# New GMS Contract QOF Implementation

# Dataset And Business Rules
# -
# Atrial Fibrillation

**Amendment History:**

| Version | Date | Amendment History |
|---|---|---|
| | | The version number starts at 7.1 in order to coincide with existing datasets and business rules. |
| 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 | 23-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<br>Amend wording for Note 3 |
| 8.5 | 18-May-2006 | Approved by NHSE |
| 8.6 | 20-Oct-2006 | April Read Code Release<br>April SNOMED CT Release<br>October Read Code Release<br>Corrections and amendments following feedback |
| 8.7 | 13-Nov-2006 | Following 4-Country Review:<br>XSAL_COD: Delete 223005004 from SNOMED-CT |
| 9.0 | 30-Nov-2006 | Approved by NHSE |
| 9.1 | 11-Apr-2007 | April 2007 Read Code Release |
| 9.2 | 11-June-2007 | Following 4-Country Review:<br>Changes to the qualifying criteria for AFIB_COD and AFIBDI_COD.<br>Remove G5731 Diagnostic Code Status and AFIB_COD cluster<br>Change date check for “anti-coagulant drug therapy or an anti-platelet drug therapy” (AF03) to 6 months |
| 10.0 | 18-Jun-2007 | Signed off following 4 Country review |
| 10.1 | 12-Aug-2007 | April SNOMED CT update |
| 10.2 | 23-Sep-2007 | October 2007 Read Code Release<br>October 2007 SNOMED CT Release |
| 10.3 | 27-Nov-2007 | Following 4-Country Review:<br>‘%’ 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<br>April 2008 SNOMED CT Release<br>QOF Review 2007 (Replacing AF2 with AF4) |
| 12.0 | 24-Jul-2008 | Signed off following 4 Country review |
| 12.1 | 06-Oct-2008 | October 2008 Read Code Release<br>October 2008 SNOMED CT Release |
| 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 |

# New GMS contract Q&O framework implementation

Dataset and business rules – Atrial fibrillation 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 2008 release of Read codes version 2, clinical terms version 3 (CTV3) and SNOMED-CT. For non SNOMED-CT, 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 it's 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).

    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:

    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

| *Current registration status* | *Qualifying criteria* |
|---|---|
| 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:<br>registration date < (REF_DAT); and<br>deregistration date >= (REF_DAT) |

b) Diagnostic code status

| *Code criteria* | *Qualifying diagnostic codes* | | | *Time criteria* |
|---|---|---|---|---|
| *Included* | *Read codes v2* | *SNOMED-CT* | *CTV3* | *Latest < (REF_DAT)* |
| | G573.% (excluding G5731) | 49436004% | G5730% G573.% | |
| | *(Atrial fibrillation codes)* | | | |
| *Excluded* | *Read codes v2* | *SNOMED-CT* | *CTV3* | *Latest < (REF_DAT) AND > Date of diagnostic code above* |
| | 212R. | 196371000000102 | XaLFz | |
| | *(Atrial fibrillation resolved codes)* | | | |

## 2) Clinical data extraction criteria

| *Field Number* | *Field name* | *Data item* | | | *Qualifying criteria* |
|---|---|---|---|---|---|
| 1 | PAT_ID | Patient ID number | | | Unconditional |
| 2 | REG_DAT | Date of patient registration | | | Latest < (REF_DAT) |
| 3 | AFIBEXC_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < (REF_DAT) |
| | | 9hF1.<br>9hF0. | 196181000000103<br>196191000000101 | XaLFj<br>XaLFi | |
| | | (*Atrial fibrillation exception reporting codes*) | | | |
| 4 | AFIBEXC_DAT | Date of AFIBEXC_COD | | | Chosen record |
| 5 | AFIB_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Earliest < (REF_DAT) |
| | | G573.% (excluding G5731) | 49436004% | G5730%<br>G573.% | |
| | | (*Atrial fibrillation codes*) | | | |
| 6 | AFIB_DAT | Date of AFIB_COD | | | Chosen record |
| 7 | AFIBDI_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Earliest < (REF_DAT) AND >= (AFIB_DAT – 3 months) |
| | | 3272.<br>8H41.<br>8H44.<br>8HR1.<br>8H4R.<br>8HVJ. | 164889003<br>183516009<br>183519002<br>308471005%<br>183838001 | 3272.<br>8H41.<br>8H44.<br>8HR1.<br>XaBTR% | |
| | | *(Atrial fibrillation diagnosis codes)* | | | |
| 8 | AFIBDI_DAT | Date of AFIBDI_COD | | | Chosen record |
| 9 | XSAL_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |

| | | | | | |
|---|---|---|---|---|---|
| | | 14LK.<br>ZV148<br>U6051<br>TJ53. | 395102008<br>312664009<br>269722001%<br>293585002% | XaIpk<br>XaDzd<br>Xa5FM%<br>XE22E%<br>Xa5dp%<br>U6051 | |
| | | (*Salicylate contra-indications: persistent*) | | | |
| 10 | XSAL_DAT | Date of XSAL_COD | | | Chosen record |
| 11 | TXSAL_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |
| | | 8I24.<br>8I38.<br>8I66.<br>8I70. | 312451002<br>315023008<br>134394002<br>88171000000109 | XaDvH<br>XaFsE<br>XaIIi<br>XaJ5a | |
| | | (*Salicylate contra-indications: expiring*) | | | |
| 12 | TXSAL_DAT | Date of TXSAL_COD | | | Chosen record |
| 13 | XWAR_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |
| | | 14LP.<br>TJ42.%<br>(excluding<br>TJ420)<br>U6042<br>ZV14A | 407580005<br>293341000%<br>222996001<br>407589006<br>294878002% | XaJ60<br>TJ42.%<br>(excluding<br>TJ420)<br>U6042<br>XaJ8B<br>Xa5yP% | |
| | | (*Warfarin contraindications: persistent*) | | | |
| 14 | XWAR_DAT | Date of XWAR_COD | | | Chosen record |

| | | | | | |
|---|---|---|---|---|---|
| 15 | TXWAR_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |
| | | 8I25.<br>8I3E.<br>8I65.<br>8I71.<br>8I2R.<br>8I3d.<br>8I6N.<br>8I7A. | 315061006<br>134398004<br>134392003<br>88181000000106<br>413558003<br>413559006<br>413560001<br>413561002 | XaFsz<br>XaIIn<br>XaIIh<br>XaJ5b<br>XaKAB<br>XaKAD<br>XaKA7<br>XaKA0 | |
| | | (*Warfarin contraindications: expiring*) | | | |
| 16 | TXWAR_DAT | Date of TXWAR_COD | | | Chosen record |
| 17 | XCLO_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |
| | | 14LQ.<br>U6048<br>ZV14B | 407592005<br>89731000000101<br>407575001 | XaJ8V<br>XaJ3e<br>XaJ5v | |
| | | (*Clopidogrel contraindications: persistent*) | | | |
| 18 | XCLO_DAT | Date of XCLO_COD | | | Chosen record |
| 19 | TXCLO_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |
| | | 8I2K.<br>8I3R.<br>8I6B.<br>8I72. | 407582002<br>407583007<br>407571005<br>88191000000108 | XaJ6Y<br>XaJ6Z<br>XaJ5l<br>XaJ5c | |
| | | (*Clopidogrel contraindications: expiring*) | | | |
| 20 | TXCLO_DAT | Date of TXCLO_COD | | | Chosen record |

| | | | | | |
|---|---|---|---|---|---|
| 21 | OSAL_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < (REF_DAT) |
| | | 67I8.<br>8B63.<br>8B3T.<br>8B6P. | 315045009<br>314481009<br>266716006%<br>413081008 | XaFsi<br>XaF7N<br>XE0hr%<br>XaJd8 | |
| | | (*OTC salicylate codes*) | | | |
| 22 | OSAL_DAT | Date of OSAL_COD | | | Chosen record |
| 23 | SAL_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < (REF_DAT) |
| | | bu2..%<br>di1..%<br>j11..%<br>blm..%<br>bu4..% | 358427004%<br>319796006%<br>319357003% | bu2..%<br>x04tL%<br>blm..%<br>bu4..% | |
| | | (*Salicylate prescription codes*) | | | |
| 24 | SAL_DAT | Date of SAL_COD | | | Chosen record |
| 25 | CLO_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < (REF_DAT) |
| | | bu5..% | 108979001% | bu5..% | |
| | | (*Clopidogrel prescription codes*) | | | |
| 26 | CLO_DAT | Date of CLO_COD | | | Chosen record |
| 27 | WAR_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < (REF_DAT) |
| | | bs...%<br>8B2K. | 350472006%<br>350473001%<br>413557008 | x01O3%<br>x01O5%<br>XaKAk | |
| | | (*Warfarin prescription codes*) | | | |
| 28 | WAR_DAT | Date of WAR_COD | | | Chosen record |

| | | | | | |
|---|---|---|---|---|---|
| 29 | DIPY_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < (REF_DAT) |
| | | bu1..%<br>bu4..%<br>(excluding bu13., bu1z.) | 66859009%<br>(excluding 319769008%) | bu1..%<br>bu4..%<br>(excluding bu1z.%) | |
| | | (*Dipyridamole prescription codes*) | | | |
| 30 | DIPY_DAT | Date of DIPY_COD | | | Chosen record |
| 31 | XDIPY_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |
| | | 14LX.<br>TJC44<br>U60C3 | 295077001<br>293539000<br>196481000000105 | Xa61Z<br>Xa5d6<br>TJC44 | |
| | | (*Dipyridamole contraindications: persistent*) | | | |
| 32 | XDIPY_DAT | Date of XDIPY_COD | | | Chosen record |
| 33 | TXDIPY_COD | *Read codes v2* | *SNOMED-CT* | *CTV3* | Latest < REF_DAT |
| | | 8I2b.<br>8I3n.<br>8I6a.<br>8I7J. | 196061000000106<br>196051000000108<br>196041000000105<br>196011000000109 | XaLFv<br>XaLFw<br>XaLFx<br>XaLFy | |
| | | (*Dipyridamole contraindications: expiring*) | | | |
| 34 | TXDIPY_DAT | Date of TXDIPY_COD | | | Chosen record |

# Indicator rulesets

1 Indicator AF 1: The practice can produce a register of patients with Atrial Fibrillation

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 AF 4: The percentage of patients with atrial fibrillation diagnosed from 1st April 2008 with ECG or specialist confirmed diagnosis

a) Denominator ruleset

| *Rule number* | *Rule* | *Action if true* | *Action if false* |
|---|---|---|---|
| 1 | If AFIB_DAT >= 01.04.2008 | Next rule | Reject |
| 2 | If AFIBDI_DAT <= (AFIB_DAT + 3 months)<br>AND<br>If AFIBDI_DAT >= (AFIB_DAT - 3 months) | Select | Next rule |
| 3 | If REG_DAT >= (REF_DAT – 3 months) | Reject | Next rule |
| 4 | If AFIBEXC_DAT >= (REF_DAT – 15 months) | Reject | Next rule |
| 5 | If AFIB_DAT >= (REF_DAT – 3 months) | Reject | Select |

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

| *Rule number* | *Rule* | *Action if true* | *Action if false* |
|---|---|---|---|
| 1 | If AFIBDI_DAT <= (AFIB_DAT + 3 months)<br>AND<br>If AFIBDI_DAT >= (AFIB_DAT - 3 months) | Select | Reject |

3 Indicator AF 3: The percentage of patients with atrial fibrillation who are currently treated with anti-coagulant drug therapy or an anti-platelet drug therapy

c) Denominator ruleset

| *Rule number* | *Rule* | *Action if true* | *Action if false* |
|---|---|---|---|
| 1 | If SAL_DAT >= (REF_DAT – 6 months) OR<br>If WAR_DAT >= (REF_DAT – 6 months) OR<br>If CLO_DAT >= (REF_DAT – 6 months) OR<br>If OSAL_DAT >= (REF_DAT – 6 months) OR<br>If DIPY_DAT>= (REF_DAT – 6 months) | Select | Next rule |
| 2 | If REG_DAT >= (REF_DAT – 3 months) | Reject | Next rule |
| 3 | If AFIBEXC_DAT >= (REF_DAT – 15 months) | Reject | Next rule |
| 4 | If AFIB_DAT < (REF_DAT – 3 months) | Next rule | Reject |
| 5 | If XSAL_COD = Null AND<br>If TXSAL_DAT = Null | Select | Next rule |
| 6 | If XSAL_COD = Null AND<br>If TXSAL_DAT < (REF_DAT – 15 months) | Select | Next rule |
| 7 | If XWAR_COD = Null AND<br>If TXWAR_DAT = Null | Select | Next rule |
| 8 | If XWAR_COD = Null AND<br>If TXWAR_DAT< (REF_DAT – 15 months) | Select | Next rule |
| 9 | If XCLO_COD = Null AND<br>If TXCLO_DAT = Null | Select | Next rule |
| 10 | If XCLO_COD = Null AND<br>If TXCLO_DAT< (REF_DAT – 15 months) | Select | Next rule |
| 11 | If XDIPY_COD = Null AND<br>If TXDIPY_DAT = Null | Select | Next rule |
| 12 | If XDIPY_COD = Null AND<br>If TXDIPY_DAT < (REF_DAT – 15 months) | Select | Reject |

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

| *Rule number* | *Rule* | *Action if true* | *Action if false* |
|---|---|---|---|
| 1 | If SAL_DAT >= (REF_DAT – 6 months) OR<br>If WAR_DAT >= (REF_DAT – 6 months) OR<br>If CLO_DAT >= (REF_DAT – 6 months) OR<br>If OSAL_DAT >= (REF_DAT – 6 months) OR<br>If DIPY_DAT>= (REF_DAT – 6 months) | Select | Reject |