

Experimental UK Health Accounts methods

1. This document describes the methods used in compiling the first set of UK Health Accounts, which were published on 27 February 2003. These estimates are available via the National Statistics website at:

<http://www.statistics.gov.uk/healthaccounts>

2. This document describes the sources and methods for each component of UK Health Accounts in turn, starting with activity costs in the NHS; budgetary information for the remainder of the NHS; the remainder of public expenditure on health (armed forces and prisons); household expenditure; non-NHS nursing care and finally NPISH (or non-profit institutions serving households).
3. In the tables presented in this document, the classification codes have been presented for each item of expenditure rather than full descriptions. See annex A for an explanation of these codes.

Activity costs in the National Health Service

4. In recent years, there has been an increasing amount of work to compile activity costs - average costs for treatments and procedures across the range of providers - by all UK health administrations. The rationale behind this work is the need to understand where and how resources are used. These activity costs, referred to as "Reference Costs" in England, Wales and Northern Ireland, and as "Scottish Health Service Costs" in Scotland, have been used to help populate UK Health Accounts by comparing the classifications used in compiling and presenting activity costs with the classifications detailed in *A System of Health Accounts*.
5. The main classification used in compiling Reference Costs in England and Northern Ireland is a classification of treatments and procedures called Healthcare Resource Groups (HRG), which provides a standard framework that allows costs to be adjusted for differences in casemix. The groupings are defined by clinicians and reflect clinical practice in the UK. In Wales, the main classification is Diagnosis Related Groups (DRG), which is a forerunner of the more modern HRG, and which are groupings of hospital discharges similar in terms of resource use and similar medically. Welsh Reference Costs from financial year 2000/01 will be based on HRG for the first time. In Scotland, the main classification used is specialty.
6. All of these activity costs classifications can be compared with the functional classification from *A System of Health Accounts* and a mapping or cross-classification from one to the other can be produced based on both theoretical and practical expert advice, for example

on the definitions of the classifications as well as the practical understanding of how day to day activities in the health service are costed according to HRGs, DRGs and specialties.

7. Activity costs also include information on the provider (hospital, nursing facilities, etc...), which can be used directly for the provider classification in *A System of Health Accounts*.

ENGLAND

8. The Reference Costs work is being developed by the Department of Health. The following paragraphs give an overview of this work, and describe in detail how it has been used in helping to compile UK Health Accounts. Further detailed information on English Reference Costs can be found on the Department of Health website.

Coverage

9. The 1999/2000 Reference Costs¹ cover 60.6% - or £15bn - of the expenditure incurred by hospitals and community health services in England: this is made up of 88.4% of services provided by hospitals but only 7.25% of expenditure on community services.

Using Reference Costs 1999/2000 in compiling UK Health Accounts

10. The compilation process hinges on the comparison of the Healthcare Resource Groups (HRG) used in classifying much of the Reference Costs with the functional classification which underpins the UK Health Accounts. Whilst HRG is not a functional classification, and its groupings do not correspond exactly with functions, there is a fair degree of overlap. Discussions between experts who understand the individual health interventions classified to the HRG and experts in the functional classification have led to an allocation of HRG to functions. In many cases, a single function can be allocated to a clear overall majority of individual health interventions within a particular HRG. In some cases, however, there is not such clarity. In such cases, the HRG has been allocated according to the functional classification of the majority of health interventions within the HRG as agreed by experts and has been identified as an area for further investigative work.
11. There is a very small number of HRG for which it is difficult to propose an appropriate Health Accounts treatment. These are the catch-all HRG which are designed to cover all treatments and diagnoses not already classified, and are typically called "other". An example of this is HRG S25 or "other admissions". A function has been created to deal with these HRG, and has been named "Other", allowing us to identify the total value of HRG which cannot be classified using the available information. The total value can be used to help in prioritising further work; we can compare the size with other areas requiring investigation. In this first stage, the cost of the "other" HRG has been proportionally spread over the HRG which have been allocated to a function.
12. Even where there is an overall majority, this can mean that as little as 51% of the individual interventions contained within the HRG are correctly allocated - and therefore that as much as 49% may not be. A classic example of this, which runs through many of the HRG, is rehabilitative care. In the English NHS, much of this care is costed to the HRG associated with the acute or curative care, because of the requirement to allocate the full cost of the illness or injury to a single HRG. This treatment is consistent with *A System of Health Accounts*.

13. In areas for which HRG have not yet been created, Reference Costs have been compiled for specific services, and these have been compared with the Health Accounts function classification in a similar way.
14. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

WALES

15. Diagnosis Related Groups (DRGs) have been routinely recorded against Welsh Hospital discharges since 1994. The DRG system currently used in Wales has 636 groupings, and is based on All Patients DRG version 12 (APDRG). They have principally been used for length of stay and costs comparisons between hospitals.
16. DRGs are a set of groupings of hospital discharges. Each grouping was designed to contain discharges: --
 - Similar in terms of resource use
 - Similar medically
 - Based on readily available data
 - The number of groups are finite (normally 500-600)
17. The data used to allocate a hospital discharge to a single DRG generally includes: --
 - Primary diagnosis;
 - Secondary diagnoses;
 - Surgical operations;
 - And to a limited extent: age, length of stay, discharge disposition.
18. Healthcare Resource Groups (HRGs) have now been adopted in Wales, following a review of HRGs and DRGs. HRGs will be assigned to Welsh hospital discharges from 1st April 2000.

Coverage

19. Activity and Costs in Welsh hospitals data for 1999/2000 are compiled from submissions by the 12 acute trusts, and cover a total of 814,798 discharges and £789m expenditure across 605 DRGs. The £789m represents 78% of the net expenditure for patients using a hospital bed in NHS Wales 1999-00, and specifically 83.5% of the 12 trusts included in the submissions (96.5% excluding Mental Health).

Using Activity and Costs in Welsh hospitals for 1999/2000 in compiling UK Health Accounts

20. Activity and Costs in Welsh hospitals² presents the total cost for each DRG for inpatients and day cases separately. In parallel with the English Reference Costs, the compilation process hinges on the comparison of the DRG with the functional classification that underpins the UK Health Accounts.
21. Like HRG, the DRG classification is not a functional classification, and its groupings do not correspond exactly with functions. However, also like HRG, there is a broad degree of overlap. Based on the existing cross-classification of HRG to Health Accounts functions, a mapping of DRG to functions has been carried out by ONS.
22. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

SCOTLAND

23. Scottish Health Service Costs (SHSC) are compiled by the National Health Service in Scotland. They present comparative cost information by specialty and patient type. Costing of Scottish hospital patient activity at HRG level has not been carried out in Scotland, but is under consideration. The following paragraphs give a very brief overview of this work, and explain how it has been used in compiling UK Health Accounts. Further detailed information can be accessed at <http://www.show.scot.nhs.uk/isd>

Coverage

24. SHSC contain information on approximately 99 per cent of public sector expenditure on health in Scotland, mostly at the level of individual hospitals.

Using Scottish Health Service Costs 1999/2000³ in compiling UK Health Accounts

25. Compilation has been based on the comparison of specialties and patient types used in classifying SHSC with the functional classification that underpins the UK Health Accounts. Whilst the specialty classification is not a functional classification, and specialties do not correspond exactly with functions, there is some degree of correspondence.
26. Discussions between experts who understand the detail of the individual health interventions making up the specialties and experts in the functional classification have lead to a cross-classification or mapping of functions to specialties. The lesser degree of disaggregation, compared with the use of HRG in English Reference Costs, means that the mapping to Health Accounts functions is less precise.
27. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

NORTHERN IRELAND

28. The Northern Irish Reference Costs work is being developed by Northern Ireland's Department of Health, Social Services and Public Safety in close collaboration with the English Department of Health. However, the development work has begun from the 2000/01 year and there will be no results for 1999/2000 or previous years. Northern Ireland Reference Costs will be taken on board for the development of future UK Health Accounts.
29. Detailed information by specialty, similar to the information available from Scottish Health Service Costs, is available for hospitals and community health services in Northern Ireland. 1999/2000 estimates have been mapped to the functional classification in the light of the Scottish matching exercise.
30. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

The remainder of the NHS

31. Administrations responsible for the health service in England, Wales and Northern Ireland compile detailed expenditure reports for a number of purposes, including reporting to Parliament and to the community in general.

ENGLAND

32. Reasonably detailed information is available from the Department of Health on expenditure by spending programme, and data have been acquired for the 1999/2000

financial year. This information is compiled for budgetary purposes - a summary appears in the Department of Health Annual Report. Please note that the data have been revised since publication in the Annual Report, so these latter do not match the data presented here. This budgetary information separately identifies expenditure on Hospital & Community Services; Family Health Services; Central Health and Miscellaneous Services; and departmental administration.

33. Hospital & Community Health Services (HCHS) expenditure is further broken down and has been mapped to the Health Accounts classifications at the following level:

Table 1: expenditure in England in 1999/2000 on HCHS, £m

HCHS expenditure component	Function	Provider	Expenditure £m
Acute IP (Pats using a bed)inc. DC	HC.1.1	HP.1	10,414
Acute OP without Day Cases	HC.1.3	HP.1	4,093
Obstetric IP	HC.1.1	HP.1	801
Obstetric OP	HC.1.3.1	HP.1	158
Geriatric IP	HC.1-2	HP.1	1,216
Geriatric & YD OP	HC.1-2	HP.1	53
Learning Disability IP	HC.1.1	HP.1	855
Learning Disability OP	HC.2.3	HP.1	21
Mental Health IP	HC.1-2	HP.1	2,044
Mental Health OP	HC.2.3	HP.1	370
Non Psychiatric DP (gen & acute)	HC.2.2	HP.1	115
Learning Disability Day Pats)	HC.2.2	HP.1	62
Mental Illness DP	HC.1.2	HP.1	328
Other Hospital	HC.1-2	HP.1	1,011
TOTAL HOSPITAL			21,539
Chiropody	HC.1.3.9	HP.1	110
Family Planning	HC.6.1	HP.1	70
Immunisation & surveillance	HC.6	HP.1	325
Screening	HC.6.4	HP.1	67
Professional advice & support	HC.1-2	HP.1	338
General Patient Care	HC.1-2	HP.1	1,041
Community MI Nursing	HC.2.4	HP.1	670
Community LD Nursing	HC.2.4	HP.1	484
Community Maternity	HC.6.1	HP.1	208
Health Promotion	HC.6	HP.1	83
Community Dental	HC.1.3.2	HP.1	97
Services to GP's	HC.1.3.1	HP.1	396
Other CHS	HC.1-2	HP.1	549
TOTAL COMMUNITY			4,438
Ambulances	HC.4.3	HP.1	706
HQ Administration	HC.7.1.1	HP.1	781

Note: IP = inpatient; DC = day care; OP = outpatient; DP = day patients

34. In order to estimate "long term nursing care" or HC.3 in NHS hospitals for the Royal Commission on Long Term Care, an analysis was carried out by Department of Health and the Personal Social Services Unit (PSSRU) which was based on the product of the number of incomplete episodes lasting 55 days or more and geriatric hospital costs. The current estimate included in the Health Accounts matrices, £1,425m, relates to 1995 (and total UK). It has been assumed that this component relates to part of geriatric inpatient and part of mental health inpatient, and thus has been subtracted from these totals to avoid double counting.
35. Inpatient, outpatient and Family Planning figures from the Reference Costs have similarly been separately deducted from the respective costs in the above table, on a proportionate basis (eg acute inpatient above accounts for 88% of all inpatient, so 88% of inpatient costs from the Reference Costs is subtracted from this subtotal). Finally, Community Services in the Reference Costs have been subtracted from the "General Patient Care" cost in the Community Health Services section of the above table.
36. The OECD recognises the difficulty for many countries of separating the "curative" (HC.1) and "rehabilitative" (HC.2) functions. This recognition can be seen, for example, in the fact that the set of standard tables in *A System of Health Accounts* do not separately identify expenditure on these two components. The information currently available to the Health Accounts work only allows the separate identification of curative and rehabilitative services in some areas, for example the Reference Costs; in many other areas, including the budgetary information on Hospital & Community Health Services table above, it has not proved possible to split the two components. Where the split is available, this has been recorded; otherwise the entry is "HC.1-2" (cure and rehabilitation combined).
37. We are seeking further disaggregation of the budgetary information, which may provide the required splits. This will also be aided by the extension of the coverage of Reference Costs in each subsequent year.
38. Family Health Services (FHS) expenditure is broken further down and mapped to the Health Accounts matrices at the following level:

Table 2: expenditure in England on FHS, £m

FHS expenditure component	Function	Provider	Expenditure £m
Drugs	HC.5.1.1	HP.4.1	4,852
GMS non-disc	HC.1-2	HP.3.1	2,451
GMS disc	HC.1-2	HP.3.1	885
PMS non-disc	HC.1-2	HP.3.1	84
GDS	HC.1.3.2	HP.3.2	1,479
PDS disc	HC.1.3.2	HP.3.2	12
Disp costs	HC.5.1.1	HP.4.1	808
GOS	HC.1.3.9	HP.3.3	281

Note: GMS = General Medical Services; PMS = Personal Medical Services; GDS = General Dental Services; PDS = Personal Dental Services; GOS = General Ophthalmic Services

39. General and Personal Medical Services are a mix of activities, which are dominated by those which should be classified to "curative" care, for example, routine examinations,

diagnosis, prescribing. However, there will also be other components including rehabilitative care. Further investigation of this area is needed.

40. Central Health & Miscellaneous Services (CHMS) expenditure is further broken down and mapped to the Health Accounts matrices at the following level:

Table 3: expenditure in England on CHMS, £m

CHMS expenditure component	Function	Provider	Expenditure £m
EEA (payment for services provided to UK nationals in other EU countries)	-	HP.9	239
PHLS (Public Health Laboratory Service)	HC.6.3	HP.5	59
NBSB (National Biological Standards Board)	HC.7.1	HP.6.1	11
Info services	HC.7.1.1	HP.6.1	96
Other	HC.7.1	HP.6.1	36

41. Central Health & Miscellaneous Services are made up of many activities which are classified in the international framework as health-related rather than health care, and also include some expenditure which is neither (grants to voluntary organisations and welfare foods). A "-" has been placed against the function for the EEA item, as it is not possible to establish further detail.
42. Finally, the budgetary information provides total expenditure on administration of £310m, which is classified in the Health Accounts matrices as "general government administration of health (except social security)" or HC.7.1.1 and "Government administration of health" or HP.6.1.
43. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

WALES

Table 4: Welsh health administration expenditure excluding activity costs, 1999-2000, £m

Function	Provider	Financer	Expenditure
-	HP.9	HF.1	1
HC.1.3.2	HP.3.2	HF.1	63
HC.1.3.9	HP.3.3	HF.1	20
HC.1-2	HP.1	HF.1	91
HC.1-2	HP.3	HF.1	278
HC.1-2	HP.3.1	HF.1	262
HC.4.3	HP.3.9.1	HF.1	46
HC.5.1.1	HP.4.1	HF.1	421
HC.6	HP.5	HF.1	5
HC.6	HP.6.1	HF.1	1
HC.6.3	HP.5	HF.1	8
HC.6.4	HP.5	HF.1	1
HC.7.1.1	HP.6	HF.1	127
HC.7.1.1	HP.6.1	HF.1	4

44. The National Assembly for Wales compiles budgetary information on health expenditure on a similar basis to the Department of Health. ONS has acquired the top level of information and table 4 summarises the functions, providers and source of financing allocated to the budgetary data.
45. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

NORTHERN IRELAND

46. Detailed budgetary information is available from Northern Ireland's Department of Health, Social Services and Public Safety (DHSSPS) on expenditure incurred by public health providers. Table 5 summarises the functions, providers and source of financing allocated to the budgetary data.

Table 5: Northern Irish health administration expenditure excluding activity costs, 1999-2000, £m

Function	Provider	Financer	Expenditure
HC.1.3.2	HP.3.2	HF.1	45
HC.1.3.9	HP.3.3	HF.1	11
HC.1-2	HP.3.1	HF.1	253
HC.5.1.1	HP.4.1	HF.1	118
HC.7.1.1	HP.6.1	HF.1	30

47. For some services such as learning disabilities, the cost of capital and administration has been separately supplied. In such cases, these costs have been added to the costs of providing the services proportionately.
48. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

Remainder of UK public expenditure on health

49. ONS has not yet identified sources and methods for identifying the function and provider of health care where the source of financing is prisons and armed forces. The Health Accounts tables therefore show only total expenditure for these.

Household expenditure

50. The breakdown by function and provider has been taken from National Accounts⁴. A number of assumptions and divergences should be noted:
- 50.1. "Medical products" are separately identified where "They are intended for consumption or use outside a health facility or institution". In the Health Accounts, all products for outpatients should be separately identified.
- 50.2. "Paramedical services" in the National Accounts has been allocated to "All other outpatient care" (HC.1.3.9) and "Offices of other health practitioners" (HP.3.3) as it contains services of freelance nurses and midwives; of freelance acupuncturists, chiropractors, optometrists, physiotherapists, speech therapists, etc.; of practitioners of traditional medicine. However, it also includes services of medical analysis laboratories and X-ray centres; ambulance services; and hire of therapeutic equipment. These latter should be allocated ideally to other parts of the functional and provider classifications.

50.3. "Medical services" in the National Accounts has been allocated to "Curative and rehabilitative care" (HC.1-2) and "Offices of physicians" (HP.3.3), although it also includes the cost of out-patient appointments in other settings eg hospitals.

51. For further details on the matching, please contact ONS at health.accounts@ons.gov.uk

Non-NHS nursing care

52. No further breakdown of non-NHS long term nursing care is required as the entire sum fits cleanly into a single cell in the Health Accounts tables.

NPISH

53. ONS has not yet identified sources and methods for identifying the function and provider of health care where the source of financing is charities and religious organisations. The source used to compile the overall total, the Caritas publication of the top 3000 charities, does not provide sufficient information on the activities of charities or on how they spend their income. The total here is as recorded in total UK health expenditure, except for the adjustment from calendar to financial year (calculation is 3/4 of 1999 plus 1/4 of 2000).

Footnotes

1. Department of Health (2000) *Reference Costs 2000* available at
2. National Health Service Information Authority (2002) *Activity and Costs in Welsh Hospitals Sixth Edition*
3. National Health Service in Scotland (2000) *Scottish Health Service Costs 1999/2000*
4. Office for National Statistics (2002) *National Accounts Blue Book 2002* Stationary Office

Annex A: explanation of classification codes, taken from *A System of Health Accounts*

Function	Description
HC.1 Services of curative care	<p>Curative care comprises medical and paramedical services delivered during an episode of curative care. An episode of curative care is one in which the principal medical intent is to relieve symptoms of illness or injury, to reduce the severity of an illness or injury or to protect against exacerbation and/or complication of an illness and/or injury which could threaten life or normal function.</p> <p>Includes: obstetric services; cure of illness or pro- vision of definitive treatment of injury; the performance of surgery; diagnostic or therapeutic procedures.</p> <p>Excludes: palliative care.</p>
HC.2 Services of rehabilitative care	<p>This item comprises medical and paramedical services delivered to patients during an episode of rehabilitative care. Rehabilitative care comprises services where the emphasis lies on improving the functional levels of the persons served and where the functional limitations are either due to a recent event of illness or injury or of a recurrent nature (regression or progression). Included are services delivered to persons where the onset of disease or impairment to be treated occurred further in the past or has not been subject to prior rehabilitation services.</p> <p>Note: rehabilitative care is generally more intensive than traditional nursing facility care and less than acute (curative) care. It requires frequent (daily to weekly) recurrent patient assessment and review of the clinical course and treatment plan for a limited (several days to several months) time period, until a condition is stabilised or a predetermined treatment course is completed.</p>
HC.3 Services of long-term nursing care	<p>Long-term health care comprises ongoing health and nursing care given to those who need assistance on a continuing basis due to chronic impairments and a reduced degree of independence and activities of daily living. Inpatient long-term care is provided in institutions or community facilities. Long-term care is typically a mix of medical (including nursing care) and social services. Only the former is recorded in the SHA under health expenditure.</p>
HC.4 Ancillary services to health care	<p>This item comprises a variety of services, mainly performed by paramedical or medical technical personnel with or without the direct supervision of a medical doctor, such as laboratory, diagnosis imaging and patient transport.</p>
HC.5 Medical goods dispensed to out-patients	<p>This item comprises medical goods dispensed to out-patients and the services connected with dispensing, such as retail trade, fitting, maintaining, and renting of medical goods and appliances. Included are services of public pharmacies, opticians, sanitary shops, and other specialised or non-specialised retail traders including mail ordering and teleshopping.</p>
HC.6 Prevention and public health	<p>Prevention and public health services comprise services designed to enhance the health status of the population as distinct from the curative services,</p>

services	which repair health dysfunction. Typical services are vaccination campaigns and programmes. Note: prevention and public health functions do not cover all fields of public health in the broadest sense of a cross-functional common concern for health matters and public actions. Some of these broadly defined public health functions, such as emergency plans and environmental protection, are not part of expenditure on health (but instead are classified as health related functions).
HC.7 Health administration and health insurance	Health administration and health insurance are activities of private insurers and central and local authorities, and social security. Included are the planning, management, regulation, and collection of funds and handling of claims of the delivery

Classification of health care financing

Source of financing	Description from the international framework; <i>A System of Health Accounts</i>
HF.1 General government	This item comprises all institutional units of central, state or local government, and social security funds on all levels of government. Included are non-market non-profit institutions that are controlled and mainly financed by government units.
HF.2 Private sector	This sector comprises all resident institutional units which do not belong to the government sector.
HF.3 Rest of the world	This item comprises institutional units that are resident abroad.

Classification of providers of health care

Provider	Description from the international framework; <i>A System of Health Accounts</i>
HP.1 Hospitals	This item comprises licensed establishments primarily engaged in providing medical, diagnostic, and treatment services that include physician, nursing, and other health services to inpatients and the specialised accommodation services required by inpatients. Hospitals may also provide outpatient services as a secondary activity. Hospitals provide in-patient health services, many of which can only be provided using the specialised facilities and equipment that form a significant and integral part of the production process. In some countries, health facilities need in addition a minimum size (such as number of beds) in order to be registered as a hospital.

HP.2 Nursing and residential care facilities	This item comprises establishments primarily engaged in providing residential care combined with either nursing, supervisory or other types of care as required by the residents. In these establishments, a significant part of the production process and the care provided is a mix of health and social services with the health services being largely at the level of nursing services.
HP.3 Providers of ambulatory health care	This item comprises establishments primarily engaged in providing health care services directly to outpatients who do not require in-patient services. This includes establishments specialised in the treatment of day-cases and in the delivery of home care services. Consequently, these establishments do not usually provide in-patient services. Health practitioners in ambulatory health care primarily provide services to patients visiting the health professional's office except for some paediatric and geriatric conditions.
HP.4 Retail sale and other providers of medical goods	This item comprises establishments whose primary activity is the retail sale of medical goods to the general public for personal or household consumption or utilisation. Establishments whose primary activity is the manufacture of medical goods for sale to the general public for personal or household use are also included as well as fitting and repair done in combination with sale.
HP.5 Provision and administration of public health programmes	This item comprises establishments primarily engaged in the sale of hearing aids to the general public. This item comprises both government and private administration and provision of public health programmes such as health promotion and protection programmes.
HP.6 General health administration and insurance	This item comprises establishments primarily engaged in the regulation of activities of agencies that provide health care, overall administration of health policy, and health insurance.
HP.7 Other industries (rest of the economy)	This item comprises industries not elsewhere classified which provide health care as secondary producers or other producers. Included are producers of occupational health care and home care provided by private households.
HP.9 Rest of the world	This item comprises all non-resident units providing health care for the final use by resident units.