Data and Business Rules – Heart failure Indicator Set					
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New GMS Contract QOF Implementation

Dataset and Business Rules
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Heart Failure Indicator Set
(HF)

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	10-April-2014	DRAFT 2014/15 Business Rules update
	14-May-2014	DRAFT Reformatting and rules check
28.1NI	10-June-2014	Rule 5 HF002NI required an update to make it 15 months to match the numerator
28.2NI	23-July-2014	Document version incremented to bring in line with other disease areas
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

<u>New GMS contract Q&O framework implementation</u>

Dataset and business rules – Heart failure indicator set

<u>Notes</u>

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 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.

   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).

   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, 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.

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.

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: registration date < (REF_DAT); and deregistration date >= (REF_DAT)

b) Diagnostic code status

i) patient population with heart failure

Code criteria	Qualifying diagnostic codes		Time criteria
Required	Read codes v2	CTV3	Earliest < (REF_DAT)
	G58..% G1yz1 662f. – 662i.	G58..% (excluding G5y4.%)	
	Codes for Heart failure		

ii) patient population with heart failure due to LVSD*

Code criteria	Qualifying diagnostic codes		Time criteria
Included	Read codes v2	CTV3	Earliest < (REF_DAT)
	G58..% G1yz1 662f. – 662i.	G58..% (excluding G5y4.%)	
	Codes for Heart failure		
Required	Read codes v2	CTV3	Earliest < (REF_DAT)
	585f. G5yy9 G5yyD	XaJ98 XaIIq Xaacj	
	Codes for LVSD		

*N.B.   Codes required to be present from both groups to qualify a patient for inclusion

2) <u>Clinical data extraction criteria</u>

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	HFEXC_COD	*Read codes v2*		*CTV3*	Latest < (REF_DAT)
		9hH..%		XaMJ9%	
		(Heart failure exception reporting codes)			
4	HFEXC_DAT	Date of HFEXC_COD			Chosen record
5	HF_COD	*Read codes v2*		*CTV3*	Earliest < (REF_DAT)
		G58..% G1yz1 662f. – 662i.		G58..% (excluding G5y4.%)	
		(Heart failure codes)			
6	HF_DAT	Date of HF_COD			Chosen record

		Read codes v2	CTV3	
7	ECOG_COD	5853. 58531 585f. 585g. 5C20. 33BD. 8HQ7. R1320 R1322 5531. 5533. 5538. 79380 79382 8H4R. 8HVJ. 8H44. 8H7o0 7P0H6 8A544 8HTL0 8HTL. 79352 7P0H. 7P0H0 7P0H1 7P0H4	X77c1% (excluding X70mc) XaJ98 XaJ99 58531 XaIx9 XaION XaJKz R1320 R1322 5531. 5533. XaJi7 X77cC% (excluding XE0Ep%) XaLFu 8H44. XaBTR% XaXBj XaZle XaaH6 XaILD	Earliest < REF_DAT AND >= (HF_DAT – 3 months)

		(Echocardiogram codes)		
8	ECOG_DAT	Date of ECOG_COD		Chosen record
9	ECEXC_COD	*Read codes v2*	*CTV3*	Earliest < (REF_DAT) AND >= (HF_DAT)
		56F1. 5534. 81BF.	XaJIC XaJHZ Xab0e	
		(Codes for Echo declined)		
10	ECEXC_DAT	Date of ECEXC_COD		Chosen record
11	XACE_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		14LM. U60C4 TJC77 – TJC79 ZV14D K0430	XaJ5y XaJ8Y Xa60w% Xa5cT% XaIrq U60C4 TJC77 TJC78 TJC79 X70wH XaZ6J	
		(Ace inhibitor contraindications; persistent)		
12	XACE_DAT	Date of XACE_COD		Chosen record
13	TXACE_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT

		8I28. 8I3D. 8I64. 8I74.	XaG2W XaIIm XaIIf XaJ5e	
		(Ace inhibitor contraindications; expiring)		
14	TXACE_DAT	Date of TXACE_COD		Chosen record
15	XAII_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		14LN. U60CB ZV14E	XaJ5z XaJ8o XaIzK XaJ8W Xa619 Xa5cg	
		(AII antagonist contraindications: persisting)		
16	XAII_DAT	Date of XAII_COD		Chosen record

17	TXAII_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		8I2H. 8I3P. 8I6C. 8I75.	XaInW XaIyw XaJ5m XaJ5f	
		(AII antagonist contraindications: expiring)		
18	TXAII_DAT	Date of TXAII_COD		Chosen record
19	ACE_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		bi...% bA...% bk6..%	bi...% bA...%	
		(Ace inhibitor prescription codes)		
20	ACE_DAT	Date of ACE_COD		Chosen record
21	AII_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		bk3.. - bk5z. bk7.. - bk9z. bkB..%, bkC..%, bkD..% bkH..%, bkI..%, bkJ..%	x03j2% x03ls% bkD..% bkH..% bkI..% bkJ..%	
		(AII antagonist prescription codes)		
22	AII_DAT	Date of AII_COD		Chosen record

23	XLBB_COD	Read codes v2	CTV3	Latest < REF_DAT
		14LL. TJC6.% U60B7 U60B9 - U60BB ZVu6i, ZVu6o, ZVu6q, ZV14C, TJC00, TJC02	XaJ5x TJC6.% Xa5LL% XaQad, XaQac, XaQab,U60B7, XaQaf, XaQag, XaQah XaJ8U Xa5jo%, TJC00, TJC02	
		(Beta-blocker contraindications: persisting)		
24	XLBB_DAT	Date of XLBB_COD		Chosen record
25	TXLBB_COD	Read codes v2	CTV3	Latest < REF_DAT
		8I26. 8I2g. - 8I2i. 8I36. 8IAS. - 8IAV. 8I62. 8I6i. - 8I6k. 8I73. 8I7K. - 8I7M.	XaFt0% XaFsB% XaFvr% XaJ5d%	
		(Beta-blocker contraindications: expiring)		
26	TXLBB_DAT	Date of TXLBB_COD		Chosen record

27	LBB_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		bdf..% bdl..% bdm..%	x01C1% bdl..% bdm..%	
		(Licensed Beta-blocker prescription codes)		
28	LBB_DAT	Date of LBB_COD		Chosen record
29	ULBB_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		bd…% (Excluding bdf..% bdl..% bdm..%)	bd…% (excluding k832.%, k83z.%, k83y.%, bd4.., k83.., k85y.%, k85z.%, x01C8%, k8b..%, x03hf% x01C1%, bdl..% bdm..%, k8fH., k8fI.)	
		(UnLicensed Beta-blocker prescription codes)		
30	ULBB_DAT	Date of ULBB_COD		Chosen record

Indicator rulesets

Indicator HF001: The contractor establishes and maintains a register of patients with heart failure

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 HF002NI: The percentage of patients with a diagnosis of heart failure (diagnosed on or after 1 April 2006) which has been confirmed by an echocardiogram or by specialist assessment between 3 months before and 15 months after entering on to the register

a) Denominator ruleset: To be applied to the patient population with heart failure

Rule number	Rule	Action if true	Action if false
1	If HF_DAT >= 01.04.2006	Next rule	Reject
2	If ECOG_DAT <= (HF_DAT + 15 months) AND If ECOG_DAT >= (HF_DAT - 3 months)	Select	Next rule
3	If REG_DAT >= (REF_DAT – 3 months)	Reject	Next rule
4	If HFEXC_DAT >= (REF_DAT – 15 months)	Reject	Next rule
5	If ECEXC_DAT <= (HF_DAT + 15 months)	Reject	Next rule
6	If HF_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 ECOG_DAT <= (HF_DAT + 15 months) AND If ECOG_DAT >= (HF_DAT - 3 months)	Select	Reject

Indicator HF003: In those patients with a current diagnosis of heart failure due to left ventricular systolic dysfunction, the percentage of patients who are currently treated with an ACE-I or ARB.

a) Denominator ruleset: To be applied to the patient population with heart failure due to LVSD

Rule number	Rule	Action if true	Action if false
1	If ACE_DAT >= (REF_DAT – 6 months) OR If AII_DAT >= (REF_DAT – 6 months)	Select	Next rule
2	If REG_DAT >= (REF_DAT – 3 months)	Reject	Next rule
3	If HFEXC_DAT >= (REF_DAT – 15 months)	Reject	Next rule
4	If HF_DAT >= (REF_DAT – 3 months)	Reject	Next rule
5	If XACE_COD = Null AND If TXACE_DAT = Null	Select	Next rule
6	If XACE_COD = Null AND If TXACE_DAT < (REF_DAT – 15 months)	Select	Next rule
7	If XAII_COD = Null AND If TXAII_DAT = Null	Select	Next rule
8	If XAII_COD = Null AND If TXAII_DAT < (REF_DAT – 15 months)	Select	Reject

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

Rule number	Rule	Action if true	Action if false
1	If ACE_DAT >= (REF_DAT – 6 months) OR If AII_DAT >= (REF_DAT – 6 months)	Select	Reject

Indicator HF004: In those patients with a current diagnosis of heart failure due to left ventricular systolic dysfunction who are currently treated with an ACE-I or ARB, the percentage of patients who are additionally currently treated with a beta-blocker licensed for heart failure.

a) Denominator ruleset: To be applied to the patient population with heart failure due to LVSD

Rule number	Rule	Action if true	Action if false
1	If ACE_DAT >= (REF_DAT – 6 months) OR If AII_DAT >= (REF_DAT – 6 months)	Next Rule	Reject
2	If LBB_DAT >= (REF_DAT – 6 months)	Select	Next rule
3	If ULBB_DAT >= (HF DAT – 6 months)	Reject	Next rule
4	If REG_DAT >= (REF_DAT – 3 months)	Reject	Next rule
5	If HFEXC_DAT >= (REF_DAT – 15 months)	Reject	Next rule
6	If HF DAT >= (REF_DAT – 3 months)	Reject	Next rule
7	If XLBB_COD = Null AND If TXLBB_DAT = Null	Select	Next rule
8	If XLBB_COD = Null AND If TXLBB_DAT < (REF_DAT – 15 months)	Select	Reject

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

Rule number	Rule	Action if true	Action if false
1	If LBB_DAT >= (REF_DAT – 6 months)	Select	Reject