure on the other sub-programmes has relatively *declined*. This decline has been most dramatic in maternity inpatient expenditure (down 3% in real terms); mental handicap inpatient expenditure (down 16% in real terms) and mental illness inpatient expenditure (down 9% in real terms). Declining birth rates and 'Care in the Community' may have contributed to these trends. Further analysis of resource use by hospital type (using ISD CAMO classification) shows that expenditure on 'Acute' and 'Primary Care' type hospitals have expanded at similar rates (22% and 25% respectively) whilst 'community' type hospitals have received a fairly constant rate of funding (*data not shown*).

**Table 8: Primary care sub-programmes**

	91/2	92/3	93/4	94/5	95/6	91/2 %	92/3 %	93/4 %	94/5 %	95/6 %
(real terms)										
<u>Expenditure (£millions)</u>										
GP Pharma Services	356.5	402.5	437.5	475.0	513.5	100	113 (106)	123 (111)	133 (118)	144 (124)
G. M.S	247.3	263.9	275.2	307.3	311.9	100	107 (100)	111 (101)	124 (110)	126 (109)
Dental Services	142.8	141.7	137.9	145.6	148.1	100	99 (93)	97 (87)	102 (90)	104 (90)
Ophthalmic Services	17.6	20.8	23.0	25.1	26.1	100	118 (110)	131 (118)	142 (126)	148 (128)
Direct Access	-	-	43.2	23.7	27.2					
Total	764.3	829.0	916.8	976.6	1,054	100	109 (102)	120 (109)	128 (113)	138 (119)
<u>% Change per annum (real terms)</u>										
GP Pharma Services		12.9 (5.6)	8.7 (5.1)	8.6 (5.9)	8.1 (5.7)		100	67	67	63
G.M.S		6.7 (-0.1)	4.3 (0.9)	11.6 (8.9)	1.5 (-0.8)		100	64	173	22
Dental Services		-0.8 (-7.1)	-2.7 (-5.9)	5.6 (3.0)	1.7 (-0.6)		-	-	-	-
Ophthalmic Services		17.6 (10.1)	10.9 (7.3)	9.1 (6.4)	4.0 (1.7)		100	62	52	22
Total		8.5 (1.5)	10.6 (7.0)	6.5 (3.9)	7.9 (5.5)		100	125	76	93
<u>% Share of Total</u>										
GP Pharma services	46.6	48.6	47.7	48.6	48.7	100	104	102	104	104
G.M.S	32.4	31.8	30.0	31.5	29.6	100	98	93	97	92
Dental Services	18.7	17.1	15.0	14.9	14.0	100	92	81	80	75
Ophthalmic Services	2.3	2.5	2.5	2.6	2.5	100	109	109	111	107
Direct Access	-	-	4.7	2.4	2.6	-	-	-	-	-



**Table 9: Secondary care sub programmes**

	91/2	92/3	93/4	94/5	95/6	91/2 %	92/3 % (real terms)	93/4 %	94/5 %	95/6 %
<u>Expenditure (£millions)</u>										
Acute IP	850.7	924.4	973.1	999.0	1,034.1	100	109 (102)	114 (104)	117 (104)	122 (105)
Maternity IP	119.4	129.0	126.3	132.7	134.3	100	108 (101)	106 (96)	111 (98)	112 (97)
Geriatric Assessment IP	82.4	98.1	105.6	119.3	123.6	100	119 (111)	128 (116)	145 (128)	150 (129)
Geriatric Continuing Care IP	208.9	220.4	218.5	195.6	177.0	100	106 (99)	105 (95)	94 (83)	85 (73)
Mental Illness IP	330.3	353.8	358.1	337.4	349.0	100	107 (100)	108 (98)	102 (90)	106 (91)
Mental Handicap IP	105.8	112.0	113.2	112.3	90.2	100	106 (99)	107 (97)	106 (94)	85 (74)
Young Chronic Sick IP	9.9	10.7	10.4	10.4	8.8	100	109 (102)	106 (96)	106 (93)	89 (77)
Other	355.2	398.3	437.3	499.0	531.3	100	112 (105)	123 (111)	140 (124)	150 (129)
Total H.R.C	2,062.5	2,246.8	2,342.5	2,405.6	2,482.3	100	109 (102)	114 (103)	117 (103)	120 (104)
<u>% of Total H.R.C</u>										
Acute IP	41.2	41.1	41.5	41.5	41.7	100	100	101	101	101
Maternity IP	5.8	5.7	5.4	5.5	5.4	100	99	93	95	93
Geriatric Assessment IP	4.0	4.4	4.5	5.0	5.0	100	109	113	124	125
Geriatric Continuing Care IP	10.1	9.8	9.3	8.1	7.1	100	97	92	80	70
Mental Illness IP	16.0	15.8	15.3	14.0	14.1	100	98	95	88	88
Mental Handicap IP	5.1	5.0	4.8	4.7	3.6	100	97	94	91	71
Young Chronic Sick IP	0.5	0.5	0.4	0.4	0.3	100	100	93	91	73
Other	17.2	17.7	18.7	20.7	21.4	100	103	108	120	124

#### 4.4 Defining areas of primary care growth

Although expenditure and staffing in primary care have increased since 1991/2, it is difficult to establish from these data what particular types of care have shifted into primary care.

Table 10 presents 11 categories of drugs, drawn from the list of drugs that have shown the greatest change in either volume or cost since 1992/3. This list is illustrative rather than comprehensive. Although significant changes have occurred, attributing the causes of these changes is more complex. Real expenditure on most drug groups has increased dramatically.

It is possible to speculate on the causes; e.g. helicobacter pylori eradication therapy coupled to established trend in ulcer therapy; or statins for prevention of CHD. The increased levels of expenditure on antidepressants (drugs used in substance dependence and psychoses related disorders) may be due to changes in prescribing patterns and policy changes such as 'Care in the Community'. Indirectly, this may lead to an increased burden on primary care.

Expenditure on corticosteroid drugs has increased by 52% in real terms over the time period, coupled with the increase in bronchodilators (16% in real terms). This supports the hypothesis that respiratory medicine is an area of growth in primary care because the incidence of asthma is rising and the balance of care for respiratory patients is shifting. This may also be due to GPs receiving remuneration for chronic disease management. Balance of care factors may also be influencing prescribing for diabetes and genito-urinary disorders, which have both increased considerably. The observed increase in GP prescriptions for dressings (and appliances, not shown) would concur with policies such as 'Early Discharge', 'GP Managed Care' and 'Hospital at Home', although this does not represent a large financial burden on primary care.

Clearly it is not possible to interpret from these data whether increased expenditure in primary care was due: a) to *increased* activity in secondary care leading to further implications for primary care; b) to *decreased* activity in secondary care leading to substitution with primary care (i.e. a shift) or: c) to a number of other factors.



**Table 10: GP Prescribing Trends**

BNF Group	92/3	93/4	94/5	95/6	92/3 %	93/4 %	94/5 %	95/6 %
	£millions (real terms)				(real terms)			
Ulcer-Healing Drugs	£48.4 (£52.5)	£53.6 (£56.2)	£61.5 (£62.9)	£68.0	100	111 (107)	127 (120)	141 (130)
Corticosteroids	£15.5 (£16.8)	£19.2 (£20.2)	£22.8 (£23.3)	£25.6	100	124 (120)	147 (138)	165 (152)
Antidepressant Drugs	£12.3 (£13.3)	£14.3 (£14.9)	£17.1 (£17.5)	£21.6	100	116 (112)	139 (131)	175 (162)
Bronchodilators	£16.2 (£17.6)	£17.6 (£18.4)	£18.8 (£19.3)	£20.5	100	108 (105)	116 (110)	126 (116)
Lipid-Lowering Drugs	£3.1 (£3.4)	£3.7 (£3.9)	£4.4 (£4.5)	£6.8	100	118 (114)	142 (134)	219 (202)
Drugs used in Substance Dependence	£0.4 (£0.4)	£0.7 (£0.7)	£1.0 (£1.1)	£1.4	100	161 (156)	255 (241)	346 (319)
Drugs affecting Bone Metabolism	£0.6 (£0.6)	£1.0 (£1.0)	£1.3 (£1.4)	£1.9	100	171 (165)	237 (224)	330 (304)
Drugs used in Diabetes	£7.8 (£8.5)	£9.1 (£9.5)	£10.5 (£10.7)	£11.8	100	116 (112)	134 (127)	152 (140)
Dressing & Dressing Packs	£1.8 (£2.0)	£1.6 (£1.7)	£2.6 (£2.7)	£3.1	100	89 (86)	143 (135)	171 (158)
Drugs used in Psychoses & related disorders	£1.6 (£1.8)	£2.0 (£2.1)	£2.5 (£2.5)	£2.9	100	122 (118)	153 (144)	181 (167)
Drugs used for Genito-Urinary disorders	£1.4 (£1.5)	£1.7 (£1.8)	£2.0 (£2.1)	£2.7	100	126 (122)	151 (142)	195 (180)

To give a general idea of the nature of *planned* shifts, data on the types of project funded by the Primary Care Development Fund since 1993/4 are presented in Tables 11 and 12.

**Table 11: Proportion of projects funded by PCDF that may involve a shift in the balance of care**

	Projects funded in 93/4 and 94/5 <sup>A</sup>	Projects funded in 95/6	Projects funded in 96/7	Total projects funded
Total number	218	123	115	456
No. (%) potentially involved with shifts in balance of care	20 (9%)	10 (9%)	23 (21%)	53 (12%)

Notes: A = these years are not presented separately in the newsletters

The data are taken from the Primary Care Development Fund Project Newsletter (Issues 2 and 3). The titles of each project were used to establish whether each project could potentially involve a shift in the balance of care. Table 11 shows that around 12% of projects funded might involve a shift in the balance of care. Those projects that might involve a shift fell into several categories shown in Table 12. Community care, physiotherapy, hospital discharges, coronary heart disease and GP diagnostic services are the areas that are most likely to involve a shift in the balance of care. Many of these project titles were fairly general in their scope and could include a wide variety of patients.

**Table 12: Projects that might involve a shift in the balance of care**

Project	Year
<b>Community care:</b>	
Community mental health crisis intervention service	93/4 and 94/5
Open surgeries for homeless people and hostel dwellers	93/4 and 94/5
Practice based care in community co-ordinator	93/4 and 94/5
Care management for people with schizophrenia	93/4 and 94/5
Integrated care for people with dementia and their carers	93/4 and 94/5
Support service for mentally ill patients	93/4 and 94/5
Broadening PHCT by expanded mental health provision	93/4 and 94/5
Transfer of patients dependent on medication from hospital to the community	93/4 and 94/5
GP and frail elderly: strategies for more effective care	93/4 and 94/5
Practice based community mental health nurse	93/4 and 94/5
Evaluation of counseling and CPN practice in primary care	93/4 and 94/5
Combined care with psychogeriatric department	95/6
Extending care of the elderly in the community	95/6
Support to dementia patients and carers	95/6
Psychiatric nurse/social worker input into community mental health service	95/6
Care call project	96/97
Inter-agency working in assessment of people with dementia	96/97
Hospital at home	96/97
Training of staff moving from hospital base to community	96/97
Development of mental health services	96/97
Development of mental health team	96/97
Elderly people and the PHCT role of the clinical psychologist	96/97
Telemedicine for clinical psychology	96/97
Co-ordinated community nursing service with team leader	96/97
Assessment of need and distribution of community nurses in Lothian	96/97
Mental health nurse practitioner	96/97
Embracing care in the community by the integrated primary care team	96/97
Development of integrated community nursing	96/97
<b>Discharge from hospital</b>	
Assessment of impact of early discharge of patients from hospitals and the PHC team	93/4 and 94/5
Promotion of early discharge from maternity hospital by improving community support	93/4 and 94/5
Proactive community nurse intervention in hospital discharges	93/4 and 94/5
Seamless discharge in primary care/pre-admission to post-operative	96/97
Shared care for post-cataract patients	96/97
<b>Maternity</b>	
Integrated community maternity care scheme	93/4 and 94/5
Community midwifery	93/4 and 94/5
<b>Physiotherapy</b>	
Provision of an on-site physiotherapy service in a rural practice	93/4 and 94/5
Decentralisation of physiotherapy and dietetics into general medical practice	93/4 and 94/5
To investigate the effect of increased input from the community physiotherapist	93/4 and 94/5
On site physiotherapy unit	95/6
Integrated physiotherapy service	96/97
<b>CHD</b>	
Diabetic services chiropody/dietetics	96/97
Seamless stroke service	96/97
Diabetic one-stop shop	96/97
Treatment of patients awaiting coronary artery bypass surgery	96/97

<b>GP-based diagnostic services</b>	
GP sigmoidoscopy service	95/96
Developing a phlebotomy service	95/96
GP led ultrasound service	95/96
GP led general diagnostic ultrasound service	95/96
<b>Other</b>	
Development of referral protocols and fast track access from hospital to GP surgery	93/4 and 94/5
Domiciliary based chemotherapy service	95/6
Shared care approach to drug misuse	96/97
Community family therapy service	96/97
Integrated primary and secondary care of asthma	96/97

#### **4.5 *An assessment of the evidence base for shifts in the balance of care***

Eighty studies were identified from the literature as potentially relevant to shifts in the balance of care, but on closer examination only 35 of these compared primary/community care with secondary/long stay care. Furthermore, only eleven of these compared the changes in both costs and benefits of shifting the balance of care. Table 13 summarises the results of these studies, by care type, in terms of the changes in costs and benefits to patients. The results shown must not be taken at face value as the studies summarised have not been subjected to a critical review. Nevertheless, the table shows that there are few economic evaluations of shifts in the balance of care. The majority of evaluation has been conducted in the field of community care (i.e. for mentally ill and elderly patients) as an alternative to long stay care. The generalisability of these studies will be influenced by local factors affecting the costs and the types of patients who receive care. The results suggest that, in practice, each shift should be considered on its own merits. Nothing can be said about the overall costs and benefits of a shift towards either a primary care led NHS or a primary care centred NHS.



**Table 13: The evidence base for shifts in the balance of care.**

Care type/intervention	Number of studies	Study design	Effects on costs compared to secondary care	Effects on benefits to patients compared to secondary care
Home-based versus inpatient/outpatient care for psychiatric patients	1) Burns et al (1993) 2) Knapp et al. (1994a) / Marks (1994)	RCT RCT	Lower Lower	Higher
Day hospital versus inpatient care for patients with neurosis, personality disorder, and adjustment reaction	1) Dick et al (1985)	RCT	Lower	Higher
Long stay psychiatric versus community care	1) Knapp et al. (1994b) 2) Challis et al (1991)	Before and after Case-control	Lower Lower	Similar Higher
Hospital at home scheme for fractured neck of femur	1) O'Caithain (1994)	Case-control	Lower	Higher
Hospital at home scheme for elderly	1) Donald et al (1995)	RCT	Higher	Similar
Early discharge of general surgical patients to outpatient follow up or general practice follow up	1) Florey et al. (1994)	RCT	Lower	Similar
Shared care for asthma	1) GRASSIC (1994) / Buckingham et al. (1994)	RCT	Lower	Similar
Shared care for diabetes	1) DICE (1994)	RCT	Higher	Similar
Ophthalmic outreach clinic versus referral to hospital	1) Gillam et al. (1995)	Case-control	Higher	Higher (lower travel times)

## 5 Discussion

This study has been ambitious in aiming to untangle five years of expenditure data for the whole of Scotland from routine sources only. Its achievements however, have been simple. It has defined the broad programmes of primary and secondary care in Scotland and has made explicit the problems in defining them. The study has also defined a context in which shifts between these programmes can be assessed and monitored over time. In summary the key findings over the five year period are:

- Primary care expenditure has increased by 19% in real terms. Total staff numbers have increased by 11%, and the primary care share of total spend has increased by three percentage points to 26% of the aggregate total.
- Real expenditure on secondary care has remained stable. Total staff numbers have decreased by 1% and total activity has increased by 8% for acute inpatients, 69% for day cases and 28% for outpatients. The secondary care share of total spend has decreased by over three percentage points to 60% of the aggregate total.

At the aggregate level, there is evidence of changes in the balance of resources dedicated to secondary and to primary care. These shifts have been achieved by differential growth rates in programme budgets. Primary care growth has essentially been funded by growth money, whilst the secondary care programme budget has been constant in real terms. This is, of course, a pragmatic means of actually achieving a primary care centred NHS, as explicit disinvestment is unlikely. Eroding the cost base of secondary care is likely to be both slow and highly political. The, as yet unexplained, increase in emergency and acute medical admissions has taken everyone by surprise and has increased demand on secondary care in particular. In addition, in the minds of key 'stakeholders' the magnitude of secondary care is seemingly fixed (at least in the short/medium term) and should be protected. A strong secondary care sector is entrenched as an inherent characteristic of the NHS. It is an expectation of the public/media, a symbol of power to the medical profession and an area where politicians are not keen to intervene.

This raises an issue about the semantics used in this work. The word 'shift' is optimistic and implies explicit action and causation, when what has been observed here are differential growth rates in areas of service, which may be more implicit and longer term. Hence, results need to be interpreted with caution. Although, 'shifts' at the aggregate level have occurred in the direction NHS strategy intended, these shifts are :

- a) from 'growth' monies rather than existing expenditure,
- b) relatively small and slow,
- c) localised to a minority of Health Boards, and
- d) unevaluated.

The balance may be changing and primary care is expanding at a faster rate, but in terms of share of total expenditure this has had a small overall impact. Primary care accounted for 23% of total health care revenue expenditure in 1991/2. Annual increments of 0.4%, 1.3%, 0.5% and 0.9% meant that 5 years later it accounted for 26% of total spend, an increase of 3%. In crude terms, the 1995/6 total health care budget for Scotland translated into £796 spent per person per year. Three per cent



of this budget is £122 million, thus the average annual 'shift' to primary care (one fifth) was around £24 million. This translates to less than £5 per person per year (the difference between £207 and £202 being spent per person per year on primary care). Along with the other data presented here, this raises questions about the scale of any 'shifts' that are occurring.

In 1995/6 secondary care received expenditure at a rate of £231 for every £100 spent in primary care. If the pace of the 'shift' continued at the observed rate of 3% every 5 years, a ratio of £200:£100 would not be achieved until the year 2001; a ratio of £150:£100 not until 2011; and equal funding would not happen for 30 years. Of course, quite how far primary care should substitute for secondary care is a separate issue. What is clear is that change is slow and lags far behind policy announcements.

Even though the aggregate 'net' result is as NHS strategy intends, if more purchasers (nine Health Boards) are observed to contradict strategy than those who comply (six Health Boards), then it is difficult to claim successful implementation. Approximately 40% of the population of Scotland have a Health Board who is *expanding* relative resource allocation to secondary care and *contracting* it for primary care.

This work is not intended to show comparative performance of individual purchasers with respect to this particular policy objective. Of course, individual Health Boards are very different and spend different proportions of their total revenue on each programme. The *rate* of change in the balance between programmes will be influenced by the balance at the starting point of analysis. For example, 'rural' Health Boards may already have had a primary care centred NHS, and so further shifts may be difficult to achieve. The extent of GP fundholding uptake may also have an impact. However, the *direction* of change is more important and for two thirds of Scottish purchasers it is observed that this direction contradicts strategy. To some extent, 'structural' factors will influence the relative magnitude of each programme. Health Boards with large rural areas may be more likely to spend relatively more on primary care whilst Health Boards with large teaching hospitals nearby may be more inclined to invest more in secondary care. But if this is the case then it has serious implications for the opportunities to achieve a shift to primary care. Furthermore, the analysis in this paper has ignored the possibility of a primary care *led* NHS (defined as the devolvement of decision making to primary care), as no routine data are available on the extent of such devolvement (e.g. GPs being involved in different purchasing models).

Greater Glasgow Health Board has in relative and absolute terms made the largest savings in expenditure while moving to SHARE parity. Most of these savings were made in the secondary care programme. Consequently, GGHB expenditure on primary care has risen disproportionately as a share of their total purchasing budget.

Although these data suggest that shifts in expenditure are occurring, it is difficult to establish what types of care are shifting (if any). From the perspective of secondary care, expenditure on acute inpatients is stable, geriatric (short stay) inpatients is increasing, while that for geriatric (long stay), maternity, mental illness/handicap are declining. However, to show a shift has occurred we need evidence of *both* where resources or activity have come out, and where resources and activity have increased: the complete substitution effect. Since data presented here are very one-sided at the sub-programme level, we might see a decrease in an area of secondary



care but not observe a corresponding increase in an area of primary care. It is therefore difficult to claim that a shift has occurred. Often the strongest conclusions to be made are that the data do not contradict a hypothesis, whereas data that support it would be more convincing. This problem stems from a lack of comprehensive primary care data, which may be essential to its further development. There is also a problem of confounding factors as decreases in secondary care (absolute or relative) can happen for many reasons, only one of which is primary care substitution.

Furthermore, the 'sub-programmes' for primary care, as constructed here, do not inform at the right level. Clearly increased spending on GP prescribing has accounted for much of the expansion of the primary care programme. Some analysis of the key drug groups involved is possible. But other primary care sub-programmes (GMS, GOS, GDS) are simply accounting categories and are too broad to pinpoint specific shifts. Expenditure can not be related to disease or client groups or even to specialty definitions, so links to secondary care activity are clouded.

Using data from the Primary Care Development Fund, however, gives a rough picture of the nature of some planned shifts that have occurred. It reveals that community care, physiotherapy, and discharge policies are the most frequently funded projects. The partial analysis of GP prescribing trends tends to concur with these findings, policies such as 'Early Discharge' and 'Hospital at Home' seem likely to have had an effect on primary care. From the analysis of staff trends clearly there has been a large increase in practice nurses, indicating increased activity within primary care. Increases in non-medical staff are more likely to be related to the management of GP purchasing funds. Otherwise, it is difficult to establish what is happening in primary care from routine data.

The evidence base for shifts in the balance of care is poor. Only eleven published economic evaluations could be identified. They show no consensus as to whether the shift to primary care is 'good value' in terms of costs and benefits. Since no general conclusions can be made regarding the appropriateness of shifts, it is important that each shift is assessed on its own merits. What is cost-effective in one case is not guaranteed to be cost-effective in another.

The broad conclusions about the shifts presented in this paper need to be examined in the light of possible data limitations. Blue Book data have historically been criticised as unreliable, but this has been in terms of lower level 'unit price' analyses. The data used for this research are at an aggregate level and are more accurate, as shown by reconciliation with Annual Audited Accounts.

Activity data are only available for the secondary care programme so this analysis is inherently one-sided in understanding the shifts between programmes. Activity data on their own will also be of limited use due to confounding factors. For example, bed days have declined not only because of a shift to primary care but also due to better technology, ambulatory care and perhaps even greater efficiency. Classifications of specialties have also changed over time so time series trends are not always meaningful, but the three areas examined together, expenditure, staff and activity, do enable the definition and explanation of broad trends.

A key advantage of this methodology is its use of routine data. Increased use of such data is likely to improve its accuracy. Many changes occurred in the NHS over this time period and this is reflected in changes in accounting techniques. Whilst data

quality is important, a macro programme approach aims to identify trends in overall expenditure and activity, rather than detailed changes, to see whether, at the aggregate level, shifts in resources are in line with NHS policy.

### **5.1 Feedback from the workshop**

Several important issues were raised during the Scotland-wide seminar workshop. First, the results may be sensitive to the base year, and changing the 'window' of time series data may alter results and thus interpretation of policy impact. However, trends appear to be relatively 'smooth' as shown by Figure 1, so that the starting point of the 'window' of analysis may alter the magnitude or pace of observed programme change but not its direction. In addition, changing the base year may alter results more at an individual Health Board level, but at the aggregate level it has little effect. The reasons for choosing the time period 1991/2 - 1995/6 are simple, it is the five year post NHS reform period, it has not been engineered to produce certain results.

A related issue is about the use of deflators to reflect spending trends over time in real terms. This is a controversial area and will certainly impact on results. In this work, the HCHS price index has been used for simplicity. There may, however, be debate about applying this to primary care which is not part of the index. However, the use of alternative index is not likely to have affected the results.

Second, the relationship between resources and activity is not straight forward. Programme boundaries are likely to be quite blurred as budgets are not the same as activity. Some of the hospital's budget will in fact be spent on primary care. Interpretation of changes in the headline budgets may not be the same as what is actually happening in terms of patient care. Related to this is the argument that some secondary care prescribing has become 'GP managed'. The budget for this is part of the secondary care programme but clearly there are resource implications for the primary care programme, in terms of GP consultations and additional prescribing. This work has measured budgets and so may not capture the true picture. However, the national accounting system must be the key driver to achieving and thus monitoring change.

Seminar delegates also drew attention to the patient perspective. It was argued that "finance and science ought to be balanced with patient preferences". If it can be demonstrated that service X is more effective and more cost-effective in a secondary care environment than in primary care, but patients clearly express a preference for the primary care setting, then this should also carry weight in the decision-making process. However, no routinely available data on patients' preferences exist.



## 6 Conclusion

The data presented above suggest that the concept of a primary care centred NHS, where the bulk of health care activity is provided in primary care, is not yet occurring. The stable share of acute inpatient expenditure suggests that much activity is remaining in hospitals. The lack of empirical evidence suggests that shifts should not occur until good evidence is available. Although it appears that national expenditure is 'shifting' to the primary care programme, growth money is the source of the increase, the shift is not apparent in all Health Boards and in monetary terms is small. It is also difficult to track primary care's increasing share of total expenditure in terms of what it is being used for. Better data about primary care activity would supplement the analysis presented in this paper, while also enhancing the accountability of primary care providers. Only when such data are available, combined with evidence on costs and benefits, will it become clear if a primary care centred health service is the best way forward for the Scottish Health Service.



## 7 References

- Challis, D, Darton, R, Johnson, L, Stone, M. & Traske, K. An evaluation of an alternative to long-stay hospital care for frail elderly patients. *Age and Aging*. 20, 236-254 or PSSRU discussion Paper; 659, University of Kent at Canterbury, 1991.
- Buckingham J.K., Drummond N.A., Cameron I.M., Meldrum P., Douglas J.G. Costing shared care. *Health Services Management*, February, 1994.
- Burns T., Raftery, J., Beadsmoore, A., McGuigan, S. & Dickson, M. A controlled trial of home-based acute psychiatric services. II: Treatment Patterns and costs. *British Journal of Psychiatry*, 1993;163:55-61.
- Capewell S. The continuing rise in emergency admissions. *British Medical Journal* 1996;312:991-992
- Coulter A. Shifting the balance from secondary to primary care. *British Medical Journal* 1995;311: 1447-1448.
- Diabetes Integrated Care Evaluation Team. Integrated care for diabetes: A clinical, social and economic evaluation. *British Medical Journal*, 1994;308: 1208-1212.
- Dick, P., Cameron, L., Cohen, D., Barlow, M. & Ince A. Day and full time psychiatric treatment: A controlled comparison. *British Journal of Psychiatry*, 1985;147:246-250.
- Dickersin K, Scherer R., Lefevre C. Identifying relevant studies for systematic review. *British Medical Journal* 1991;309:1286-1291.
- Donald I.P., Baldwin R.N., Bannerjee M. Gloucester Hospital-at-Home: a randomised controlled trial. *Age and Ageing* 1995;24: 434-439.
- Donaldson C., Walker A., Craig N. Programme budgeting and marginal analysis: a handbook for applying economics in health care purchasing. Scottish Needs Assessment Programme, Scottish Forum for Public Health Medicine, Glasgow, 1995.
- Florey C., Yule B., Fogg A., Napier A., Orbell S. & Cuschieri A. A randomised trial of immediate discharge of surgical patients to general practice. *Journal of Public Health Medicine*, 1994;16:455-464.
- Gillam S.J., Ball M., Prasad M., Dunne H., Cohen S., Vafids D. Investigation of benefits and costs of an ophthalmic outreach clinic in general practice. *British Journal of General Practice* 1995;45:649-652.
- Grampian Asthma Study of Integrated care (GRASSIC). Integrated care for asthma: A clinical, social and economic evaluation. *British Medical Journal*, 1994;308:559-564.
- Kendrick S. The pattern of increase in emergency hospital admissions in Scotland. *Health Bulletin* 1996;54:169-184.
- Knapp, M., Beecham, J., Koutsogeorgopoulou, V., Hallam, A., Fenyo, A., Marks, I. M., Connolly, J., Audini, B. & Muijen, M. Service use and costs of home-based

versus hospital-based care for people with serious mental illness. *British Journal of Psychiatry*, 1994a;165:195-203.

Knapp, M., Cambridge, P., Thomson, C., Beecham, B., Allen, C. & Darton, R. Residential care as an alternative to long-stay hospital: A cost-effectiveness evaluation of two pilot projects. *International Journal of Geriatric Psychiatry*, 1994b;9:297-304.

Leese B., Bosanquet N. Change in general practice and its effects on service provision in area with different socio-economic characteristics. *British Medical Journal* 1995;311:546-550.

Marks I.M. Synopsis of the daily living programme (DLP) for the seriously mentally ill: a controlled comparison of home v. hospital-based care. In: Creed F., Tyrer P. *Evaluation of Community Psychiatric Services*. Cambridge: CUP, 1994.

NHS Executive. *Developing NHS purchasing and GP fundholding. Towards a primary care led NHS*. Department of Health, 1994

O'Cathain, A. Evaluation of a hospital at home scheme for the early discharge of patients with a fractured neck of femur. *Journal of Public Health Medicine*, 1994;16: 205-210.

Scott A. Primary or secondary care? What can economics contribute to evaluation at the interface? *Journal of Public Health Medicine* 1996;18: 19-26.