



File Name:	Indicator Construction: Day Case Rate Family	  for health and social care
Family Code:	DCR	
Version:	0.3	
Status:	First Release	
Issue Date:	1 st April 2010	
Author:	Robyn Bright	

Indicator Construction: Day Case Rate Family

Presented as 'Likelihood of Staying Overnight'

Developed for NHS Choices by the NHS Information
Centre

Indicator Construction: Day Case Rate Family

Author:	Robyn Bright
Directorate:	Information Services
Version:	0.3
Status:	First Release
Date:	29 th April 2010

DOCUMENT MANAGEMENT

REVISION HISTORY

Version	Date	Summary of Changes
0.1	31 st March 2010	Draft completion with DFI clinical codes.
0.2	1 st April 2010	Amendments following comments from the Clinical Indicators team
0.3	29 th April 2010	Change to title page and addition of indicator category descriptions

APPROVALS

Name	Signature	Title	Date of Issue	Version
Heather Dawe		Clinical Indicators Programme Manager		

Contents

1. OVERVIEW	4
Indicator Family Name	4
Indicator Family Code	4
Condition	4
Indicator Code	4
Indicator Category*	4
Detailed Descriptor	5
2. CONSTRUCTION	6
Reporting Frequency	6
Data Source	6
Calculation Methodology	6
Introduction	6
Data Fields	7
Data Filters	8
Calculation Methodology	10
Calculations:	10
APPENDICES	11
Appendix 1 - Clinical Codes	11
Appendix 2 - Cancer codes to exclude	13

1. Overview

Indicator Family Name
Day Case Rate

Indicator Family Code
DCR

Condition	Indicator Code	Indicator Category*
Arthroscopy of the knee	I00193	3
Bunion operations	I00195	1
Carpal tunnel release	I00253	1
Cataract surgery	I00254	1
Conservative Surgery for Breast Cancer	I00195	2
Coronary angiography	I00255	1
Coronary angioplasty	I00257	1
Destruction of kidney stones	I00259	1
Diagnostic endoscopy of the bladder (Cystoscopy)	I00260	1
Diagnostic endoscopy of the stomach	I00261	1
Examination of the uterus (Hysteroscopy)	I00262	1
Extraction of wisdom teeth	I00264	1
Ganglion removal	I00267	1
Pacemaker implantation	I00272	1
Repair of femoral hernia	I00275	1
Repair of hand tendon	I00276	3
Repair of inguinal hernia	I00277	1
Repair of tendon in the knee and lower leg	I00278	3
Repair of umbilical hernia	I00279	1
Surgery for Dupuytren's contracture	I00280	1
Surgery for haemorrhoids	I00281	1
Therapeutic endoscopy on the stomach	I00283	1

Indicator Construction: Day Case Rate Family

Treatment for trigger finger	I00284	1
Varicose vein stripping	I00285	1

* See Section 2 for indicator category definitions

Detailed Descriptor
Day case rate indicators give an indication of the proportion of patients admitted to hospital for the selected procedure that are discharged on the same day. A banding is then assigned based on the English median day case rate for the procedure and the lower and upper quartiles.

2. Construction

Reporting Frequency
Data supplied on monthly basis.
Reporting required on a monthly basis.
Reporting required on a monthly basis using HES data six months in arrears.

Data Source
Hospital Episode Statistics (HES).

Calculation Methodology
<p><u>Introduction</u></p> <p>The day case rate indicator is evaluated from a simple ratio of the number of day cases divided by the total number of admissions for the selected procedure. This is expressed as a percentage and is calculated for each Trust.</p> <p>The data are filtered to elective admissions where the patient was aged 19 or over. Patients with a primary diagnosis of cancer in the episode that the procedure was carried out in are excluded.</p> <p>The observed figure is the proportion of admissions within the twelve month period where the patient is classed as a day case, the length of stay is zero days and the procedure is for the relevant procedure being measured.</p> <p><u>Indicator Category Descriptions</u></p> <p>The indicators in the day case rate family are split into different categories due to the differences in the filtering applied to the data. All indicator categories are filtered by main procedure, by main procedure being the first episode in a spell, to elective admissions only, to patients aged 19 or over and where the patient was discharged in the previous 12 months of data.</p> <p>Indicators in Category 1 have the filters described above and exclude spells where the primary diagnosis is cancer.</p> <p>Indicators in Category 2 have the filters described above and require a diagnosis code specific to the indicator.</p> <p>Indicators in Category 3 have the filters described above and require a Z code in the same spell as the procedure and exclude spells where the primary diagnosis is cancer.</p>

Data Fields

For these indicators the source of data is derived from the Hospital Episodes Statistics (HES). This will be supplied on a monthly basis in two files: Main Extract and Procedures Extract.

The required data fields for each indicator are indicated by a cross (x) in the table below.

			Indicator Category		
	Field	Description	1	2	3
Main Extract	CIP_SPELL_ID	An identifying number unique to each spell.	X	X	X
	SPELL_DISDATE_CLND	The discharge date following the original spell in hospital.	X	X	X
	SPELLSTARTAGE	The age of the patient at the start of the spell.	X	X	X
	SPELL_ADMIMETH	The admission method for the spell.	X	X	X
	FIRST_CLASSPAT	Identifies the patient classification.	X	X	X
Procedures Extract	CIP_SPELL_ID	An identifying number unique to each spell.	X	X	X
	CIP_SEQ	A sequential number to identify the order of the episodes that the procedure was recorded in within each spell.	X	X	X
	OPER_SEQ	A sequential number to identify the order procedures were recorded within an episode.	X	X	X
	OPER_CODE	The code of the procedure.	X	X	X
	DIAG_01_CLND	The primary diagnosis of the patient for the episode that the procedure was recorded in.	X	X	X
	PROCODETC_IC_MAPPED	The provider code of the hospital the procedure occurred in.	X	X	X
	PROVIDER_LOS	Number of days in the provider spell (days within the Trust where the procedure was	X	X	X

Data Filters

The two files are linked using CIP_SPELL_ID. The main extract will contain one row per CIP_SPELL_ID. The procedures extract could contain many rows per CIP_SPELL_ID if there is more than one procedure in the continuous inpatient (CIP) spell. If there were no procedures in the CIP spell, then the CIP_SPELL_ID will not appear in the procedures extract.

Following the data filters below there will be one row from the procedure file matching one row from the main file for each spell applicable to these indicators.

For the DENOMINATOR:

Field Name	Conditions	Rationale	Indicator Category		
			1	2	3
OPER_CODE	Is equal to any of the following {list of codes} See Table 1 in Appendix 1 for OPCS-4 codes specific to the procedure.	This gives the main procedure undergone by the patient. The codes are OPCS-4 classification codes for the procedure relevant to the indicator.	X	X	X
OPER_CODE; CIP_SPELL_ID	CIP_SPELL_ID is the same for main OPER_CODE and Z code	This ensures the Z code relates to the same spell.			X
OPER_SEQ	Is equal to 1	This identifies the main procedures within the spell.	X	X	X
CIP_SPELL_ID; CIP_SEQ	The minimum value of CIP_SEQ for each unique CIP_SPELL_ID	Identifies the first episode in each spell with a main procedure. Following this filter there will be a maximum of one row in the Procedures Extract to each entry in the Main Extract.	X	X	X
DIAG_01_CLND	Is equal to any of the following {list of codes} See Table 1 in Appendix 1 for ICD-10 codes for the diagnosis specific to the indicator.	This field gives the primary diagnosis for the admitted patient.		X	
	OR is NOT equal to any of the following {list of codes}	This ensures spells where the primary diagnosis is cancer are excluded	X		X

Indicator Construction: Day Case Rate Family

	See Table 2 in Appendix 1 for the ICD-10 codes which identify cancer				
SPELL_DISDATE_CLND	12 month period to end of month N-2. For example, data received for 2009/10 Month 1 will contain data up till the end of April 2009 (numbering of months is based on financial years). To calculate indicators up to the end of 'Month N-2' will mean using the data up to the end of February 2009.	This field is the discharge date following the spell in hospital for the procedure. The data looked at needs to be over a 12 month period (see specific indicator), the exact values for which will change monthly.	X	X	X
SPELL_ADMIMETH	Is equal to any of the following: 11, 12, 13	This field identifies where patients have been admitted electively.	X	X	X
SPELLSTARTAGE	>18 and <7000	This field describes the age of the patient at the start of their spell in hospital. Only patients over the age of 18 are considered. For children under 1 year, codes of 7001 through to 7007 may be used instead of 0 to describe their age in days. This is why the further classification relating to 7000 is needed.	X	X	X

Definition of Day Case

For this indicator we are concerned with day cases where the patient is not intended to, and does not, stay overnight. These are identified by meeting all of the following criteria for the NUMERATOR, in addition to the filters above:

Field Name	Conditions	Rationale	Indicator Category		
			1	2	3
PROVIDER_LOS	Is equal to 0	Includes only spells where the patient was discharged on the day of admission.	X	X	X
FIRST_CLASSPAT	Is equal to 2	This condition identifies patients admitted as a day case.	X	X	X

Calculation Methodology

Calculations:

For this indicator, the numerator is the count of day case spells, whilst the denominator is the count of filtered spells. The percentage Day Case Rate is calculated as below:

$(\text{COUNT of day case CIP_SPELL_IDs} / \text{COUNT of CIP_SPELL_IDs with the Denominator filters applied}) \times 100$

Level of Reporting

Day Case Rates are calculated for each provider:

Group by: PROCODETC_IC_MAPPED

Banding

The inter-quartile range of Day Case Rates is found by ranking all day case rates from highest (100%) to lowest (0%). The value of the 1/4th and 3/4th Day Case Rates should be located in this list, where n is the total number of provider-level Day Case Rates for the selected procedure (the denominator value). These two values are defined as the interquartile range.

Day Case Rates are classified according to which quartile of all provider-level Day Case Rates they lie within, as follows:

Values up to and including the upper limit of the first quartile (those lying within the lowest 25% of the dataset):

3

Values greater than the upper limit of the first quartile, up to and including the upper limit of the third quartile (those lying within the middle 50% of the dataset): **2**

Values greater than the upper limit of the third quartile (those lying within the highest 25% of the dataset): **1**

The banding codes relate to the following descriptions:

1: Low Likelihood

2: Medium likelihood

3: High Likelihood

The banding descriptions relate to the likelihood of staying in hospital overnight. Therefore the trusts with the lowest day case rates are banded as 3 – High Likelihood, whilst those with the highest day case rates are banded as 1 – Low Likelihood.

Activity Volume

The Day Case Rate for Trusts with a denominator count of less than 30 should be calculated and included when calculating percentiles and assigning bandings. However, due to the possibility of patient identification or low numbers giving rise to an unstable or misleading percentage, the results for Trusts with a denominator count of less than 30 should not be shown or included in the export.

Appendices

Appendix 1 - Clinical Codes				
Procedure	Diagnosis	OPCS-4	ICD-10	Indicators
Arthroscopy of the Knee		W841, W842, W843, W844, W845, W846, W847, W848, W849, W891, W892, W898, W899 REQUIRE THE Z CODE Z846		I00194
Conservative surgery for breast cancer	Breast Cancer	B281, B282, B283, B285, B287, B288, B289, B401, B408, B409	C500, C501, C502, C503, C504, C505, C506, C508, C509, D050, D051, D057, D059	I00295
Bunion operations		W151, W152, W153, W791, W792, W793, W798, W799, W591, W592, W593, W594, W595, W596, W598, W599		I00197
Carpal tunnel release		A651		I00200
Cataract surgery		C711, C712, C713, C718, C719, C721, C722, C723, C728, C729, C731, C732, C733, C734, C738, C739, C741, C742, C743, C748, C749, C751, C752, C753, C754, C758, C759, C771, C772, C773, C774, C775, C776, C778, C779		I00202
Coronary angiography		K631, K632, K633, K634, K635, K636, K638, K639, K651, K652, K653, K654, K658, K659		I00204
Coronary angioplasty		K491, K492, K493, K494, K498, K499, K501, K502, K503, K504, K508, K509, K751, K752, K753, K754, K758, K759		I00206
Destruction of kidney stones		M141, M148, M149		I00208
Diagnostic endoscopy of the bladder (cystoscopy)		M451, M452, M453, M454, M455, M458, M459		I00210
Diagnostic endoscopy of the stomach		G161, G162, G163, G168, G169, G191, G192, G198, G199, G451, G452, G453, G454, G458, G459, G551,		I00211

Indicator Construction: Day Case Rate Family

		G558, G559, G651, G658, G659, G801, G802, G808, G809		
Examination of the uterus (hysteroscopy)		Q181, Q188, Q189		I00212
Extraction of wisdom teeth		F091, F093		I00213
Ganglion removal		T591, T592, T593, T594, T598, T599, T601, T602, T603, T604, T608, T609		I00216
Pacemaker implantation		K601, K602, K603, K604, K605, K606, K607, K608, K609		I00229
Repair of femoral hernia		T221, T222, T223, T228, T229, T231, T232, T233, T234, T238, T239		I00233
Repair of hand tendon		T671, T672, T673, T674, T675, T676, T678, T679 REQUIRE A Z CODE FROM Z561, Z562, Z563, Z564, Z565, Z566, Z567, Z568, Z569		I00235
Repair of inguinal hernia		T191, T192, T193, T198, T199, T201, T202, T203, T204, T208, T209, T211, T212, T213, T218, T219		I00237
Repair of tendon in the knee and lower leg		T671, T672, T673, T674, T675, T676, T678, T679 REQUIRE A Z CODE FROM Z581, Z582, Z583, Z584, Z585, Z586, Z587, Z588, Z589		I00239
Repair of umbilical hernia		T241, T242, T243, T244, T248, T249, T971, T972, T973, T978, T979		I00241
Surgery for dupuytren's contracture		T521, T522, T541		I00242
Surgery for haemorrhoids		H511		I00244
Therapeutic endoscopy on the stomach		G141, G142, G143, G144, G145, G146, G147, G148, G149, G151, G152, G153, G154, G155, G156, G157, G158, G159, G171, G172, G173, G174, G178, G179, G181, G182, G183, G184, G185, G188, G189, G421, G422, G428, G429, G431, G432, G433, G434, G435, G436, G437, G438, G439, G441, G442, G443, G444, G445, G446, G447, G448, G449, G461, G468, G469, G541, G542, G543, G548,		I00248

Indicator Construction: Day Case Rate Family

		G549, G641, G642, G643, G648, G649, G791, G792, G793, G798, G799		
Treatment for trigger finger		T723		I00249
Varicose vein stripping		L851, L852, L853, L858, L859, L871, L872, L873, L874, L875, L876, L877, L878, L879		I00251

Table 1. OPCS-4 and ICD-10 classification codes that define each procedure and diagnosis respectively.

Clinical Code Source: Doctor Foster Intelligence (DFI)

Appendix 2 - Cancer codes to exclude

Below is the complete list of cancer codes in field DIAG_01_CLND for exclusion.

C000,C001,C002,C003,C004,C005,C006,C008,C009,C01X,C020,C021,C022,C023,C024,C028,C029,C030,C031,C039,C040,C041,C048,C049,C050,C051,C052,C058,C059,C060,C061,C062,C068,C069,C07X,C080,C081,C088,C089,C090,C091,C098,C099,C100,C101,C102,C103,C104,C108,C109,C110,C111,C112,C113,C118,C119,C12X,C130,C131,C132,C138,C139,C140,C148,C150,C151,C152,C153,C154,C155,C158,C159,C160,C161,C162,C163,C164,C165,C166,C168,C169,C170,C171,C172,C173,C178,C179,C180,C181,C182,C183,C184,C185,C186,C187,C188,C189,C19X,C20X,C210,C211,C212,C218,C220,C221,C222,C223,C224,C227,C229,C23X,C240,C241,C248,C249,C250,C251,C252,C253,C254,C257,C258,C259,C260,C261,C268,C269,C300,C301,C310,C311,C312,C313,C318,C319,C320,C321,C322,C323,C328,C329,C33X,C340,C341,C342,C343,C348,C349,C37X,C380,C381,C382,C383,C384,C388,C390,C398,C399,C400,C401,C402,C403,C408,C409,C410,C411,C412,C413,C414,C418,C419,C450,C451,C452,C457,C459,C461,C462,C467,C469,C470,C471,C472,C473,C474,C475,C476,C478,C479,C480,C481,C482,C488,C490,C491,C492,C493,C494,C495,C496,C498,C499,C500,C501,C502,C503,C504,C506,C508,C509,C510,C511,C512,C518,C519,C52X,C530,C531,C538,C539,C540,C541,C542,C543,C548,C549,C55X,C56X,C570,C571,C572,C573,C574,C577,C578,C579,C58X,C600,C601,C602,C608,C609,C61X,C620,C621,C629,C630,C631,C632,C637,C638,C639,C64X,C65X,C66X,C670,C671,C672,C673,C674,C675,C676,C677,C678,C679,C680,C688,C689,C690,C691,C692,C693,C694,C695,C696,C698,C699,C700,C701,C709,C710,C711,C712,C713,C714,C715,C716,C717,C718,C719,C720,C721,C722,C723,C724,C725,C728,C729,C73X,C740,C741,C749,C750,C751,C752,C753,C754,C755,C758,C759,C760,C761,C762,C763,C764,C765,C767,C768,C960,C961,C962,C963,C967,C969,D000,D001,D002,D010,D011,D012,D013,D014,D015,D017,D020,D021,D022,D023,D024,D050,D051,D057,D059,D060,D061,D067,D069,D070,D071,D072,D073,D074,D075,D076,D090,D091,D092,D093,D097,D099