New GMS Contract QOF Implementation

Dataset and Business Rules
-
Smoking Indicator Set
(SMOK)

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	15-May-2014	Business Rules update (DRAFT)
28.1NI	11-Jun-2014	Re-worded description of SMOK001, included some formatting updates.
28.2NI	17-Jun-2014	Replaced IHD_COD CTV3 cluster, have re-tracked several updates
	23-Jul-2014	Removed many redundant clusters and much of the qualifying criteria due to there being only one indicator. Have renumbered the remaining clusters as a result
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 – Smoking 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 indicatorsare 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) Patient population who are aged 15 years and over

Action	Qualifying criterion
Excluded	Age < 15 yrs at REF_DAT

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	PAT_AGE	Patients age (years) at REF_DAT		Unconditional
4	PAT_DOB	Patients date of birth		Unconditional
5	SMOK_COD	*Read codes v2*	*CTV3*	Latest < REF_DAT
		137.. - 137D. 137F. - 137H. 137J., 137K., 137M. – 137T. 137V. 137X. - 137f., 137h., 137j. 137l. 137m. 137o.	Ub0oo% (excluding XE0oo, XaIQi%, Ub0oq, 137L., XaQzw, XaXP9, XaXP8, XaXP6, Ub0oo, XaIuQ, Ub0p2, Ub0p3)	
		(Smoking habit codes)		
6	SMOK_DAT	Date of SMOK_COD		Chosen record
7	NSMOK_COD	*Read codes v2*	*CTV3*	Most recent of SMOK_COD < REF_DAT
		1371.	XE0oh	
		(Code for never smoked)		
8	NSMOK_DAT	Date of NSMOK_COD		Chosen record

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		Read codes v2	CTV3	
9	EXSMOK_COD	1377. – 137B. 137F. 137K. 137N. – 137O. 137S. – 137T. 137j., 137l.	Ub1na% (Excluding XaQzw, XaXP8, XaXP6) Ub0p1	If LSMOK_DAT = Null (ALL < REF_DAT) OR If LSMOK_DAT ≠ Null (ALL > LSMOK_DAT AND < REF_DAT)
		(*Codes for ex-smoker*)		
10	{EXSMOK_DAT}	Date of EXSMOK_COD		Chosen array
		Read codes v2	CTV3	
11	CSMOK_COD	137.. 1372. – 1376. 137C. - 137D. 137G. - 137H. 137J. 137M. 137P. - 137R. 137V. 137X. - 137f. 137h. 137m. 137o.	137R.% (excluding XaXP9) XE0og% (excluding XaIuQ, XE0oo) 137C. 137G. 137M. XaIIu XaItg XaJX2 XaLQh XaWNE	Most recent of SMOK_COD < REF_DAT
		(*Current smoker codes*)		
12	CSMOK_DAT	Date of CSMOK_COD		Chosen record
		Read codes v2	CTV3	
13	EXSMOK1_COD	1377. – 137B. 137F. 137K. 137N. – 137O. 137S. – 137T. 137j., 137l.	Ub1na% (Excluding XaQzw, XaXP8, XaXP6) Ub0p1	ALL >= (EXSMOK_DAT – 24 months) AND < (EXSMOK_DAT – 12 months) AND < REF_DAT
		(*Codes for ex-smoker*)		
14	{EXSMOK1_DAT}	Date of EXSMOK1_COD		Chosen array

		Read codes v2	CTV3	
15	EXSMOK2_COD	1377. – 137B. 137F. 137K. 137N. – 137O. 137S. – 137T. 137j., 137l.	Ub1na% (Excluding XaQzw, XaXP8, XaXP6) Ub0p1	ALL >=(EXSMOK_DAT – 36 months) AND < (EXSMOK_DAT – 24 months) AND < REF_DAT
		(*Codes for ex-smoker*)		
16	{EXSMOK2_DAT}	Date of EXSMOK2_COD		Chosen array
		Read codes v2	CTV3	
17	LSMOK_COD	137.. 1372. – 1376. 137C. - 137D. 137G. - 137H. 137J. 137M. 137P. - 137R. 137V. 137X. - 137f. 137h. 137m. 137o.	137R.% (excluding XaXP9) XE0og% (excluding XaIuQ, XE0oo) 137C. 137G. 137M. XaIIu XaItg XaJX2 XaLQh XaWNE	Latest < REF_DAT
		(*Smoker codes*)		
18	LSMOK_DAT	Date of LSMOK_COD		Chosen record
		Read codes v2	CTV3	
19	SMOKEXC_COD	9hG1. 9hG0. 137k.	XaLIZ XaLIY XaPyn	Latest < REF_DAT
		(*Smoking exception reporting codes*)		
20	SMOKEXC_DAT	Date of SMOKEXC_COD		Chosen record

		Read codes v2	CTV3	
21	LEXSMOK_COD	1377. – 137B. 137F. 137K. 137N. – 137O. 137S. – 137T. 137j., 137l.	Ub1na% (Excluding XaQzw, XaXP8, XaXP6) Ub0p1	Most recent of SMOK_COD < REF_DAT
		(*Codes for ex-smoker*)		
22	LEXSMOK_DAT	Date of LEXSMOK_COD		Chosen record
23	L3YREXSMOK_DAT	Latest date of a group of 3_yearly consecutive EX SMOK codes		Latest array entry in {EXSMOK_DAT} for instance index where {EXSMOK1_DAT} index not Null AND {EXSMOK2_DAT} index not Null

Indicator rulesets

Indicator SMOK001NI: The percentage of patients aged 15 or over whose notes record smoking status in the preceding 3 years.

        a) Denominator ruleset: To be applied to the patient population aged 15 years and over

Rule number	Rule	Action if true	Action if false
1	If CSMOK_DAT >= (REF_DAT – 36 months)	Select	Next rule
2	If PAT_AGE > 25 AND NSMOK_DAT ≠ Null AND NSMOK_DAT > PAT_DOB +25 years	Select	Next rule
3	If NSMOK_DAT >= (REF_DAT – 36 months)	Select	Next rule
4	If LEXSMOK_COD ≠ Null AND LEXSMOK_DAT >= (REF_DAT – 36 months)	Select	Next rule
5	If L3YREXSMOK_DAT ≠ Null AND LSMOK_DAT = Null OR If L3YREXSMOK_DAT ≠ Null AND LSMOK_COD ≠ Null AND L3YREXSMOK_DAT > LSMOK_COD	Select	Next rule
6	If REG_DAT >= (REF_DAT – 3 months)	Reject	Next rule
7	If SMOKEXC_DAT >= (REF_DAT – 15 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 CSMOK_DAT >= (REF_DAT – 36 months)	Select	Next rule
2	If PAT_AGE > 25 AND NSMOK_DAT ≠ Null AND NSMOK_DAT > PAT_DOB +25 years	Select	Next rule
3	If NSMOK_DAT >= (REF_DAT – 36 months)	Select	Next rule
4	If LEXSMOK_COD ≠ Null AND LEXSMOK_DAT >= (REF_DAT – 36 months)	Select	Next rule
5	If L3YREXSMOK_DAT ≠ Null AND LSMOK_DAT = Null OR If L3YREXSMOK_DAT ≠ Null AND LSMOK_COD ≠ Null AND L3YREXSMOK_DAT > LSMOK_COD	Select	Reject

Additional Notes:

Rule 1: The aim of this rule is to identify any patient whose most recent smoking status is 'current smoker' and that it has been recorded in the last 36 months.
True: If the patient has a latest smoking status recorded in the last 36 months of 'current smoker', then the patient is to be included in both the numerator and the denominator.
False: If the patient does not have a latest smoking status recorded in the last 36 months of 'current smoker', then the patient is further considered.

Rules 2 & 3 are to handle the scenarios for patients who have 'never smoked'.
Rule 2: The aim of this rule is to identify any patient aged over 25 that has, as the most recent smoking status, a status of 'never smoked'.
True: If the patient is aged over 25 and has a latest smoking status of 'never smoked' which has been recorded after the patient's 25th birthday, then the patient is to be included in both the numerator and the denominator.
False: If the patient is aged over 25 but does not have a latest smoking status of 'never smoked' recorded after the patient's 25th birthday', then the patient is further considered.

Rule 3: The aim of this rule is to identify any patient aged 25 or under that has, as the most recent smoking status, a status of 'never smoked'.
True: If the patient is aged 25 or under and has a latest smoking status of 'never smoked' which has been recorded in the last 36 months, then the patient is to be included in both the numerator and the denominator.
False: If the patient is aged 25 or under and does not have a latest smoking status of 'never smoked' recorded in the last 36 months, then the patient is further considered.

Rules 4 & 5 are to handle the scenarios for patients who are 'ex-smokers'.
Rule 4: The aim of this rule is to identify any patient that has, as the most recent smoking status, a status of 'ex-smoker'.

True: If the patient has a latest smoking status of 'ex-smoker' which has been recorded in the last 36 months, then the patient is to be included in both the numerator and the denominator.
False: If the patient does not have a latest smoking status of 'ex-smoker' recorded in the last 36 months, then the patient is further considered.

Rule 5: The aim of this rule is to identify any patient that has, as the most recent smoking status, a status of 'ex-smoker' and has consecutive 'ex- smoker' status (i.e. unbroken by a period of a 'smoking' status recorded over three consecutive years.
True: If the patient has a latest smoking status of 'ex-smoker' and has a smoking status of 'ex-smoker' recorded in three consecutive years WITHOUT a later smoking status of 'smoker' recorded, then the patient is to be included in both the numerator and the denominator.
False: If the patient has a latest smoking status of 'ex-smoker' and does not have a smoking status of 'ex-smoker' recorded in three consecutive years WITHOUT a later smoking status of 'smoker' recorded, then the patient is further considered.

Where NO smoking status satisfying Rules 3 to 5 above are found, then the patient records should be further examined to see if there are any 'exceptions' (Rule 6) that apply before including/excluding the patient in/from the denominator.

Rule 6: The aim of this rule is to identify any patient that 'recently registered' at the practice. If the patient has registered at the practice in the last 3 months, the patient should not be included in the denominator, otherwise they are passed on to the next rule.

Rule 7: The aim of this rule is to identify any patient that has a relevant smoking exception code recorded. If this has been recorded in the preceding 15 months, the patient can be excepted and is not included in the denominator.