



Unrestricted					
Data and Business Rules – Atrial fibrillation Indicator Set					
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**New GMS Contract QOF Implementation**

**Dataset And Business Rules**

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**Atrial Fibrillation**

**Amendment History:**

<b>Version</b>	<b>Date</b>	<b>Amendment History</b>
		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 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
8.7	13-Nov-2006	Following 4-Country Review: XSAL_COD: Delete 223005004 from SNOMED-CT
9.0	30-Nov-2006	Approved by NHSE

## **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 April 2006 release of Read codes version 2, clinical terms version 3 (CTV3) and the July 2005 version of 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 1<sup>st</sup> September and 31<sup>st</sup> 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 1<sup>st</sup> September 2004 and 31<sup>st</sup> 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

<i><u>Current registration status</u></i>	<i><u>Qualifying criteria</u></i>
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>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest &lt; (REF_DAT)</i>
	G573.%	49436004% 5370000%	G5730% G573.% G5731	
	<i>(Atrial fibrillation codes)</i>			
<i>Excluded</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest &lt; (REF_DAT)</i> <i>AND &gt; Date of</i> <i>diagnostic code above</i>
	212R.	196371000000102	XaLFz	
	<i>(Atrial fibrillation resolved codes)</i>			

**2) Clinical data extraction criteria**

<i>Field Number</i>	<i>Field name</i>	<i>Data item</i>			<i>Qualifying criteria</i>
1	PAT_ID	Patient ID number			Unconditional
2	REG_DAT	Date of patient registration			Latest < (REF_DAT)
3	AFIBEXC_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)
		9hF1. 9hF0.	196181000000103 196191000000101	XaLFj XaLfi	
		<i>(Atrial fibrillation exception reporting codes)</i>			
4	AFIBEXC_DAT	Date of AFIBEXC_COD			Chosen record
5	AFIB_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)
		G573.%	49436004% 5370000	G5730% G573.% G5731	
		<i>(Atrial fibrillation codes)</i>			
6	AFIB_DAT	Date of AFIB_COD			Chosen record
7	AFIBDI_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT) AND >= (AFIB_DAT - 3 months)
		3272. 8H41. 8H44. 8HR1. 8H4R. 8HVJ.	164889003 183516009 183519002 308471005% 183838001	3272. 8H41. 8H44. 8HR1. XaBTR%	
		<i>(Atrial fibrillation diagnosis codes)</i>			
8	AFIBDI_DAT	Date of AFIBDI_COD			Chosen record
9	XSAL_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT

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

15	TXWAR_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT	
		8I25.	315061006	XaFsz		
		8I3E.	134398004	XaIIn		
		8I65.	134392003	XaIIh		
		8I71.	88181000000106	XaJ5b		
		8I2R.	413558003	XaKAB		
		8I3d.	413559006	XaKAD		
		8I6N. 8I7A.	413560001 413561002	XaKA7 XaKA0		
<i>(Warfarin contraindications: expiring)</i>						
16	TXWAR_DAT	Date of TXWAR_COD			Chosen record	
17	XCLO_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT	
		14LQ. U6048 ZV14B	407592005 89731000000101 407575001	XaJ8V XaJ3e XaJ5v		
		<i>(Clopidogrel contraindications: persistent)</i>				
		<i>(Clopidogrel contraindications: expiring)</i>				
18	XCLO_DAT	Date of XCLO_COD			Chosen record	
19	TXCLO_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT	
		8I2K. 8I3R. 8I6B. 8I72.	407582002 407583007 407571005 88191000000108	XaJ6Y XaJ6Z XaJ5I XaJ5c		
		<i>(Clopidogrel contraindications: expiring)</i>				
		<i>(Clopidogrel contraindications: expiring)</i>				
		<i>(Clopidogrel contraindications: expiring)</i>				
20	TXCLO_DAT	Date of TXCLO_COD			Chosen record	

21	OSAL_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)
		67I8. 8B63. 8B3T. 8B6P.	315045009 314481009 266716006% 413081008	XaFsi XaF7N XE0hr% XaJd8	
		<i>(OTC salicylate codes)</i>			
22	OSAL_DAT	Date of OSAL_COD			Chosen record
23	SAL_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)
		bu2..% di1..% j11..% blm..% bu4..%	319770009% 358427004%	bu2..% x04tL% blm..% bu4..%	
		<i>(Salicylate prescription codes)</i>			
24	SAL_DAT	Date of SAL_COD			Chosen record
25	CLO_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)
		bu5..%	108979001%	bu5..%	
		<i>(Clopidogrel prescription codes)</i>			
26	CLO_DAT	Date of CLO_COD			Chosen record
27	WAR_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)
		bs...% 8B2K.	350472006% 350473001% 413557008	x01O3% x01O5% XaKAK	
		<i>(Warfarin prescription codes)</i>			
28	WAR_DAT	Date of WAR_COD			Chosen record
29	DIPY_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)

		bu1.%, bu4.%, (excluding bu13., bu1z.)	66859009%, (excluding 319769008%)	bu1.%, bu4.%, (excluding bu1z.%)	
		<i>(Dipyridamole prescription codes)</i>			
30	DIPY_DAT	Date of DIPY_COD			Chosen record
31	XDIPY_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT
		14LX. TJC44 U60C3	295077001 293539000 196481000000105	Xa61Z Xa5d6 TJC44	
		<i>(Dipyridamole contraindications: persistent)</i>			
32	XDIPY_DAT	Date of XDIPY_COD			Chosen record
33	TXDIPY_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT
		8I2b. 8I3n. 8I6a. 8I7J.	196061000000106 196051000000108 196041000000105 196011000000109	XaLFv XaLFw XaLFx XaLFy	
		<i>(Dipyridamole contraindications: expiring)</i>			
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 2: The percentage of patients with atrial fibrillation diagnosed from 1st April 2006 with ECG or specialist confirmed diagnosis

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <a href="#">AFIB_DAT</a> >= 01.04.2006	Next rule	Reject
2	If <a href="#">AFIBDI_DAT</a> <= ( <a href="#">AFIB_DAT</a> + 12 months) AND If <a href="#">AFIBDI_DAT</a> >= ( <a href="#">AFIB_DAT</a> - 3 months)	Select	Next rule
3	If <a href="#">REG_DAT</a> >= ( <a href="#">REF_DAT</a> - 3 months)	Reject	Next rule
4	If <a href="#">AFIBEXC_DAT</a> >= ( <a href="#">REF_DAT</a> - 15 months)	Reject	Next rule
5	If <a href="#">AFIB_DAT</a> >= ( <a href="#">REF_DAT</a> - 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 <a href="#">AFIBDI_DAT</a> <= ( <a href="#">AFIB_DAT</a> + 12 months) AND If <a href="#">AFIBDI_DAT</a> >= ( <a href="#">AFIB_DAT</a> - 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

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

d) 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 <a href="#">SAL_DAT</a> >= ( <a href="#">REF_DAT</a> - 15 months) OR If <a href="#">WAR_DAT</a> >= ( <a href="#">REF_DAT</a> - 15 months) OR If <a href="#">CLO_DAT</a> >= ( <a href="#">REF_DAT</a> - 15 months) OR If <a href="#">OSAL_DAT</a> >= ( <a href="#">REF_DAT</a> - 15 months) OR If <a href="#">DIPY_DAT</a> >= ( <a href="#">REF_DAT</a> - 15 months)	Select	Reject