



Data and Business Rules – Stroke and Transient Ischaemic Attacks (TIA) Indicator Set					
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New GMS Contract QOF Implementation

Dataset and Business Rules

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Stroke and Transient Ischaemic Attacks (TIA)

Indicator Set

Amendment History:

Version	Date	Amendment History
Draft 0.3	21-Jun-2003	From Peter Horsfield
1.0	24-Sep-2003	Standard Headers and footers Applied and set to approved.
1.1	03-Nov-2003	Added headers and footers to Version 0.4 received from Pete Horsfield on 03/11/03.
2.0	12-Nov-2003	Amended following 4 Country review
3.0	20-Jan-2004	Amended following January READ Code Release
4.0	04-Feb-2004	Amended following 4 Country, GPSS and internal review
4.1	09-Apr-2004	SNOMED-CT codes added, 4-byte Read codes removed
4.2	09-Jul-2004	Amended following July READ code release
5.0	27-Sep-2004	Amended following 4 country review
5.1	18-Jan-2005	Amended following January READ Code Release
5.2	21-Jun-2005	Amended following 4 country review
6.0	21-July-2005	Signed off following 4 Country review
6.1	21-July-2005	Amended following July 2005 Read Code release and January 2005 SNOMED CT release
6.2	21-Aug-2005	Amended following 4 Country review
7.0	23-Sep-2005	Signed off following 4 Country review
7.1	21-Nov-2005	From Phil Brown
7.2	22-Nov-2005	Amended following review by Peter Horsfield
7.3	3-Dec-2005	Draft revised for internal review
7.4	28-Feb-2006	Amended following internal & 4 Countries review
8.0	15-Mar-2006	Signed off following 4 Country review
8.1	18-May-2006	Responding to queries raised Amend wording for Note 3
8.5	18-May-2006	Approved by NHSE
8.6	20-Oct-2006	April Read Code Release April SNOMED CT Release October Read Code Release Corrections and amendments following feedback
9.0	30-Nov-2006	Approved by NHSE
9.1	11-Apr-2007	April 2007 Read Code Release
10.0	18-Jun-2007	Signed off following 4 Country review
10.1	10-Sept-2007	April 2007 Release
10.2	23-Sep-2007	October 2007 Read Code Release October 2007 SNOMED CT Release
10.3	27-Nov-2007	Following 4-Country Review: '%' added to 319357003 in SAL_COD
11.0	28-Nov-2007	Signed off following 4 Country review
11.1	30-Jun-2008	April 2008 Read Code Release April 2008 SNOMED CT Release QOF Review 2007 (Replace STROKE11 with STROKE13)
11.2	30-Jun-2008	Following 4-Country Review: Remove ETIA_COD/DAT cluster and merge with STR_COD/DAT cluster Remove DIAG_DAT cluster Denominator Rule 2 and Numerator Rule 1 (for Stroke 13) corrected Denominator Rule 6 (for Stroke 13) amended to a 1 month window

		Denominator Rule 6 (for Stroke 13) amended to use STRT_DAT
12.0	24-Jul-2008	Signed off following 4 Country review
12.1	06-Oct-2008	October 2008 Read Code Release October 2008 SNOMED CT Release Application of v12.0 Addendum 2 corrections to SCAN_COD & SCEXC_COD STRTIA_COD
13.0	05-Dec-2008	Signed off following 4 Country review
13.2	09-Mar-2009	QOF Review 2008
14.0	01-May-2009	Signed off following 4 Country review
14.1	25-June-2009	April 2009 Read Code Release
15.0	17-August-2009	Signed off following 4 Country review
15.1	12-October-2009	October 2009 Clinical Codes Release
15.2	28-October-2009	October 2009 Clinical Codes Release review
16.0	02-December-2009	Sign off following 4 Country review
17.0	07-May-2010	April 2010 Read Code Release following NHS IC review.
18.0	29-October-2010	October 2010 Read Code Release following NHS IC review.
19.0	13-December-2010	Signed off following 4 country review.
20.0	13-May-2011	April 2011 Read Code Release following NHS IC review.
21.0	10-November-2011	October 2011 Read Code Release following NHS IC review.

New GMS contract Q&O framework implementation

Dataset and business rules – Stroke and transient ischaemic attacks (TIA) indicator set

Notes

- 1) The specified dataset and rulesets are to support analysis of extracted data to reflect the status at a specified point in time of patient records held by the practice. In the context of this document that specified time point is designated the 'Reference date' and identified by the abbreviation 'REF_DAT'. In interpreting the specification REF_DAT should be taken to mean midnight of the preceding day (i.e. a REF_DAT of 01.04.2003 equates to midnight on 31.03.2003).
- 2) To support accurate determination of the population of patients to which the indicators should relate (the denominator population) these rulesets have been compiled with a prior assumption that the reference date is specified prior to extraction of data and is available for computation in the data extraction routine. The reference date will also be required to be included in the data extraction to support processing of rules that are dependent upon it. It is possible that an alternative approach could be adopted in which rules to determine the denominator population by registration status would be applied as a component of rule processing. If this second approach were to be adopted it would be essential to specify default time criteria for determining the registration characteristics of the denominator population during the data extraction process. Additionally there would be a requirement to supplement the dataset and rulesets to support identification of the appropriate denominator population.
- 3) Clinical codes quoted are (where known) from the October 2011 release of Read codes version 2 and clinical terms version 3 (CTV3). The codes are shown within the document as a 5 character value to show that the Read Code is for a 5-Byte system.
 - i) Where a '%' wildcard is displayed, the Read Code is filled to 5 characters with full-stops. When implementing a search for the Read Code, only the non full-stop values should be used in the search, For example, a displayed Read Code of c1...% should be implemented as a search for c1%, i.e. should find c1 and any of its children.
 - ii) Where a range of read codes are displayed, the Read Code is filled to 5 characters with full-stops. When implementing the search, only the non full-stop values should be used in the search, For example, a displayed Read Code range of G342. – G3z.. should find all codes between G342 and G3z (including any children where applicable).
- 4) Datasets comprise a specification of two elements:
 - a) Patient selection criteria. These are the criteria used to determine the patient population against whom the indicators are to be applied.
 - i) Registration status. This determines the current patient population at the practice
 - ii) Diagnostic code status. This determines the current patient population (register size) for a given clinical condition

There are three scenarios within the diagnostic code status, these are where

- There is a single morbidity patient population (disease register) required (e.g. within CHD). Where this occurs, a single set of rules for identifying the patient population is provided.

- There is a single co-morbidity patient population (disease register) required (e.g. within Smoking). Where this occurs, a set of rules for *each* morbidity is provided. A patient *must* only be included in the patient population (register size) *once*.
- There are multiple patient populations (disease registers) required (e.g. within Heart Failure). Where this occurs, a single set of rules for *each* patient population is provided.
N.B. where there are multiple patient populations (disease registers), it is possible that one or more will also be a co-morbidity patient population (e.g. within Depression)

Where this occurs, details of which register population applies to which indicator(s) are provided. Where the register size applies to an indicator, this is the base denominator population for that indicator.

- b) Clinical data extraction criteria. These are the data items to be exported from the clinical system for subsequent processing to calculate points allocations. They are expressed in the form of a MIQUEST 'Report-style' extract of data.

The record of each patient that satisfies the appropriate selection criteria for a given indicator will be interrogated against the clinical data criteria (also appropriate to that indicator). A report of the data contained in the selected records will be exported in the form of a fixed-format tabular report. Each selected patient will be represented by a single row in the report. Rows will contain a fixed number of fields each containing a single data item. The number of fields in each row and their data content will be determined by the clinical data criteria. Data items that match the clinical data criteria will be exported in the relevant field of the report. Where there is no data to match a specific clinical criterion a null field will be exported.

- 5) Rulesets are specified as multiple rules to be processed sequentially. Processing of rules should terminate as soon as a 'Reject' or 'Select' condition is encountered
- 6) Rules are expressed as logical statements that evaluate as either 'true' or 'false'. The following operators are required to be supported:
- | | |
|---------------------|--------|
| a) > (greater than) | e) AND |
| b) < (less than) | f) OR |
| c) = (equal to) | g) NOT |
| d) ≠ (not equal to) | |
- 7) Where date criteria are specified with intervals of multiples of months or years these should be interpreted as calendar months or calendar years.
- 8) The new GMS contract requires that influenza vaccinations should be given between 1st September and 31st March of any given contract year in order to qualify for the relevant indicators. Hence in the contract year 2004 – 2005 the relevant dates will be 1st September 2004 and 31st March 2005 inclusive. In this document these dates are expressed as variable parameters FLU_COM and FLU_END respectively. For the purposes of data extraction these variables will be required to be specified prior to processing the relevant rules.

Dataset Specification

1) **Patient selection criteria:**

a) Registration status

<u>Current registration status</u>	<u>Qualifying criteria</u>
Currently registered for GMS	Most recent registration date < (REF_DAT)
Previously registered for GMS	Any sequential pairing of registration date and deregistration date where both of the following conditions are met: registration date < (REF_DAT); and deregistration date >= (REF_DAT)

b) Diagnostic code status

<i>Code criteria</i>	<i>Qualifying diagnostic codes</i>		<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i>	<i>CTV3</i>	<i>Earliest < (REF_DAT)</i>
	G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% (excluding G669.) G6760 G6W.. G6X.. Gyu62 – Gyu66 Gyu6F Gyu6G ZV125	X00D1% (Excluding XE1Xs%) ZV125	
	<i>(Stroke disease codes)</i>		
	<i>Read codes v2</i>	<i>CTV3</i>	
	G65..- G654. G656.- G65zz F4236 ZV12D	XE0VK% XaX16	
<i>(TIA codes)</i>			

2) Clinical data extraction criteria

<u>Field Number</u>	<u>Field name</u>	<u>Data item</u>		<u>Qualifying criteria</u>
1	PAT_ID	Patient ID number		Unconditional
2	REG_DAT	Date of patient registration		Latest < (REF_DAT)
3	STREXC_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest < (REF_DAT)
		9h2..%	XaJ40%	
		<i>(Stroke exception reporting codes)</i>		
4	STREXC_DAT	Date of STREXC_COD		Chosen record
5	STRT_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < (REF_DAT)
		G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% (excluding G669.) G6760 G6W.. G6X.. G65.- G654. G656.- G65zz F4236 Gyu62 – Gyu66 Gyu6F Gyu6G ZV12D ZV125	X00D1% XE0VK% (Excluding XE1Xs%) XaX16 ZV125	
		<i>(Stroke or TIA codes)</i>		
6	STRT_DAT	Date of STRT_COD		Chosen record
7	STRTIA_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest First or New

		G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% (excluding G669.) G6760 G6W.. G6X.. G65.- G654. G656.- G65zz F4236 Gyu62 – Gyu66 Gyu6F Gyu6G ZV12D ZV125	X00D1% XE0VK% (Excluding XE1Xs%) XaX16 ZV125	episode < (REF_DAT)
		(Stroke and TIA codes)		
8	STRTIA_DAT	Date of STRTIA_COD		Chosen record
9	TIA_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < (REF_DAT)
		G65.- G654. G656.- G65zz F4236 ZV12D	XE0VK% XaX16	
		(TIA codes)		
10	TIA_DAT	Date of TIA_COD		Chosen record
11	OSTR_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < (REF_DAT)
		G63y0-G63y1 G64..% G665. G666. G6760	Xa0kZ% G640.% (excluding G663., G664.) X00D3 (Excluding XE1Xs%)	

		G6W.. G6X.. Gyu63 - Gyu66 Gyu6G		
		<i>(Non-haemorrhagic stroke codes)</i>		
12	OSTR_DAT	Date of OSTR_COD		Chosen record
13	SCAN_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < (REF_DAT) AND >= (STRTIA_DAT - 3 months)
		567..-5673. 569..-5693. 5675. 567C. 5694. 569F. 5C00. 5C12. 8HQ3. 8HQ4. 8HBJ. 8HTQ. 569K0	5671., 5672. 5673., 5691. 5692. 5693. XaJEi XaJEh X70oK% 5675. XaKao XaJIF XaO4U 8HQ3. 8HQ4. XaJkS XaJYc XaXOh	
		<i>(MRI / CT scan codes)</i>		
14	SCAN_DAT	Date of SCAN_COD		Chosen record
15	SCEXC_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < (REF_DAT) AND >= (STRTIA_DAT)
		5695. 56F0.	XaJHY XaJIE	
		<i>(Codes for MRI / CT declined)</i>		
16	SCEXC_DAT	Date of SCEXC_COD		Chosen record

17	BP_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest < REF_DAT
		246..% (excluding 2460.,2468., 246H., 246I., 246K., 246L., 246M.)	X773t% (excluding XaI9f, XaI9g) 246..% (excluding 2460.,2468., XaCFN, XaCFO)	
		<i>(BP recording codes)</i>		
18	BP_DAT	Date of BP_COD		Chosen record
19	BP_SYS	Value 1 of BP_COD <i>(Systolic BP value)</i>		Chosen record
20	BP_DIA	Value 2 of BP_COD <i>(Diastolic BP value)</i>		Chosen record
21	BPEX_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest < REF_DAT
		8I3Y.	XaJkR	
		<i>(BP recording exception codes)</i>		
22	BPEX_DAT	Date of BPEX_COD		Chosen record
23	HTMAX_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest < REF_DAT
		8BLO.	XaJ5h	
		<i>(Code for maximal BP therapy)</i>		
24	HTMAX_DAT	Date of HTMAX_COD		Chosen record
25	CHOL_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest < REF_DAT
		44OE. 44P.- 44P4. 44PH. 44PJ.	XaIRd XE2eD% XaFs9 XaJe9 44P1., 44P2. 44P3., 44P4.	
		<i>(Total cholesterol codes)</i>		

26	CHOL_DAT	Date of CHOL_COD		Chosen record
27	CHOL_VAL	Value 1 of CHOL_COD (Total cholesterol value)		Chosen record
28	CHEXC_COD	Read codes v2	CTV3	Latest < REF_DAT
		U60CA TJC24 TJC25	XalsC, Xalro Xa5bP% TJC24 TJC25 Xa5zt Xa5zu Xa5zv	
		(Codes for exception from serum cholesterol target; persisting)		
29	CHEXC_DAT	Date of CHEXC_COD		Chosen record
30	TCHEXC_COD	Read codes v2	CTV3	Latest < REF_DAT
		8BL1. 8I3C. 8I27. 8I63. 8I76.	XaJ5i XaI1I XaI1g XaG2V XaJYw	
		(Codes for exception from serum cholesterol target; expiring)		
31	TCHEXC_DAT	Date of TCHEXC_COD		Chosen record
32	XSAL_COD	Read codes v2	CTV3	Latest < REF_DAT
		14LK. ZV148 U6051 TJ53.	XalpK Xa5FM% XE22E% Xa5dp% XaDzd U6051	
		(Salicylate contra-indications: persistent)		

33	XSAL_DAT	Date of XSAL_COD		Chosen record
34	TXSAL_COD	Read codes v2	CTV3	Latest < REF_DAT
		8124. 8138. 8166. 8170.	XaDvH XaFsE XaIli XaJ5a	
		<i>(Salicylate contra-indications: expiring)</i>		
35	TXSAL_DAT	Date of TXSAL_COD		Chosen record
36	XWAR_COD	Read codes v2	CTV3	Latest < REF_DAT
		14LP. TJ42.% (excluding TJ420) U6042 ZV14A	XaJ60 TJ42.% (excluding TJ420) U6042 XaJ8B Xa5yP%	
		<i>(Warfarin contraindications: persistent)</i>		
37	XWAR_DAT	Date of XWAR_COD		Chosen record
38	TXWAR_COD	Read codes v2	CTV3	Latest < REF_DAT
		8125. 813E. 8165. 8171. 812R. 813d. 816N. 817A.	XaFsz XaIIn XaIh XaJ5b XaKAB XaKAD XaKA7 XaKAO	
		<i>(Warfarin contraindications: expiring)</i>		
39	TXWAR_DAT	Date of TXWAR_COD		Chosen record
40	XCLO_COD	Read codes v2	CTV3	Latest < REF_DAT

		14LQ. U6048 ZV14B	XaJ8V XaJ3e XaJ5v	
		<i>(Clopidogrel contraindications: persistent)</i>		
41	XCLO_DAT	Date of XCLO_COD		Chosen record
42	TXCLO_COD	Read codes v2	<i>CTV3</i>	Latest < REF_DAT
		812K. 813R. 816B. 8172.	XaJ6Y XaJ6Z XaJ5I XaJ5c	
		<i>(Clopidogrel contraindications: expiring)</i>		
43	TXCLO_DAT	Date of TXCLO_COD		Chosen record
44	XDIPY_COD	Read codes v2	<i>CTV3</i>	Latest < REF_DAT
		14LX. TJC44 U60C3	TJC44 Xa5d6 Xa61Z	
		<i>(Dipyridamole contraindications: persistent)</i>		
45	XDIPY_DAT	Date of XDIPY_COD		Chosen record
46	TXDIPY_COD	Read codes v2	<i>CTV3</i>	Latest < REF_DAT
		812b. 813n. 816a. 817J.	XaLFv XaLFw XaLFx XaLFy	
		<i>(Dipyridamole contraindications: expiring)</i>		
47	TXDIPY_DAT	Date of TXDIPY_COD		Chosen record
48	OSAL_COD	Read codes v2	<i>CTV3</i>	Latest < (REF_DAT)
		6718. 8B63.	XaFsi XaF7N	

		8B3T. 8B6P.	XEOhr% XaJd8	
		<i>(OTC salicylate codes)</i>		
49	OSAL_DAT	Date of OSAL_COD		Chosen record
50	SAL_COD	Read codes v2	<i>CTV3</i>	Latest < (REF_DAT)
		bu2..% di1..% j11..% blm..% bu4..%	bu2..% x04tL% blm..% bu4..%	
		<i>(Salicylate prescription codes)</i>		
51	SAL_DAT	Date of SAL_COD		Chosen record
52	CLO_COD	Read codes v2	<i>CTV3</i>	Latest < (REF_DAT)
		<i>bu5..%</i>	bu5..%	
		<i>(Clopidogrel prescription codes)</i>		
53	CLO_DAT	Date of CLO_COD		Chosen record
54	WAR_COD	Read codes v2	<i>CTV3</i>	Latest < (REF_DAT)
		bs...% 8B2K.	x01O3% x01O5% XaKak	
		<i>(Warfarin prescription codes)</i>		
55	WAR_DAT	Date of WAR_COD		Chosen record
56	DIPY_COD	Read codes v2	<i>CTV3</i>	Latest < (REF_DAT)
		bu1..% bu4..% (excluding bu13., bu1z.)	bu1..% bu4..% (excluding bu1z.%)	
		<i>(Dipyridamole prescription codes)</i>		

57	DIPY_DAT	Date of DIPY_COD		Chosen record
58	XFLU_COD	Read codes v2	CTV3	Latest < (REF_DAT)
		14LJ. U60K4 ZV14F	XaIAA XaJ7u XaJ8X Xa5um% Xa5WJ%	
		<i>(Flu vaccine contraindications)</i>		
59	XFLU_DAT	Date of XFLU_COD		Chosen record
60	TXFLU_COD	Read codes v2	CTV3	Latest < REF_DAT
		8I2F. 8I6D. 68NE. 9OX5.	XaIBI XaIOT 68NE. XaJ5n	
		<i>(Flu vaccine contraindications: expiring)</i>		
61	TXFLU_DAT	Date of TXFLU_COD		Chosen record
62	FLU_COD	Read codes v2	CTV3	Latest < (REF_DAT)
		n47..% (Excluding n47A., n47B., n47r., n47s., n47t.) 65E.. – 65E4. ZV048	n47..% (Excluding n47A., n47B., n47r., n47s., n47t.) 65E.., XaLNG, XaLNH, XaLK4, XaPyT, XaPwi, XaPwj, ZV048	
		<i>(Flu vaccination codes)</i>		
63	FLU_DAT	Date of FLU_COD		Chosen record

Indicator rulesets

- 1 **Indicator STROKE 1**: The practice can produce a register of patients with Stroke or TIA

The terms of this indicator will be satisfied if the practice is able to produce a data extraction according to the above criteria.

No numerator or denominator determination is required.

- 2 Indicator STROKE 13: The percentage of new patients with a stroke or TIA who have been referred for further investigation.

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>STRTIA DAT</u> >= 01.04.2008	Next rule	Reject
2	If <u>SCAN DAT</u> <= (<u>STRTIA DAT</u> + 1 month)	Select	Next rule
3	If <u>REG DAT</u> >= (<u>REF DAT</u> - 3 months)	Reject	Next rule
4	If <u>STREXC DAT</u> >= (<u>REF DAT</u> - 15 months)	Reject	Next rule
5	If <u>SCEXC DAT</u> <= (<u>STRTIA DAT</u> + 1 month)	Reject	Next rule
6	If <u>STRT DAT</u> >= (<u>REF DAT</u> - 3 months)	Reject	Select

b) Numerator ruleset: To be applied to the above denominator population

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>SCAN DAT</u> <= (<u>STRTIA DAT</u> + 1 months)	Select	Reject

- 3 Indicator STROKE 6: The percentage of patients with a history of TIA or stroke, in whom the last blood pressure reading (measured in the preceding 15 months) is 150/90 or less.

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>BP_SYS</u> <= 150 AND If <u>BP_DIA</u> <= 90 AND If <u>BP_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Next rule
2	If <u>BPEX_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Next rule
3	If <u>REG_DAT</u> >= (<u>REF_DAT</u> – 9 months)	Reject	Next rule
4	If <u>STREXC_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Next rule
5	If <u>STRT_DAT</u> >= (<u>REF_DAT</u> – 9 months)	Reject	Next rule
6	If <u>HTMAX_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Select

b) Numerator ruleset: To be applied to the above denominator population

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>BP_SYS</u> <= 150 AND If <u>BP_DIA</u> <= 90 AND If <u>BP_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Reject

- 4 Indicator STROKE 7: The percentage of patients with TIA or stroke, who have a record of total cholesterol in the preceding 15 months.

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>CHOL_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Next rule
2	If <u>REG_DAT</u> >= (<u>REF_DAT</u> – 3 months)	Reject	Next rule
3	If <u>STREXC_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Next rule
4	If <u>STRT_DAT</u> >= (<u>REF_DAT</u> – 3 months)	Reject	Select

b) Numerator ruleset: To be applied to the above denominator population

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>CHOL_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Reject

- 5 Indicator STROKE 8: The percentage of patients with TIA or stroke, whose last measured total cholesterol (measured in the preceding 15 months) is 5 mmol/l or less.

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>CHOL_VAL</u> <= 5 AND If <u>CHOL_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Next rule
2	If <u>REG_DAT</u> >= (<u>REF_DAT</u> – 9 months)	Reject	Next rule
3	If <u>STREXC_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Next rule
4	If <u>STRT_DAT</u> >= (<u>REF_DAT</u> – 9 months)	Reject	Next rule
5	If <u>CHEXC_COD</u> ≠ Null OR If <u>TCHEXC_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Select

b) Numerator ruleset: To be applied to the above denominator population

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>CHOL_VAL</u> <= 5 AND If <u>CHOL_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Reject

- 6 Indicator STROKE 12: The percentage of patients with a stroke shown to be non-haemorrhagic, or a history of TIA, who have a record that an anti-platelet agent (aspirin, clopidogrel, dipyridamole or a combination), or an anti-coagulant is being taken (unless a contraindication or side-effects are recorded).

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>OSTR_COD</u> = Null AND If <u>TIA_COD</u> = Null	Reject	Next rule
2	If <u>SAL_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>WAR_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>CLO_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>OSAL_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>DIPY_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Next rule
3	If <u>REG_DAT</u> >= (<u>REF_DAT</u> – 3 months)	Reject	Next rule
4	If <u>STREXC_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Next rule
5	If <u>OSTR_DAT</u> < (<u>REF_DAT</u> – 3 months) OR If <u>TIA_DAT</u> < (<u>REF_DAT</u> – 3 months)	Next rule	Reject
6	If <u>XSAL_COD</u> = Null AND If <u>TXSAL_DAT</u> = Null	Select	Next rule
7	If <u>XSAL_COD</u> = Null AND If <u>TXSAL_DAT</u> < (<u>REF_DAT</u> – 15 months)	Select	Next rule
8	If <u>XWAR_COD</u> = Null AND If <u>TXWAR_DAT</u> = Null	Select	Next rule
9	If <u>XWAR_COD</u> = Null AND If <u>TXWAR_DAT</u> < (<u>REF_DAT</u> – 15 months)	Select	Next rule
10	If <u>XCLO_COD</u> = Null AND If <u>TXCLO_DAT</u> = Null	Select	Next rule
11	If <u>XCLO_COD</u> = Null AND If <u>TXCLO_DAT</u> < (<u>REF_DAT</u> – 15 months)	Select	Next rule
12	If <u>XDIPY_COD</u> = Null AND If <u>TXDIPY_DAT</u> = Null	Select	Next rule
13	If <u>XDIPY_COD</u> = Null AND If <u>TXDIPY_DAT</u> < (<u>REF_DAT</u> – 15 months)	Select	Reject

b) Numerator ruleset: To be applied to the above denominator population

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>SAL_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>WAR_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>CLO_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>OSAL_DAT</u> >= (<u>REF_DAT</u> – 15 months) OR If <u>DIPY_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Reject

- 7 Indicator STROKE 10: The percentage of patients with TIA or stroke who have had influenza immunisation in the preceding 1 September to 31 March.

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>FLU_DAT</u> >= <u>FLU_COM</u> AND If <u>FLU_DAT</u> <= <u>FLU_END</u>	Select	Next rule
2	If <u>REG_DAT</u> >= (<u>REF_DAT</u> – 3 months)	Reject	Next rule
3	If <u>STREXC_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Next rule
4	If <u>STRT_DAT</u> >= (<u>REF_DAT</u> – 3 months)	Reject	Next rule
5	If <u>XFLU_COD</u> ≠ Null	Reject	Next rule
6	If <u>TXFLU_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Select

b) Numerator ruleset: To be applied to the above denominator population

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>FLU_DAT</u> >= <u>FLU_COM</u> AND If <u>FLU_DAT</u> <= <u>FLU_END</u>	Select	Reject