

Estimating the Secondary Care Burden of *Escherichia coli* (*E. coli*) bacteraemia Infection

Data Dictionary for Final Dataset Used in Analyses

The creation of the dataset used for the code available is described in the codebook and the following manuscript: **A National Estimate of the Health and Cost Burden of *Escherichia coli* Bacteraemia in the Hospital Setting: The Importance of Antibiotic Resistance.** Nichola R. Naylor, Koen B. Pouwels, Russell Hope, Nathan Green, Katherine L. Henderson, Gwenan M. Knight, Rifat Atun, Julie V. Robotham, Sarah Deeny
bioRxiv 153775; doi: <https://doi.org/10.1101/153775>

The variables in this data dictionary are from the 'final' time dependent dataset created "dt.TimeDep". Additional variables that are created in different R scripts may not be described here, but their creation will be described within the relevant R scripts.

Data sources for project - Descriptions of Variables Used in Data Cleaning Code

Surveillance Database Extract

Database

A previously linked dataset that includes information from a mandatory *E. coli* bacteraemia surveillance programme and a voluntary microbiology database

Database Provider/Owner

Public Health England

Time Period

Specimens 01/07/2011 – 30/06/2012

Population Inclusion

18 years old and above

Reference The study which previously linked the described data can be found with the following reference:
Abernethy, Julia K., et al. "**Thirty day all-cause mortality in patients with Escherichia coli bacteraemia in England.**" Clinical Microbiology and Infection 21.3 (2015): 251-e1.

Hospital Episode Statistics (HES) Extract

Database Hospital Episode Statistics
Database Provider/Owner NHS Digital
Time Period Admissions 02/05/2011-29/08/2012
Population Inclusion 18 years old and above
Reference For the full data dictionary, where this information is from, please refer to the NHS Digital website - <http://content.digital.nhs.uk/hesdatadictionary> (Last accessed August 2017)

Estates Return Information Collection (ERIC) Extract

Database Estates Return Information Collection
Database Provider/Owner NHS Digital
Time Period 2011/12
Population Inclusion All hospitals
Access Data can be freely access via the reference
Reference NHS Digital - <http://hefs.hscic.gov.uk/DataFiles.asp> (Last Accessed August 2017)

Additional Notes

When "Xn" is denoted (for example 3n), it is stating the variable is a numerical of length X (e.g. 001 for 3n)

When "_miss" is added as a suffix to a variable in the R code, this simply means the variable in question has had missing variables recoded to the correct R format

Data Dictionary for Final Dataset Used in Analyses

Variable	Description	Values
tstart	start time	numeric of any length
tstop	stop time	numeric of any length
inf	infection dummy	0 if non-infected, 1 if infected
case	case dummy	0 if a case patient and 1 if a non-case patient
dead	dead dummy	0 if in-hospital mortality is not experienced, 1 if it is experienced
discharged	discharged alive dummy	0 if not-discharged alive, 1 if discharged alive
deadordischarged	dead or discharged dummy	1 if dead or discharged alive, 0 otherwise
carb_res	carbapenem resistance dummy	0 if susceptible infection, 1 if resistant infection, NA if not-tested/missing
ceph_res	cephalosporin resistance dummy	0 if susceptible infection, 1 if resistant infection, NA if not-tested/missing
cipro_res	ciprofloxacin resistance dummy	0 if susceptible infection, 1 if resistant infection, NA if not-tested/missing
piptaz_res	piperacillin/tazobactam resistance dummy	0 if susceptible infection, 1 if resistant infection, NA if not-tested/missing
gen_res	gentamicin resistance dummy	0 if susceptible infection, 1 if resistant infection, NA if not-tested/missing
carb_res2	carbapenem resistance factor	0 if non-infected, 1 is susceptible or non-tested, 2 if resistant
ceph_res2	cephalosporin resistance factor	0 if non-infected, 1 is susceptible or non-tested, 2 if resistant
cipro_res2	ciprofloxacin resistance factor	0 if non-infected, 1 is susceptible or non-tested, 2 if resistant
piptaz_res2	piperacillin/tazobactam resistance factor	0 if non-infected, 1 is susceptible or non-tested, 2 if resistant
gen_res2	gentamicin resistance factor	0 if non-infected, 1 is susceptible or non-tested, 2 if resistant
RES	"resistant to at least one tested antibiotic" dummy	0 if not found to be resistant at least one antibiotic, 1 if found to be resistant to at least one tested antibiotic, NA if not-tested/missing
RES2	"resistant to at least one tested antibiotic" factor	0 if non-infected, 1 if not found to be resistant at least one antibiotic or not-tested for any, 2 if found to be resistant to at least one tested antibiotic
sex_dummy	gender dummy	0 if female, 1 if male
elix	modified Elixhauser comorbidity score	numeric of any length
admiage_miss	patient age on admission	3n = age at activity date
Organisation.Type	type of provider organisation	"ACUTE - LARGE", "ACUTE - MEDIUM", "ACUTE - MULTI-SERVICE", "ACUTE - SMALL", "ACUTE - SPECIALIST", "ACUTE - TEACHING"

Orgtyp1	regrouped Organisation.Type	"ACUTE - LARGE", "ACUTE - MEDIUM" or "ACUTE - SMALL" and "OTHER" if Organisation.Type is ("ACUTE - MULTI-SERVICE", "ACUTE - SPECIALIST" or "ACUTE - TEACHING")
Orgtyp2	regrouped Organisation.Type	"ACUTE" if Organisation.Type is ("ACUTE - LARGE", "ACUTE - MEDIUM" or "ACUTE - SMALL") and "OTHER" if Organisation.Type is ("ACUTE - MULTI-SERVICE", "ACUTE - SPECIALIST" or "ACUTE - TEACHING")
agegrp	patient age at admission grouped	"18-44", "45-84", ">=85"
onset	onset of infection	"Not infected", "HO" if hospital onset, "COCA" if community onset community associated and "COHA" if community onset healthcare associated
elixgrp	patient elixhauser comorbidity scores grouped	"<=0", "1-4", "5-9", "10-14", "15-19", ">=20"
center.age	patient age centered around the mean age	numeric of any length
center.elix	patient comorbidity score centered around the mean comorbidity score	numeric of any length
flagType	A flag used in the step function process to identify infection onset types	"CO" if community onset or non-infected, "HOA" if hospital onset and representing the admission to infection period and "HOB" if hospital onset and representing the infection to death/discharge/censoring period
flag.Step.Dis	A flag used in the step function process to identify discharge/death relative to a time point of interest (t=8)	"dis8" if discharge/death on day 8, "disless8" if discharge/death occurs before day 8 and "disgreat8" if event occurs after day 8
flag.Step.Spec	A flag used in the step function process to identify infection time relative to a time point of interest (t=8)	"spec8" if infection on day 8, "specless8" if infection occurs before day 8 and "specgreat8" if infection occurs after day 8
flag.Step.Dis2	A flag used in the step function process to identify discharge/death relative to a time point of interest (t=2)	"dis2" if discharge/death on day 2, "disless2" if discharge/death occurs before day 2 and "disgreat2" if event occurs after day 2
flag.Step.Spec2	A flag used in the step function process to identify infection time relative to a time point of interest (t=2)	"spec2" if infection on day 2, "specless2" if infection occurs before day 8 and "specgreat2" if infection occurs after day 2
los	crude length of stay measure - the difference between discharge event and admission	numeric from 0 to 45
ID	Unique patient identifier	integer from 1 to length of dataset

cephDS	cephalosporin susceptible dummy	0 is non-infected and resistant infected patients, 1 is susceptible and non-tested patients
cephDR	cephalosporin resistance dummy	0 is non-infected and susceptible/non-tested infected patients, 1 is resistant patients
ciproDS	ciprofloxacin susceptible dummy	0 is non-infected and resistant infected patients, 1 is susceptible and non-tested patients
ciproDR	ciprofloxacin resistance dummy	0 is non-infected and susceptible/non-tested infected patients, 1 is resistant patients
piptazDS	piperacillin/tazobactam susceptible dummy	0 is non-infected and resistant infected patients, 1 is susceptible and non-tested patients
piptazDR	piperacillin/tazobactam resistance dummy	0 is non-infected and susceptible/non-tested infected patients, 1 is resistant patients
genDS	gentamicin susceptible dummy	0 is non-infected and resistant infected patients, 1 is susceptible and non-tested patients
genDR	gentamicin resistance dummy	0 is non-infected and susceptible/non-tested infected patients, 1 is resistant patients
RESDS	"not resistant to at least one tested antibiotic" dummy	0 is non-infected and resistant infected patients, 1 is susceptible and non-tested patients
RESDR	"resistant to at least one tested antibiotic" dummy	0 is non-infected and susceptible/non-tested infected patients, 1 is resistant patients

Surveillance Database Extract

<u>Variable</u>	<u>Definition</u>	<u>Values</u>
cefotaxime	cefotaxime susceptibility	SENSITIVE, RESISTANT, Not tested
cefpodoxime	cefpodoxime susceptibility	SENSITIVE, RESISTANT, Not tested
ceftazadime	ceftazadime susceptibility	SENSITIVE, RESISTANT, Not tested
ciprofloxacin	ciprofloxacin susceptibility	SENSITIVE, RESISTANT, Not tested
datespecimen	date specimen taken	DD/MM/YYYY (where DD represents day, MM month and YYYY year of specimen taken)
ertapenem	ertapenem susceptibility	SENSITIVE, RESISTANT, Not tested
gentamicin	gentamicin susceptibility	SENSITIVE, RESISTANT, Not tested
id	Bacteraemia episode id	Numeric
imipenem	imipenem susceptibility	SENSITIVE, RESISTANT, Not tested
meropenem	meropenem susceptibility	SENSITIVE, RESISTANT, Not tested
piptaz	piperacillin/tazobactam susceptibility	SENSITIVE, RESISTANT, Not tested
primaryfocus	Most likely primary focus of infection	Descriptor of primary focus (characters)

Hospital Episode Statistics (HES) Extract

<u>Variable</u>	<u>Definition</u>	<u>Values</u>
ACTIVAGE	Age at activity date (such as admission, discharge or birth)	3n = age at activity date ; 999 = Not known, ie date of birth not known and age cannot be estimated
ADMIAGE	Age on admission	3n = age at activity date ; 999 = Not known, ie date of birth not known and age cannot be estimated
ADMIDATE	Date of admission	DD/MM/YYYY. From 2012/13 onwards: 01/01/1800 - null date submitted 01/01/1801 - invalid date submitted 1989/90 to 2011/12: 01/01/1600 – null date submitted 15/10/1582 – invalid date submitted
ADMIMETH	Method of admission	<p>Elective Admission, when the decision to admit could be separated in time from the actual admission: 11 = Waiting list 12 = Booked 13 = Planned Emergency Admission, when admission is unpredictable and at short notice because of clinical need: 21 = Accident and emergency or dental casualty department of the Health Care Provider 22 = General Practitioner: after a request for immediate admission has been made direct to a Hospital Provider, i.e. not through a Bed bureau, by a General Practitioner: or deputy 23 = Bed bureau 24 = Consultant Clinic, of this or another Health Care Provider 25 = Admission via Mental Health Crisis Resolution Team (available from 2013/14. Prior to this date a value of 25 represented "Emergency - domiciliary visit by consultant") 2A = Accident and Emergency Department of another provider where the PATIENT had not been admitted 2B = Transfer of an admitted patient from another Hospital Provider in an emergency 2C = Baby born at home as intended 2D = Other emergency admission (2A - 2D available from 2013/14) 28 = Other means, examples are: - admitted from the Accident and Emergency Department of another provider where they had not been admitted - transfer of an admitted patient from another Hospital Provider in an emergency - baby born at home as intended Maternity Admission, of a pregnant or recently pregnant woman to a maternity ward (including delivery facilities) except when the intention is to terminate the pregnancy: 31 = Admitted ante-partum 32 = Admitted post-partum Other Admission not specified above: 82 = The birth of a baby in this Health Care Provider 83 = Baby born outside the Health Care Provider except when born at home as intended. 81 = Transfer of any admitted patient from other Hospital Provider other than in an emergency 98 = Not applicable 99 = Not known: a validation error</p>

ADMISORC	Source of admission	<p>2n. 19 = The usual place of residence, including no fixed abode 29 = Temporary place of residence when usually resident elsewhere, for example, hotels and residential educational establishments 30 = Repatriation from high security psychiatric hospital (1999-00 to 2006-07) ; 37 = Penal establishment: court (1999-00 to 2006-07) 38 = Penal establishment: police station (1999-00 to 2006-07) 39 = Penal establishment (court and police station excluded from 1999-2000) 48 = High security psychiatric hospital, Scotland (1999-00 to 2006-07) 49 = NHS other hospital provider: high security psychiatric accommodation in an NHS hospital provider (NHS trust) 50 = NHS other hospital provider: medium secure unit (1999-00 to 2006-07) 51 = NHS other hospital provider: ward for general patients or the younger physically disabled or A&E department 52 = NHS other hospital provider: ward for maternity patients or neonates 53 = NHS other hospital provider: ward for patients who are mentally ill or have learning disabilities 54 = NHS run nursing home, residential care home or group home 65 = Local authority Part 3 residential accommodation: where care is provided (from 1996-97) 66 = Local authority foster care, but not in Part 3 residential accommodation: where care is provided (from 1996-97) 69 = Local authority home or care (1989-90 to 1995-96) 79 = Babies born in or on the way to hospital 85 = Non-NHS (other than Local Authority) run residential care home (from 1996-97) 86 = Non-NHS (other than Local Authority) run nursing home (from 1996-97) 87 = Non-NHS run hospital 88 = non-NHS (other than Local Authority) run hospice 89 = Non-NHS institution (1989-90 to 1995-96) 98 = Not applicable 99 = Not known.</p>
ADMISTAT	Psychiatric history on admission	<p>1n. 0 = No known previous hospital provider spell with a consultant episode having a psychiatric specialty within any health care provider ; 1 = One or more previous hospital provider spells with a consultant episode having a psychiatric specialty within this health care provider ; 2 = One or more previous hospital provider spells with a consultant episode having a psychiatric specialty within another health care provider, but none with this healthcare provider ; 8 = Not applicable: the patient is not receiving admitted patient care under a consultant in a psychiatric specialty ; 9 = Not known: the patient is receiving admitted patient care under a consultant in a psychiatric specialty but the information is not available. This constitutes a validation error</p>
DiagCode4List	Diagnosis codes	ICD-10 codes listed. Separated by commas. No decimal places present. (e.g D53X, K711)
DISDATE	Date of discharge	DDMMYYYY - 2012/13 onwards: 01/01/1800 - null date submitted 01/01/1801 - invalid date submitted 1989/90 to 2011/12: 01/01/1600 – null date submitted 15/10/1582 – invalid date submitted

DISDEST	Destination on discharge	2n. 19 = The usual place of residence, including no fixed abode ; 29 = Temporary place of residence when usually resident elsewhere, for example, hotels and residential educational establishments ; 30 = Repatriation from high security psychiatric hospital (from 1999-2000) ; 37 = Penal establishment - court (from 1999-2000) ; 38 = Penal establishment - police station (from 1999-2000) ; 39 = Penal establishment - court and police station excluded (from 1999-2000) ; 48 = High security psychiatric hospital, Scotland (from 1999-2000) ; 49 = NHS other hospital provider - high security psychiatric 50 = NHS other hospital provider - medium secure unit 51 = NHS other hospital provider - ward for general PATIENTS or the younger physically disabled 52 = NHS other hospital provider - ward for maternity PATIENTS or Neonates 53 = NHS other hospital provider - ward for PATIENTS who are mentally ill or have learning disabilities 54 = NHS run Care Home 65 = Local Authority residential accommodation i.e. where care is provided 66 = Local Authority foster care 79 = Not applicable - PATIENT died or still birth 84 = Non-NHS run hospital - medium secure unit 85 = Non-NHS (other than Local Authority) run Care Home 87 = Non-NHS run hospital 88 = Non-NHS (other than Local Authority) run Hospice 98 - Not applicable 99 - Not Known
DISMETH	method of discharge (e.g. died, discharged, still in hospital)	1n. 1 = Discharged on clinical advice or with clinical consent ; 2 = Self discharged, or discharged by a relative or advocate ; 3 = Discharged by a mental health review tribunal, the Home Secretary or a court ; 4 = Died ; 5 = Baby was still born ; 8 = Not applicable: patient still in hospital ; 9 = Not known: a validation error
DOB	Date of birth	DDMMYYYY - 2012/13 onwards: 01/01/1800 - null date submitted 01/01/1801 - invalid date submitted 1989/90 to 2011/12: 01/01/1600 – null date submitted 15/10/1582 – invalid date submitted
ENCRYPTED_HESID	Unique patient identifier	Numeric
EPIDUR	Episode duration, the difference between episodate start and end date	5n = Duration of episode in days from 0 to 29,200 ; null = Not applicable (other maternity event or not known)
EPIEND	Episode end date	DDMMYYYY - 2012/13 onwards: 01/01/1800 - null date submitted 01/01/1801 - invalid date submitted 1989/90 to 2011/12: 01/01/1600 – null date submitted 15/10/1582 – invalid date submitted
EPIKEY	Record identifier, generated by HES system	14n = Record identifier
EPIORDER	Episode order, the number of the episode within the current spell	2n = The number of the episode in the sequence of episodes from 01-87 ; 98 = Not applicable ; 99 = Not known ; null = Not applicable: other maternity event

EPISTART	Episode start date	DDMMYYYY - 2012/13 onwards: 01/01/1800 - null date submitted 01/01/1801 - invalid date submitted 1989/90 to 2011/12: 01/01/1600 – null date submitted 15/10/1582 – invalid date submitted
EPISTAT	Episode status	1 = Unfinished ; 3 = Finished ; 9 = Derived unfinished (not present on processed data)
EPITYPE	This field contains a code that defines the type of episode, so that groups of similar episodes can be formed	1 = General episode (anything that is not covered by the other codes) ; 2 = Delivery episode ; 3 = Birth episode ; 4 = Formally detained under the provisions of mental health legislation or long-term (over one year) psychiatric patients who should have additional information recorded on the psychiatric census. This value can only appear in unfinished records (Episode Status (EPISTAT) = 1) 5 = Other delivery event ; 6 = Other birth event
ETHNOS	Ethnic category	From 2001-02 onwards: A = British (White) B = Irish (White) C = Any other White background D = White and Black Caribbean (Mixed) E = White and Black African (Mixed) F = White and Asian (Mixed) G = Any other Mixed background H = Indian (Asian or Asian British) J = Pakistani (Asian or Asian British) K = Bangladeshi (Asian or Asian British) L = Any other Asian background M = Caribbean (Black or Black British) N = African (Black or Black British) P = Any other Black background R = Chinese (other ethnic group) S = Any other ethnic group, X or Z = Not stated; 99 = Not known

MAINSPEF

The specialty under which the consultant is contracted

3n or &.100 = General surgery ; 101 = Urology ; 110 = Trauma and orthopaedics ; 120 = Ear, nose and throat (ENT) ; 130 = Ophthalmology ; 140 = Oral surgery ; 141 = Restorative dentistry ; 142 = Paediatric dentistry (available from 1999-2000) ; 143 = Orthodontics ; 145 = Oral and maxillo facial surgery (available from 2004-05) ; 146 = Endodontics (available from 2004-05) ; 147 = Periodontics (available from 2004-05) ; 148 = Prosthodontics (available from 2004-05) ; 149 = Surgical dentistry (available from 2004-05) ; 150 = Neurosurgery ; 160 = Plastic surgery ; 170 = Cardiothoracic surgery ; 171 = Paediatric surgery ; 180 = Accident and emergency (A&E) ; 190 = Anaesthetics ; 191 = Pain management (available from 1998-99 to 2003-04) ; 192 = Critical care medicine (available from 2004-05) ; 199 = Non-UK Provider - specialty function not known, treatment mainly surgical ; 300 = General medicine ; 301 = Gastroenterology ; 302 = Endocrinology ; 303 = Clinical haematology ; 304 = Clinical physiology ; 305 = Clinical pharmacology ; 310 = Audiological medicine ; 311 = Clinical genetics ; 312 = Clinical cytogenetics and molecular genetics (available from 1990-91) ; 313 = Clinical immunology and allergy (available from 1991-92) ; 314 = Rehabilitation (available from 1991-92) ; 315 = Palliative medicine ; 320 = Cardiology ; 321 = Paediatric cardiology (available from 2004-05) ; 330 = Dermatology ; 340 = Respiratory medicine (also known as thoracic medicine) ; 350 = Infectious diseases ; 352 = Tropical medicine (available from 2004-05) ; 360 = Genito-urinary medicine ; 361 = Nephrology ; 370 = Medical oncology ; 371 = Nuclear medicine ; 400 = Neurology ; 401 = Clinical neuro-physiology ; 410 = Rheumatology ; 420 = Paediatrics ; 421 = Paediatric neurology ; 430 = Geriatric medicine ; 499 = Non-UK Provider - specialty function not known, treatment mainly medical ; 501 = Obstetrics (prior to 2004-05: Obstetrics for patients using a hospital bed or delivery facilities) ; 502 = Gynaecology ; 560 = Midwifery (available from October 1995) ; 600 = General Medical Practice ; 601 = General Dental Practice ; 610 = General practice with maternity function (available to 2003-04) ; 620 = General practice other than maternity (available to 2003-04) ; 700 = Learning disability (previously known as mental handicap) ; 710 = Adult mental illness ; 711 = Child and adolescent psychiatry ; 712 = Forensic psychiatry ; 713 = Psychotherapy ; 715 = Old age psychiatry (available from 1990-91) ; 800 = Clinical oncology (previously Radiotherapy) ; 810 = Radiology ; 820 = General pathology ; 821 = Blood transfusion ; 822 = Chemical pathology ; 823 = Haematology ; 824 = Histopathology ; 830 = Immunopathology ; 831 = Medical microbiology ; 832 = Neuropathology (available to 2003-04) ; 900 = Community medicine ; 901 = Occupational medicine ; 902 = Community health services - dental (available from 2004-05) ; 903 = Public health medicine (available from 2004-05) ; 904 = Public health dental (available from 2004-05) ; 950 = Nursing episode (available from 2002-

03) ; 960 = Allied health professional episode (available from 2006-07) ; null = Other maternity event ; & = Not known

PROCODET A unique provider code, a combination of the related 3 and 5 character fields

5an = Provider code

PROTYPE Provider type

Caretrust = Care trust ; Foundation = NHS foundation trust ; Ind = Independent sector provider ; Indsite = Independent sector provider site ; Indsitetc = Treatment centre at independent sector provider site ; Otherprov = Other provider organisation ; PCT = Primary care trust ; Trust = NHS trust ; Trustsitetc = Treatment centre at NHS trust site

RESCTY	County of residence	<p>2n or a letter. 00 = Not available (patient was resident within a Unitary Authority) 11 = Buckinghamshire ; 12 = Cambridgeshire ; 16 = Cumbria ; 17 = Derbyshire ; 18 = Devon ;19 = Dorset ; 21 = East Sussex ; 22 = Essex ; 23 = Gloucestershire ; 24 = Hampshire ; 26 = Hertfordshire ; 29 = Kent ; 30 = Lancashire ; 31 = Leicestershire ; 32 = Lincolnshire ; 33 = Norfolk ; 34 = Northamptonshire ; 36 = North Yorkshire ; 37 = Nottinghamshire ; 38 = Oxfordshire ; 40 = Somerset ; 41 = Staffordshire ; 42 = Suffolk ; 43 = Surrey ; 44 = Warwickshire ; 45 = West Sussex ; 47 = Worcestershire ; S = Scotland ; U = England ; W = Wales ; X = Foreign (from 1990-91 onwards) ; Y = Not known ; Z = Northern Ireland ;</p>
SEX	Sex of patient	<p>1n. From 1996-97 onwards: 1 = Male ; 2 = Female ; 9 = Not specified ; 0 = Not known.</p>

TRETSPEF

Specialty under which the consultant worked.

3n. From 1 April 2004: 100 = General surgery ; 101 = Urology ; 102 = Transplantation surgery (includes renal and liver transplants, excludes cardiothoracic transplantation) ; 103 = Breast surgery (includes suspected neoplasms, cysts etc, does not include cosmetic surgery) ; 104 = Colorectal surgery (surgical treatment of disorders of the lower intestine - colon, anus and rectum) ; 105 = Hepatobiliary & pancreatic surgery (includes liver surgery but excludes liver transplantation see transplantation surgery) ; 106 = Upper gastrointestinal surgery ; 107 = Vascular surgery ; 110 = Trauma & orthopaedics ; 120 = Ear, nose and throat (ENT) ; 130 = Ophthalmology ; 140 = Oral surgery ; 141 = Restorative dentistry (endodontics, periodontics and prosthodontics) ; 142 = Paediatric dentistry ; 143 = Orthodontics ; 144 = Maxillo-facial surgery ; 150 = Neurosurgery ; 160 = Plastic surgery ; 161 = Burns care (recognised specialist services only - includes 'outreach' facilities) ; 170 = Cardiothoracic surgery (where there are no separate services for cardiac and thoracic surgery) ; 171 = Paediatric surgery ; 172 = Cardiac surgery ; 173 = Thoracic surgery ; 174 = Cardiothoracic transplantation (recognised specialist services only - includes 'outreach' facilities) ; 180 = Accident & emergency (A&E) ; 190 = Not a treatment function ; 191 = Pain management (complex pain disorders requiring diagnosis and treatment by a specialist multi-professional team) ; 192 = Critical care medicine (also known as intensive care medicine) ; 199 = Non-UK Provider - specialty function not known, treatment mainly surgical ; 211 = Paediatric Urology (from 2006-07) ; 212 = Paediatric Transplantation Surgery (from 2006-07); 213 = Paediatric Gastrointestinal Surgery (from 2006-07); 214 = Paediatric Trauma and Orthopaedics (from 2006-07); 215 = Paediatric Ear Nose and Throat (from 2006-07); 216 = Paediatric Ophthalmology (from 2006-07); 217 = Paediatric Maxillo-Facial Surgery (from 2006-07); 218 = Paediatric Neurosurgery (from 2006-07); 219 = Paediatric Plastic Surgery (from 2006-07); 220 = Paediatric Burns Care (from 2006-07); 221 = Paediatric Cardiac Surgery (from 2006-07); 222 = Paediatric Thoracic Surgery (from 2006-07); 241 = Paediatric Pain Management (from 2006-07); 242 = Paediatric Intensive Care (from 2006-07); 251 = Paediatric Gastroenterology (from 2006-07); 252 = Paediatric Endocrinology (from 2006-07); 253 = Paediatric Clinical Haematology (from 2006-07); 254 = Paediatric Audiological Medicine (from 2006-07); 255 = Paediatric Clinical Immunology and Allergy (from 2006-07); 256 = Paediatric Infectious diseases (from 2006-07); 257 = Paediatric Dermatology (from 2006-07); 258 = Paediatric Respiratory Medicine (from 2006-07); 259 = Paediatric Nephrology (from 2006-07); 260 = Paediatric Medical Oncology (from 2006-07); 261 = Paediatric Metabolic disease (from 2006-07); 262 = Paediatric Pneumology (from 2006-07); 280 = Paediatric Interventional Radiology (from 2006-07); 290 = Community Paediatrics (from 2006-07); 291 =

Paediatric Neuro-disability (from 2006-07); 300 = General medicine ; 301 = Gastroenterology ; 302 = Endocrinology ; 303 = Clinical haematology ; 304 = Clinical Physiology (from 2008-09) ; 305 = Clinical pharmacology ; 306 = Hepatology ; 307 = Diabetic medicine ; 308 = Bone and marrow transplantation (previously part of clinical haematology) ; 309 = Haemophilia (previously part of clinical haematology) ; 310 = Audiological medicine ; 311 = Clinical genetics ; 312 = Not a treatment function ; 313 = Clinical immunology and allergy (where there are no separate services for clinical immunology and allergy) ; 314 = Rehabilitation ; 315 = Palliative medicine ; 316 = Clinical immunology ; 317 = Allergy ; 318 = Intermediate care (encompasses a range of multidisciplinary services designed to safeguard independence by maximising rehabilitation and recovery) ; 319 = Respite care ; 320 = Cardiology ; 321 = Paediatric cardiology ; 322 = Clinical microbiology ; 323 = Spinal Injuries (from 2006-07); 330 = Dermatology ; 340 = Thoracic medicine ; 341 = Respiratory Physiology (previously known as Sleep studies) ; 350 = Infectious diseases ; 352 = Tropical medicine ; 360 = Genito-urinary medicine ; 361 = Nephrology ; 370 = Medical oncology ; 371 = Nuclear Medicine (from 2008-09) ; 400 = Neurology ; 401 = Clinical Neurophysiology (from 2008-09); 410 = Rheumatology ; 420 = Paediatrics ; 421 = Paediatric neurology ; 422 = Neonatology ; 424 = Well babies (care given by the mother/substitute, with nursing advice if needed) ; 430 = Geriatric medicine ; 450 = Dental medicine ; 460 = Medical ophthalmology ; 499 = Non-UK Provider - specialty function not known, treatment mainly medical; 500 = Not a treatment function ; 501 = Obstetrics ; 502 = Gynaecology ; 503 = Gynaecological oncology ; 510 and 520 = Not treatment functions ; 560 = Midwife episode ; 600, 610 and 620 = Not treatment functions ; 650 = Physiotherapy (from 2006-07); 651 = Occupational Therapy (from 2006-07); 652 = Speech and Language Therapy (from 2006-07); 653 = Podiatry (from 2006-07); 654 = Dietetics (from 2006-07); 655 = Orthoptics (from 2006-07); 656 = Clinical Psychology (from 2006-07); 700 = Learning disability (previously known as mental handicap) ; 710 = Adult mental illness ; 711 = Child and adolescent psychiatry ; 712 = Forensic psychiatry ; 713 = Psychotherapy ; 715 = Old age psychiatry ; 720 = Eating Disorders (from 2006-07); 721 = Addiction Services (from 2006-07); 722 = Liaison Psychiatry (from 2006-07); 723 = Psychiatric Intensive Care(from 2006-07); 724 = Perinatal Psychiatry (from 2006-07); 800 = Clinical oncology (previously known as Radiotherapy) ; 810 = Radiology (until 2005-06) ; 811 = Interventional radiology ;812 = Diagnostic Imaging (from 2008-09); 820 and 821 = Not treatment functions ; 822 = Chemical pathology ; 823, 824, 830, 831 832, 900, 901, 950 and 990 = Not treatment functions ; 840 = Audiology (from 2008-09); null = Other maternity event ; & = Not known ; Until 31 March 2004: 100 = General surgery ;

101 = Urology ; 110 = Trauma and orthopaedics ; 120 = Ear, nose and throat (ENT) ; 130 = Ophthalmology ; 140 = Oral surgery ; 141 = Restorative dentistry ; 142 = Paediatric dentistry (from 1999-2000) ; 143 = Orthodontics ; 150 = Neurosurgery ; 160 = Plastic surgery ; 170 = Cardiothoracic surgery ; 171 = Paediatric surgery ; 180 = Accident and emergency (A&E) ; 190 = Anaesthetics ; 191 = Pain management (from 1998-99) ; 300 = General medicine ; 301 = Gastroenterology ; 302 = Endocrinology ; 303 = Haematology (clinical) ; 304 = Clinical physiology ; 305 = Clinical pharmacology ; 310 = Audiological medicine ; 311 = Clinical genetics ; 312 = Clinical cytogenetics and molecular genetics (from 1990-91) ; 313 = Clinical immunology and allergy (from 1991-92) ; 314 = Rehabilitation (from 1991-92) ; 315 = Palliative medicine ; 320 = Cardiology ; 330 = Dermatology ; 340 = Thoracic medicine ; 350 = Infectious diseases ; 360 = Genito-urinary medicine ; 361 = Nephrology ; 370 = Medical oncology ; 371 = Nuclear medicine ; 400 = Neurology ; 401 = Clinical neuro-physiology ; 410 = Rheumatology ; 420 = Paediatrics ; 421 = Paediatric neurology ; 430 = Geriatric medicine ; 450 = Dental medicine (from 1990-91) ; 460 = Medical ophthalmology (from 1993-94) ; 501 = Obstetrics for patients using a hospital bed or delivery facilities ; 502 = Gynaecology ; 560 = Midwifery (from October 1995) ; 610 = General practice with maternity function ; 620 = General practice other than maternity ; 700 = Learning disability (previously known as mental handicap) ; 710 = Mental illness ; 711 = Child and adolescent psychiatry ; 712 = Forensic psychiatry ; 713 = Psychotherapy ; 715 = Old age psychiatry (from 1990-91) ; 800 = Clinical oncology (previously known as Radiotherapy) ; 810 = Radiology ; 820 = General pathology ; 821 = Blood transfusion ; 822 = Chemical pathology ; 823 = Haematology ; 824 = Histopathology ; 830 = Immunopathology ; 831 = Medical microbiology ; 832 = Neuropathology ; 900 = Community medicine ; 901 = Occupational medicine ; 950 = Nursing episode (from 2002-03) ; null = Other maternity event ; & = Not known