



File Name:	Indicator Construction: Volume Family	  <small>for health and social care</small>
Family Code	VOL	
Version:	0.4	
Status:	First Draft	
Issue Date:	29 th April 2010	
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Indicator Construction: Volume Family

Presented as 'Number of Operations Performed'

Developed for NHS Choices by the NHS Information
Centre

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Directorate:	Information Services
Version:	0.4
Status:	First Draft
Date:	22 nd April 2010

DOCUMENT MANAGEMENT

REVISION HISTORY

Version	Date	Summary of Changes
0.1	26 th March 2010	Draft following Indicator Specifications Template.
0.2	31 st March 2010	Addition of clinical coding table
0.3	22 nd April 2010	Addition of 'Surgery for Overactive Thyroid' and 'Surgery for Goitre'
0.4	29 th April 2010	Change to title page and addition of indicator category descriptions

APPROVALS

Name	Signature	Title	Date of Issue	Version
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REVIEW DETAILS

Review Date:	
Reviewer:	

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1. Overview

Indicator Family Name
Volume

Indicator Family Code
VOL

Subject
Volume of selected procedures.

Condition	Indicator Code	Indicator Category*
Arthroscopy of the knee	I00194	2
Breast cancer – deep inferior epigastric pedicle flaps	I00533	1
Breast cancer – free transverse rectus abdominus flaps	I00534	1
Breast cancer – latissimus dorsi flaps with implant	I00535	3
Breast cancer – latissimus dorsi flaps without implant	I00536	4
Breast cancer – pedicled TRAM flaps	I00537	1
Breast cancer – immediate reconstructions	I00539	5
Breast cancer – delayed breast reconstructions	I00540	4
Bunions	I00197	1
Carotid artery surgery (endarterectomy)	I00199	1
Carpal tunnel release	I00200	1
Cataract surgery	I00202	1
Coronary angiography	I00204	1
Coronary angioplasty	I00206	1
Destruction of kidney stones	I00208	1
Diagnostic endoscopy of the bladder (cystoscopy)	I00210	1
Diagnostic endoscopy of the stomach	I00211	1
Examination of the uterus (hysteroscopy)	I00212	1
Extraction of wisdom teeth	I00213	1

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Gallbladder surgery	I00215	1
Ganglion removal	I00216	1
Hip replacement	I00221	1
Hysterectomy	I00223	1
Knee replacement	I00227	1
Oesophageal cancer surgery	I00545	6
Ovarian cancer surgery	I00100	7
Pacemaker implantation	I00229	1
Prostate surgery (TURP – transurethral resection of prostate)	I00225	1
Repair of abdominal aortic aneurysm	I00231	1
Repair of femoral hernia	I00233	1
Repair of hand tendon	I00235	2
Repair of inguinal hernia	I00237	1
Repair of tendon in the knee and lower leg	I00239	2
Repair of umbilical hernia	I00241	1
Stomach cancer surgery	I00542	6
Surgery for dupuytren’s contracture	I00242	1
Surgery for haemorrhoids	I00244	1
Surgery on the lower back (lumbar spine)	I00246	1
Surgery for Goitre	I00120	7
Surgery for Overactive Thyroid	I00111	7
Therapeutic endoscopy on the stomach	I00248	1
Treatment for trigger finger	I00249	1
Uterine cancer surgery	I00103	7
Varicose vein stripping	I00251	1
Vasectomy	I00287	1

* See Section 2 for indicator category definitions

Detailed Descriptor
This indicator shows the number of episodes of admitted patient care in which the procedure of interest was carried out. The indicator is broken down by NHS Trust.

2. Construction

Reporting Frequency
Data supplied on monthly basis.
Reporting required on a monthly basis.
Data used will be 6 months in arrears.

Data Source
Hospital Episode Statistics (HES).

Calculation Methodology
<p><u>Introduction</u></p> <p>The number of episodes of admitted patient care where the procedure of interest was carried out is reported by NHS Trust.</p> <p>If more than one procedure of interest is reported within a single episode of care, the episode is only counted once.</p> <p>The data are filtered to elective admissions where the patient was aged 19 or over.</p> <p>A data period of either 12 or 36 months is used.</p> <p><u>Indicator Category Descriptions</u></p> <p>The indicators in the volume family are split into different categories due to the differences in the filtering applied to the data. All indicator categories are filtered by procedure, to elective admissions only, to patients aged 19 or over and by the date the patient was discharged from hospital.</p> <p>Indicators in Category 1 have the filters described above and consider activity where the patient was discharged in the previous 12 months of data.</p> <p>Indicators in Category 2 have the filters described above, consider activity where the patient was discharged in the previous 12 months of data and require a Z code in the same spell as the main operation code.</p> <p>Indicators in Category 3 have the filters described above, consider activity where the patient was discharged in the previous 12 months of data and require both of the operation codes are performed on the same date with the secondary procedure following the primary procedure.</p> <p>Indicators in Category 4 have the filters described above, consider activity where the patient was discharged in the previous 12 months of data and exclude records where both operation codes are performed on the same date.</p> <p>Indicators in Category 5 have the filters described above, consider activity where the patient was discharged in the previous 12 months of data and require both of the operation codes are performed on the same date and require a diagnosis code specific to the indicator.</p> <p>Indicators in Category 6 have the filters described above, consider activity where the patient was discharged in the previous 12 months of data and require a diagnosis code specific to the indicator.</p> <p>Indicators in Category 7 have the filters described above and require a diagnosis code specific to the indicator.</p>

Data Fields

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

The data fields required are as follows:

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

			Indicator Category						
	Field	Description	1	2	3	4	5	6	7
Main Extract	CIP_SPELL_ID	An identifying number unique to each spell.	X	X	X	X	X	X	X
	SPELL_DISDATE_CLND	The discharge date following the original spell in hospital.	X	X	X	X	X	X	X
	SPELL_ADMIMETH	The admission method for the spell.	X	X	X	X	X	X	X
	SPELLSTARTAGE	The age of the patient at the start of the spell.	X	X	X	X	X	X	X
Procedures Extract	CIP_SPELL_ID	An identifying number unique to each spell.	X	X	X	X	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	X	X	X	X
	OPER_CODE	The code of the procedure.	X	X	X	X	X	X	X
	PROCDETC_IC_MAPPED	The provider code of the hospital the procedure occurred in.	X	X	X	X	X	X	X
	OPER_DATE_CLND	The date of the procedure.			X	X	X		
	OPER_SEQ	The position of the procedure within the spell			X				

Data Filters									
<p>The two extract 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.</p> <p>Following the data filters below there will only be rows for procedures relating to the procedure of interest, and spells containing the procedure of interest. A cross (x) under an indicator indicates the filter is required for that indicator.</p>									
Field Name	Conditions	Rationale	Indicator Category						
			1	2	3	4	5	6	7
OPER_CODE	Is equal to any of the following { list of codes }	This gives the procedure undergone by the patient. The codes are OPCS-4 classification codes for the procedure relevant to the indicator.							
	See Table 1 in Appendix 2 for OPCS-4 codes specific to the procedure.		X	X	X	X	X	X	X
OPER_CODE; CIP_SPELL_ID	CIP_SPELL_ID is same for main OPER_CODE and Z code	This ensures the Z code relates to the same spell		X					
CIP_SEQ; OPER_DATE_CLND	CIP_SEQ is same for both OPER_CODEs	This ensures that both OPER_CODEs were performed in the same episode of the spell							
	The OPER_DATE_CLND is the same for both OPER_CODEs	This ensures that both OPER_CODEs were performed on the same date			X		X		
CIP_SEQ; OPER_DATE_CLND	Exclude records where CIP_SEQ and OPER_DATE_CLND are the same for both OPER_CODEs	This ensures that spells where both OPER_CODEs were performed in the same episode and on the same date are excluded					X		

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OPER_SEQ	OPER_SEQ of the main procedure is greater than the OPER_SEQ of the secondary procedure	This ensures that the secondary procedure followed the main procedure.			X				
DIAG_01_CLND	Is equal to any of the following { list of codes }	This field gives the primary diagnosis for the admitted patient.							
	See Table 1 in Appendix 2 for ICD-10 codes for the diagnosis specific to the indicator.						X	X	X
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	X	X	X	

Calculation Methodology

Count of Volume

For this indicator each episode in the spell is only counted once, even if it contains more than one code relating to the procedure of interest. This means that we count each unique combination of CIP_SPELL_ID and CIP_SEQ for the relevant procedure codes.

Level of Reporting

Volumes are calculated for each provider:

Group by: PROCODETC_IC_MAPPED

Activity Volume

If the volume of procedures is 1, 2, 3, 4 or 5, these are considered to be small numbers that are potentially patient identifiable. Values of 1-5 should therefore be re-coded to 'between 1 and 5'.

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
Deep inferior epigastric pedicle flaps		B393		I00533
Free transverse rectus abdominus flaps		B391		I00534
Latissimus dorsi flaps with implant		B291 AND B301		I00535
Latissimus dorsi flaps without implant		B291 EXCLUDING B291 AND B301		I00536
Pedicled TRAM (transverse rectus abdominus myocutaneous) flaps		B392		I00537
Reconstruction of breast and mastectomy	Breast cancer (Malignant neoplasm of breast)	B291, B292, B293, B294, B298, B299, B361, B391, B392, B393, B398, B399, B381, B382, B388, B389 AND B271, B272, B273, B274, B275, B276, B278, B279	C500, C501, C502, C503, C504, C505, C506, C508, C509, D050, D051, D057, D059	I00539

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Reconstruction of breast excluding reconstruction plus Mastectomy		B291, B292, B293, B294, B298, B299, B361, B391, B392, B393, B398, B399, B381, B382, B388, B389 EXCLUDING (B291, B292, B293, B294, B298, B299, B361, B391, B392, B393, B398, B399, B381, B382, B388, B389 AND B271, B272, B273, B274, B275, B276, B278, B279)		I00540
Bunion operations		W151, W152, W153, W791, W792, W793, W798, W799, W591, W592, W593, W594, W595, W596, W598, W599		I00197
Carotid artery surgery (endarterectomy)		L291, L292, L293, L294, L295, L296, L297, L298, L299		I00199
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, G558, G559, G651, G658, G659, G801, G802, G808, G809		I00211
Examination of the uterus (hysteroscopy)		Q181, Q188, Q189		I00212
Extraction of wisdom teeth		F091, F093		I00213
Gallbladder surgery		J181, J182, J183, J184, J185, J188, J189		I00215
Ganglion removal		T591, T592, T593, T594, T598, T599, T601, T602, T603, T604, T608, T609		I00216
Hip replacement		W370, W371, W372, W373, W378, W379, W380, W381, W382, W383, W388, W389, W390, W391, W392, W393, W394, W398, W399, W931, W932, W933, W938, W939, W930, W941, W942, W943, W948, W949,		I00221

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		W940, W951, W952, W953, W958, W959, W950		
Hysterectomy		Q071, Q072, Q073, Q074, Q075, Q076, Q078, Q079, Q081, Q082, Q083, Q088, Q089		I00223
Knee replacement		W400, W401, W402, W403, W408, W409, W410, W411, W412, W418, W419, W420, W421, W422, W423, W424, W428, W429		I00227
Surgery for oesophageal cancer (oesophagectomy or oesophagogastrectomy)	Oesophageal cancer	G011, G012, G013, G018, G019, G021, G022, G023, G024, G025, G028, G029, G031, G032, G033, G034, G035, G036, G038, G039	C150, C151, C152, C153, C154, C155, C158, C159	I00545
Surgery for ovarian cancer (total abdominal hysterectomy or bilateral salpingo-oophorectomy)	Ovarian cancer	Q074, Q221	C56X	I00100
Pacemaker implantation		K601, K602, K603, K604, K605, K606, K607, K608, K609		I00229
Prostate surgery (TURP - transurethral resection of prostate)		M651, M652, M653, M654, M655, M658, M659		I00225
Repair of abdominal aortic aneurysm		L183, L184, L185, L186, L193, L194, L195, L196, L203, L204, L205, L206, L213, L214, L215, L216, L281, L282, L285, L286		I00231
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 stomach cancer (oesophagogastrectomy or gastrectomy)	Gastric cancer (stomach cancer)	G011, G012, G013, G018, G019, G271, G272, G273, G274, G275, G278, G279, G281, G282, G283, G284, G285, G288, G289	C160, C161, C162, C163, C164, C165, C166, C168, C169, D002	I00542

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Surgery for dupuytren's contracture		T521, T522, T541		I00242
Surgery for haemorrhoids		H511		I00244
Surgery on the lower back (lumbar spine)		V251, V252, V253, V254, V255, V256, V257, V258, V259, V261, V262, V263, V264, V265, V266, V267, V268, V269, V281, V282, V288, V289, V331, V332, V333, V334, V335, V336, V337, V338, V339, V341, V342, V343, V344, V345, V346, V347, V348, V349, V382, V383, V384, V385, V386, V393, V394, V395, V396 V397, V433, V473, V485, V486, V493, V563, V573, V583, V593, V603, V613, V623, V633		I00246
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, G549, G641, G642, G643, G648, G649, G791, G792, G793, G798, G799		I00248
Treatment for trigger finger		T723		I00249
Surgery for uterine cancer (total abdominal hysterectomy or bilateral salpingo-oophorectomy)	Uterine cancer (malignant neoplasm of uterus)	Q074, Q221	C540, C541, C542, C543, C548, C549, C55X, D070	I00103
Varicose vein stripping		L851, L852, L853, L858, L859, L871, L872, L873, L874, L875, L876, L877, L878, L879		I00251
Vasectomy		N171, N172, N178, N179		I00287

Table 1. OPCS-4 and ICD-10 classification codes that define each procedure and diagnosis respectively.
Clinical Code Source: Doctor Foster Intelligence (DFI)