

Schema 7.1 Hospital costs

This year we have been able to draw on reference costs (<http://www.doh.gov.uk/nhs/refcosts.htm>) which have become more comprehensive and reliable since they were introduced in 1998. See article on pages 23-24 of this volume. These have replaced the information derived from analysis of the TFR2 speciality and programme cost returns to the Department of Health. These unit costs are 2001/02 figures inflated using the HCHS pay and prices index.

	Range for 50 per cent		Average £
	Minimum £	Maximum £	
	Cost per bed day		
Service type			
Intensive Therapy Unit/Intensive Care Unit	1,105	1,478	1,265
Coronary Care Unit	351	539	430
Paediatric Intensive Care Unit	973	1,543	1,421
Special Care Baby Unit	247	403	335
Stroke Patients	132	226	168
Elderly Patients	124	195	147
	Cost per first attendance		
Speciality			
ENT	72	109	93
Neurosurgery	116	239	211
Plastic Surgery	51	103	91
Cardiothoracic Surgery	75	183	154
Paediatric Surgery	87	155	118
Accident & Emergency	41	98	57
Family Planning Clinic	31	48	39
Rehabilitation	139	624	421
Neurology	113	206	183
Paediatrics	110	203	164
Geriatric Medicine	122	232	188
	Cost per attendance		Cost per bed day
Community services type			
Dietetics Services	26	55	37
Community Dental Services	29	70	39
	Cost per bed day		Cost per bed day
Mental Health Services (Inpatient)			
Children	297	442	363
Adult			
- Acute Care	159	209	181
- Rehabilitation	154	206	183
Elderly	151	196	170
Mental Health Services (Domiciliary)			
Psychologists	78	145	101

Schema 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 1994/95. Prices have been uprated 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ambulance services provided by the Trust are now paramedic units but, as separate costs were required for a currently unpublished study, separate costings have been provided here.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	£113	£113	£113	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	£2.34	£2.34	£2.34	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. See editorial. At 6 per cent capital costs were £3.61.
Ambulances and equipment	£15	£13	£12	PU and EAs use exactly the same type of vehicle with similar equipment on board. The ambulances cost £44,106 new and standard equipment including defibrillators costs £11,026 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 £1,654 and is replaced annually. PTSs use a different type of ambulance which costs £29,771 and is expected to last seven years. Discounting at 3.5 per cent the annual cost of a PU is £13,866; an EA is £12,212 and a PTS £4,868. The average number of journeys per emergency ambulance was 1152 and the average number of journeys per transport ambulance 520.
Crew salaries and wages	£110	£107	£83	A crucial distinguishing characteristic of the different services is the type of crew. A PU carries one paramedic (average salary £24,317 pa) and one technician (average salary £22,887). An EA is crewed by two technicians and a PTS by two care assistants (average salary £12,499). Once national insurance and pension payments are included the average annual crew cost is £52,868 for a PU; £51,266 for an EA; and £27,997 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	£240	£235	£210	
Cost per minute	£5.40	£5.30	n.a.	Based on the average length of an emergency journey: 44.4 minutes.
Average cost per patient journey	£268 ¹	£205	£42	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.

Schema 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 1994/95 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 £162 to £863 for active user chairs and £917 to £1,618 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 2002/2003	Annual cost 2002/2003	Notes
<i>Capital costs</i> Self or attendant propelled Active user Powered	£223 £558 £1,114	£51 £127 £253	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. See editorial. At 6 per cent, the annual cost would be £55 for a self or attendant propelled wheelchair, £136 for an active user and £271 for a Powered wheelchair. 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.
<i>Revenue costs</i> Maintenance - non-powered - powered		£23 £92	Revenue costs exclude therapists' time but include the staff costs of maintenance. The costs include all costs for pressure relief.
<i>Agency overheads</i>			No estimate of management overhead costs is available. They are likely to be minimal.
Unit costs available 2002/2003			
£75 per self or attendant propelled chair per year; £150 per active user per chair per year; £345 per powered chair per year.			

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

Schema 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 updated 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 (see editorial) this table shows the items discounted over ten years at both 8 per cent and 3.5 per cent.

Equipment or adaptation	Mean	Median	Range		Median annual cost	
			Minimum	Maximum	3.5% discount	8% discount
Additional heating	£325	£301	£109	£3,714	£36	£45
Electrical modifications	£332	£388	£44	£2,961	£47	£58
Joinery work (external door)	£384	£457	£198	£943	£55	£68
Entry phones	£272	£369	£163	£2,313	£44	£55
Individual alarm systems	£288	£338	£160	£726	£41	£50
Grab rail	£71	£40	£3	£320	£5	£6
Hoist	£708	£1,976	£290	£6,159	£238	£294
Low level bath	£402	£504	£272	£1,104	£61	£75
New bath/shower room	£5,893	£11,290	£2,901	£26,103	£1,357	£1,682
Redesign bathroom	£1,078	£2,526	£362	£5,801	£304	£376
Redesign kitchen	£2,177	£2,993	£532	£5,075	£360	£446
Relocation of bath or shower	£802	£1,534	£137	£8,091	£184	£229
Relocation of toilet	£655	£1,308	£130	£3,118	£157	£195
Shower over bath	£716	£666	£160	£1,828	£80	£99
Shower replacing bath	£1,957	£1,844	£358	£3,326	£222	£275
Graduated floor shower	£1,815	£2,242	£979	£5,105	£269	£334
Stairlift	£1,979	£2,496	£1,740	£5,578	£300	£372
Simple concrete ramp	£489	£291	£51	£1,095	£35	£43

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, The Royal Institution of Chartered Surveyors 2002, BCIS Access Audit Price Guide.

Schema 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 discounting 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 these costs 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			Postgraduate Training	Totals		
	Tuition	Living expenses	Clinical placement	Tuition and replacement costs	Total investment	Expected annual cost at 3.5%	Expected annual cost at 6%
Professionals Allied to Medicine							
Physiotherapist	23,752	22,650	0	0	46,402	3,796	5,468
Occupational Therapist	22,059	22,650	0	0	44,709	3,664	5,259
Speech and Language Therapist	17,109	29,695	0	0	46,803	3,931	5,834
Dietician	17,441	29,695	0	0	47,136	4,007	5,798
Radiographer	32,865	22,650	0	0	55,514	4,522	6,572
Pharmacist	25,674	36,772	5,645	4,801	72,892	5,570	N/A
Nurses							
Ward Managers/Staff Nurses	24,468	23,550	-8,482	0	39,535	3,851	5,443
District Nurse	24,468	23,550	-8,482	10,648	50,183	5,027	7,000
Health Visitor	24,468	23,550	-8,482	10,648	50,183	5,128	7,126
CPN	24,577	23,550	-8,070	10,648	50,704	4,766	6,674
Practice Nurse	24,468	23,550	-8,482	10,648	50,183	4,715	6,567
Doctors							
Pre-Registration House Officer	49,736	37,342	126,102	0	213,180	16,921	25,061
Senior House Officer	49,736	37,342	126,102	17,599	230,779	18,134	26,807
Specialist Registrar	49,736	37,342	126,102	41,442	254,623	19,949	29,412
Consultants	49,736	37,342	126,102	89,433	302,613	24,399	35,847
GP	49,736	37,342	126,102	66,842	280,022	23,258	34,447

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.

Schema 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. See article on pages 19-21.

Costs and unit estimation	2002/2003 value	Notes
A. Wages/salary	£ 136,030 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.
B. Salary oncosts	£ 17,093 per year	Employers' national insurance plus 4 per cent of salary for employers' contribution to superannuation.
C. Qualifications	£ 10,590 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	£ 3,390 per year £ 21,456 per year	Includes mobile phones, Uniform replacement for B grades nurses, stationery, thermometers, energy. Includes Administrative staff (grade 3), Manager (based on I grade) (0.25).
F. Indirect overheads	£ 18,143 per year	Includes the personnel and finance functions.
G. Capital overheads	£ 1,887 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%. See editorial. At 6%, the cost would be £2,912.
H. Equipment costs	£ 1,108 per year	The Service shares equipment with another so the total cost has been divided equally and annuitised over 5 years to allow for the expected life of the equipment. This includes facsimile machines, computers etc.
I. Travel	£ 17,500 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	9,646 per annum	Based on information about typical episodes delivered to patients.
Low cost episode	3 visits at 30 minutes for 3 days.	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 2002/2003 (costs including qualifications given in brackets)		
£18 (£19) cost per delivered hour (excludes cost for enhanced payments, cost of assessments, discharge and travel costs); cost of assessment £39 (includes travel), cost of discharge £43 (includes travel), travel per visit £4.30. £159 (£164) per low cost episode (includes assessment and travel costs); £874 (£922) per high cost episode (includes assessment, travel and unsocial hours).		

¹ Building Cost Information Service (2003) *Surveys of Tender Prices*, February, BCIS, London.

² Department of the Environment, Transport and the Regions (2003) *Housing and Construction Statistics 1991-2001*, The Stationery Office, London. The appropriate inflator is provided by the DETR on request.