

7. Hospital and other services

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7.1 Hospital costs

We have drawn on reference costs (<http://www.doh.gov.uk/nhs/refcosts.htm>) which have become more comprehensive and reliable since they were introduced in 1998. These unit costs are 2003/2004 figures inflated using the HCHS pay and prices index.

	Interquartile range of unit costs		National average £
	Lower quartile £	Upper quartile £	
	Cost per bed day		
Service type			
Intensive Therapy Unit/Intensive Care Unit	1,247	1,586	1,378
Coronary Care Unit	384	603	474
Paediatric Intensive Care Unit	1,413	2,010	1,766
Special Care Baby Unit	292	423	366
Stroke Patients	186	281	221
Elderly Patients	141	199	159
	Cost per first attendance		
Speciality			
ENT	84	120	104
Neurosurgery	217	308	279
Plastic Surgery	64	113	106
Cardiothoracic Surgery	88	197	216
Paediatric Surgery	111	184	157
Accident & Emergency	75	118	110
Family Planning Clinic	36	70	46
Neurology	143	253	222
Paediatrics	158	262	206
Geriatric Medicine	163	300	237
	Cost per attendance		Cost per bed day
Community services type			
Dietetics Services	28	55	36
Community Dental Services	33	72	45
	Cost per bed day		Cost per bed day
Mental health services (inpatient)			
Children	334	452	409
Adult			
- Acute Care	192	237	208
- Rehabilitation	190	249	204
Elderly	189	206	193

7.2 Paramedic and emergency ambulance services

The costing is based on one Ambulance Trust which provided information about expenditure, value of capital, salary levels and activity for 1994/1995. Prices have been updated by HCHS inflators. Information is provided about three types of service: paramedic units; emergency ambulance services; and patient transport services. In practice, all emergency ambulance services provided by the Trust are now paramedic units but, as separate costs were required for a currently unpublished study, separate costings have been provided here. Unit costs are provided for successfully completed journeys, allowing for the costs of so-called 'abortive' journeys.

	Paramedic unit (PU)	Emergency ambulance (EA)	Patient transport service (PTS)	Notes
Overheads and management	£128	£128	£128	Accounts were used to identify expenditure on management and administrative costs, operational costs (e.g. vehicle running costs) and overheads (including heating and lighting, training, building maintenance and so on). Both these and capital costs of buildings and land were assumed to be invariant with respect to type of ambulance journey.
Buildings and land	£2.40	£2.40	£2.40	Capital costs associated with the buildings and land invested in the ambulance service were estimated by discounting their capital value over 60 years at 3.5 per cent.
Ambulances and equipment	£17	£15	£14	PU and EAs use exactly the same type of vehicle with similar equipment on board. The ambulances cost £46,022 new and standard equipment including defibrillators costs £11,506 per vehicle. Vehicles and the equipment are expected to last five years. The only additional equipment carried by PUs is the 'paramedic case' which costs £1,726 and is replaced annually. PTSs use a different type of ambulance which costs £31,065 and is expected to last seven years. Discounting at 3.5 per cent the annual cost of a PU is £14,396; an EA is £12,742 and a PTS £5,079. The average number of journeys per emergency ambulance was 1152 and the average number of journeys per transport ambulance 520.
Crew salaries and wages	£131	£128	£99	A crucial distinguishing characteristic of the different services is the type of crew. A PU carries one paramedic (average salary £29,030 pa) and one technician (average salary £27,323). An EA is crewed by two technicians and a PTS by two care assistants (average salary £14,922). Once national insurance and pension payments are included the average annual crew cost is £63,115 for a PU; £61,202 for an EA; and £33,424 for a PTS. The average number of journeys per EA and PU crew is 480 per year, PTS crews provides an average of 339 journeys per PTS crew.
Total	£279	£273	£243	
Cost per minute	£6.30	£6.20	n.a.	Based on the average length of an emergency journey: 44.4 minutes.
Average cost per patient journey	£311 ¹	£237	£49	A successful vehicle journey is equivalent to transporting a single patient for A&E services. PUs averaged 49.5 minutes per journey and EAs 38.6 minutes per journey. An average of five patients per vehicle journey was assumed for PTS.

1 Allowing for different lengths of time to complete journey.

7.3 NHS wheelchairs

Information about wheelchair costs is based on the results of a study of six sites supplying wheelchairs (excluding wheelchairs for children).¹ Prices have been uprated from 1994/1995 levels using the HCHS prices inflator. The study information was supplemented with national data not available from the sites. Three main types are identified: those propelled by an attendant or self propelled; a lighter type of chair especially designed for active users, and powered wheelchairs. (Active users are difficult to define, but the term generally refers to individuals who are permanently restricted to a wheelchair but are otherwise well and have high mobility needs.) The range of purchase costs is very high for the latter two types, ranging from £169 to £900 for active user chairs and £957 to £1,688 for powered chairs (1994/95 prices uprated to current values). The costs have allowed for the cost of modifications in the estimated capital value, but this is a very approximate mid-range figure so specific information should be used wherever possible.

Type of chair	Total value 2004/2005	Annual cost 2004/2005	Notes
<i>Capital costs</i>			
Self or attendant propelled	£233	£54	Capital value has been annuitised over five years at a discount rate of 3.5 per cent to allow for the expected life of a new chair. In practice, 50 per cent of wheelchairs supplied have been reconditioned, not having been worn out by the time their first users ceased to need them. The cost of reconditioning has not been included in the cost of maintenance: this should be included in the initial capital valuation when detailed information is known.
Active user	£582	£132	
Powered	£1,162	£264	
<i>Revenue costs</i>			
Maintenance			Revenue costs exclude therapists' time but include the staff costs of maintenance. The costs include all costs for pressure relief.
- non-powered		£24	
- powered		£95	
<i>Agency overheads</i>			No estimate of management overhead costs is available. They are likely to be minimal.
Unit costs available 2004/2005			
£78 per self or attendant propelled chair per year; £156 per active user per chair per year; £360 per powered chair per year.			

¹ Personal communication with Richard Murray, National Health Service Management Executive, 1995.

7.4 Local authority equipment and adaptations

Information about the capital cost of installing equipment and making adaptations to property is based on a benchmark study of the cost of aids and adaptations undertaken for the Department of the Environment by Ernst & Young.¹ The intention was to provide illustrative rather than statistically representative costs of installation. Forty local authorities provided information. Major variations were reported, probably reflecting differences in the scale of work undertaken. The median rather than the mean cost was used by Ernst & Young to overcome the spread of reported costs. All costs have been inflated from 1992 prices using the BCIS/ABI House Rebuilding Cost Index. Although this information is rather dated, information contained in the BCIS Access Audit Price Guide, 2002² suggested that the uprated figures are in line with current building costs.

The period over which equipment and adaptations should be annuitised is open to debate. Ideally it should be annuitised over the useful life of the aid or adaptation. In many cases this is linked to the length of time the person using the appliance is expected to remain at home. Where it is expected that the house would be occupied by someone who would also make use of the adaptation, a longer period would be appropriate. Clearly, this is difficult to do in practice. Many housing authorities have problems making sure that heavily adapted dwellings are occupied by people who can make use of the adaptations. In the 1997 report, the annual median value was discounted over 10 years at 6 per cent but in previous editions of this report, as there is a competitive market in providing these aids and adaptations, it was argued that 8 per cent was a more appropriate discount rate. Due to government guidelines on the discount rate this table shows the items annuitised over 10 years at 3.5 per cent.

Equipment or adaptation	Mean	Median	Range		Median annual equipment cost
			Minimum	Maximum	3.5% discount
Additional heating	£352	£326	£118	£4,051	£39
Electrical modifications	£360	£420	£47	£3,206	£51
Joinery work (external door)	£416	£494	£215	£1,021	£59
Entry phones	£295	£400	£176	£2,504	£48
Individual alarm systems	£312	£366	£173	£786	£44
Grab rail	£77	£43	£3	£346	£5
Hoist	£767	2,140	£314	£6,669	£257
Low level bath	£435	£546	£295	£1,196	£66
New bath/shower room	£6,381	£12,226	£3,141	£28,266	£1,470
Redesign bathroom	£1,168	£2,735	£392	£6,282	£329
Redesign kitchen	£2,358	£3,242	£576	£5,496	£390
Relocation of bath or shower	£869	£1,661	£148	£8,761	£200
Relocation of toilet	£709	£1,416	£141	£3,376	£170
Shower over bath	£776	£721	£173	£1,979	£87
Shower replacing bath	£2,120	£1,997	£388	£3,601	£240
Graduated floor shower	£1,966	£2,427	£1,060	£5,528	£292
Stairlift	£2,143	£2,703	£1,884	£6,040	£325
Simple concrete ramp	£530	£315	£55	£2,269	£38

1 Ernst & Young (1994) *Benchmark Study of the Costs of Aids and Adaptations*, Report No. 4, Report to the Department of the Environment, London.

2 Building Cost Information Service Ltd. (2002) *Access Audit Price Guide*, BCIS, Royal Institution of Chartered Surveyors, London.

7.5 Training costs of health service professionals

This year, we have included for the first time a breakdown of training costs incurred.¹ The components of the cost of training health service professionals are the costs of tuition; infrastructure costs (such as libraries); costs or benefits from clinical placement activities and lost production costs during the period of training where staff are taken away from their posts in order to train.

For pre-registration courses, we need to consider the costs of tuition, the net cost or value of clinical placement and living expenses over the duration of the course.

This table shows the total investment after allowing for the distribution of the costs over time to give the total investment incurred during the working life of the health service professional, and also the expected annual cost to reflect the distribution of the returns on the investment over time.

The investment costs of education should always be included when evaluating the cost-effectiveness of different approaches to using health service staff as it is important to include all the costs implicit in changing the professional mix. For the most part, these investment costs are borne by the wider NHS and individuals undertaking the training rather than trusts, so those costing exercises which are concerned with narrowly defined costs to the provider organisation would not want to incorporate these investment costs.

	Pre-registration			Post-graduate training	Totals	
	Tuition	Living expenses/ lost production costs	Clinical placement	Tuition and replacement costs	Total investment	Expected annual cost at 3.5%
Professionals Allied to Medicine						
Physiotherapist	26,749	23,989	0	0	50,738	4,151
Occupational Therapist	24,843	23,989	0	0	48,832	4,002
Speech and Language Therapist	19,268	31,450	0	0	50,718	4,260
Dietician	19,643	31,450	0	0	51,093	4,343
Radiographer	37,012	23,989	0	0	61,001	4,969
Pharmacist	28,101	40,759	6,380	5,467	80,707	6,382
Nurses						
Ward Managers/Staff Nurses	27,556	24,942	-10,127	0	42,371	4,129
District Nurse	27,556	24,942	-10,127	13,162	55,533	5,581
Health Visitor	27,556	24,942	-10,127	13,162	55,533	5,695
CPN	27,678	24,942	-9,634	13,162	56,148	5,295
Practice Nurse	27,556	24,942	-10,127	13,162	55,533	5,183
Doctors						
Pre-Registration House Officer	56,013	39,549	142,880	0	238,442	19,102
Senior House Officer	56,013	39,549	142,880	18,939	257,382	20,429
Specialist Registrar	56,013	39,549	142,880	44,978	283,420	22,198
Consultants	56,013	39,549	142,880	97,915	336,357	27,491
GP	56,013	39,549	142,880	72,389	310,831	26,647

The figure for clinical placement for nurses is shown as a negative number because the input during the placement represents a benefit to the service provider offering the placement.

¹ Netten, A., Knight, J., Cooley, R. & Slight, A. (1998) *Development of a Ready Reckoner for Staff Costs in the NHS, Vols 1 & 2*, Personal Social Services Research Unit, University of Kent, Canterbury.

7.6 Rapid Response Service

This schema is based on information received from the Royal Victoria Hospital. The Rapid Response service serves the Shepway Primary Care Trust Areas and is designed to provide the local community with an alternative to hospital admission/long term care where appropriate. The information is based on 2002/2003 costs and updated using the appropriate inflators.

Costs and unit estimation	2004/2005 value	Notes
A. Wages/salary	£145,590 per year	This is based on a team of two whole time E grades and five B grades, 1 G grade staff nurse (0.5) and 1 G grade care manager (0.25). This includes pay enhancements for unsocial hours worked. 2002/03 costs updated by the HCHS Pay Inflator.
B. Salary oncosts	£34,141 per year	Employers' national insurance plus 14 per cent of salary for employers' contribution to superannuation.
C. Qualifications	£11,355 per year	The equivalent annual cost of pre-registration after the total investment cost has been annuitised over the expected working life. See schema 7.5 for more details on training costs for health professionals.
D. Training	Not known	In house training is provided. This includes OT, physiotherapy, ECGs, blood glucose, chiropody, vena puncture etc. The health care assistants often study to NVQ level. No costs are available for this.
E. Direct overheads	£3,590 per year £24,247 per year	Includes mobile phones, Uniform replacement for B grades nurses, stationery, thermometers, energy. 2002/2003 costs updated by the retail price index. Includes Administrative staff (grade 3), Manager (based on I grade) (0.25). 2002/2003 costs updated by the HCHS Pay Inflator.
F. Indirect overheads	£20,159 per year	Includes the personnel and finance functions. 2002/03 costs updated by the HCHS Pay and Prices Inflator.
G. Capital overheads	£2,148 per year	Based on the new build and land requirements of NHS facilities. ^{1/2} One office houses all the staff and 'hotdesking' is used. It is estimated that the office measures around 25 square metres. Capital has been annuitised at 3.5 per cent.
H. Equipment costs	£1,174 per year	The Service shares equipment with another so the total cost has been divided equally and annuitised over five years to allow for the expected life of the equipment. This includes facsimile machines, computers etc. 2002/2003 prices updated using the retail price index.
I. Travel	£18,535 per year	
Case load	7 per week	The yearly case load is on average 364 patients.
Hours and length of service	7 days a week (to include weekends and bank holiays) 8.00 am – 9.00 pm (24 hrs if required), 365 days per year.	The service would provide an intensive package of care, if necessary, over a 24 hour period to meet care needs, and support carers experiencing difficulty due to illness. It would be available for 72 hours and reviewed daily, with the possibility of extension, up to a maximum of 5 days in exceptional circumstances.
Patient contact hours Low cost episode	9,646 per annum 3 visits at 30 minutes for 3 days.	Based on information about typical episodes delivered to patients. A low cost episode comprises 10 visits and includes initial assessment and travel costs.
High cost episode	43 patient contact hours over three days.	A high cost episode comprises 10 visits, on average a total of 43 patient contact hours (of which 11 are paid at the enhanced rate of £9.62 per hour), and the cost of an assessment and travel.
Length of assessment/ discharge	1 hour 1 hour	The assessment is carried out by either an E or G grade nurse. The discharge is carried out by a G grade care manager.
Unit costs available 2004/2005 (costs including qualifications given in brackets)		
£21 (£22) cost per delivered hour (excludes cost for enhanced payments, cost of assessments, discharge and travel costs); cost of assessment £41 (includes travel), cost of discharge £49 (includes travel), travel per visit £4.60. £176 (£181) per low cost episode (includes assessment and travel costs); £1,000 (£1,050) per high cost episode (includes assessment, travel and unsocial hours).		

1 Building Cost Information Service (2005) *Surveys of Tender Prices*, March, BCIS, Royal Institution of Chartered Surveyors, London.

2 Office of the Deputy Prime Minister, Summer 2004.

7.7 Recuperative Care Unit

This schema is based on a joint project between Kent County Council, Ashford Borough Council, Age Concern and Ashford Primary Care Trust. Homebridge provides recuperative care in seven purpose-built self contained units for older people who need a period of recuperation following an illness, fall or where people have had increasing problems managing daily living. Homebridge provides intensive therapy and support to rebuild mobility and confidence so they can return back home.

Costs and unit estimation	2004/2005 value	Notes
A. Wages/salary	£ 58,462 per year	This is based on a team of The Scheme Manager (20%), the number of hours allocated to HomeBridge by a part time Care Manager (80%) and a team of support workers who are provided by a Private Domiciliary Agency at a rate of £10.38.
B. Salary oncosts	£3,616 per year	Employers' national insurance plus 14 per cent of salary for employers' contribution to superannuation (excludes support workers).
C. Direct overheads: Administrative and management costs	£21,000 per year £3,700 per year £15,355 per year	This includes maintenance, running costs, repair/renewal of fixtures/fittings. Building expenses and equipment costs. Includes Project Manager (0.05), CART coordinator (£1000), Social Services Team Leader (0.08%) and Agency fees.
D. Indirect overheads	£ 10,000 per year	To cover the finance function.
E. Capital Building costs Land costs	£ 19,827 per year £10,025 per year	Based on actual cost of the 7 units and a lounge (shared by sheltered housing) and an office in 2003, and uprated using the Tender Price Index for Public Sector Building (non housing). Land costs were an estimate based on its alternate build value. Capital costs have been annuitised over 60 years at a discount rate of 3.5%.
Occupancy	71%	On average 5 units of the 7 are occupied at any one time.
Case load	32 per year	The yearly case load for January 2004 to January 2005 was 32 clients.
Average length of stay	33 nights	
Hours and length of service	7 days a week (to include weekends and bank holidays)	The service is available 7 days a week with support workers working 10.5 hours daily (3,832 per year). The Scheme Manager is available from Monday to Friday 7 am to 3 pm and in case of emergency there is also back up cover during evenings, nights and weekends via the call centre.
Patient related hours Typical episode Low cost episode High cost episode	 10 hours per week 7 hours per week 15 hours per week	All clients receive an initial assessment when referred to Homebridge usually at hospital. They are assessed on arrival by a Community Care Manager who continues to monitor them throughout their stay and discharges them at the end of their stay. 50% of clients stay on average 29 nights and receive 41 hours of contact with a support worker per week plus the above. 25% of clients stay 10 days and receive 10 hours with a support worker a week plus the above 25% of clients stay on average 64 days and receive 137 hours with support workers plus the above.
Cost of hospital assessment and admission to HomeBridge	£132	This takes between 3-5 hours of a Hospital Care Manager's time who prepares the discharge from hospital and arranges the referral to Homebridge. A further 3 hours is required by the Social Services Duty Desk to make the admission arrangements at Homebridge. This is based on the salary of a Care Manager's Assistant.
Cost of discharge from Homebridge	£223	This is carried out by a Community Care Manager and takes 8.5 hours. It involves 7.5 hours of face-to-face contact time for liaison with patient, professionals, families and services and also 1 hour administration.
Cost of Health services CART team	£170 per client per stay	On average 7 hours of therapy or nursing care was provided by the CART team costing £170 (face-to-face time). 50% of clients received on average 5 hours costing £117, 25% of clients received on average 18 hours costing £469 and 25% received 1 hour costing £22.
Unit costs available 2004/2005		
Full unit costs (all activities): Per unit £28,397 per year, £545 weekly (includes A to E); Per unit (full occupancy) £20,284 per year, £389 weekly. Costs per activity: assessment and referral £144 per client; discharge £253 per client, ambulance transport from hospital £35 per client; £3.70 per session at day care, £3.00 per meal on wheels, £35 cost of ambulance from hospital. Cost per episode: £1,460 cost of typical episode, £745 low cost episode; £3,384 high cost episode.		