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| Data and Business Rules – Stroke and Transient Ischaemic Attack (STIA) Indicator Set | | | | | |
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New GMS Contract QOF Implementation
Dataset and Business Rules
-
Stroke and Transient Ischaemic Attack
Indicator Set
(STIA)
Northern Ireland

Amendment History:

| Version | Date | Amendment History |
|---------|--------------|--|
| 25.0NI | 13-May-2013 | V25 Department of Health QOF ruleset (28/03/13) used as a base and adapted to reflect the NI 2013/13 agreement - NI indicators IDs updated; 15 mth rules accepted; indicator wording checked |
| 26.0NI | 13-Sept-2013 | April 2013 Read Code Release following review |
| 27.0NI | 12-Nov-2013 | November 2013 Read Code Release |
| 28.0NI | 14-Apr-2014 | 2014/15 Business Rules update |
| 28.1NI | 17-June-2014 | Updated FLU and TXFLU_COD clusters |
| 28.2NI | 27-June-2014 | Introduced STRK_COD and DIAG_DAT as replacement to STRTIA_COD as per review request |
| | 10-July-2014 | Updated all Stroke Clusters with code lists that no longer display excluded codes. Also included a missing cluster for STRK_DAT. STR008 description updated to reflect the fact that the indicator is looking for the first TIA. |
| 29.0NI | 24-Oct-2014 | April 2014 Read Code Updates |
| 30.0NI | 24-Oct-2014 | October 2014 Read Code Updates |
| 32.0NI | 30-June-2015 | April 2015 Read Code Updates |
| 32.1NI | 28-Sep-2015 | Post review changes 2015/16 |
| 33.0NI | 07-Jan-2016 | October Read Code Updates and V32.1 fixes |
| 34.0NI | 06-Sep-2016 | Read code changes. |

New GMS contract Q&O framework implementation

Dataset and business rules – Stroke and transient ischaemic attack (STIA) 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 2015 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.
 1. 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.
 2. 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).

The version number starts at 7.1 in order to coincide with existing datasets and business rules.

4. Datasets comprise a specification of two elements:
 1. Patient selection criteria. These are the criteria used to determine the patient population against whom the indicators are to be applied.
 1. Registration status. This determines the current patient population at the practice.
 2. 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

1. 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.
 2. 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.
 3. 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.

2. 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, unless the operator "ALL" is used.

The "ALL" statement is used within the Qualifying Criteria for the Clinical data extraction criteria. Typically the selection for a READCODE_COD cluster field is based on a date of "LATEST" or "EARLIEST". The "ALL" statement is used to select all occurrences of any of the codes within the READCODE_COD cluster. It selects an array of instances, of which there may be more than one for each patient.

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.

3. 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.
4. Rules are expressed as logical statements that evaluate as either "true" or "false" The following operators are required to be supported:
 1. > (greater than)
 2. < (less than)
 - c) = (equal to)
 1. ≠ (not equal to)
 2. AND
 3. OR
 4. NOT

5. Where date criteria are specified with intervals of multiples of months or years these should be interpreted as calendar months or calendar years.
6. The new GMS contract requires that influenza vaccinations should be given between 1st August and 31st March of any given contract year in order to qualify for the relevant indicators. Hence in the contract year 2014 – 2015 the relevant dates will be 1st August 2014 and 31st March 2015 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 Specification1. Patient selection criteria:

1. 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) |

2. Diagnostic code status

| Code criteria | Qualifying diagnostic codes | | Time criteria |
|---------------|---|---|-------------------------|
| Included | <i>Read codes v2</i> | <i>CTV3</i> | Earliest < (REF_DAT) |
| | G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% (excluding G669.) G6760 G6W.. G6X.. Gyu62 - Gyu66 Gyu6F Gyu6G | X00D1% (Excluding XE1Xs%, F21y2) G660. G661. G662. Gyu6F G641. Xa6YV Gyu62 Gyu65 Gyu66 | |
| | <i>(Stroke disease codes)</i> | | |
| | <i>Read codes v2</i> | <i>CTV3</i> | |
| | G65..- G654. G656.- G65zz ZV12D Fyu55 | XE0VK% (Excluding F4236, G660., G661., G662.) XaX16 G65z0 G65z1 | |
| | <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.. Gyu62 - Gyu66 Gyu6F Gyu6G G65.- G654. G656.- G65zz ZV12D Fyu55 | X00D1% (Excluding XE1Xs%, F21y2) Gyu6F G641. Xa6YV Gyu62 Gyu65 Gyu66 XE0VK% (Excluding F4236) XaX16 G65z0 G65z1 | |
| | | <i>(Stroke or TIA codes)</i> | | |

| | | | | |
|----|----------|--|--|-------------------------|
| 6 | STRT_DAT | Date of STRT_COD | | Chosen record |
| 7 | TIA_COD | <i>Read codes v2</i> | <i>CTV3</i> | Earliest < (REF_DAT) |
| | | G65.- G654. G656.- G65zz ZV12D Fyu55 | XE0VK% (Excluding F4236, G660., G661., G662.) XaX16 G65z0 G65z1 | |
| | | <i>(TIA codes)</i> | | |
| 8 | TIA_DAT | Date of TIA_COD | | Chosen record |
| 9 | OSTR_COD | <i>Read codes v2</i> | <i>CTV3</i> | Earliest < (REF_DAT) |
| | | G63y0 - G63y1 G64..% G665. G666. G6760 G6W.. G6X.. Gyu63 - Gyu66 Gyu6G | Xa0kZ% (Excluding XE1Xs%) G640.% (excluding G663., G664.) X00D3, G641., Gyu65, Gyu66 | |
| | | <i>(Non-haemorrhagic stroke codes)</i> | | |
| 10 | OSTR_DAT | Date of OSTR_COD | | Chosen record |

| | | | | |
|----|-----------|---|---|---|
| 11 | SCAN_COD | <i>Read codes v2</i> | <i>CTV3</i> | Earliest < (REF_DAT) AND >= DIAG_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 567.. X70ol | |
| | | <i>(MRI / CT scan codes)</i> | | |
| 12 | SCAN_DAT | Date of SCAN_COD | | Chosen record |
| 13 | SCEXC_COD | <i>Read codes v2</i> | <i>CTV3</i> | Earliest < (REF_DAT) AND >= DIAG_DAT |
| | | 5695. 56F0. | XaJHY XaJIE | |
| | | <i>(Codes for MRI / CT declined)</i> | | |
| 14 | SCEXC_DAT | Date of SCEXC_COD | | Chosen record |

| | | | | |
|----|-----------|--|--|------------------|
| 15 | BP_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 246..% (excluding 2460.,2468., 246H., 246I., 246K., 246L., 246M., 246h., 246i., 246j., 246k., 246n.%) | X773t% (excluding XaI9f, XaI9g, X779b, X779R, X779T, X779W, XaYai, XaYg8, XaYg9, XaZvo, XaZxj, Xabhx, Xac5K, Xac5L) 246..% (excluding 2460.,2468., XaCFN, XaCFO,) | |
| | | <i>(BP recording codes)</i> | | |
| 16 | BP_DAT | Date of BP_COD | | Chosen record |
| 17 | BP_SYS | Value 1 of BP_COD <i>(Systolic BP value)</i> | | Chosen record |
| 18 | BP_DIA | Value 2 of BP_COD <i>(Diastolic BP value)</i> | | Chosen record |
| 19 | BPEX_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 8I3Y. | XaJkR | |
| | | <i>(BP recording exception codes)</i> | | |
| 20 | BPEX_DAT | Date of BPEX_COD | | Chosen record |
| 21 | HTMAX_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 8BL0. | XaJ5h | |
| | | <i>(Code for maximal BP therapy)</i> | | |
| 22 | HTMAX_DAT | Date of HTMAX_COD | | Chosen record |
| 23 | CHOL_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 44OE. 44P.- 44P4. 44PH. 44PJ. 44PK. | XaIRd XE2eD% (excluding 44PZ., XaIqd) 44P1., 44P2. 44P3., 44P4. XaLux, XaFs9, XSK14 | |
| | | <i>(Total cholesterol codes)</i> | | |

| | | | |
|----|----------|------------------|---------------|
| 24 | CHOL_DAT | Date of CHOL_COD | Chosen record |
|----|----------|------------------|---------------|

| | | | | |
|----|------------|--|---|------------------|
| 25 | CHEXC_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | U60CA TJC24 TJC25 | XaIsC, XaIro Xa5bP% TJC24 TJC25 Xa5zs% | |
| | | <i>(Codes for exception from serum cholesterol target; persisting)</i> | | |
| 26 | CHEXC_DAT | Date of CHEXC_COD | | Chosen record |
| 27 | TCHEXC_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 8BL1. 8I3C. 8I27. | XaJ5i XaIII XaII | |
| | | 8I63. 8I76. | XaG2V XaJYw | |
| | | <i>(Codes for exception from serum cholesterol target; expiring)</i> | | |
| 28 | TCHEXC_DAT | Date of TCHEXC_COD | | Chosen record |
| 29 | XSAL_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 14LK. ZV148 U6051 TJ53. | XaIpk Xa5FM% XE22E% Xa5dp% XaDzd U6051 | |
| | | <i>(Salicylate contra-indications: persistent)</i> | | |
| 30 | XSAL_DAT | Date of XSAL_COD | | Chosen record |
| 31 | TXSAL_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 8I24. 8I38. 8I66. 8I70. 81HJ. | XaDvH XaFsE XaIii XaJ5a XadAO | |
| | | <i>(Salicylate contra-indications: expiring)</i> | | |

| 32 | TXSAL_DAT | Date of TXSAL_COD | | Chosen record |
|----|---------------------|---|---|------------------|
| 33 | XORANTICOAG _COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 14LP. TJ42.% (excluding TJ420) U6042 ZV14A 1Z34. 1Z43. 1Z340 1Z431 1Z341 1Z430 | XaJ60 TJ42.% (excluding TJ420) U6042 XaJ8B Xa5yP% Xad9m Xad9d Xad9n Xad9o Xa5Zn Xa5yG | |
| | | <i>(Warfarin contraindications: persistent)</i> | | |
| 34 | XORANTICOAG_D AT | Date of XORANTICOAG_COD | | Chosen record |

| | | <i>Read codes v2</i> | <i>CTV3</i> | |
|----|----------------------|----------------------|-------------|------------------|
| 35 | TXORANTICOAG _COD | | | Latest < REF_DAT |

| | | | | |
|----|----------------------|--|--|------------------|
| | | 8I25. 8I3E. 8I65. 8I71. 8I2R. 8I3d. 8I6N. 8I7A. 8I2o. 8IES. 8I611 8I7R. 8I2u. 8IH1. 8I6s. 8I7V. 8IJ0. 8IHG. 8I7Z. 8IJ1. 8IHH. 8I7a. | XaFsz XaIIn XaIIh XaJ5b XaKAB XaKA D XaKA7 XaKA0 XaZbj XaZZI XaZbl XaZbr XabEn XabEe XabEp XabEo XadAI Xad9q Xad9s XadAK Xad9r Xad9t | |
| | | <i>(Warfarin contraindications: expiring)</i> | | |
| 36 | TXORANTICO AG_DAT | Date of TXORANTICOAG_COD | | Chosen record |
| | | <i>Read codes v2</i> | <i>CTV3</i> | |
| 37 | XCLO_COD | 14LQ. U6048 ZV14B | XaJ8V XaJ3e XaJ5v | Latest < REF_DAT |
| | | <i>(Clopidogrel contraindications: persistent)</i> | | |

| | | | | |
|----|------------|---|----------------------------------|-----------------------|
| 38 | XCLO_DAT | Date of XCLO_COD | | Chosen record |
| 39 | TXCLO_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 8I2K. 8I3R. 8I6B. 8I72. | XaJ6Y XaJ6Z XaJ5I XaJ5c | |
| | | <i>(Clopidogrel contraindications: expiring)</i> | | |
| 40 | TXCLO_DAT | Date of TXCLO_COD | | Chosen record |
| 41 | XDIPY_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 14LX. TJC44 U60C3 | TJC44 Xa5d6 Xa61Z | |
| | | <i>(Dipyridamole contraindications: persistent)</i> | | |
| 42 | XDIPY_DAT | Date of XDIPY_COD | | Chosen record |
| 43 | TXDIPY_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 8I2b. 8I3n. 8I6a. 8I7J. | XaLFv XaLFw XaLFx XaLFy | |
| | | <i>(Dipyridamole contraindications: expiring)</i> | | |
| 44 | TXDIPY_DAT | Date of TXDIPY_COD | | Chosen record |
| 45 | OSAL_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < (REF_DAT) |
| | | 67I8. 8B63. 8B3T. | XaFsi XaF7N XE0hr% | |
| | | <i>(OTC salicylate codes)</i> | | |
| 46 | OSAL_DAT | Date of OSAL_COD | | Chosen record |

| | | | | |
|----|----------------|--|--|-----------------------|
| 47 | SAL_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < (REF_DAT) |
| | | bu2..% di1..% j11..% blm..% bu4..% | bu2..% x04tL % blm..% bu4..% | |
| | | <i>(Salicylate prescription codes)</i> | | |
| 48 | SAL_DAT | Date of SAL_COD | | Chosen record |
| 49 | CLO_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < (REF_DAT) |
| | | bu5..% 8B6P. | bu5..% XaJd8 | |
| | | <i>(Clopidogrel prescription codes)</i> | | |
| 50 | CLO_DAT | Date of CLO_COD | | Chosen record |
| 51 | ORANTICOAG_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < (REF_DAT) |
| | | bs...% 8B2K. | x01O3% x01O5% XaKAK bs...% | |
| | | <i>(Warfarin prescription codes)</i> | | |
| 52 | ORANTICOAG_DAT | Date of ORANTICOAG_COD | | Chosen record |
| 53 | DIPY_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < (REF_DAT) |
| | | bu1..% (excluding bu13., bu1z.) bu4..% | bu1..% (excluding bu1z.) bu4..% | |
| | | <i>(Dipyridamole prescription codes)</i> | | |
| 54 | DIPY_DAT | Date of DIPY_COD | | Chosen record |
| 55 | XFLU_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < (REF_DAT) |
| | | 14LJ. U60K4 ZV14F | XaIAA XaJ7u XaJ8X | |

| | | | | |
|----|-----------|---|--|-----------------------|
| | | | Xa5um% Xa5WJ% | |
| | | <i>(Flu vaccine contraindication: persistent)</i> | | |
| 56 | XFLU_DAT | Date of XFLU_COD | | Chosen record |
| 57 | TXFLU_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < REF_DAT |
| | | 90X51 8I2F0 8I6D0 68NE0 90X52 90X53 90X54 90X56 | XaZ0i XaZ0j XaZ0k Xaa9f XaadS XaadU XaaDp XaaDq | |
| | | <i>(Flu vaccine contraindications: expiring)</i> | | |
| 58 | TXFLU_DAT | Date of TXFLU_COD | | Chosen record |
| 59 | FLU_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest < (REF_DAT) |
| | | n47..% (Excluding n47A., n47B., n47D., n47G., n47r., n47s., n47t.) 65ED., 65E20, 65ED0, 65ED2, 65ED1, 65ED3, 65E21, 65E22 65E23, 65E24, 65EE., 65EE0, 65EE1, 65ED4, 65ED5 | n47..% (Excluding n47A., n47B., n47D., n47G., n47r., n47s., n47t.) XaZ0d, XaZ0e, XaZfY, XaaZp, Xaac3, Xaac4, Xaac7, Xaac8, XabyT, Xac5J Xad9j, Xad9k | |
| | | <i>(Flu vaccination codes)</i> | | |
| 60 | FLU_DAT | Date of FLU_COD | | Chosen record |
| | | <i>Read codes v2</i> | <i>CTV3</i> | |

| | | | | |
|----|-----------|--|--|------------------|
| 61 | CHOL2_COD | 44OE. 44P.. 44PH. 44PJ. 44PK. 662a. | XaIqd, XaJe9 XE2eD, XaFs9 XaIRd, XaLux, XSK14 | Latest < REF_DAT |
|----|-----------|--|--|------------------|

| | | | | |
|----|-----------|---|---|---|
| | | <i>(Total cholesterol codes with a value)</i> | | |
| 62 | CHOL2_DAT | Date of CHOL2_COD | | Chosen record |
| 63 | CHOL2_VAL | Value 1 of CHOL2_COD <i>(Total cholesterol value)</i> | | Chosen record |
| 64 | STRK_COD | <i>Read codes v2</i> | <i>CTV3</i> | Latest, first or new episode <= (REF_DAT) |
| | | G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% (excluding G669.) G6760 G6W.. G6X.. Gyu62 - Gyu66 Gyu6F Gyu6G | X00D1% (Excluding XE1Xs%, F21y2) G660. G661. G662. Gyu6F G641. Xa6YV Gyu62 Gyu65 Gyu66 | |
| | | <i>(Stroke codes)</i> | | |
| 65 | STRK_DAT | Date of STRK_COD | | Chosen record |
| 66 | DIAG_DAT | The latest diagnosis of TIA_COD or STRK_COD | | Latest of TIA_DAT STRK_DAT |

Indicator rulesets

Indicator STIA001: The contractor establishes and maintains 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.

Indicator STIA008(NI): The percentage of patients with a stroke or TIA (diagnosed on or after 1 April 2015) who have a record of a referral for further investigation between 3 months before and 1 month after the date of the latest recorded stroke or first TIA.

1. Denominator ruleset

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|---|-----------------------|------------------------|
| 1 | If STRK_DAT >= 01.04.2015 OR If TIA_DAT >= 01.04.2015 | Next rule | Reject |
| 2 | If SCAN_DAT <= (DIAG_DAT + 1 month) | Select | Next rule |
| 3 | If REG_DAT >= (REF_DAT - 3 months) | Reject | Next rule |
| 4 | If STREXC_DAT >= (REF_DAT - 15months) | Reject | Next rule |
| 5 | If SCEXC_DAT <= (DIAG_DAT + 1 month) | Reject | Next rule |
| 6 | If STRT_DAT >= (REF_DAT - 3months) | Reject | Select |

2. Numerator ruleset: To be applied to the above denominator population

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|---|-----------------------|------------------------|
| 1 | If SCAN_DAT <= (DIAG_DAT + 1 month) | Select | Reject |

Indicator STIA003: The percentage of patients with a history of stroke or TIA in whom the last blood pressure reading (measured in the preceding 15 months) is 150/90 mmHg or less.

1. Denominator ruleset

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|--|-----------------------|------------------------|
| 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 |

2. Numerator ruleset: To be applied to the above denominator population

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|--|-----------------------|------------------------|
| 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 |

Indicator STIA004NI: The percentage of patients with stroke shown to be non-haemorrhagic, or a history of TIA who have a record of total cholesterol in the preceding 3 years.

1. Denominator ruleset

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|--|-----------------------|------------------------|
| 1 | If <u>OSTR_COD</u> = Null AND If <u>TIA_COD</u> = Null | Reject | Next rule |
| 2 | If <u>CHOL_DAT</u> >= (<u>REF_DAT</u> – 36 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>STRT_DAT</u> >= (<u>REF_DAT</u> – 3 months) | Reject | Next rule |
| 6 | If <u>CHEXC_COD</u> ≠ Null OR If <u>TCHEXC_DAT</u> >= (<u>REF_DAT</u> – 36 months) | Reject | Select |

2. Numerator ruleset: To be applied to the above denominator population

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|---|-----------------------|------------------------|
| 1 | If <u>CHOL_DAT</u> >= (<u>REF_DAT</u> – 36 months) | Select | Reject |

Indicator STIA005NI: The percentage of patients with stroke shown to be non-haemorrhagic, or a history of TIA, whose last measured total cholesterol (measured in the preceding 3 years) is 5 mmol/l or less.

1. Denominator ruleset

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|--|-----------------------|------------------------|
| 1 | If <u>OSTR_COD</u> = Null AND If <u>TIA_COD</u> = Null | Reject | Next rule |
| 2 | If <u>CHOL2_VAL</u> <= 5 AND If <u>CHOL2_DAT</u> >= (<u>REF_DAT</u> - 36 months) | Select | 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>CHEXC_COD</u> ≠ Null OR If <u>TCHEXC_DAT</u> >= (<u>REF_DAT</u> - 36 months) | Reject | Select |

2. Numerator ruleset: To be applied to the above denominator population

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|--|-----------------------|------------------------|
| 1 | If <u>CHOL2_VAL</u> <= 5 AND If <u>CHOL2_DAT</u> >= (<u>REF_DAT</u> - 36 months) | Select | Reject |

Indicator STIA009: The percentage of patients with stroke or TIA who have had influenza immunisation in the preceding 1 August to 31 March.

1. Denominator ruleset

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|--|-----------------------|------------------------|
| 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 |

2. Numerator ruleset: To be applied to the above denominator population

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

Indicator STIA007: The percentage of patients with a stroke shown to be non-haemorrhagic, or a history of TIA, who have a record in the preceding 15 months that an anti-platelet agent, or an anti-coagulant is being taken.

1. Denominator ruleset

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|---|-----------------------|------------------------|
| 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>ORANTICOAG_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> - | 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>XORANTICOAG_COD</u> = Null AND If <u>TXORANTICOAG_DAT</u> = Null | Select | Next rule |
| 9 | If <u>XORANTICOAG_COD</u> = Null AND If <u>TXORANTICOAG_DAT</u> < (<u>REF_DAT</u> - 15 | 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 |

2. Numerator ruleset: To be applied to the above denominator population

| <u>Rule number</u> | <u>Rule</u> | <u>Action if true</u> | <u>Action if false</u> |
|--------------------|---|-----------------------|------------------------|
| 1 | If <u>SAL_DAT</u> >= (<u>REF_DAT</u> - 15 months) OR If <u>ORANTICOAG_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> | Select | Reject |