King's Fund

National Evaluation of Total Purchasing Pilots
Working Paper

Total purchasing and the management of emergency hospital activity

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The Total Purchasing National Evaluation Team (TP-NET)

The national evaluation of total purchasing pilots in England and Scotland was a collective effort by a large consortium of health services researchers. The study was led by the King's Fund, but also involved the National Primary Care Research and Development Centre at Manchester, Salford and York Universities, together with researchers from the Universities of Edinburgh, Bristol, Southampton, York and Birmingham; the London School of Hygiene and Tropical Medicine; and the London School of Economics and Political Science. More information about the evaluation as a whole is available from: Gill Malbon, King's Fund, 11-13 Cavendish Square, London W1M 0AN.

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We thank the many health authority and pilot staff who provided data.

Thanks are also due to many members of TP-NET including Gwyn Bevan, Jennifer Dixon, Nick Goodwin, Gill Malbon, Nick Mays, Ray Robinson, Judy Robison and Colin Sanderson.

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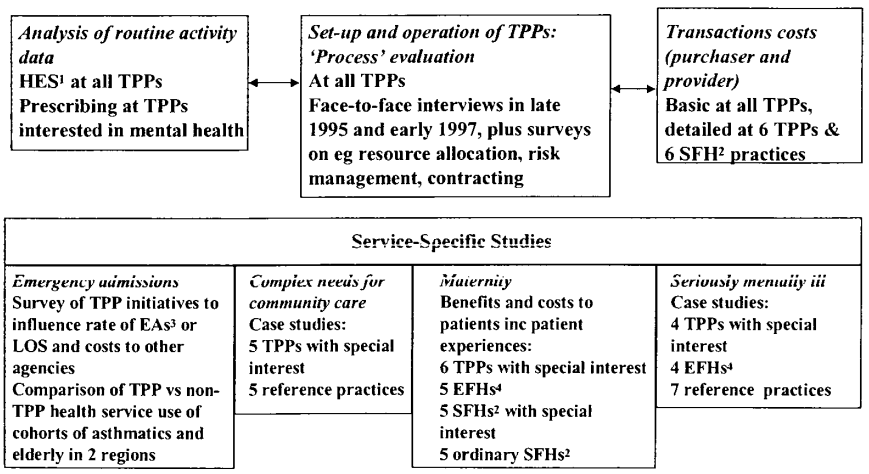
Preface: The National Evaluation of Total Purchasing Pilots

Total Purchasing Pilot Projects allow for the purchasing of potentially all hospital and community health services by fundholding general practices which began their preparations for contracting in April 1995. Since 'total purchasing' (TP) represented an important extension of the already controversial fundholding scheme, the Department of Health decided to commission an assessment of the costs and benefits of this NHS Executive initiative. This working paper represents part of the interim reporting of the evaluation which began data collection in October 1995 (mid-way through the total purchasing pilots' (TPPs') preparatory year) and which is due to produce final reports in Autumn 1998, by which time the TPPs will have completed two full purchasing years. Other titles in this series of working papers are listed below.

The evaluation amounts to a programme of inter-linked studies and is being undertaken by a large consortium of researchers from different universities led from the King's Fund. Full details of the participants are given on the back cover of this report. All 53 of the 'first wave' TPPs and the 35 'second wave' pilots which began a year later are being studied. The diagram below summarises the main elements of the research which has at its core an analysis of how TP was implemented at all projects and with what consequences, for example, in terms of hospital activity changes. These elements are linked to a series of studies at sub-samples of TPPs which attempt to compare the costs and benefits of TP with conventional health authority purchasing for specific services (emergency admissions, community care, maternity and mental health). In these parts of the evaluation, comparisons are also made between extended fundholding (EFH), where practices take on a new responsibility for purchasing in a single service area (e.g. maternity or mental health) and TP, where practices purchase more widely.

Main components of National Evaluation of First Wave Total Purchasing Pilot Projects



[1] HES = hospital episode statistics, [2] SFH = standard fundholding, [3] EAs = emergency admissions, [4] EFH = extended fundholding pilot

Further details about the evaluation design and methods are available in a leaflet available from the King's Fund and in the preliminary report of the evaluation which was published by the King's Fund early in 1997 and entitled *Total purchasing: a profile of national pilot projects.*

The evaluation would not have been possible without the co-operation and interest shown by all the staff involved in the TPPs. We are very grateful, principally for the time people have given up to be interviewed, whether in practices, health authorities, Trusts, social services departments or elsewhere in the health and social care system.

Nicholas Mays
Co-ordinator, Total Purchasing National Evaluation Team (TP-NET)
January 2000

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Boxes, Tables and Figures

Abbreviations

FCE	Finished Consultant Episode
HA	Health Authority
HES	Hospital Episode Statistics
LOS	length of stay
OBDs	occupied bed days
PCG	Primary Care Group
TP-NET	Total purchasing national evaluation team
TPP	Total Purchasing Pilot

Executive summary

This Working Paper is the second report on the use of emergency hospital services by the first-wave total purchasing pilots (TPPs). Our first Working Paper (Raftery and McLeod, 1999) focused on the 31 pilots (56%, 31/55) in England and Scotland which had main objectives relating to emergency hospital activity in 1996/97. This report focuses on the 16 TPPs (33%, 16/49) in England which pursued the objective of reducing acute hospital emergency admissions and/or length of stay to at least the end of the second "live" year, March 1998.

The analysis of hospital episode statistics was undertaken in order to establish whether the action taken by these TPPs to change emergency hospital activity had any impact. As 87% (14/16) of the pilots attempted to influence both emergency admissions and length of stay, the change in the number of occupied bed days (OBDs) relating to emergency admissions in the targeted specialties and age group were chosen as the basis for an overall measure of impact. The specialties targeted ranged from geriatrics to all medical and surgical specialties. In addition, 10 of the 16 pilots focused their attention on older patients. The analysis indicates that 75% (12/16) of the pilots experienced a decrease in OBDs across the targeted specialties and age group in all NHS hospitals between the preparatory year and the second live year. Success was defined as a statistically significant difference in change in the number of OBDs in the targeted specialties, between the TPP and local practices, and that the TPP had experienced a larger decrease or smaller increase in the number of OBDs compared to the local practices. By this overall measure of impact, 69% (11/16) of the pilots were successful.

This report distinguishes between multi-practice and single-practice TPPs. This is because the multi-practice pilots offer greater insight into the issues faced by primary care groups (PCGs). In terms of the overall measure of impact, 78% (7/9) of the multi-practice pilots were successful and 57% (4/7) of the single-practice pilots were successful.

Fourteen of the sixteen pilots were 'Commissioner' TPPs, which means that they actively purchased services via delegated budgets for most hospital and community health services and had 'independent' contracts with their main acute providers in both live years. Most pilots found it very difficult to use the contracting mechanisms to facilitate the movement of resources away from acute providers in line with their expectations. Indeed, the funding of

their initiatives to reduce acute emergency admissions and/or length of stay was generally not secured via activity-sensitive reductions in spend at acute providers. Most pilots relied on non-total purchasing funds to fund service changes.

The commissioning of emergency hospital services was the pilots' raison d'être. The finding that only a minority of the pilots pursued objectives of reducing acute hospital emergency activity, indicates that the challenges to be overcome were considerable. Many of the initiatives developed by the pilots were still evolving during 1997/98, and it is likely that their measured impact underestimates the potential of the total purchasers.

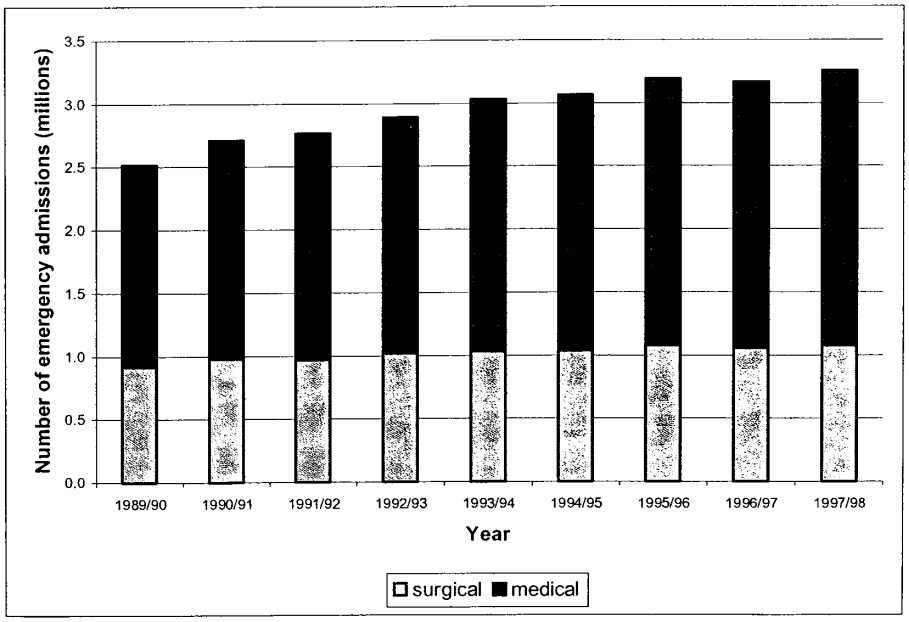
The total purchasing experience has implications for PCGs and primary care trusts attempting to manage their use of, and expenditure on, acute hospital emergency services. Although they were volunteers and comprised fewer practices than PCGs, these pilots demonstrate that general practice can influence the use of emergency hospital services. However, primary care organisations will require a high level of co-operation from acute hospitals and health authorities in order to secure appropriate funding for alternative service provision.

1 Introduction

Total purchasing was introduced as an extension of general practitioner (GP) fundholding. It was intended that TPPs would purchase most, if not all, hospital and community health services (HCHS) for their patients via delegated budgets from their local health authority and 'independent' contracts. The delegation of commissioning responsibility to the pilots provided an opportunity for general practitioners to improve the management of their patients' demand for emergency hospital services. This could be achieved in part by the introduction of alternative care settings for some acute hospital patients, which might be not only clinically more appropriate, but also less resource-intensive.

Figure 1.1 shows the increase in emergency medical and surgical admissions to NHS hospitals in England between 1989/90 and 1997/98. Medical emergency admissions increased by 32.3% between 1989/90 and 1995/96, and surgical emergency admissions increased by 17.5% over the same period. The consequent pressure on resources focused attention on the need to improve the management of hospital services (NHS Confederation, 1997). Research had shown that there was considerable potential for this (Audit Commission, 1992).

Figure 1.1 Emergency admissions to hospitals in England between 1989/90 and 1997/98



Source: Department of Health, Hospital Episode Statistics. Note: The figures for 1996/97 and 1997/98 are provisional.

While many factors influence the level of hospital activity, total purchasing gave GPs the opportunity both to directly manage their patients' emergency hospital use and to change service provision. Pilots were able to take steps to prevent emergency admissions to acute hospitals by developing services in alternative potentially more appropriate settings. In addition, as part of an aim to ensure that acute hospital beds were occupied only by patients who needed to be in an acute hospital, TPP GPs could take action to facilitate the timely discharge of their patients from acute beds.

Unlike GP fundholding, total purchasing first arose as four local 'pioneer' initiatives.[1] Each of the pioneer TPPs separately negotiated with its health authority in order to establish the range of HCHS activity over which it could have budgetary responsibility and separate independent provider contracts. While all four pioneers wanted to purchase non-elective HCHS activity as an extension of the fundholding model, their progress varied.[2] Similarly, the first wave of 55 pilots (formally 52 projects) in England and Scotland that went "live" in April 1996 did not all develop in line with the extended fundholding model (Mays *et al*, 1998; Goodwin *et al*, 1998). Mays *et al* (1998) developed a typology for the pilots to capture this diversity.

In the first "live" year 31 pilots (56%) in England and Scotland had main objectives relating to hospital services. Raftery and McLeod (1999) reported an analysis of Hospital Episode Statistics (HES) and Scottish Morbidity Record 1 (SMR1) data for the 28 pilots with complete activity data. This Working Paper reports on the 16 pilots (33%, 16/49) in England[3] which pursued the objective of reducing acute hospital emergency admissions and/or length of stay to at least the end of the second "live" year, March 1998.

The hospital activity analysis was undertaken in order to establish whether the action taken by these TPPs to change hospital activity had any impact. As 87% (14/16) of the pilots attempted to influence both emergency admissions and length of stay, the change in the

[1] The first of the pioneer TPPs to go 'live' was Bromsgrove TPP in April 1994. In October 1994 the NHS Executive and the Scottish Office Department of Health announced the 'first wave' of national pilots.
[2] One pioneer TPP was unable to negotiate a budget with its local Health Authority, and so did not go 'live'; another decided to only contract independently with its two main acute and community trusts; while the remaining two pioneers both sought to take increasing responsibility for a greater range of services and providers.
[3] The Scottish TPPs were excluded from the evaluation in 1997/98 because the total purchasing initiative was abandoned in Scotland before the pilots could complete their second "live" year.

number of occupied bed days (OBDs) relating to emergency admissions in the targeted specialties and age group was chosen as an overall measure of impact. In recent years, emergency hospital admissions have increased while average length of stay has steadily decreased (Yuen, 1999). In order to determine whether any change in the number of OBDs consumed by the patients of the pilots could be attributed to their specific initiatives, rather than the product of these underlying trends, comparators for each pilot were used. The main comparator was all practices in the TPP's host health authority sharing the pilot's main provider.

This report compares the second "live" year with the preparatory year in order to provide an overall outcome measure. The paper compares the pilots' use of hospital services with that of local comparator practices, and assesses the resource and financial implications.

The total purchasing experience has implications for PCGs and primary care trusts attempting to manage their use of, and expenditure on, emergency hospital services because, to some extent, they anticipated primary care groups at level II in terms of their commissioning role.

2 Methods

The analysis of 1997/98 included the 16 TPP sites with objectives relating to their use of hospital services for which HES data were available. The main analysis included activity from the medical and surgical specialties[4] targeted by each pilot, and hence varied depending on each pilot's objectives. The comparator used in the main analysis was all local practices.[5] The main analysis included relevant activity from all NHS hospital providers.[6]

In addition to the main analysis, two secondary analyses were completed. One analysis differed from the main analysis by including all practices in the host health authority other than the pilot's practices (Appendix 3). The other analysis differed from the main analysis by including all medical and surgical specialties in order to assess the TPPs' impact on activity at an aggregate level (Appendix 4).

In each analysis the relevant activity in 1997/98 was compared to the comparable activity in the preparatory year, 1995/96. This approach allowed an overall assessment to be made of the progress made by the TPPs during their lifetime. However, comparisons were also made between 1995/96 and 1996/7, and between 1996/97 and 1997/98 (Appendices 1, 2, 3 and 4).

The number of emergency admissions, the associated total number of occupied bed days and the average length of stay per finished consultant episode (FCE) were analysed. All FCEs with stays of more than 365 days were excluded from the analysis.

Differences in the change in the number of admissions and the associated total number of occupied bed days, between each pilot and its comparator, were analysed assuming a Poisson distribution (Armitage and Berry, 1987, and Appendix 5). Differences in the change in the mean length of stay per FCE were analysed using variances calculated directly from the data (Armitage and Berry, 1987, and Appendix 5). Further details about the data collection and a discussion of data quality issues were reported in Raftery and McLeod (1999).

The pilots' objectives, initiatives and hospital activity were explored using telephone

[4] 'Medical' specialties are defined as FCEs with specialty function codes between 300 and 460 plus 620, and 'surgical' specialties are FCEs with codes between 100 and 190.
[5] Defined as those practices in the host health authority with 20 or more FCEs and 50% or more of all FCEs at the pilot's main provider in 1995/96.

interviews with the pilots' project managers. The study was informed by other elements of the total purchasing national evaluation: the surveys of contracting (Robinson *et al*, 1998; Robison *et al*, 1998) and budget setting methods (Bevan, 1997; Bevan and McLeod, forthcoming) and the questionnaires used in the analysis of the set up and organisational progress of the TPPs (Wyke *et al*, 1999).

[6] Data for the community hospital used by one pilot (Cm11) were missing.

3 Results

The analysis of the first "live" year included 27 pilots (59%, 29/49) in England which had main objectives relating to hospital services. Sixteen of these pilots (33%, 16/49) pursued the objective of reducing acute hospital emergency admissions and/or length of stay for the whole duration of the pilot programme.

The main outcome measure was the difference in change in OBDs relating to emergency admissions in the targeted specialties across all hospital providers between 1995/96 and 1997/98 for each TPP and its local practices. Eleven of the 16 pilots (69%) experienced a reduction in OBDs which was greater than the reduction (or in contrast to an increase) experienced by the comparator, and in each case the difference was statistically significant ($p<0.05$).

Nine of the 16 TPPs were multi-practice and seven were single-practice pilots. The following presentation of the results separates these two groups. This is because the experience of the multi-practice pilots is particularly relevant to primary care groups. A summary of the results of all the activity analyses is shown in Appendix 1.

3.1 The multi-practice pilots

Changing acute hospital activity

Nine multi-practice pilots were found to have persisted with the objective of reducing acute hospital emergency activity for the duration of the two "live" years of the project. Three multi-practice pilots reported that their main initiatives were to reduce both admissions and length of stay. Three pilots concentrated on reducing admissions with length of stay a secondary focus, and the other three pilots targeted length of stay while attempting to reduce admissions as a secondary objective (Table 3.1). Generally their focus was on older medical patients, although the specialties and age groups targeted varied from geriatrics only (pilots Cm13 and Cm4) to all medical and surgical specialties (pilot Cp2). The initiatives introduced by the nine pilots varied in terms of scale, focus, resource requirements and start dates.

Table 3.1 List size, number of practices, main objectives and targeted specialties

Pilot[7]	Total list size	Number of practices	Main objective to reduce acute hospital emergency	Specialties targeted by objective
Cm13	30,000	3	length of stay	geriatrics
Cm15	29,200	3	length of stay	medicine and surgery for over 60s
Cm5	70,000	8	admissions and length of stay	medicine
Cm6	79,300	8	admissions	medicine for over 75s
Cm2	46,500	4	admissions	medicine for over 75s
Cm4	43,000	5	admissions	geriatrics
Cp2	20,000	3	admissions and length of stay	medicine and surgery
Cm18	57,000	5	admissions and length of stay	medicine and surgery for over 75s
Cm11	35,000	5	length of stay	medicine for over 75s

Table 3.2 summarises the action taken by the nine pilots to reduce their use of acute hospital services.

Table 3.2 Main initiatives introduced by the multi-practice pilots with relevant main objectives

Pilot	Cm13	Cm15	Cm5	Cm6	Cm2	Cm4	Cp2	Cm18	Cm11
Increased use of general practitioner beds at local community hospital	✓				✓	✓		✓	✓
Liaison nurse(s) facilitated early discharge/admission prevention	✓			✓					✓
Introduced dedicated rehabilitation team	✓	✓							
Increased use of community nurses or hospital-at-home care			✓	✓				✓	
Improved out-of-hours general practitioner cover			✓				✓		
Facilitated the introduction of a medical assessment unit at the main acute hospital			✓		✓				

Those pilots targeting admissions tended to increase their use of community hospitals or hospital-at-home services, while those pilots targeting length of stay tended to introduce discharge liaison nurses or more comprehensive rehabilitation teams. In some cases total purchasing provided a direct incentive for GPs to increase the care they provided to their patients via the use of GP beds at local community hospitals. Boxes 1 and 2 provide more information about two of the most ambitious pilots: pilot Cm13 (Box 1) focused on reducing length of stay, and pilot Cm6 (Box 2) focused on reducing admissions. Further details about the other pilots' initiatives are recorded in Appendix 6.

[7] The pilot codes are those used in Raftery and McLeod (1999).

Box 1 Pilot Cm13: case-study of a pilot with a main objective of reducing length of stay for acute hospital emergency admissions

- **Initiative**

In April 1996 the pilot appointed a utilisation nurse who facilitated the early discharge of acute geriatric admissions at its main provider to a pilot-instigated local community hospital rehabilitation unit. The pilot funded 16 beds and the health authority funded two beds. The unit was seen as a collaborative venture between the pilot, health authority and both acute and community trusts. The team staffing the unit included two consultant geriatricians and two general practitioners from the pilot. In 1997/98, 199 pilot patients were admitted to the rehabilitation unit following early discharge from the main acute trust and 35 pilot patients were admitted to the rehabilitation unit as direct admissions. The latter would have been acute geriatric admissions in the absence of the community facility.

- **Resource implications**

The pilot planned to fund early discharge to a community hospital rehabilitation unit by using length of stay sensitive pricing at the acute provider. In 1996/97, the acute provider agreed to length of stay pricing bands for geriatric activity despite arguments with the TPP during the contract negotiations. The community hospital activity was covered by a simple block contract of £397,800 in 1997/98. The pilot estimated that it had reduced its acute hospital expenditure by at least £470,000.

- **HCHS budgetary outturn**

The pilot reported that it stayed within its budget in 1997/98, and that its budget has been decreased towards a target capitation allocation.

Although the pilots had a preparatory year, pilot Cm13 was unusual in being able to start its initiative at the beginning of the first "live" year. The other multi-practice pilots generally initiated action in the second half of 1996/97.

All nine pilots attempted to a greater or lesser extent to reduce both admissions and length of stay, and therefore the number of bed days was chosen as the principal measure of impact in terms of relative change over time between pilots and comparators. Seven of the nine pilots experienced a reduction in the total number of OBDs for the targeted activity between 1995/96 and 1997/98, such that the reduction compared favourably to the change experienced by the local comparator and the difference in change was statistically significant (Table 3.3).

Box 2 Pilot Cm6: case-study of a pilot with a main objective of reducing the number of acute hospital emergency admissions

- **Initiative**

In August 1996 the pilot appointed a discharge planning coordinator who led an intermediate care team from January 1997. The team included dedicated nurses and general practitioner involvement. Most intermediate care was purchased from a pre-existing health authority-wide hospital-at-home service. Nursing home beds were also used and access to the health authority's community nursing teams was maintained. In 1997/98, the number of beds purchased by the pilot increased from six to eight and the number of project nurses was increased to four. The pilot reported that 222 admissions were avoided in 1997/98. Most referrals to intermediate care were made by the pilot's general practitioners. An increase in intermediate care activity during the last quarter of 1997/98 was aided by the liaison/discharge planning nurses employed by the pilot's main two acute hospitals as part of 'winter pressures' initiatives.

- **Resource implications**

Funding for the initiative was planned from expected savings in acute hospital expenditure and growth funds. The pilot wanted to contract with the main acute trust using length of stay pricing. The initiative was intended to be cost neutral in the short term. In the longer term, the pilot anticipated that some savings would be made from lower acute or intermediate care service utilisation by 'revolving-door' patients (i.e. those with repeat admissions over a long period). The pilot reported direct expenditure on the initiative of £350,673 plus £97,962 hospital costs for patients subsequently admitted to hospital in 1997/98. The pilot estimated a saving of £75,661 on acute hospital expenditure as a result of the initiative on the basis of average cost pricing. The pilot reported that it had not been possible to reduce hospital expenditure at average cost and that past spend at the main acute trust had been maintained. The pilot noted the importance of growth funds and that 'winter pressures' funding was used to 'pump prime' the initiative. In 1997/98, the main acute provider agreed to a small length of stay rebate for early discharged cases.

- **HCHS budgetary outturn**

The pilot identified its success in having operated within a capitation budget in a health authority that was significantly over capitation, rather than in terms of the estimated saving for the specific initiative. The pilot reported an underspend of £390,000 (1.1%) on its budget, of which £300,400 was used to offset an over spend in the first live year. Growth funds came from the increase in the pilot's population of 2.4% between 1996/97 and 1997/98, and the fact that the TPPs' budget moveed closer to its capitation target which was above the level of historical spend.

Table 3.3 Multi-practice pilots and local comparator practices: changes in the number of OBDs in the targeted specialties between the preparatory year and the second "live" year

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between 1995/96 and 1997/98		difference in % change between pilot and comparator with 95% CIs	
	pilot	comparator	pilot	comparator		
Cm13	4628	46226	-27.1	2.9	30.0	(26.6 to 33.6)
Cm15	8578	120111	-17.6	2.8	20.4	(17.7 to 23.1)
Cm5	22418	16042	-7.0	11.1	18.1	(15.2 to 21.1)
Cm6	17171	35026	-22.2	-5.8	16.4	(14.1 to 18.7)
Cm2	11745	25744	-11.7	-0.8	10.9	(8.0 to 13.8)
Cm4	18624	23860	-10.6	0.1	10.7	(8.1 to 13.3)
Cm18	16605	32175	-8.6	-2.6	5.9	(3.4 to 8.5)
Cp2	10109	157492	-3.0	-2.1	0.9	(-3.7 to 1.9)
Cm11	3430	10707	46.2	16.9	-29.3	(-36.3 to -22.3)

Note: see Appendix 2 Table A2.1 for comparisons between 1995/96 and 1996/97, and 1996/97 and 1997/98

An analysis of the number of relevant admissions found that eight of the nine pilots experienced a greater reduction, or smaller increase, in admissions compared to the local comparators, but that with one exception the differences in change were not significant (Appendix 2, Table A2.2).

All nine pilots and their comparators experienced reductions in the mean length of stay (LOS) per FCE between 1995/96 and 1997/98 (Appendix 2, Table A2.3). Pilot Cm13 experienced the largest reduction in length of stay for the targeted specialty. Table A2.3 shows that the pilots started from different positions relative to their comparators: for example the mean length of stay for pilots Cm15 and Cm5 was significantly higher than that of their comparators in 1995/96.

Although the difference in change in the number of targeted admissions and mean length of stay between pilots and comparators were not usually statistically significant, the differences reported in tables A2.2 and A2.3 indicate the contribution made by changes in admissions and length of stay to the changes in occupied bed days.

Tables A2.4 and A2.5 show the results of the same analysis for all emergency medical and surgical OBDs and admissions respectively. Six of the seven multi-practice pilots found to be successful in the main activity analysis were also successful when the main analysis criteria were applied to OBDs across all medical and surgical specialties.

Resource implications of changes in hospital activity for the multi-practice pilots

Since NHS contracts vary in the degree to which total cost reflects activity (Raftery *et al*, 1996), the ability of the pilots to reduce their expenditure on emergency services through reducing activity depended on their type of contract. TPPs with aims to change their use of hospital services typically wanted to use contracts with providers which would closely link changes in activity to changes in funding. The characteristics of emergency activity are such that the TPPs generally based their contracts on the 'cost and volume' or 'sophisticated block' contracts used by health authorities (Table 3.4), rather than the 'cost per case' contracts used by standard fundholders for elective activity (Robinson *et al*, 1998; Robison *et al*, 1998).

In general, cost and volume contracts (and to some extent sophisticated block contracts) allow for variances in forecast activity to be accompanied by changes in funding, dependent on a marginal cost tariff applied to prices based on FCEs at average specialty cost (Raftery *et al*, 1996). The pilots found it difficult to use this contracting mechanism to move resources away from acute hospitals in line with their expectations. In general, acute trusts sought to maintain their income and the pilots found themselves unable to negotiate new contract currencies, such as those based on admissions or bed days, which would more closely relate changes in activity to changes in funding.

Table 3.4 Multi-practice pilots' contracting arrangements and budgetary outturn in 1997/98

Pilot	Contracting status	Main acute contract: Type	Main acute contract: currency	Hospital and community health services budget outturn
Cm13	independent	cost and volume	bed days	1.1% (£390,000) under spent
Cm6	independent	sophisticated block	FCEs	stayed with budget
Cm15	independent	sophisticated block	FCEs	0.6% (£60,000) over spent
Cm2	independent	cost and volume	FCEs	stayed with budget
Cm4	independent	cost and volume	admissions	0.5% (£90,000) under spent
Cm5	independent	simple block	FCEs	under spent
Cp2	joint with HA	sophisticated block	FCEs	budget not set
Cm18	independent	cost and volume	FCEs	0.5% (£90,000) under spent
Cm11	independent	sophisticated block	bed days	over spent (budget increased)

In theory the difference in average cost between acute and community hospital beds is such that by admitting patients to a community hospital in place of an acute hospital a TPP could release funds to cover the cost of, for example, a liaison nurse to manage the process. In practice the pilots could not release funds at average cost from acute trusts, which sought to maintain their income.

Eight of the nine multi-practice pilots had delegated budgets and directly purchased care using 'independent' contracts, and were thus comparable to primary care groups at level II. Of the five multi-practice pilots targeting admissions, the cost implications for pilot Cm4 were minimal (because the initiative was contained within one combined acute and community health services trust). None of the other pilots funded their initiatives entirely from contracted reductions in expenditure on acute hospital activity. Pilot Cm6 utilised growth monies (Box 2). Pilots Cm2 and Cm18 benefited from health authority winter pressures monies, and pilot Cm5 received funds from its health authority and local authority social services department. These five pilots reported that they stayed within their budgets, or made savings, in 1997/98.

Three of these pilots (Cm6, Cm2 and Cm5) were 'successful' in terms of experiencing a greater reduction, or smaller increase, in relevant emergency admissions compared to the local comparator, while two pilots (Cm18 and Cm4) were similarly 'unsuccessful'. However, none of the differences in change in admission numbers were statistically significant.

TPP Cm6 was the most ambitious of these pilots. It employed new staff and purchased new intermediate care services. However, the pilot's ability to proceed with its plans depended on the availability of growth funding supplemented by 'winter pressures' funds, and not on withdrawing sufficient funds from its acute providers through contract re-negotiations. The pilot's project manager stressed that funds could not be released from acute hospitals without closing wards or making people redundant. The issue of whether to close acute beds had to be managed at a strategic level over a wider geographical area than that covered by the pilot and over a five to ten year horizon. Hence, finding funds which did not destabilise the main acute hospital had been critical to the success of this TPP. If the TPP had pursued the objective of contracting with the main acute trust using length of stay sensitive pricing, there would have been a major argument with the trust and the pilot would not have achieved change. Indeed, the TPP reported that the acute provider's reluctance to agree length of stay sensitive pricing had contributed to its targeting admissions rather than length of stay. The TPP's project manager also noted the central importance of a multiplicity of relationships with the trusts for achieving change. For example, for each new A&E team on rotation at the main trust, the TPP Discharge Co-ordinator provided a session as part of their induction training. In addition, the pilot was active in promoting its approach to avoiding admissions within the health authority.

Pilot Cm2 supported a health authority-led development to introduce a medical assessment unit (MAU) at its main acute provider. Following assessment, appropriate patients (whether or not they were covered by the pilot) were transferred to a local community hospital rather than being admitted to the acute hospital. This extra community hospital activity was funded through 'winter pressures' money. 'Winter pressures' funds were also used to introduce a community health services trust managed hospital-at-home service. Hence, the change in services used by the pilot were not funded through alterations to existing contracts.

Pilot Cm5 supported the introduction of a MAU at its main provider and contributed a third of the funding for a social services assessment worker. However, major initiatives to provide

intermediate care services were not undertaken. The main acute contract was a 'simple block' as the TPP's strategy was to promote the best use of resources within the main provider, rather than to transfer funds from the hospital.

In 1997/98, the intermediate care project run by pilot Cm18 was funded in part by 'winter pressures' resources. The pilot reported that its main acute trust had supported the pilot's aims, but refused to introduce prices which were sensitive to length of stay. The TPP project manager expressed the view that its main acute trust would not necessarily have lost income by agreeing to length of stay sensitive pricing, because the TPP's action would have released beds which could have been used for other funded work such as waiting list initiatives. The project manager stated that the pilot's inability to introduce length of stay sensitive pricing meant that it had not been able to use the independent contracting mechanism as intended. The TPP described the health authority as being "increasingly supportive", while leaving the TPP to "get on with it". Nevertheless, like the trusts, the health authority was interested in the pilot without providing active financial co-operation or support. For example, having agreed length of stay sensitive pricing with the pilot's main community provider, the TPP's contract under-performed by £448,000 in 1996/97. Hence, the pilot was due a refund of £112,000 as the marginal cost rate was 25%. However, the health authority's contract with this provider over-performed and as a result the TPP only received £65,000 of the refund due. The TPP overspent its HCHS budget by £300,000 in 1996/97, and reported that it had not succeeded in releasing the funds required for its early discharge initiative. The project manager noted that its intermediate care initiative was extended across the health authority in 1998/99 (using 'whole system' funds).

TPP Cm4 aimed to decrease hospital geriatric medicine admissions by agreeing to an increase in the financial incentive to the TPP GPs to use community hospital GP beds. Both the acute and community hospitals were part of the same trust and the proposed change in activity was not intended to result in significant financial savings for the pilot. The potential for savings was limited both because of the increase in cost to the pilot of GP bed admissions (which covered the cost of the higher financial incentive to the GPs) and the relatively high marginal cost rate of 35% applied to changes in activity. As noted above, activity did not change in the intended direction, presumably because of the non-availability of some GP beds for part of 1997/98.

Three multi-practice pilots focused on reducing length of stay. Pilot Cm13 (Box 1) was the only one of the nine pilots able to introduce length of stay sensitive pricing, such that it could transfer substantial resources from the acute sector and operate as intended within a capitation budget. The use of length of stay sensitive pricing in the main acute contract allowed enough funds to be released via the early discharge of acute emergency geriatric cases to fund a new community hospital rehabilitation facility. The project manager described the contracting mechanism as "excellent". "Each patient in the system is case managed. Patients are picked up on the hospital's PAS system and charged by length of stay. It is quite straight-forward. It is not particularly onerous in terms of contracting." The project manager noted that the acute trust had stated that the pricing structure used was incorrect because it had not been able to reduce its costs by as much as the forgone income. The project manager disagreed with this assessment because the trust "never has any excess capacity anyway". The TPP project manager suggested that the TPP's action had released capacity at the trust which would have been used to generate more income through elective activity. The TPP noted that they "always have an argument" with the trust during the contract negotiations, but that they had maintained the length of stay pricing.

TPP Cm11 also succeeded in negotiating the introduction of length of stay sensitive pricing for targeted acute activity in the first live year. However, the experience was not entirely satisfactory. Although the TPP reported that it had secured a better pricing 'deal' with its acute provider in 1997/98, the pilot was unable to release enough resources to cover the increase in community hospital activity. In the end the major source of funding for the early discharge initiative came from a negotiated increase in the pilot's budget, rather than a transfer of funds from the main acute trust. In this case the project manager emphasised the problems of setting budgets for community activity and noted that the main acute trust's objective was to "maximise its total income, without being too concerned about the forecast case-mix". This approach contrasted with the pilot's desire to link more closely payment to actual service use. The project manager reported that it would have been very difficult to negotiate an overall reduction in expenditure at the acute trust because the trust was facing a financial deficit. Hospital fixed costs, depending on factors such as the number of consultants, "drive everything", and the ability of the pilot to influence acute trusts, was seen as limited.

Pilot Cp2 did not receive a delegated budget, but attempted to influence health authority commissioning, and was thus comparable to primary care groups at level I. Although the pilot maintained its work to reduce acute emergency admissions as a main objective in 1997/98, its main project (out-of-hours general practitioner cover) was cut back in line with the health authority's wishes. The pilot reported frustration at not being able to negotiate a delegated budget as intended.

3.2 The single-practice pilots

Changing acute hospital activity

Seven single-practice pilots persisted with the objective of reducing acute hospital emergency activity for the duration of the two "live" years of the project. Table 3.5 shows that the focus of these pilots varied between main initiatives to reduce admissions or length of stay.

Table 3.5 Single-practice pilots: list size, main objectives and targeted specialties

Pilot	Total list size	Main objective to reduce acute hospital emergency	Specialties targeted by objective
Cp1	6,900	admissions and length of stay	medicine
Cm12	12,300	length of stay	medicine and surgery
Cm14	12,000	length of stay	medicine
Cm9	8,500	admissions	medicine and surgery
Cm8	16,000	admissions	medicine for over 75s
Cm10	14,000	length of stay	medicine and surgery
Cm1	19,000	admissions	medicine for over 75s

Compared to the multi-practice pilots the focus was not so frequently on older medical patients, although the specialties and age groups targeted varied from older medical patients only (pilots Cm1 and Cm8) to all medical and surgical specialties (pilots Cm9, Cm10 and Cm12). Table 3.6 summarises the action taken by the seven pilots to reduce their use of acute hospital services and further details are reported in Appendix 6. The most frequently cited initiatives were the use of liaison nurses and nursing home beds.

Table 3.6 Main initiatives introduced by the single-practice pilots with relevant main objectives

Pilot	Cp1	Cm12	Cm14	Cm9	Cm8	Cm10	Cm1
Increased use of general practitioner beds at local community hospital						✓	
Liaison nurse(s) facilitated early discharge/admission prevention		✓	✓	✓	✓	✓	
Introduced dedicated rehabilitation team			✓		✓		
Increased use of community nurses or hospital-at-home care		✓			✓		✓
Facilitated the introduction of a medical assessment unit at the main acute hospital					✓		
Introduced a social care co-ordinator or social services link worker					✓		
Introduced use of nursing home beds	✓	✓	✓	✓			✓

One of the most interesting single-practice pilots was Cm8 (Box 3). Pilot Cm8 introduced new practice-based staff and worked with a multi-disciplinary community-based team to reduce its use of acute hospital emergency services. The pilot experienced delays during 1996/97, and was unable to develop its contracting arrangements as intended.

Six of the seven single-practice pilots attempted to a greater or lesser extent to reduce both admissions and length of stay. Five of the seven pilots pilots experienced a reduction in the total number of OBDs for the targeted activity between 1995/96 and 1997/98, such that the reduction compared favourably to the change experienced by the local comparator and the difference in change was statistically significant (Table 3.7).

Table 3.7 Single-practice pilots and local comparator practices: changes in the number of OBDs in the targeted specialties between the preparatory year and the second "live" year

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between 1995/96 and 1997/98		difference in % change between pilot and comparator with 95% CIs	
	pilot	comparator	pilot	comparator		
Cp1	2234	87397	-29.8	-4.6	25.2	(20.6 to 29.8)
Cm12	7141	87016	-18.1	-3.3	14.8	(11.9 to 17.8)
Cm14	2126	110793	-12.0	-1.2	10.8	(5.3 to 16.3)
Cm8	2598	20513	-5.7	1.3	7.0	(1.5 to 12.6)
Cm9	2735	55788	-6.1	-4.9	1.2	(-3.9 to 6.4)
Cm1	3938	17400	5.1	1.4	-3.7	(-8.7 to 1.4)
Cm10	5124	55788	19.9	-4.9	-24.8	(-20.2 to -29.4)

Note: see Appendix 2 Table A2.6 for comparisons between 1995/96 and 1996/97, and 1996/97 and 1997/98

Box 3 Pilot Cm8: case-study of a pilot with a main objective of reducing both emergency admissions and length of stay for acute hospital cases

- **Initiative**

Main objectives to reduce emergency admissions across the medical specialties for the over 75s and emergency LOS across the medical specialties: The pilot appointed a social care co-ordinator in September 1996, and nurse facilitator in March 1997. The TPP led an initiative to introduce an A&E nurse triage scheme at its main provider, which was implemented in March 1997 having been initially viewed as being too costly. The nurse facilitator worked with a pilot initiated elderly resource team led by a community geriatrician. The team made use of hospital-at-home and community nursing services provided by the local community trust. The objective was not pursued in 1996/97 because the main provider refused to introduce LOS sensitive pricing. Although the contract currency did not change in 1997/98, the pilot's action to reduce LOS was seen as a 'spin off' benefit resulting from its initiatives to improve patient management.

- **Resource implications**

The TPP planned to make savings by contracting for historical activity levels using cost and volume contracts, in place of the simple block arrangements used by the host HA. This entailed new work on procedure costs by the Trusts and resulted in the pilot forecasting a saving of £700,000 on its HCHS budget. The TPP reported that it wanted to introduce LOS pricing at its main provider in order to introduce more sensitive costing to contracting, and did not intend to withdraw funding. The pilot noted that it made savings through contracting in all areas, including ECRs, and not just at its main providers. The pilot had not intended to destabilise its providers, and noted that "most of the money did go back to the trusts at the end, not because they were in crisis, but because the health authority felt that it was appropriate." The A&E triage initiative was funded 20% by the TPP and 80% by the HA.

- **HCHS budgetary outturn**

The pilot reported that it made a saving of over £500,000 (5.7%) on its HCHS budget in 1997/98. The TPP noted that its budget for 1997/98 had not been too high, but that the TPP had been very efficient. However, the survey of 1997/98 budget allocations (Bevan and McLeod, forthcoming) indicated that this pilot's per capita allocation was the highest of the 34 TPPs for which data were provided.

An analysis of the relevant admissions found that three of the seven single-practice pilots experienced a reduction in the number of emergency admissions in the targeted specialties between 1995/96 and 1997/98 compared to the local practices (Appendix 2, Table A2.7). The difference in change in admissions was statistically significant for one of these three pilots.

Six of the seven single-practice pilots and all seven comparators experienced reductions in the mean length of stay per FCE between 1995/96 and 1997/98 (Appendix 2, Table A2.8). Five of the seven pilots experienced a greater reduction in mean length of stay per FCE compared to the comparators, although in each case the differences in change were not significant.

Resource implications of changes in hospital activity for the single-practice pilots

Five of the seven single-practice pilots held cost and volume type contracts with their main acute provider in 1997/98. Table 3.8 shows that six of the seven pilots received a budget in 1997/98 and five of these pilots reported that they stayed within their budget (after taking into account fundholder savings).

Table 3.8 Single-practice pilots' contracting arrangements and budgetary outturn in 1997/98

Pilot	Contracting status	Main acute contract: type	Main acute contract: currency	Hospital and community health services budget outturn
Cp1	joint with HA	cost and volume	FCEs	budget not set
Cm12	independent	sophisticated block	FCEs	£8,000 over spend offset by previous fundholder savings
Cm14	independent	cost per case	bed days	1.2% (£35,000) over spend offset by fundholder savings
Cm8	independent	cost and volume	FCEs	5.7% (£500,000) under spend
Cm9	independent	cost and volume	FCEs	under spent
Cm1	independent	cost and volume	FCEs	1.1% (£72,200) under spend
Cm10	independent	cost and volume	FCEs	not known by pilot

Appendix 6 records more information about the resource implications and HCHS budgetary outturn in 1997/98 for these pilots. See Box 3 for further details about the budgetary saving achieved by pilot Cm8.

4 Discussion

4.1 Method of data analysis

The change in the number of occupied bed days relating to emergency admissions in the targeted specialties and age group, compared to a comparator, was chosen as the overall measure of the TPPs' impact. The use of relative change in OBDs provided a single overall measure of change, and is appropriate because most of the pilots (14/16) attempted to influence both emergency admissions and length of stay. The main analysis included the activity targeted by each pilot, and hence varied depending on the pilot's objectives. In order to assess impact on aggregate emergency activity, a secondary analysis compared change in OBDs across all medical and surgical specialties (Appendix 2).

In each analysis the relevant activity in 1997/98 was compared to the comparable activity in the preparatory year, 1995/96. This approach allowed an overall assessment of the progress made by the TPPs to be made during their lifetime. However, comparisons were also made between 1995/96 and 1996/7, and between 1996/97 and 1997/98 (Appendices 1, 2 and 3). These comparisons require careful consideration. For example, Pilot Cm13 appointed a utilisation nurse in April 1996 who facilitated the early discharge of acute geriatric admissions at its main provider to a pilot-instigated local community hospital rehabilitation unit (see Box 1). The consequent change in acute geriatric OBDs was substantial between 1995/96 and 1996/97, and relatively modest between 1996/97 and 1997/98. However, the initiative was of course not less successful in the latter period.

The use of local practices as the main comparator for each pilot was intended to control for differences in data quality between different hospital providers, and to provide a comparator population which due to its proximity could, to some extent, be assumed to be demographically similar. The pilots tended to include practices from the early fundholding waves, and so tended to be relatively large and well organised (Audit Commission, 1996). Hence, while the pilots may have differed from local practices due to their fundholding experience, they shared hospital providers and had similar population characteristics.

4.2 Comparison between activity analyses

In addition to the main analysis, two secondary analyses were completed. One analysis differed from the main analysis by including all practices in the host health authority other

than the pilot's practices (see Appendix 3). The other analysis differed from the main analysis by focusing on activity at the TPPs' main providers (see Appendix 4). Appendix 1 summarises the results of the activity analyses.

Six of the seven multi-practice pilots, and three of the four single-practice pilots, found to be successful in the main analysis were also successful when the main analysis criteria were applied, but across all medical and surgical specialties. This finding suggests that although in general the pilots focused attention on a subset of emergency activity, success in the targeted area was associated with a desirable impact at an aggregate level.

Using the same main outcome measure criteria, but with the comparison made with all other practices in the host health authority rather than the local practices, produced the same results. However, when all medical and surgical activity was substituted for the targeted activity, one additional multi-practice pilot was found to be successful. When the main outcome measure criteria were applied to activity at the TPP's main provider only, the analysis found that fewer pilots were successful (56% and 43% respectively). However, this comparison is of limited value due the variation between the TPPs in the proportion of total activity taking place at the main provider (see Raftery and McLeod, 1999). Overall, these analyses show similar trends and support the other results.

4.3 The impact of pilot status

Unlike GP fundholding, which operated within a statutory framework, total purchasing had pilot status only and pilots operated with little central guidance. While some pilots were allowed desirable discretion to experiment, the price paid by others was considerable. This had a significant bearing on their ability to shift resources out of hospitals. The absence of central guidance relating to the budget setting and contracting arrangements for the pilots had serious consequences in some cases. Health authorities did not agree budgets in a timely manner (see Bevan and McLeod, forthcoming), and budget setting problems affected the agreement of contracts. The 1996/97 contracting survey found that 36% (10/28) of TPPs with independent contracts reported difficulties in obtaining agreement on all of their contracts because of budget setting problems (Robinson *et al*, 1998). In the second live year the proportion of TPPs in this position had only fallen to 22% (6/27) (Robison *et al*, 1998). The delays in agreeing budgets with health authorities were to some extent a consequence of the lack of obligation placed on health authorities for timely action. Similarly, NHS providers

had no obligation to co-operate with the TPPs' aspirations to change the usual contract arrangements between health authorities and providers in order to link changes in activity more closely to changes in funding.

4.4 The impact of political climate

Mays *et al* (forthcoming) describe the many factors affecting the environment in which the total purchasing pilots operated. However, a key factor influencing the pilots' ability to pursue their objectives of changing emergency hospital services was undoubtedly the fundamental change in political climate during the life-time of total purchasing. In 1994, total purchasing was seen as a logical extension of the government's preferred purchasing model. Within a month of the beginning of the second live year, the change in government, and the inevitable end of fundholding, made the future of devolved budgetary responsibility seem bleak. This change in climate had a profoundly negative impact on the pilots' ability to secure co-operation for change from both acute providers and host health authorities.

The story of one single-practice pilot that was active in promoting early discharge in 1996/97, but came 'off the rails' in 1997, illustrates both the difficulties experienced by several pilots due to the loss of key impetus, and the impact of political change. The lead GP reported that in May 1997 its nurse co-ordinator had been 'poached' by the local Trust as her work was seen as so valuable that the hospital wanted her to work for them. A new nurse co-ordinator was not appointed until October/November, and then, following the publication of the *The New NHS* in December 1997, the pilot resigned from TP because it realised that single-practice fundholding and total purchasing would not survive. In contrast, another single-practice pilot which did pursue its objectives, reported that the practice used fundholder savings to keep their discharge nurse in post during 1998/99, and that the TPP's experience and staff had been embraced by the successor primary care group in 1999/00.

4.5 Contracting and resource implications

In order to reduce acute hospital activity, it was necessary for the pilots to develop alternative services, such as community nursing teams or community hospital GP beds facilitated by discharge liaison nurses. At the same time, the pilots believed that it was necessary to fund this new activity by reducing their expenditure on acute hospital services. Hence, in general the pilots attempted to negotiate contract prices based on admission numbers or length of stay,

rather than FCEs, in order to link changes in activity more closely to changes in funding. The pilots were usually unsuccessful in changing contract arrangements and, with a few exceptions, they reported that health authorities did not intervene to support them. This predicament constrained initiatives. In practice, most of the 16 pilots obtained other sources of funding such as 'winter pressures' resources which 'squared the circle'. As noted above, the pilots' project managers held differing views on the ability of acute hospitals to respond to the financial implications resulting from pilot-initiated changes in service use.

Total purchasers' contracts did facilitate quality improvements (Robison *et al*, 1998), and, in this respect, the pilots came close to achieving the change "in the power relationship between the fundholding GP and the provider" (Goodwin, 1998, p63), which was manifest in the shorter waiting times secured by fundholding practices (Dowling, 1997). However, managing emergency activity is fundamentally different from elective activity. While fundholders had the potential to move activity and income away from hospital providers that would not co-operate, total purchasers were constrained by the characteristics of non-elective health care and the absence of a statutory framework.

Even if total purchasing had existed within a statutory framework, it would still have been fundamentally different from fundholding, which was specifically designed for the purchasing of elective services. Emergency activity is different, and so total purchasing had to be different. Despite successful initiatives to reduce acute activity, ultimately, GPs are not able to choose where or when most of their patients will be admitted in an emergency. For most emergency activity, the acute hospitals have a captive audience of patients and GPs. Hence, the TPPs' ability to force change through straight-forward contracting tactics, such as threatening to change provider, was constrained.

The most common service development linked to independent contracting reported by pilots in 1996/97 was a change to discharge arrangements "which hinges on the use of 'length of stay' ... sensitive contract currencies to permit [a] shift of resources" (Robinson, 1998, p19). However, in practice, the hospitals had no obligation to agree to change from the common practice of pricing activity on the basis of FCEs at average specialty cost.

4.6 Implications for primary care groups

Both fundholding and total purchasing provided opportunities for general practitioners to change their use of hospital services, and primary care groups are intended to offer similar opportunities. However, the total purchasing and fundholding experience was that most participants did not attempt to change hospital activity, and many general practitioners may choose not to follow in the footsteps of the innovators. The new financial incentives are intended to be "sufficiently attractive to health professionals and Primary Care Groups' members to provide motivation to perform well" (NHS Executive, 1998a, p22). While their effectiveness based on the fundholding experience remains equivocal, the use of incentives is itself contentious (Majeed and Malcolm, 1999) and the burden it will place on setting budgets at practice level are formidable (Smith, 1999).

Thus the difficulty experienced by the pilots in using contracts to manage a transfer of resources away from secondary care may exist into the future. Guidance for the new longer term service agreements to be used in the NHS allows for the development of complex contracts. These could be service-based at sub-hospital level and use Healthcare Resource Groups rather than FCEs for pricing. In addition, financial incentives for both providers and commissioners to manage activity levels could be incorporated. For example, "it might be agreed that up to a given threshold the PCG would bear the cost of higher than expected [emergency] referrals, while the NHS Trust would bear the cost of higher than planned A&E admissions" (NHS Executive, 1998b, p17). The TPPs would have welcomed this approach to service agreements, because they commonly wanted to strengthen the link between activity and funding levels.

However, the overall strategy is to combine a "large element of confirmed core funding" (NHS Executive, 1998b, p16) over a number of years with sufficient financial flexibility at the margin to enable the operation of incentives and penalties. This compromise is problematic. Financial contract negotiations are mainly concerned with marginal resources, whether they are focused on the allocation of growth funds (Dawson and Goddard, 1998), or the consequence of initiatives to change hospital activity. Hence, the allocation of core funding is irrelevant to these negotiations (Dawson and Goddard, 1998). At the margin, hospital providers may still find that their interests (in terms of, say, reference cost league tables) are best served by increasing or maintaining activity (Dawson and Street, 1998), rather

than agreeing to release resources related to PCGs' plans for activity changes. In the long-term cost-effective commissioning requires decreases in hospital activity to be matched by reductions in funding at average cost. The advent of longer-term service agreements may not create incentives for NHS hospitals to take the long term action required to bring about change to average costs.

5 Conclusions

The New NHS White Paper acknowledges total purchasing as one of the models on which PCGs have been developed (Secretary of State for Health, 1997). The experience of the pilots is important because, to some extent, their role anticipated primary care groups. The total purchasing initiative showed that it is possible for GPs to work successfully on one of the most intractable problems in the NHS - how to manage emergency hospital demand. Total purchasing 'commissioning' resulted in change in the use of acute hospital emergency services in the minority of pilots which chose to make it a sustained priority. In general, this entailed the introduction of alternative care arrangements for elderly patients, which, in turn, reflected the use of locally available facilities. In principle, this suggests that primary care groups and primary care trusts with relevant priorities could make an important contribution to managing rising emergency hospital utilisation in the NHS.

However, given that most pilots did not attempt consistently to influence hospital activity, many general practitioners may be content to function at primary care group level I, rather than take on the challenging responsibilities of managing hospital use. Although primary care groups at level II are similar to the TPPs discussed in this report with regard to their budgetary responsibility for a proportion of hospital services, they are not volunteer groups of experienced fundholders. In addition, total purchasing was demanding for GPs who had to devote considerable time and energy to it, and be prepared to accept new responsibilities for the local health system. Hence, even if primary care groups have clear objectives relating to secondary care, it will take time for them to change hospital use.

The total purchasing experience suggests that the range of intermediate services initiated by the pilots may only be sustainable if appropriate resources are released from the acute hospital sector. Hence, the extent to which primary care groups beyond level I will emulate the early changes to hospital service use made by the pilots will be greatly influenced by the level of co-operation they receive from acute hospital trusts, and health authorities.

Purchasers wishing to transfer activity from acute hospitals should aim to release funds at average cost. However, in the short term, such as the life of total purchasing, hospitals tend to argue that they can only be expected to lose income at marginal cost, unless they can use released capacity to generate additional income. In practice, most of the 'successful' pilots

obtained other sources of funding which enabled them to make changes without taking money out of their local acute hospitals. It remains to be seen whether the current planning arrangements in the English NHS, in which health authorities lead the development and implementation of Health Improvement Plans, will facilitate appropriate funding arrangements for initiatives to reduce emergency activity at acute hospitals.

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Appendix 1 Activity analysis: summary of results

Table A1.1 Main analysis: activity across all providers compared with local practices

TPP type		comparison between 1995/96 & 1996/97: Number of TPs with relative change in the right direction*	1995/96 & 1996/97: Number and (%) of TPs with statistically significant change in the right direction compared to comparator	comparison between 1996/97 & 1997/98: Number of TPs with relative change in the right direction*	1996/97 & 1997/98: Number and (%) of TPs with statistically significant change in the right direction compared to comparator	1995/96 & 1997/98: Number of TPs with relative change in the right direction*	1995/96 & 1997/98: Number and (%) of TPs with statistically significant change in the right direction compared to comparator
Targeted activity							
OBDs	multi-practice	6	5 (55.6)	6	6 (66.7)	8	7 (77.8)
	single-practice	4	2 (28.6)	6	6 (85.7)	5	4 (57.1)
	all	10	7 (43.8)	12	12 (75.0)	13	11 (68.8)
admissions	multi-practice	6	0 (0.0)	4	0 (0.0)	8	1 (11.1)
	single-practice	3	0 (0.0)	5	0 (0.0)	3	1 (14.3)
	all	9	0 (0.0)	9	0 (0.0)	11	2 (12.5)
All medical and surgical activity							
OBDs	multi-practice	8	6 (66.7)	6	6 (66.7)	8	6 (66.7)
	single-practice	4	2 (28.6)	6	4 (57.1)	5	3 (42.9)
	all	12	8 (50.0)	12	10 (62.5)	13	9 (56.3)
admissions	multi-practice	7	1 (11.1)	5	1 (11.1)	5	1 (11.1)
	single-practice	4	1 (14.3)	3	0 (0.0)	3	1 (14.3)
	all	11	2 (12.5)	8	1 (6.3)	8	2 (12.5)

* The number of TPPs with a greater decrease, or smaller increase, in OBDs or admissions compared to the comparator.
Note: the full results tables for this analysis are presented in Appendix 2.

Table A1.2 Secondary analysis: activity across all providers compared with all other practices in the host health authority

TPP type		comparison between 1995/96 & 1996/97: Number of TPs with relative change in the right direction*	1995/96 & 1996/97: Number and (%) of TPs with statistically significant change in the right direction compared to comparator	comparison between 1996/97 & 1997/98: Number of TPs with relative change in the right direction*	1996/97 & 1997/98: Number and (%) of TPs with statistically significant change in the right direction compared to comparator	1995/96 & 1997/98: Number of TPs with relative change in the right direction*	1995/96 & 1997/98: Number and (%) of TPs with statistically significant change in the right direction compared to comparator
Targeted activity							
OBDs	multi-practice	6	5 (55.6)	4	3 (33.3)	8	7 (77.8)
	single-practice	4	3 (42.9)	6	5 (71.4)	4	4 (57.1)
	all	10	8 (50.0)	10	8 (50.0)	12	11 (68.8)
admissions	multi-practice	8	2 (22.2)	2	0 (0.0)	5	0 (0.0)
	single-practice	4	0 (0.0)	4	1 (14.3)	3	2 (28.6)
	all	12	2 (12.5)	6	1 (6.3)	8	2 (12.5)
All medical and surgical activity							
OBDs	multi-practice	8	7 (77.8)	6	5 (55.6)	9	8 (88.9)
	single-practice	4	3 (42.9)	6	5 (71.4)	4	4 (57.1)
	all	12	10 (62.5)	12	10 (62.5)	13	12 (75.0)
admissions	multi-practice	7	1 (11.1)	6	1 (11.1)	8	3 (33.3)
	single-practice	4	1 (14.3)	4	1 (14.3)	5	2 (28.6)
	all	11	2 (12.5)	10	2 (12.5)	13	5 (31.3)

* The number of TPPs with a greater decrease, or smaller increase, in OBDs or admissions compared to the comparator.
Note: the full results tables for this analysis are presented in Appendix 3.

Table A1.3 Secondary analysis: activity at the TPPs' main providers compared with local practices

TPP type		comparison between 1995/96 & 1996/97		comparison between 1996/97 & 1997/98		comparison between 1995/96 & 1997/98	
		Number of TPs with relative change in the right direction*	Number and (%) of TPs with statistically significant change in the right direction compared to comparator	Number of TPs with relative change in the right direction*	Number and (%) of TPs with statistically significant change in the right direction compared to comparator	Number of TPs with relative change in the right direction*	Number and (%) of TPs with statistically significant change in the right direction compared to comparator
Targeted activity							
OBDs	multi-practice	5	4 (44.4)	7	4 (44.4)	6	5 (55.6)
	single-practice	4	3 (42.9)	5	4 (57.1)	3	3 (42.9)
	all	9	7 (43.8)	12	8 (50.0)	9	8 (50.0)
admissions	multi-practice	5	1 (11.1)	2	1 (11.1)	4	0 (0.0)
	single-practice	4	0 (0.0)	4	0 (0.0)	2	1 (14.3)
	all	9	1 (6.3)	6	1 (6.3)	6	1 (6.3)
All medical and surgical activity							
OBDs	multi-practice	5	5 (55.6)	5	4 (44.4)	6	5 (55.6)
	single-practice	4	3 (42.9)	4	3 (42.9)	4	3 (42.9)
	all	9	8 (50.0)	9	7 (43.8)	10	8 (50.0)
admissions	multi-practice	4	1 (11.1)	4	1 (11.1)	5	1 (11.1)
	single-practice	5	1 (14.3)	3	0 (0.0)	4	1 (14.3)
	all	9	2 (12.5)	7	1 (6.3)	9	2 (12.5)

* The number of TPPs with a greater decrease, or smaller increase, in OBDs or admissions compared to the comparator.
Note: the full results tables for this analysis are presented in Appendix 4.

Appendix 2 Main activity analysis: results tables

Table A2.1 Changes in the number of occupied bed days (OBDs) across all hospital providers in the specialties targeted by multi-practice pilots compared with the local comparator practices

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cm13	4628	46226	-24.2	0.8	25.0	21.4 to 28.6	-3.8	2.2	6.0	1.2 to 10.7	-27.1	2.9	30.1	26.6 to 33.6
cm15	8578	120111	-15.0	-1.2	13.8	11 to 16.6	-3.1	4.0	7.1	3.8 to 10.4	-17.6	2.8	20.4	17.7 to 23.1
cm5	22418	16042	-10.5	-2.4	8.0	5.3 to 10.8	3.8	13.9	10.1	6.9 to 13.2	-7.0	11.1	18.1	15.2 to 21.1
cm6	17171	35026	4.8	5.2	0.4	-2.3 to 3.1	-25.8	-10.5	15.3	13.2 to 17.4	-22.2	-5.8	16.4	14.1 to 18.7
cm2	11745	25744	6.5	5.1	-1.4	-4.6 to 1.8	-17.1	-5.6	11.5	8.8 to 14.2	-11.7	-0.8	10.9	8 to 13.8
cm4	18624	23860	-9.3	-10.0	-0.7	-3.3 to 1.8	-1.5	11.2	12.7	9.8 to 15.7	-10.6	0.1	10.7	8.1 to 13.3
cm18	16605	32175	-7.0	1.7	8.6	6.1 to 11.2	-1.7	-4.2	-2.5	-5.2 to 0.1	-8.6	-2.6	5.9	3.4 to 8.5
Cp2	10109	157492	-12.1	-4.7	7.4	4.8 to 10.0	10.4	2.7	-7.7	-10.9 to -4.4	-3.0	-2.1	0.9	-1.9 to 3.7
cm11	3430	10707	30.7	23.2	-7.5	-14.1 to -0.9	11.9	-5.1	-17.0	-22 to -11.9	46.2	16.9	-29.3	-36.3 to -22.3

Table A2.2 Changes in the number of emergency admissions across all hospital providers in the specialties targeted by multi-practice pilots compared with the local comparator practices

Pilot	total emergency admissions in targeted specialties across all providers in 1995/96		% change in total emergency admissions in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cm13	292	2825	5.8	3.6	-2.2	-20 to 15.5	10.0	3.1	-6.9	-24.7 to 10.8	16.4	6.8	-9.6	-28.6 to 9.4
cm15	586	9669	-0.9	-5.4	-4.6	-16.3 to 7.1	-4.1	7.2	11.4	-0.2 to 22.9	-4.9	1.4	6.4	-5 to 17.8
cm5	920	1901	0.1	3.2	3.1	-8.1 to 14.3	-12.2	-4.6	7.5	-2.7 to 17.8	-12.1	-1.6	10.5	0.1 to 20.9
cm6	2178	1832	-1.6	-1.7	-0.1	-8.8 to 8.5	6.3	8.6	2.3	-7.1 to 11.6	4.7	6.8	2.1	-7.1 to 11.3
cm2	567	1164	1.1	9.9	8.8	-5.8 to 23.4	2.3	4.5	2.3	-12 to 16.5	3.4	14.9	11.5	-3.4 to 26.5
cm4	1005	1172	-10.6	-3.7	7.0	-4.3 to 18.2	15.0	8.0	-7.1	-20.6 to 6.4	2.8	4.0	1.2	-11 to 13.4
cm18	913	1880	-12.7	-7.5	5.2	-5.1 to 15.5	14.6	13.6	-0.9	-14 to 12.2	0.0	5.1	5.1	-6.2 to 16.4
Cp2	1524	22285	-12.9	-6.6	6.3	-0.3 to 13.0	12.6	6.9	-5.7	-14.3 to 2.9	-2.0	-0.2	1.8	-5.4 to 9.0
cm11	250	593	14.0	32.9	18.9	-5.1 to 42.9	15.4	1.8	-13.7	-34.5 to 7.2	31.6	35.2	3.6	-22.3 to 29.6

Table A2.3 Differences in mean length of stay per emergency FCE for the specialties targeted by the multi-practice pilots with relevant objectives

	Pilot mean LOS per FCE	number of FCEs	Comparator Mean LOS Per FCE	number of FCEs	difference in % change between pilot and comparator with 95% CIs	
Pilot Cm13						
1995/6	12.2	381	12.7	3648	0.5	(-1.0 to 2.1)
1996/7	9.3	377	12.0	3893	2.7	(1.2 to 4.1)
1997/8	8.2	412	11.0	4315	2.8	(1.6 to 4.1)
Change over period	-4.0 days (32.6%)		-1.6 days (13.0%)		2.3	(0.3 to 4.3)
Pilot Cm15						
1995/6	10.8	784	9.6	12518	-1.2	(-2.1 to -0.3)
1996/7	9.7	750	9.5	12526	-0.2	(-1.1 to 0.7)
1997/8	8.8	801	8.9	13816	0.1	(-0.8 to 1.0)
Change over period	-1.9 days (18.0%)		-0.7 days (6.8%)		1.3	(0.03 to 2.5)
Pilot Cm5						
1995/6	9.6	2346	8.2	1952	-1.3	(-2.4 to -0.3)
1996/7	8.5	2362	7.8	2002	-0.7	(-1.4 to 0.1)
1997/8	7.6	2742	7.7	2304	0.1	(-0.6 to 0.9)
Change over period	-2.0 days (20.4%)		-0.5 days (5.9%)		1.5	(0.2 to 2.8)
Pilot Cm6						
1995/6	14.5	1187	13.8	2543	-0.7	(-2.1 to 0.8)
1996/7	15.0	1197	13.9	2646	-1.1	(-2.6 to 0.4)
1997/8	12.0	1114	12.9	2556	0.9	(-0.3 to 2.2)
Change over period	-2.5 days (17.1%)		-0.9 days (6.3%)		1.6	(-0.3 to 3.5)
Pilot Cm2						
1995/6	12.9	908	14.5	1775	1.6	(-0.1 to 3.2)
1996/7	12.9	969	12.8	2114	-0.1	(-1.5 to 1.3)
1997/8	9.7	1042	10.8	2331	1.1	(-0.2 to 2.3)
Change over period	-3.2 days (25.0%)		-3.7 days (25.8%)		-0.5	(-2.5 to 1.5)
Pilot Cm4						
1995/6	14.6	1280	17.4	1373	2.8	(1.2 to 4.5)
1996/7	14.7	1149	16.0	1340	1.3	(-0.4 to 3.0)
1997/8	12.3	1352	16.3	1469	3.9	(2.5 to 5.4)
Change over period	-2.2 days (15.4%)		-1.1 days (6.4%)		1.1	(-1.1 to 3.3)
Pilot Cm18						
1995/6	16.5	1006	15.2	2110	-1.3	(-2.9 to 0.4)
1996/7	16.8	920	16.4	2000	-0.4	(-2.3 to 1.5)
1997/8	13.6	1118	13.5	2324	-0.1	(-1.5 to 1.3)
Change over period	-2.9 days (17.7%)		-1.8 days (11.6%)		1.2	(-1.0 to 3.4)
Pilot Cp2						
1995/6	5.4	1861	5.8	27150	0.4	(-0.1 to 0.8)
1996/7	5.2	1705	5.6	26543	0.4	(-0.1 to 0.9)
1997/8	5.1	1918	5.3	28641	0.2	(-0.3 to 0.7)
Change over period	-0.3 days (5.8%)		-0.5 days (8.3%)		0.2	(-0.8 to 0.5)
Pilot Cm11						
1995/6	12.3	279	15.1	711	2.8	(0.0004 to 5.5)
1996/7	12.9	347	13.6	967	0.7	(-2.3 to 3.7)
1997/8	11.6	431	12.3	1015	0.7	(-1.7 to 3.1)
Change over period	-0.7 days (5.3%)		-2.7 days (18.1%)		-2.1	(-5.8 to 1.6)

Note: some change over period figures are subject to the effect of rounding to one decimal place.

Table A2.4 Changes in the number of occupied bed days (OBDs) across all hospital providers in all medical and surgical specialties, for the multi-practice pilots and the local comparator practices

Pilot	total emergency OBDs in 1995/96		% change in total OBDs in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
	pilot	comparator	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
cm13	14708	163230	-16.1	1.2	17.4	15.3 to 19.5	-6.9	2.5	9.4	6.9 to 11.8	-21.9	3.7	25.7	23.7 to 27.7
cm15	11238	168258	-9.9	-1.2	8.7	6.2 to 11.2	-2.9	4.7	7.6	4.8 to 10.4	-12.5	3.5	15.9	13.5 to 18.4
cm5	36113	75872	4.7	5.1	0.5	-1.4 to 2.3	-20.4	-9.9	10.4	8.9 to 11.9	-16.7	-5.3	11.3	9.7 to 12.9
cm6	30641	22420	-9.6	-2.3	7.3	5.0 to 9.7	0.2	6.4	6.1	3.6 to 8.7	-9.4	3.9	13.3	10.9 to 15.7
cm2	23027	58677	7.6	2.5	-5.2	-7.4 to -2.9	-12.4	-4.2	8.2	6.3 to 10.1	-5.7	-1.8	3.9	1.8 to 6.0
cm4	40091	50393	-5.2	-4.0	1.2	-0.6 to 3	-1.4	7.7	9.2	7.2 to 11.1	-6.6	3.4	10.0	8.2 to 11.8
cm18	27370	54043	-12.6	-9.6	2.9	1.0 to 4.8	16.5	13.9	-2.6	-5.0 to -0.2	1.8	2.9	1.1	-1.0 to 3.2
Cp2	10109	157492	-12.1	-4.7	7.4	4.8 to 10.0	10.4	2.7	-7.7	-10.9 to -4.4	-3.0	-2.1	0.9	-1.9 to 3.7
cm11	8366	21450	12.7	17.3	4.6	0.6 to 8.5	7.6	-7.1	-14.7	-18.2 to -11.3	21.3	9.0	-12.3	-16.4 to -8.3

Table A2.5 Changes in the number of emergency admissions across all hospital providers in all medical and surgical specialties, for the multi-practice pilots and the local comparator practices

Pilot	total emergency admissions in 1995/96		% change in total emergency admissions in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
	pilot	comparator	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
cm13	1983	24354	0.4	1.0	0.6	-5. 9 to 7.1	1.8	2.7	0.9	-5.6 to 7.5	2.2	3.8	1.6	-5.0 to 8.2
cm15	1189	21114	-2.6	-4.2	-1.6	-9.7 to 6.5	-3.8	10.3	14.1	5.9 to 22.3	-6.3	5.6	11.9	4.0 to 19.8
cm5	3520	7587	1.4	4.5	3.0	-2.7 to 8.8	-7.1	-5.2	1.9	-3.4 to 7.2	-5.7	-0.9	4.8	-0.7 to 10.3
cm6	3137	2623	-2.6	-0.8	1.8	-5. 5 to 9.0	3.3	4.0	0.7	-6.9 to 8.3	0.6	3.1	2.6	-4.9 to 10.0
cm2	1961	5394	7.2	4.4	-2.7	-10.4 to 4.9	1.7	0.9	-0.8	-8.0 to 6.3	9.0	5.4	-3.6	-11.4 to 4.1
cm4	3640	5848	-4.4	-3.3	1.1	-4.6 to 6.8	6.1	7.3	1.2	-5.1 to 7.5	1.5	3.8	2.3	-3.6 to 8.3
cm18	2652	5369	-17.5	-16.0	1.4	-4.3 to 7.2	31.9	27.8	-4.1	-13.0 to 4.8	8.9	7.3	-1.6	-8.6 to 5.4
Cp2	1524	22285	-12.9	-6.6	6.3	-0.3 to 13.0	12.6	6.9	-5.7	-14.3 to 2.9	-2.0	-0.2	1.8	-5.4 to 9.0
cm11	988	1922	13.5	26.7	13.3	1.0 to 25.6	4.5	2.3	-2.3	-12.5 to 8.0	18.6	29.7	11.0	-1.6 to 23.7

Table A2.6 Changes in the number of occupied bed days (OBDs) across all hospital providers in the specialties targeted by single-practice pilots compared with the local comparator practices

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	2234	87397	-21.1	-11.1	10.1	5.1 to 15.1	-11.0	7.2	18.2	12.1 to 24.4	-29.8	-4.6	25.2	20.6 to 29.8
cm12	7141	87016	-13.0	-11.4	1.6	-1.4 to 4.7	-5.9	9.1	15.0	11.5 to 18.5	-18.1	-3.3	14.8	11.9 to 17.8
cm14	2126	110793	-5.0	-1.0	4.0	-1.9 to 9.8	-7.4	-0.2	7.2	1.3 to 13.1	-12.0	-1.2	10.8	5.3 to 16.3
cm8	2598	20513	2.0	-9.3	-11.3	-17.1 to -5.5	-7.6	11.8	19.3	13.8 to 24.9	-5.7	1.3	7.1	1.5 to 12.6
cm9	2735	55788	4.4	-6.7	-11.1	-16.7 to -5.5	-10.1	1.9	12.0	7.1 to 17.0	-6.1	-4.9	1.2	-3.9 to 6.4
cm1	3938	17400	-17.3	7.4	24.7	20.2 to 29.1	27.0	-5.5	-32.5	-38.7 to -26.4	5.1	1.4	-3.6	-8.7 to 1.4
cm10	2809	30438	18.9	-2.4	-21.3	-27.5 to -15.2	-12.4	-4.5	7.8	3.2 to 12.5	4.2	-6.9	-11.0	-16.6 to -5.4

Table A2.7 Changes in the number of emergency admissions across all hospital providers in the specialties targeted by single-practice pilots compared with the local comparator practices

Pilot	total emergency admissions in targeted specialties across all providers in 1995/96		% change in total emergency admissions in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	313	12006	-10.5	0.4	11.0	-3.7 to 25.6	-7.1	5.1	12.3	-3.6 to 28.2	-16.9	5.6	22.5	8.6 to 36.5
cm12	789	9182	1.9	3.8	1.9	-8.5 to 12.4	-2.5	3.6	6.1	-4.0 to 16.1	-0.6	7.5	8.2	-2.1 to 18.5
cm14	260	14567	4.2	1.4	-2.8	-20.7 to 15.1	-8.1	-1.8	6.3	-9.7 to 22.3	-4.2	-0.4	3.8	-13.0 to 20.6
cm8	170	1569	2.9	-3.4	-6.3	-29.1 to 16.5	4.0	9.0	5.0	-17.8 to 27.9	7.1	5.4	-1.7	-25.2 to 21.8
cm9	360	6544	-2.2	-8.8	-6.6	-21.3 to 8.1	10.8	2.3	-8.5	-24.9 to 7.8	8.3	-6.7	-15.1	-30.9 to 0.8
cm1	249	1072	2.4	10.3	7.9	-12.2 to 27.9	7.5	-3.6	-11.0	-30.9 to 8.9	10.0	6.3	-3.7	-24.6 to 17.2
cm10	203	2345	8.4	-11.3	-19.7	-41 to 1.7	-8.6	-3.4	5.3	-13.2 to 23.7	-1.0	-14.3	-13.3	-33.3 to 6.7

Table A2.8 Differences in mean length of stay per emergency FCE for the specialties targeted by the single-practice pilots with relevant objectives

	Pilot		Comparator		difference in % change
	mean LOS per FCE	number of FCEs	Mean LOS Per FCE	number of FCEs	between pilot and comparator with 95% CIs
Pilot Cp1					
1995/6	5.7	390	6.0	14632	0.2 (-0.7 to 1.2)
1996/7	5.0	350	5.3	14670	0.3 (-0.7 to 1.2)
1997/8	5.1	308	5.4	15423	0.3 (-0.7 to 1.3)
Change over period	-0.6 days (11.1%)		-0.6 days (9.5%)		0.1 (-1.3 to 1.4)
Pilot Cm12					
1995/6	7.8	921	8.3	10451	0.6 (-0.6 to 1.8)
1996/7	6.9	896	7.1	10864	0.2 (-0.7 to 1.0)
1997/8	6.2	944	7.2	11659	1.0 (-0.03 to 2.1)
Change over period	-1.6 days (20.1%)		-1.1 days (13.3%)		0.5 (-1.1 to 2.0)
Pilot Cm14					
1995/6	5.8	366	5.3	20771	-0.5 (-1.4 to 0.5)
1996/7	4.6	439	5.0	21801	0.4 (-0.4 to 1.3)
1997/8	4.5	415	4.8	22957	0.3 (-0.7 to 1.2)
Change over period	-1.3 days (22.4%)		-0.6 days (10.6%)		0.7 (-0.6 to 2.1)
Pilot Cm8					
1995/6	12.3	211	10.7	1909	-1.6 (-3.4 to 0.3)
1996/7	12.0	221	9.8	1902	-2.2 (-3.8 to -0.6)
1997/8	11.2	219	10.2	2038	-1.0 (-2.8 to 0.8)
Change over period	-1.1 days (9.2%)		-0.5 days (5.1%)		0.6 (-2.0 to 3.1)
Pilot Cm9					
1995/6	6.5	423	7.5	7443	1.0 (-0.2 to 2.2)
1996/7	7.0	408	7.3	7178	0.3 (-1.2 to 1.7)
1997/8	5.6	458	7.2	7324	1.6 (0.4 to 2.9)
Change over period	-0.9 days (13.3%)		-0.3 days (3.4%)		-0.6 (-1.1 to 2.4)
Pilot Cm1					
1995/6	13.8	285	13.8	1265	-0.1 (-2.2 to 2.1)
1996/7	11.3	289	13.7	1360	2.5 (0.1 to 4.8)
1997/8	13.1	316	13.3	1328	0.2 (-2.0 to 2.4)
Change over period	-0.7 days (5.3%)		-0.5 days (3.4%)		0.3 (-2.8 to 3.3)
Pilot Cm10					
1995/6	6.7	768	7.5	7443	0.8 (-0.1 to 1.8)
1996/7	7.1	846	7.3	7178	0.1 (-0.9 to 1.1)
1997/8	7.0	882	7.2	7324	0.3 (-0.7 to 1.2)
Change over period	0.3 days (4.4%)		-0.3 days (3.4%)		-0.5 (-1.9 to 0.8)

Note: some change over period figures are subject to the effect of rounding to one decimal place.

Table A2.9 Changes in the number of occupied bed days (OBDs) across all hospital providers in all medical and surgical specialties, for the single-practice pilots and the local comparator practices

Pilot	total emergency OBDs in 1995/96		% change in total OBDs in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	3137	128095	-16.9	-9.8	7.2	2.8 to 11.5	0.1	4.5	4.3	-1.2 to 9.8	-16.8	-5.7	11.1	6.7 to 15.5
cm12	7141	87016	-13.0	-11.4	1.6	-1.4 to 4.7	-5.9	9.1	15.0	11.5 to 18.5	-18.1	-3.3	14.8	11.9 to 17.8
cm14	3094	146957	-1.5	-0.4	1.0	-3.9 to 6.0	-10.0	-0.9	9.1	4.4 to 13.8	-11.3	-1.3	10.0	5.4 to 14.6
cm8	7224	55054	17.9	-5.1	-23.0	-26.9 to -19.1	-21.8	-0.1	21.7	18.9 to 24.5	-7.8	-5.2	2.6	-0.6 to 5.9
cm9	2735	55788	4.4	-6.7	-11.1	-16.7 to -5.5	-10.1	1.9	12.0	7.1 to 17.0	-6.1	-4.9	1.2	-3.9 to 6.4
cm1	8531	40454	-11.4	-0.5	10.9	7.8 to 14.0	26.2	6.5	-19.7	-23.8 to -15.6	11.9	6.0	-5.9	-9.4 to -2.3
cm10	5124	55788	17.8	-6.7	-24.5	-29.0 to -20.0	1.8	1.9	0.2	-3.6 to 4.0	19.9	-4.9	-24.8	-29.4 to -20.2

Table A2.10 Changes in the number of emergency admissions across all hospital providers in all medical and surgical specialties, for the single-practice pilots and the local comparator practices

Pilot	total emergency admissions in 1995/96		% change in total emergency admissions in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	475	18650	-11.6	0.4	11.9	23.7 to 0.1	-2.4	5.7	8.1	-5.3 to 21.6	-13.7	6.1	19.8	8.2 to 31.4
cm12	789	9182	1.9	3.8	1.9	12.4 to -8.5	-2.5	3.6	6.1	-4.0 to 16.1	-0.6	7.5	8.2	-2.1 to 18.5
cm14	421	21739	1.2	-0.4	-1.6	12.2 to -15.3	-3.8	0.2	3.9	-9.3 to 17.1	-2.6	-0.2	2.4	-11.0 to 15.8
cm8	1125	7424	-6.6	-0.2	6.4	14.9 to -2.1	0.9	-3.5	-4.4	-13.5 to 4.8	-5.8	-3.7	2.1	-6.4 to 10.6
cm9	360	6544	-2.2	-8.8	-6.6	8.1 to -21.3	10.8	2.3	-8.5	-24.9 to 7.8	8.3	-6.7	-15.1	-30.9 to 0.8
cm1	828	4133	-4.2	4.5	8.7	19.0 to -1.6	8.1	1.8	-6.3	-17.6 to 5.0	3.5	6.3	2.8	-8.1 to 13.7
cm10	677	6544	1.6	-8.8	-10.4	0.8 to -21.7	5.8	2.3	-3.6	-15.2 to 8.1	7.5	-6.7	-14.3	-26.0 to -2.6

Appendix 3 Secondary activity analysis with HA-wide comparator: results tables

Table A3.1 Changes in the number of occupied bed days (OBDs) across all hospital providers in the specialties targeted by the multi-practice pilots compared with all other practices in the pilots' local HA

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
	pilot	comparator	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
cm13	4628	67407	-24.2	5.4	29.6	26.1 to 33.1	-3.8	-0.5	3.3	-1.4 to 8.0	-27.1	4.8	31.9	28.5 to 35.3
cm15	8578	128678	-15.0	29.6	44.6	41.8 to 47.4	-3.1	-26.0	-22.9	-26.1 to -19.7	-17.6	-4.1	13.5	10.8 to 16.2
cm5	22418	83452	-10.5	5.0	16.0	13.7 to 17.6	3.8	2.3	-1.5	-3.8 to 0.7	-7.0	7.6	14.7	12.6 to 16.7
cm6	17171	117566	4.8	3.6	-1.2	-3.6 to 1.1	-25.8	-19.6	6.2	4.4 to 8.0	-22.2	-16.7	5.5	3.6 to 7.4
cm2	11745	217871	6.5	-1.2	-7.7	-10.5 to -5.0	-17.1	-0.9	16.2	14.0 to 18.4	-11.7	-2.1	9.6	7.2 to 12.0
cm4	18624	37882	-9.3	-9.5	-0.3	-2.6 to 2.0	-1.5	7.3	8.8	6.1 to 11.4	-10.6	-2.9	7.7	5.3 to 10.0
cm18	16605	90432	-7.0	3.0	10.0	7.7 to 12.2	-1.7	-2.1	-0.4	-2.8 to 2.0	-8.6	0.8	9.3	7.1 to 11.6
Cp2	10109	157492	-12.1	-4.7	7.4	4.8 to 10.0	10.4	2.7	-7.7	-10.9 to -4.4	-3.0	-2.1	0.9	-1.9 to 3.7
cm11	3430	36243	30.7	31.0	0.3	-5.8 to 6.4	11.9	6.5	-5.4	-10.1 to -0.7	46.2	39.5	-6.7	-13.3 to -0.1

Table A3.2 Changes in the number of emergency admissions across all hospital providers in the specialties targeted by the multi-practice pilots compared with all other practices in the pilots' local HA

Pilot	total emergency admissions in targeted specialties across all providers in 1995/96		% change in total emergency in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
	pilot	comparator	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
cm13	292	3941	5.8	5.1	-0.7	-18.3 to 16.8	10.0	5.0	-5.1	-22.6 to 12.5	16.4	10.3	-6.1	-24.9 to 12.7
cm15	586	10421	-0.9	12.2	13.1	1.3 to 24.8	-4.1	-16.2	-12.0	-23.4 to -0.7	-4.9	-5.9	-0.9	-12.3 to 10.4
cm5	920	6300	0.1	4.1	4.0	-5.9 to 13.8	-12.2	-13.1	-0.9	-9.8 to 7.9	-12.1	-9.5	2.5	-6.4 to 11.4
cm6	2178	9210	-1.6	2.4	4.0	-2.6 to 10.5	6.3	8.2	1.9	-5.1 to 8.8	4.7	10.8	6.2	-0.7 to 13.1
cm2	567	11748	1.1	4.5	3.4	-8.6 to 15.4	2.3	4.0	1.7	-10.3 to 13.8	3.4	8.7	5.3	-6.9 to 17.6
cm4	1005	1858	-10.6	-2.3	8.3	-1.9 to 18.6	15.0	4.0	-11.0	-23.3 to 1.3	2.8	1.6	-1.2	-12.2 to 9.9
cm18	913	5354	-12.7	-2.3	10.4	1.3 to 19.5	14.6	3.2	-11.3	-22.9 to 0.2	0.0	0.8	0.8	-9.1 to 10.8
Cp2	1524	22285	-12.9	-6.6	6.3	-0.3 to 13.0	12.6	6.9	-5.7	-14.3 to 2.9	-2.0	-0.2	1.8	-5.4 to 9.0
cm11	250	2028	14.0	21.2	7.2	-13.5 to 27.8	15.4	0.2	-15.2	-34.4 to 3.9	31.6	21.4	-10.2	-33.0 to 12.6

Table A3.3 Changes in the number of occupied bed days (OBDs) across all hospital providers in all medical and surgical specialties, for the multi-practice pilots and the all other practices in the pilots' local HA

Pilot	total emergency OBDs in 1995/96		% change in total OBDs in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cm13	14708	220005	-16.1	2.7	18.8	16.7 to 20.9	-6.9	1.3	8.2	5.7 to 10.6	-21.9	4.0	25.9	23.9 to 27.9
cm15	11238	211847	-9.9	10.5	20.4	17.9 to 22.9	-2.9	4.1	7.0	4.2 to 9.7	-12.5	15.0	27.5	25.0 to 29.9
cm5	36113	258617	4.7	5.1	0.4	-1.2 to 2.0	-20.4	-15.0	5.3	4.0 to 6.6	-16.7	-10.7	5.9	4.6 to 7.3
cm6	30641	115395	-9.6	4.3	13.9	12.3 to 15.6	0.2	0.9	0.7	-1.2 to 2.5	-9.4	5.3	14.7	13 to 16.4
cm2	23027	537247	7.6	2.7	-4.9	-6.9 to -3.0	-12.4	0.7	13.1	11.4 to 14.7	-5.7	3.4	9.1	7.3 to 10.9
cm4	40091	78993	-5.2	-3.3	2.0	0.3 to 3.6	-1.4	4.2	5.6	3.9 to 7.4	-6.6	0.8	7.4	5.8 to 9.0
cm18	27370	177713	-12.6	-1.0	11.5	9.9 to 13.2	16.5	5.4	-11.0	-13.2 to -8.9	1.8	4.3	2.5	0.7 to 4.3
Cp2	10109	157492	-12.1	-4.7	7.4	4.8 to 10.0	10.4	2.7	-7.7	-10.9 to -4.4	-3.0	-2.1	0.9	-1.9 to 3.7
cm11	8366	86217	12.7	20.7	8.0	4.5 to 11.5	7.6	5.1	-2.5	-5.7 to 0.6	21.3	26.8	5.5	1.8 to 9.2

Table A3.4 Changes in the number of emergency admissions across all hospital providers in all medical and surgical specialties, for the multi-practice pilots and all other practices in the pilots' local HA

Pilot	total emergency admissions in 1995/96		% change in total emergency in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cm13	1983	31830	0.4	0.9	0.5	-5.9 to 7.0	1.8	4.9	3.1	-3.4 to 9.6	2.2	5.9	3.7	-2.9 to 10.2
cm15	1189	25794	-2.6	-0.5	2.1	-5.9 to 10.2	-3.8	8.6	12.4	4.3 to 20.5	-6.3	8.1	14.4	6.5 to 22.3
cm5	3520	25354	1.4	5.8	4.3	-0.7 to 9.4	-7.1	-6.2	0.9	-3.8 to 5.6	-5.7	-0.8	5.0	0.2 to 9.8
cm6	3137	13451	-2.6	-0.3	2.3	-3.1 to 7.7	3.3	6.5	3.3	-2.5 to 9.0	0.6	6.2	5.6	0.1 to 11.2
cm2	1961	58118	7.2	6.8	-0.3	-7.0 to 6.4	1.7	4.1	2.4	-3.8 to 8.7	9.0	11.3	2.2	-4.6 to 9.0
cm4	3640	9003	-4.4	-0.9	3.5	-1.8 to 8.8	6.1	4.2	-1.9	-7.7 to 3.9	1.5	3.3	1.8	-3.7 to 7.3
cm18	2652	18938	-17.5	-6.7	10.8	5.7 to 15.8	31.9	10.4	-21.5	-29.2 to -13.9	8.9	3.0	-5.9	-12 to 0.2
Cp2	1524	22285	-12.9	-6.6	6.3	-0.3 to 13.0	12.6	6.9	-5.7	-14.3 to 2.9	-2.0	-0.2	1.8	-5.4 to 9.0
cm11	988	8951	13.5	9.6	-3.9	-14.1 to 6.3	4.5	8.6	4.0	-5.1 to 13.1	18.6	18.9	0.3	-10.3 to 10.9

Table A3.5 Changes in the number of occupied bed days (OBDs) across all hospital providers in the specialties targeted by single-practice pilots compared with all other practices in the pilots' local HA

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	2234	188867	-21.1	-4.7	16.5	11.5 to 21.4	-11.0	20.2	31.2	25.1 to 37.3	-29.8	14.6	44.4	39.8 to 49.0
cm12	7141	214886	-13.0	-5.7	7.3	4.3 to 10.4	-5.9	7.1	13.0	9.6 to 16.4	-18.1	1.1	19.2	16.3 to 22.1
cm14	2126	190267	-5.0	-1.1	3.9	-1.9 to 9.7	-7.4	2.2	9.6	3.8 to 15.5	-12.0	1.1	13.1	7.6 to 18.6
cm8	2598	98552	2.0	-4.7	-6.7	-12.2 to -1.1	-7.6	-5.9	1.7	-3.4 to 6.9	-5.7	-10.2	-4.5	-9.8 to 0.8
cm9	2735	253083	4.4	0.4	-3.9	-9.4 to 1.6	-10.1	2.3	12.3	7.5 to 17.2	-6.1	2.7	8.8	3.8 to 13.9
cm1	3938	28505	-17.3	2.3	19.6	15.4 to 23.8	27.0	2.3	-24.7	-30.8 to -18.6	5.1	4.7	-0.4	-5.3 to 4.5
cm10	2809	137604	18.9	0.4	-18.5	-24.5 to -12.4	-12.4	-0.6	11.8	7.4 to 16.2	4.2	-0.2	-4.3	-9.8 to 1.1

Table A3.6 Changes in the number of emergency admissions across all hospital providers in the specialties targeted by single-practice pilots compared with all other practices in the pilots' local HA

Pilot	total emergency admissions in targeted specialties across all providers in 1995/96		% change in total emergency in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	313	22940	-10.5	3.7	14.2	-0.3 to 28.8	-7.1	5.8	13.0	-2.8 to 28.7	-16.9	9.7	26.7	12.9 to 40.5
cm12	789	25435	1.9	3.4	1.5	-8.7 to 11.7	-2.5	8.2	10.7	0.9 to 20.4	-0.6	11.8	12.5	2.5 to 22.5
cm14	260	24757	4.2	1.2	-3.0	-20.8 to 14.8	-8.1	-0.4	7.7	-8.2 to 23.6	-4.2	0.8	5.0	-11.7 to 21.8
cm8	170	6879	2.9	3.4	0.5	-21.5 to 22.5	4.0	3.0	-1.0	-22.8 to 20.8	7.1	6.5	-0.5	-23.2 to 22.1
cm9	360	28893	-2.2	-2.8	-0.6	-15.0 to 13.9	10.8	6.1	-4.7	-20.8 to 11.3	8.3	3.1	-5.3	-20.9 to 10.4
cm1	249	1658	2.4	8.3	5.9	-13.4 to 25.2	7.5	0.0	-7.5	-26.9 to 12.0	10.0	8.3	-1.7	-21.9 to 18.5
cm10	203	8678	8.4	-4.5	-12.9	-33.8 to 8.0	-8.6	-0.8	7.8	-9.9 to 25.5	-1.0	-5.3	-4.4	-23.9 to 15.2

Table A3.7 Changes in the number of occupied bed days (OBDs) across all hospital providers in all medical and surgical specialties, for the single-practice pilots and the all other practices in the pilots' local HA

Pilot	total emergency OBDs in 1995/96		% change in total OBDs in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	3137	268769	-16.9	-4.9	12.1	7.7 to 16.4	0.1	14.8	14.6	9.2 to 20.1	-16.8	9.2	26.0	21.6 to 30.4
cm12	7141	214886	-13.0	-5.7	7.3	4.3 to 10.4	-5.9	7.1	13.0	9.6 to 16.4	-18.1	1.1	19.2	16.3 to 22.1
cm14	3094	253917	-1.5	-0.8	0.7	-4.3 to 5.6	-10.0	1.3	11.3	6.6 to 16.0	-11.3	0.5	11.8	7.2 to 16.4
cm8	7224	274854	17.9	-5.3	-23.2	-27.0 to -19.5	-21.8	-6.4	15.4	12.9 to 18.0	-7.8	-11.4	-3.6	-6.7 to -0.5
cm9	2735	253083	4.4	0.4	-3.9	-9.4 to 1.6	-10.1	2.3	12.3	7.5 to 17.2	-6.1	2.7	8.8	3.8 to 13.9
cm1	8531	71784	-11.4	-0.2	11.1	8.2 to 14.0	26.2	8.9	-17.3	-21.3 to -13.4	11.9	8.6	-3.3	-6.7 to 0.2
cm10	5124	250694	17.8	0.1	-17.7	-22.1 to -13.3	1.8	2.2	0.4	-3.3 to 4.0	19.9	2.2	-17.6	-22.1 to -13.1

Table A3.8 Changes in the number of emergency admissions across all hospital providers in all medical and surgical specialties, for the single-practice pilots and all other practices in the pilots' local HA

Pilot	total emergency admissions in 1995/96		% change in total emergency in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	475	35657	-11.6	1.9	13.4	1.7 to 25.1	-2.4	6.1	8.5	-4.9 to 21.8	-13.7	8.1	21.7	10.2 to 33.3
cm12	789	25435	1.9	3.4	1.5	-8.7 to 11.7	-2.5	8.2	10.7	0.9 to 20.4	-0.6	11.8	12.5	2.5 to 22.5
cm14	421	37324	1.2	-0.7	-1.9	-15.6 to 11.8	-3.8	1.3	5.1	-8.1 to 18.2	-2.6	0.6	3.2	-10.1 to 16.5
cm8	1125	36594	-6.6	0.2	6.8	-1.2 to 14.8	0.9	-2.9	-3.7	-12.4 to 5.0	-5.8	-2.7	3.1	-4.9 to 11.1
cm9	360	28893	-2.2	-2.8	-0.6	-15 to 13.9	10.8	6.1	-4.7	-20.8 to 11.3	8.3	3.1	-5.3	-20.9 to 10.4
cm1	828	7801	-4.2	3.9	8.1	-1.7 to 18.0	8.1	5.0	-3.0	-13.9 to 7.9	3.5	9.1	5.6	-4.8 to 16.1
cm10	677	28576	1.6	-2.9	-4.5	-15.4 to 6.4	5.8	6.1	0.3	-10.8 to 11.5	7.5	3.0	-4.5	-15.9 to 6.9

Appendix 4 Secondary activity analysis with the pilots' main providers: results tables

Table A4.1 Changes in the number of occupied bed days (OBDs) at the pilots' main hospital providers in the specialties targeted by the multi-practice pilots compared with the local comparator practices

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
	pilot	comparator	pilot comparator		difference in % change between pilot and comparator with 95% CIs		pilot comparator		difference in % change between pilot and comparator with 95% CIs		pilot comparator		difference in % change between pilot and comparator with 95% CIs	
cm13	4598	44139	-28.4	-2.9	25.5	22.1 to 29.0	-11.1	4.9	16.1	11.5 to 20.7	-36.4	1.9	38.3	35.1 to 41.6
cm15	6244	110215	-16.0	-5.0	11.0	7.8 to 14.2	-4.1	3.2	7.3	3.5 to 11.1	-19.4	-1.9	17.5	14.4 to 20.6
cm5	20030	13403	-12.1	0.0	12.1	9.1 to 15.1	1.1	-1.9	-2.9	-6.1 to 0.2	-11.2	-1.9	9.3	6.3 to 12.3
cm6	12388	33463	0.6	4.2	3.6	0.7 to 6.6	-15.1	-9.8	5.3	2.7 to 7.9	-14.6	-6.0	8.6	6.0 to 11.2
cm2	11521	22588	-15.3	-20.8	-5.5	-8.2 to -2.7	-23.6	-9.1	14.5	11.5 to 17.5	-35.4	-28.0	7.3	5.0 to 9.7
cm4	7364	19631	-1.0	-4.6	-3.6	-10.8 to 2.9	33.0	14.8	-18.2	-15.0 to 9.0	31.7	9.5	-22.2	-26.7 to -17.7
cm18	7055	16790	-10.7	-31.2	-20.5	-24.0 to -17.1	36.0	40.9	4.9	-0.6 to 10.5	21.5	-3.1	-24.5	-28.9 to -20.2
Cp2	8583	132906	-11.3	-3.3	7.9	1.6 to 15.9	0.8	1.5	0.7	-12.9 to 4.8	-10.6	-1.9	8.7	-2.0 to 13.1
cm11	2779	7920	19.3	-11.4	-30.7	-37.4 to -24.0	-11.0	-8.9	2.1	-3.3 to 7.5	6.2	-19.3	-25.4	-31.6 to -19.3

Table A4.2 Changes in the number of emergency admissions at the pilots' main hospital providers in the specialties targeted by the multi-practice pilots compared with the local comparator practices

Pilot	total emergency admissions in targeted specialties across all providers in 1995/96		% change in total emergency admissions in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
	pilot	comparator	pilot comparator		difference in % change between pilot and comparator with 95% CIs		pilot comparator		difference in % change between pilot and comparator with 95% CIs		pilot comparator		difference in % change between pilot and comparator with 95% CIs	
cm13	289	2729	3.5	1.8	-1.7	-19.2 to 15.9	4.7	3.7	-1.0	-18.4 to 16.5	8.3	5.6	-2.7	-20.9 to 15.4
cm15	453	8918	-0.9	-6.2	-5.3	-18.5 to 8.0	-6.2	7.1	13.4	0.5 to 26.3	-7.1	0.5	7.6	-5.1 to 20.3
cm5	657	1788	-2.6	1.2	3.8	-8.7 to 16.3	-1.1	-4.9	-3.8	-16.4 to 8.7	-3.7	-3.8	-0.2	-12.4 to 12.1
cm6	1825	1423	-2.8	0.1	2.9	-6.8 to 12.7	0.8	-1.5	-2.4	-12.2 to 7.4	-2.0	-1.4	0.6	-9.1 to 10.2
cm2	546	1020	-1.3	6.2	7.5	-7.4 to 22.3	-2.4	-0.9	1.5	-12.9 to 15.9	-3.7	5.2	8.9	-5.8 to 23.5
cm4	699	1135	-10.0	-1.4	8.6	-4.1 to 21.3	34.5	7.9	-26.6	-43.1 to -10.2	21.0	6.3	-14.7	-29.6 to 0.2
cm18	478	1075	-17.4	-22.8	-5.4	-18.5 to 7.6	52.4	48.2	-4.2	-27.5 to 19.1	25.9	14.4	-11.5	-29.3 to 6.3
Cp2	1342	19400	-12.5	-3.8	8.8	1.6 to 15.9	7.8	3.7	-4.0	-12.9 to 4.8	-5.7	-0.2	5.5	-2.0 to 13.1
cm11	205	452	11.7	7.3	-4.4	-29.6 to 20.7	2.6	-3.3	-5.9	-28.3 to 16.4	14.6	3.8	-10.9	-36.2 to 14.4

Table A4.3 Changes in the number of occupied bed days (OBDs) at the pilots' main hospital providers in all medical and surgical specialties, for the multi-practice pilots and the local comparator practices

Pilot	total emergency OBDs in 1995/96		% change in total OBDs in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cm13	14052	154173	-17.2	-0.7	16.5	14.4 to 18.7	-8.1	3.4	11.5	9.0 to 14.1	-23.9	2.7	26.6	24.6 to 28.7
cm15	8471	155553	-11.0	-4.5	6.5	3.6 to 9.3	-7.2	3.8	11.1	8.0 to 14.2	-17.4	-0.8	16.6	13.9 to 19.3
cm5	23822	67981	-0.1	4.3	4.4	2.3 to 6.5	-12.5	-9.5	3.1	1.2 to 5.0	-12.6	-5.6	7.1	5.2 to 9.0
cm6	26784	18703	-11.9	-3.9	8.0	5.5 to 10.5	-2.4	-5.0	-2.6	-5.2 to 0.1	-14.0	-8.7	5.3	2.9 to 7.8
cm2	20851	48047	-4.1	-12.4	-8.3	-10.5 to -6.1	-19.1	-6.0	13.1	11.0 to 15.2	-22.4	-17.6	4.8	2.9 to 6.7
cm4	21162	44508	0.7	-1.8	-2.4	-4.7 to -0.1	12.9	6.5	-6.5	-9.0 to -4.0	13.7	4.6	-9.1	-11.6 to -6.6
cm18	14551	32262	-17.4	-29.7	-12.3	-14.7 to -10.0	48.3	47.2	-1.1	-5.3 to 3.2	22.5	3.4	-19.0	-22.1 to -15.9
Cp2	8583	132906	-11.3	-3.3	7.9	1.6 to 15.9	0.8	1.5	0.7	-12.9 to 4.8	-10.6	-1.9	8.7	-2.0 to 13.1
cm11	6294	15703	6.3	-19.6	-25.9	-30 to -21.7	-15.8	-20.7	-4.9	-8.5 to -1.2	-10.5	-36.2	-25.7	-29.3 to -22.1

Table A4.4 Changes in the number of emergency admissions at the pilots' main hospital providers in all medical and surgical specialties, for the multi-practice pilots and the local comparator practices

Pilot	total emergency admissions in 1995/96		% change in total emergency admissions in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cm13	1888	23087	0.3	0.2	-0.1	-6.7 to 6.6	1.3	2.7	1.4	-5.3 to 8.1	1.5	2.9	1.3	-5.4 to 8.0
cm15	1020	19857	-4.6	-4.9	-0.3	-8.9 to 8.3	-5.5	10.1	15.7	6.9 to 24.5	-9.9	4.7	14.6	6.3 to 22.9
cm5	2241	6317	-4.0	2.4	6.4	-0.3 to 13.1	1.7	-1.0	-2.7	-9.6 to 4.3	-2.4	1.4	3.8	-3.0 to 10.5
cm6	2513	1965	-4.0	-2.6	1.4	-6.8 to 9.5	-1.9	-3.0	-1.1	-9.4 to 7.2	-5.8	-5.5	0.3	-7.7 to 8.3
cm2	1668	4238	6.8	2.5	-4.4	-12.7 to 4.0	-2.2	-2.1	0.2	-7.5 to 7.8	4.4	0.4	-4.1	-12.3 to 4.1
cm4	2795	5636	-3.6	-2.8	0.8	-5.4 to 7.1	14.7	6.5	-8.2	-15.3 to -1.1	10.5	3.5	-7.0	-13.8 to -0.2
cm18	1738	3748	-18.5	-22.4	-3.9	-10.8 to 2.9	46.6	43.6	-3.0	-15.0 to 9.0	19.4	11.4	-8.1	-17.1 to 1.0
Cp2	1342	19400	-12.5	-3.8	8.8	1.6 to 15.9	7.8	3.7	-4.0	-12.9 to 4.8	-5.7	-0.2	5.5	-2.0 to 13.1
cm11	630	1246	25.1	-2.7	-27.8	-43.0 to -12.6	-10.8	-7.5	3.3	-8.5 to 15.1	11.6	-10.0	-21.6	-35.6 to -7.6

Table A4.5 Changes in the number of occupied bed days (OBDs) at the pilots' main hospital providers in the specialties targeted by the single-practice pilots compared with the local comparator practices

Pilot	total emergency OBDs in targeted specialties across all providers in 1995/96		% change in total OBDs in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	2179	73444	-33.6	-11.0	22.6	18.1 to 27.2	-3.0	2.1	5.1	-2.1 to 12.3	-35.7	-9.1	26.5	22.1 to 31
cm12	6915	84084	-14.5	-12.7	1.7	-1.4 to 4.8	-5.5	7.2	12.7	9.1 to 16.3	-19.2	-6.5	12.7	9.7 to 15.7
cm14	1049	65112	27.6	1.4	-26.2	-36.6 to -15.9	-19.4	-3.1	16.3	9.7 to 22.8	2.9	-1.8	-4.6	-13.4 to 4.2
cm8	688	9151	36.0	-5.2	-41.2	-54.9 to -27.5	55.7	33.8	-21.8	-35.1 to -8.5	111.8	26.9	-84.8	-104.4 to -65.3
cm9	1540	24324	-8.5	0.6	9.1	2.2 to 15.9	3.0	15.9	12.9	5.1 to 20.7	-5.8	16.5	22.3	15.3 to 29.3
cm1	3789	16640	-17.1	4.7	21.8	17.3 to 26.3	10.9	-14.5	-25.4	-31.1 to -19.7	-8.1	-10.5	-2.4	-7.1 to 2.3
cm10	674	7792	61.1	6.4	-54.7	-70.5 to -38.9	-9.1	16.9	26.1	17.5 to 34.6	46.4	24.4	-22.0	-36.8 to -7.2

Table A4.6 Changes in the number of emergency admissions at the pilots' main hospital providers in the specialties targeted by the single-practice pilots compared with the local comparator practices

Pilot	total emergency admissions in targeted specialties across all providers in 1995/96		% change in total emergency admissions in targeted specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	308	11087	-11.4	1.6	13.0	-1.7 to 27.7	-8.1	4.4	12.4	-3.5 to 28.4	-18.5	6.1	24.6	10.7 to 38.4
cm12	765	8727	0.3	3.1	2.9	-7.6 to 13.4	-3.3	2.3	5.6	-4.6 to 15.8	-3.0	5.5	8.5	-1.8 to 18.8
cm14	146	9139	22.6	6.2	-16.4	-43.3 to 10.6	-11.2	-1.8	9.4	-9.8 to 28.5	8.9	4.3	-4.6	-29.2 to 20.1
cm8	67	835	17.9	-3.6	-21.5	-61.0 to 18.0	46.8	24.3	-22.5	-66 to 21.1	73.1	19.9	-53.3	-106.5 to -0.03
cm9	261	4179	-4.2	-3.9	0.3	-16.8 to 17.4	20.0	9.0	-11.0	-31.7 to 9.7	14.9	4.7	-10.2	-29.8 to 9.4
cm1	241	1036	2.5	9.0	6.5	-13.9 to 26.9	4.9	-6.7	-11.6	-31.5 to 8.3	7.5	1.6	-5.8	-26.6 to 14.9
cm10	85	920	17.6	-2.4	-20.0	-55.2 to 15.1	6.0	10.5	4.5	-26.2 to 35.1	24.7	7.8	-16.9	-53.8 to 20.0

Table A4.7 Changes in the number of occupied bed days (OBDs) at the pilots' main hospital providers in all medical and surgical specialties, for the single-practice pilots and the local comparator practices

Pilot	total emergency OBDs in 1995/96		% change in total OBDs in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	3075	113657	-25.6	-9.5	16.0	11.9 to 20.1	6.7	0.3	-6.4	-12.6 to -0.3	-20.6	-9.2	11.3	7.0 to 15.6
cm12	6915	84084	-14.5	-12.7	1.7	-1.4 to 4.8	-5.5	7.2	12.7	9.1 to 16.3	-19.2	-6.5	12.7	9.7 to 15.7
cm14	1805	92430	14.8	2.0	-12.8	-20.1 to -5.5	-14.3	-3.4	10.9	5.4 to 16.4	-1.6	-1.5	0.1	-6.4 to 6.6
cm8	2153	21797	27.5	-1.9	-29.4	-36.8 to -22.0	13.9	7.8	-6.0	-12.2 to 0.1	45.2	5.8	-39.4	-47.6 to -31.2
cm9	1540	24324	-8.5	0.6	9.1	2.2 to 15.9	3.0	15.9	12.9	5.1 to 20.7	-5.8	16.5	22.3	15.3 to 29.3
cm1	7921	36709	-10.5	-1.2	9.3	6.1 to 12.5	16.4	0.0	-16.4	-20.4 to -12.4	4.1	-1.2	-5.4	-8.9 to -1.8
cm10	2474	24324	29.5	0.6	-28.9	-35.9 to -21.9	14.5	15.9	1.3	-4.5 to 7.1	48.3	16.5	-31.8	-39.6 to -24.0

Table A4.8 Changes in the number of emergency admissions at the pilots' main hospital providers in all medical and surgical specialties, for the single-practice pilots and the local comparator practices

Pilot	total emergency admissions in 1995/96		% change in total emergency admissions in all medical and surgical specialties between											
			1995/6 and 1996/7				1996/7 and 1997/8				1995/6 and 1997/8			
			pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs	pilot	comparator	difference in % change between pilot and comparator	with 95% CIs
	pilot	comparator												
cp1	469	17641	-12.2	1.1	13.2	1.4 to 25.1	-2.7	5.1	7.8	-5.8 to 21.4	-14.5	6.3	20.8	9.2 to 32.4
cm12	765	8727	0.3	3.1	2.9	-7.6 to 13.4	-3.3	2.3	5.6	-4.6 to 15.8	-3.0	5.5	8.5	-1.8 to 18.8
cm14	275	14408	6.2	2.9	-3.3	-20.9 to 14.3	-3.4	0.2	3.7	-12.3 to 19.6	2.5	3.1	0.6	-16.6 to 17.8
cm8	481	3768	0.0	4.2	4.2	-9.2 to 17.7	23.5	1.3	-22.2	-37.7 to -6.7	23.5	5.6	-17.9	-33.5 to -2.3
cm9	261	4179	-4.2	-3.9	0.3	-16.8 to 17.4	20.0	9.0	-11.0	-31.7 to 9.7	14.9	4.7	-10.2	-29.8 to 9.4
cm1	749	3599	-2.7	4.2	6.9	-4.1 to 17.9	4.5	-0.1	-4.6	-16.2 to 6.9	1.7	4.1	2.4	-8.9 to 13.7
cm10	499	4179	0.6	-3.9	-4.5	-17.7 to 8.6	15.1	9.0	-6.1	-20.7 to 8.4	15.8	4.7	-11.1	-25.7 to 3.4

Appendix 5 Statistical tests

Differences in change in the number of admissions and occupied bed days between TPPs and their comparators

Statistical significance relating to the difference in change in the number of admissions and occupied bed days between TPPs and their comparators was calculated using the following method.

Let the number of admissions for the pilot be p_1 in period 1 and p_2 in period 2. Let the number of admissions for the comparator be c_1 in period 1 and c_2 in period 2.

The approach taken follows Armitage and Berry (1987). The change in the number of admissions for the pilot is represented as the ratio p_2/p_1. Assuming a Poisson distribution, p_1 and p_2 are considered independent variables. The variance of the ratio is calculated by formula 3.15 in Armitage and Berry (1987, p91). Hence, the 95% confidence intervals for the difference in change between a pilot and its comparator are calculated as:

$$\left(\frac{p_2}{p_1}\right)-\left(\frac{c_2}{c_1}\right)\pm 1.96\sqrt{\left(\left(\mathrm{var}(p_2)+\left(\frac{p_2}{p_1}\right)^2\frac{\mathrm{var}(p_1)}{p_1^{\,2}}\right)+\left(\mathrm{var}(c_2)+\left(\frac{c_2}{c_1}\right)^2\frac{\mathrm{var}(c_1)}{c_1^{\,2}}\right)\right)}$$

Differences in change in the mean length of stay per FCE between TPPs and their comparators

Statistical significance relating to the difference in change in the mean length of stay per FCE between TPPs and their comparators was calculated using the following method.

Let the number of FCEs for the pilot be p_1 in period 1 and p_2 in period 2. Let the number of FCEs for the comparator be c_1 in period 1 and c_2 in period 2.
Let the mean number of bed days for the pilot be $\bar{x}_{p1}$ in period 1 and $\bar{x}_{p2}$ in period 2. Let the mean number of bed days for the comparator be $\bar{x}_{c1}$ in period 1 and $\bar{x}_{c2}$ in period 2.
Let the variance of the length of stay per FCE for the pilot be s^2_{p1} in period 1 and s^2_{p2} in period 2. Let the variance of the length of stay per FCE for the comparator be s^2_{c1} in period 1 and s^2_{c2} in period 2.

Assuming the length of stay of FCEs in each period is independent, the standard error of the difference in mean length of stay is calculated in the usual way. Hence, the 95% confidence intervals for the difference in change between a pilot and its comparator are calculated as:

$$\left(\left(\bar{x}_{p_1}-\bar{x}_{p_2}\right)-\left(\bar{x}_{c1}-\bar{x}_{c2}\right)\right)\pm 1.96\sqrt{\left(\frac{\left(s^2_{p1}(p_1-1)\right)+\left(s^2_{p2}(p_2-1)\right)+\left(s^2_{c1}(c_1-1)\right)+\left(s^2_{c2}(c_2-1)\right)}{(p_1+p_2+c_1+c_2-4)}\right)\left(\left(\frac{1}{p_1}\right)+\left(\frac{1}{p_2}\right)+\left(\frac{1}{c_1}\right)+\left(\frac{1}{c_2}\right)\right)}$$

Appendix 6

Table A6.1 Multi-practice pilots: initiatives, resource implications and HCHS budgetary outturn in 1997/98

Pilot Cm13 See Box 1
Pilot Cm6 See Box 2
Pilot Cm15 • **Initiative** Main objective to reduce emergency LOS All specialties for older patients: In 1996/97 the TPP initiated a rehabilitation team based at the local community hospital, which was operational for only about three months during the second half of the first live year. The TPP reported that the rehabilitation team cared for 199 patients in 1997/98. 22% of these patients were referred by the TPP's main acute provider. Secondary objective of reducing acute emergency admissions across all specialties for older patients: In 1996/97 the TPP initiated a rehabilitation team based at the local community hospital, which was operational for only about three months during the second half of the first live year. The TPP reported that the rehabilitation team cared for 199 patients in 1997/98. 78% of these patients were treated as inpatients or outpatients at the community hospital, while the remainder were seen in the community. 67% of all referrals were reported to have been made by TPP GPs. • **Resource implications** The TPP planned to fund its intermediate care project through reductions in contract expenditure. However, the TPP was unable to agree LOS sensitive pricing with its main acute provider in either year. The intermediate care project was funded by TPP growth resources in 1997/98. In the first live year half the funding was provided by the TPP's community provider, and half came from TPP growth funds. • **HCHS budgetary outturn** The TPP reported that its overspend of £60,000 (0.6% of the HCHS budget) was offset by a carried forward risk reserve of £100,000.
Pilot Cm2 • **Initiative** Medical specialties for the over 75s: The TPP and Health Authority negotiated the introduction of a medical assessment unit at the main acute hospital. Suitable patients seen at the MAU were admitted to GP beds at the local community hospital. The necessary arrangements were not completed in 1996/97, and the initiative started in December 1997. Between December 1997 and March 1998 19 TPP patients were reported to have been involved. The scheme was not limited to TPP patients. Secondary objective: The TPP reported that the MAU had facilitated improved patient management. • **Resource implications** The TPP planned to make savings as a result of acute admissions being avoided at its main acute provider, as a result of the MAU initiative. The new community hospital activity referred by the acute provider's MAU was funded by the HA from Winter Pressures resources, and not through TPP contracted changes. • **HCHS budgetary outturn** The TPP reported that it stayed within budget in 1997/98.

Pilot Cm4

- **Initiative**

Geriatrics: Increased use of GP beds at the local community hospital. The initiative was developed in collaboration with the main combined acute and community trust and started in November 1996. The TPP and trust agreed an increase in the value of the 'bed fund', which was paid to the TPP GPs by the trust for the management of patients admitted to GP beds. The TPP reported that the attempt to substitute GP care for that of geriatricians was unsuccessful as the number of GP bed admissions decreased and the number of geriatric admissions increased. The TPP noted that this was in part due to some of the 15 GP beds being closed for four or five months during 1997/98 due to refurbishment at the community hospital. The TPP did not have data on the number of GP bed admissions which were not made due to bed unavailability.

Secondary objective: The TPP increased monitoring of LOS at consultant level with the main provider. The TPP reported that although LOS was discussed during contract reviews, LOS was not a 'major issue' because the contract was not LOS sensitive.

- **Resource implications**

The TPP planned to substitute community GP beds for more expensive geriatric admissions, within one trust. However, changes in activity from the contracted level were funded at a marginal cost rate of 35%, and the TPP described the initiative as 'pretty much' cost neutral. The TPP noted that LOS was not a 'major issue' because the contract was not LOS sensitive. The net increase in expenditure for the TPP resulting from the adverse activity outturn for this initiative in 1997/98 was reported to be £14,000. The increased 'bed fund' of £39,000, was paid to the TPP GPs by the trust for the management of patients admitted to GP beds.

- **HCHS budgetary outturn**

The TPP reported that it under spent its HCHS budget by £90,000 (0.5%) in 1997/98.

Pilot Cm5

- **Initiative**

Medical specialties: In August 1997 the TPP's main acute provider opened a medical assessment unit. In January 1998 the TPP appointed a designated social worker. The use of care protocols and increased use of community nurses was initiated in 1996/97, and seven of the eight practices in the TPP joined an out-of-hours GP co-operative. The TPP noted the importance of ongoing dialogue for managing developments such as the MAU and care protocols.

Main objective to reduce emergency LOS Medical specialties: In 1997/98 the TPP's main acute provider opened a medical assessment unit, and contributed to a joint survey of discharge arrangements. In 1996/97 the TPP appointed a project nurse to examine discharge arrangements. However, the project nurse resigned and the initiative was not pursued during the first live year.

- **Resource implications**

The TPP planned to make savings by reducing ECRs, and managing total contract values. The TPP's social worker post was joint funded by the TPP, the HA and Social Services.

- **HCHS budgetary outturn**

The TPP reported that it under spent its budget in 1997/98, and that the savings were used to offset a HA deficit.

Pilot Cp2

- **Initiative**

Main objective to reduce emergency admissions across the medical specialties: In 1996/97 the TPP introduced out-of-hours care by the TPP GPs. In 1997/98 the number of hours of out-of-hours care by the TPP GPs was reduced. 1996/97 was described as 'essentially a preparatory year'. The number of hours of out-of-hours care by the TPP GPs was reduced in response to the HA's concern that it was unsustainable.

Main objective to reduce emergency LOS across the medical specialties: In October 1996/97 the TPP appointed a case manager who reviewed cases and then conducted ward rounds to facilitate discharge arrangements. The TPP reported that the initiative lacked focus and evaluation in 1997/98.

- **Resource implications**

None, although the TPP planned to have an independent main acute contract in 1997/98. In both years the TPP received an allowance of £80,000 with which to fund its initiatives. The TPP reported that in 1997/98 it under spent the allowance because the number of out-of-hours GP cover was reduced.

- **HCHS budgetary outturn**

A partial indicative budget was calculated for 1997/98, on which the TPP made a 'paper' saving of 4.5%.

Pilot Cm18

- **Initiative**

Medical specialties for the over 75s: The TPP initiated an ICP in the winter of 1997/98. The TPP employed two nurses and care assistants to provide hospital-at-home care in partnership with local Social Services. The TPP purchased physiotherapy and O.T. time from the community trust. The TPP Project Manager estimated on the basis of anecdotal comments by members of the ICP that it had prevented one or two emergency medical admissions per week.

Main objective of reducing emergency LOS across all specialties for older patients: In October 1996 the TPP appointed a 0.5 WTE nurse to each practice to 'track' acute patients and facilitate the early discharge of acute cases to home or community hospital GP beds. The Project Manager reported that an evaluation of the discharge liaison team did not find a significant difference in readmission rates.

- **Resource implications**

The TPP planned to fund its intermediate care project by contracting for 100 fewer emergency medical admissions at its main acute provider in 1997/98. The TPP also contracted for a reduced level of activity at its community provider. The TPP's initiatives were intended to be cost neutral. In both years the main acute provider refused to introduce LOS sensitive pricing. Although the TPP's main acute and community contracts slightly over-performed in 1997/98, the TPP reported that savings were achieved through contracting. However, the intermediate care project was in part funded from Winter Pressures resources.

In 1996/97 the TPP used a clinical information penalty clause in its main acute contract to release some funds. In 1997/98 the penalty was not invoked.

- **HCHS budgetary outturn**

The TPP reported that it under spent its total HCHS budget by £90,000 (0.5%) in 1997/98.

Pilot Cm11

- **Initiative**

Main objective to reduce emergency LOS Medical specialties for the elderly: Appointed a project nurse who facilitated early discharge of acute cases to GP beds at the local community hospital. The TPP reported that the biggest obstacle to better discharge arrangements was the lack of social services co-operation.

Secondary objective of reducing acute emergency admissions across all medical specialties for the elderly: A 'Rapid response' project in collaboration with the community trust, which provided district nursing care, was started in 1996/97. The scheme was not intended to provide as much care as that associated with hospital-at-home services. The TPP noted that the scheme's impact had been limited because it required patients to be assessed rapidly, which had not always been possible.

- **Resource implications**

The initiative to early discharge acute patients to the community hospital was intended to be funded by introducing LOS sensitive pricing, and to be cost neutral for the TPP. The TPP reported that although the contract currency for general medicine and elderly care was OBDs at the main acute trust in 1996/97, the cost of early discharging patients to the local community hospital had been an issue because of the 'double' payment associated with admissions to both providers. The Project Manager reported that in 1997/98 this issue was resolved to some extent because the acute trust agreed to lower prices for cases transferred to the community hospital. The TPP GPs were paid a daily fee for managing their patients admitted to the cottage hospital GP beds by the community trust. The cost to the TPP for its use of these GP beds was increased accordingly by the community trust. The TPP reported that this arrangement worked well. In 1996/97 the cost of this GP care had been funded by the HA. However, in 1997/98 the TPP's community contract over-performed to the extent the TPP had to negotiate an increase in its budget from the HA in order to cover this cost. The HA's own contract with the community trust had under-performed.

- **HCHS budgetary outturn**

The TPP reported that the increase in its budget resulted in its budget being slightly above the capitation target. The TPP noted that this experience raised doubts about the accuracy of the capitation formula when used to calculate the budget for community hospital activity. The quality of historical activity data was regarded as poor. The TPP commented that neither of the processes of capitation based budget setting or disaggregating provider contracts had been accurate enough.

Table 6.2 Single-practice pilots: initiatives, resource implications and HCHS budgetary outturn in 1997/98

Pilot Cm1

- **Initiative**

Medical specialties for the over 75s: Use of HA initiated and HA-wide 'fast response service' which provided nurse led hospital-at-home care, plus linked social worker. The TPP also used nursing home beds. The TPP reported that between November 1996 (when the initiative started) and April 1998, it referred 62 cases to the HA fast response service. Seventeen of the these cases received hospital-at-home nursing care, 16 were admitted to a nursing home or other residential care, 15 were referred to social services for assessment, and 9 patients were admitted to hospital. The withdrawal of Winter Pressures funds for some months during 1997/98, was reported to have limited the number of admissions to nursing homes beds made by the TPP.

- **Resource implications**

The TPP reported that it did not plan to incur any TPP expenditure on the initiatives intended to reduce emergency admissions. The hospital-at-home care provided by the HA-wide 'fast response service' was funded as a project by the HA using Winter Pressures funds. The attached social worker and nursing home activity was funded by Social Services. The success of the attached social worker for the TPP resulted in attached social workers for all practices in the health authority in 1998/99. As for the TPP, this initiative was funded by Social Services.

- **HCHS budgetary outturn**

The TPP reported that it under spent its budget for non-blocked back TP expenditure in 1997/98 by £72,200 (1.1% of the total allocation for all HCHS).

Pilot Cm10

- **Initiative**

Main objective to reduce emergency LOS all specialties: The site went 'live' in 1995-96. The site appointed a primary care liaison manager who facilitated early discharge of acute cases to the local community hospital. The establishment of a health and social services care team outside TP was reported to be the main achievement.

- **Resource implications**

The TPP intended to substitute nursing home use for community hospital admissions for patients early discharged from the main acute provider. The site planned to fund the increased use of nursing homes from reductions in community hospital admissions. The TPP reported that it had covered the cost of its nursing home use by reducing the value of its community provider contract.

- **HCHS budgetary outturn**

The pilot reported that it did not know its budget outturn.

Pilot Cm12

- **Initiative**

Main objective to reduce emergency LOS medical specialties: TPP appointed a salaried GP principal to the practice in September 1996, and from that time the TPP's Lead GP conducted ward rounds at the main acute hospital in order to initiate early discharge. From the spring of 1997 the TPP purchased community district nurse time, in order to conduct weekly ward rounds at the main provider. The TPP also used a 24 hour district nursing service and nursing home beds. The TPP reported that the support provided by the trust to enable identification of TPP patients by the TPP GP was unsatisfactory. The TPP noted that the use of district nurses to initiate early discharge had worked well because they were best placed to decide when they could first provide care for appropriate patients at home. In order to maximise the initiative's impact it targeted the small number of patients likely to have relatively long hospital stays.

Secondary objective of reducing acute emergency admissions across all medical specialties: The TPP used a 24 hour district nursing service and nursing home beds.

- **Resource implications**

The TPP had a sophisticated block contract with its main acute provider in 1996/97 and wanted to contract on a cost per case basis in 1997/98. TPP was not able to contract independently in 1997/98, because of the Health Authority's overall financial position "which was appalling". The HA agreed a financial settlement with the main trusts, which specified the trusts' total income regardless of the contracts negotiated by the TPP. Hence, "anything the TPP agreed was irrelevant". However, in both years the value of the main acute contract was reduced by £75,000 in order to fund the early discharge/admission avoidance initiatives. The additional GP was funded from the additional basic practice allowance and viament from HCHS, which was permitted because of the TPP's pilot status.

- **HCHS budgetary outturn**

The TPP reported that it experienced a larger than expected number of very high cost low volume cases. The TPP overspent its HCHS budget by £8,000, which was offset by previous fundholder savings.

Pilot Cm14

- **Initiative**

Main objective to reduce emergency LOS across the medical specialties: In 1996/97 the single practice TPP employed a liaison nurse and initiated the use of GP managed nursing home beds. The number of nursing home beds used by the TPP was increased from 3 to 5 during 1996/97. In 1997/98 the TPP increased the range of care support for the nursing home patients by employing an O.T. for 10 hours per week. The part-time employment of an O.T. was reported by the TPP to have been in response to difficulties with Social Services provision.
Secondary objective of reducing acute emergency admissions across all medical specialties: In 1996/97 the single practice TPP employed a liaison nurse and initiated the use of GP managed nursing home beds. The TPP also agreed with its ambulance trust that the practice would be contacted so that a TPP GP could attend 999 call-outs. The TPP described the arrangements as having worked well, although on a small scale.

- **Resource implications**

The TPP intended to fund nursing home use from reductions resulting in the use of LOS pricing for acute medical admissions. The TPP reported that in 1996/97 both main acute providers initially collaborated to resist the TPP's efforts to change the contract currency for medical admissions from FCEs at average specialty cost to LOS sensitive cost per case. The TPP noted that even after this resistance had been overcome, with the assistance of the HA Chief Executive, the LOS costs were at first heavily loaded on the first few days. In 1997/98 the LOS pricing was changed to be 'more realistic'.

- **HCHS budgetary outturn**

The TPP reported that an overspend of £35,000 (1.2%) on its total HCHS budget was covered by fundholder savings.

Pilot Cm8 See Box 3

Pilot Cm9

- **Initiative**

All specialties: The site went 'live' in 1995-96. Admissions protocol monitored and reviewed by appointed primary care liaison manager, whose hours were increased to full-time during 1996/97. The TPP also used a nursing home. The TPP reported an emphasis on the reduction in community, rather than acute, admissions in 1997/98.
Secondary objective: treatment protocols. The TPP initially concentrated on specific procedures such as fractured neck of femur. The TPP reported an overall reduction in OBDs of 30% in 1997/98.

- **Resource implications**

The TPP site planned to fund its initiatives from reductions in contracted activity. The TPP reported that it saved £68,700 by contracting for less activity at its main acute and community providers. The TPP estimated that all TP costs in 1997/98 were £62,000.

- **HCHS budgetary outturn**

The TPP reported that it under spent its budget in 1997/98. Half the savings were to be returned to the HA and half used by the single practice TPP for the "good of the 'wider population'".

Pilot Cp1

- **Initiative**

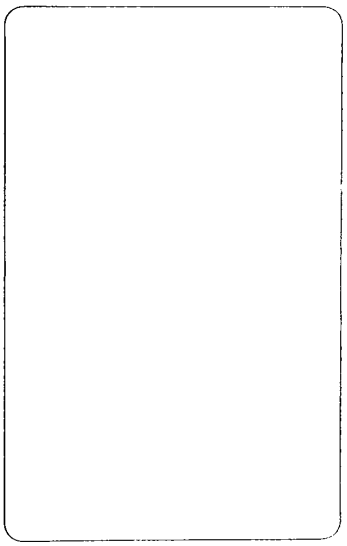
Main objectives to reduce emergency admissions and LOS across the medical specialties: The TPP site initiated nursing home and convalescent home use in 1996/97. Budget setting and contracting difficulties were not resolved in either year.

- **Resource implications**

None: although the TPP site wanted to contract independently in both years, budget setting and contracting difficulties were not resolved in either year. The nursing home activity was funded by the HA.

- **HCHS budgetary outturn**

The site did not receive a budget.



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