



Unrestricted					
Data and Business Rules – Smoking Indicator Set					
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**New GMS Contract QOF Implementation**  
**Dataset And Business Rules**  
**-**  
**Smoking Indicator Set**

**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	21-Nov-2005	Amended following review by Peter Horsfield
7.3	3-Dec-2005	Draft revised for internal review
7.4	22-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	10-Oct-2006	April Read Code Release April SNOMED CT Release October Read Code Release Corrections and amendments following feedback Add age check to Asthma element of the smoking register
8.7	16-Nov-2006	Responding to queries raised by the 4 Country Review. Update Stroke and Diabetes clusters to be consistent with individual indicators. Delete Reaven's syndrome from V2 Add '206596003' to 'Hypertension diagnostic codes to standardise across rulesets. Remove "(excluding 401201003)" from SMOK_COD Correct inconsistencies within Stroke Diagnostic Codes, STRT_COD across the Business Rule sets Correct inconsistencies with SMOKEXC_COD to align with Records Business Rules Add date check for Asthma in DIAG_DAT cluster
9.0	30-Nov-2006	Approved by NHSE
9.1	11-Apr-2007	April 2007 Read Code Release (includes inserting missing paragraphs from the Notes section)
9.2	13-Jun-2007	Following 4-Country Review: Remove age check from Asthma Diagnostic Code Status and apply to SMOKE1 indicator.
10.0	18-Jun-2007	Signed off following 4 Country review
10.1	13-Sept-2007	April 2007 SNOMED CT Release
10.2	23-Sep-2007	October 2007 Read Code Release October 2007 SNOMED CT Release
10.3	27-Nov-2007	Following 4-Country Review: Remove superfluous 'z' from all instances of G2zz.
11.0	28-Nov-2007	Signed off following 4 Country review
11.1	30-Jun-2008	April 2008 Read Code Release April 2008 SNOMED CT Release QOF Review 2007 (Include CKD and some MH patients into register, Replace Smoking 1 & 2 with Smoking 3 & 4)
11.2	30-Jun-2008	Following 4-Country Review:

		<p>Register wording amended to included additional co-morbidities  137U. removed from SMOK_COD cluster  EXSMOK, EXSMOK1 &amp; EXSMOK2 clusters corrected for v2 Read Codes  Selection criteria amended for EXSMOK1 and EXSMOK2, to look for an instance in a 12 month period  Correct Indicator numbering for Smoking 4  Correct Denominator rules 3, 5 and 6 for indicator Smoking 3  Correct Numerator rules 2, 4 and 5 for indicator Smoking 3</p>
12.0	24-Jul-2008	Signed off following 4 Country review
12.1	06-Oct-2008	<p>October 2008 Read Code Release  October 2008 SNOMED CT Release  Application of v12.0 Addendum 2 corrections to Denominator Rule 6 &amp; Numerator Rule 5 (for Smoking 3)</p>
12.2	26-Nov-2008	<p>Following 4-Country Review:  Correction Denominator Rules 3 &amp; 4 and Numerator Rules 2 &amp; 3 (for Smoking 3)</p>
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 – Smoking 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 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 the 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

<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)

- b) Diagnostic code status (patient population with co-morbidity of coronary heart disease, stroke or TIA, hypertension, diabetes, COPD, asthma, CKD, schizophrenia, bipolar affective disorder or other psychoses)  
 (Note: A patient need only qualify for ONE of the disease areas to be included in the patient population)

<i>Code criteria</i>	<i>Qualifying diagnostic codes (IHD)</i>			<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Earliest &lt; (REF_DAT)</i>
	G3... - G330z G33z. - G3401 G342. - G366. G38.. - G3z.. Gyu3%	194828000% (excluding 87343002)  22298006% 53741008% (excluding 42866003) 414545008% (excluding 276516009%)  67682002	XE2uV% (excluding Xa07j%, G341.%, X200B%, X200c)	

<i>Code criteria</i>	<i>Qualifying diagnostic codes (Stroke &amp; TIA)</i>			<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Earliest &lt; (REF_DAT)</i>
	G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% G6760 G6W.. G6X.. Gyu62 - Gyu66 Gyu6F Gyu6G	29322000%, 95458005%, 95459002 20059004% (excluding 195231004) 75543006% 73020009% (excluding 65971006, 38453000, 23276006%) 287731003% (excluding 230716006%, 276706004%, 230717002%) 71444005% 230690007% (excluding 23276006%, 106016005%, 39925003, 371121002, 233983001%) 371158002% (excluding 371158002, 277324009, 276275000, 195199008) 274100004% (excluding 195168007, 261808007) 28790007%, 195174007% 89142007, 48601002%, 40276003% 43658003, 195182007, 195602006, 195601004	X00D1%	
	<i>(Stroke disease codes)</i>			
	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	
	G65.. - G654. G656. - G65zz F4236	266257000%, 15258001	XE0VK%	
<i>(TIA codes)</i>				

<i>Code criteria</i>	<i>Qualifying diagnostic codes (Hypertension)</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>
	G2... G20..% G24.. - G2z.. (Excluding G24z1)	38341003% (excluding 69909000 72022006%, 198941007%, 367390009%, 62275004, 64715009%, 38481006%, 206596003, 169465000, 194791005% 199008003)	XE0Ub XE0Uc% G24..% (excluding 61462) G2...% G202. Xa3fQ Xa0Cs XSDSb	
<i>(Hypertension diagnosis codes)</i>				
<i>Excluded</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest &lt; (REF_DAT) AND &gt; Date of diagnostic code above</i>
	21261 212K.	162659009	21261	
<i>(Codes for hypertension resolved)</i>				

<i>Code criteria</i>	<i>Qualifying diagnostic codes (diabetes mellitus)</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>
	C10E.% C10F.% (excluding C10F8)	46635009% 44054006%	X40J4% X40J5% X40J6	
	<i>(Diagnostic codes for diabetes mellitus)</i>			
<i>Excluded</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest &lt; (REF_DAT) AND &gt; Date of diagnostic code above</i>
	21263 212H.	315051004	XaFsp	
	<i>(Codes for diabetes resolved)</i>			
<i>Excluded</i>	Age < 17 yrs at REF_DAT			

<i>Code criteria</i>	<i>Qualifying diagnostic codes (COPD)</i>			<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Earliest < (REF_DAT)
	H3... H31..% (excluding H3101, H31y0, H3122) H32..% H36.. - H3z..	63480004% 13645005% (excluding 195951007%, 47895001%)	H31..% H32..% H3...% (excluding XE0YL%, H3122%)	

<i>Code criteria</i>	<i>Qualifying diagnostic codes (Asthma)</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>
	H33..% (excluding H333., H33z1)	195967001% (excluding 281239006, 266364000%)	H33..% (excluding Xa1hD, XE0YW%, H44..%) X1020	
	<i>(Asthma diagnosis codes)</i>			
<i>Excluded</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest &lt; (REF_DAT) AND &gt; Date of diagnostic code above</i>
	21262 212G.	162660004	21262	
	<i>(Codes for asthma resolved)</i>			
<i>Required</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest &gt;= (REF_DAT - 1y) AND &lt; REF_DAT</i>
	c1...% c2...% c3...% c4...% c5...% c6...% c7...% cA...%	386098006% (excluding 96328007%, 350621008%, 91435002%, 386151000%, 76289007%) 108624006% 349953003% 407730002% 86498000% 353867005% 349969005%, 349968002%, 346678001% 420623007%108627004% (excluding 330529007%) 108616001%	x02IF% x02IG% c67..% c69..% c1C..% x01Cm% cA...% c41..% c42..% c43..%	
	<i>(Asthma-related drug treatment codes)</i>			

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

<i>Code criteria</i>	<i>Qualifying diagnostic codes (CKD)</i>			<i>Time criteria</i>	
<i>Included</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest first or new episode &lt; (REF_DAT)</i>	
	1Z12. 1Z13. 1Z14. 1Z15. 1Z16. 1Z1B. - 1Z1L.	200451000000101% 200461000000103% 200471000000105%	XaLHI% XaLHJ% XaLHK%		
	<i>(Chronic kidney disease codes 3-5)</i>				
<i>Excluded</i>	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	<i>Latest first or new episode &lt; (REF_DAT) AND &gt; Date of diagnostic code above</i>	
	1Z10. 1Z11. 1Z17. - 1Z1A.	200431000000108% 200441000000104%	XaLHH% XaLHG%		
	<i>(Chronic kidney disease codes 1-2)</i>				
<i>Excluded</i>	<i>Age &lt; 18 yrs at REF_DAT</i>				

<i>Code criteria</i>	<i>Qualifying diagnostic codes</i>			<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i> E10..%, E110.%,E111.%, E1124 E1134 E114. - E117z E11y.% (excluding E11y2) E11z., E11z0, E11zz, E12..%, E13..% (excluding E135.) E2122, Eu2..% Eu30.% Eu31.% Eu323, Eu333	<i>SNOMED-CT</i> 69322001% (excluding 408858002 18260003%, 231450007%, 129602009) 13746004% 231494001% 231496004	<i>CTV3</i> X00S6% (excluding Xa9B0%, E14..%) X00SL X00SM% X00SJ% E11z., E11z0, E11zz	<i>Latest &lt; (REF_DAT)</i>
	<i>(Psychosis, schizophrenia + bipolar affective disease 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	PAT_AGE	Patients age (years) at REF_DAT			Unconditional
4	PAT_DOB	Patients date of birth			Unconditional
5	IHD_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Earliest < REF_DAT
		G3... - G330z G33z. - G3401 G342. - G366. G38.. - G3z.. Gyu3.%	194828000% (excluding 87343002)  22298006% 53741008% (excluding 42866003) 414545008% (excluding 276516009%)  67682002  ( <i>Ischaemic heart disease codes</i> )	XE2uV% (excluding Xa07j%, G341.%, X200B%, X200c)	
6	IHD_DAT	Date of IHD_COD			Chosen record
7	STRT_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Earliest < REF_DAT
		G61..% (excluding G617.) G63y0 -	29322000%, 95458005%, 95459002 20059004% (excluding 195231004) 75543006%	X00D1% XE0VK%	

		G63y1 G64..% G66..% G6760 G6W.. G6X.. G65.. - G654. G656. - G65zz F4236 Gyu62 - Gyu66 Gyu6F Gyu6G	73020009% (excluding 65971006, 38453000, 23276006%) 287731003% (excluding 230716006%, 276706004%, 230717002%) 71444005% 230690007% (excluding 23276006%, 106016005%, 39925003, 371121002, 233983001%) 371158002% (excluding 371158002, 277324009, 276275000, 195199008) 274100004% (excluding 195168007, 261808007) 28790007%, 195174007% 89142007, 48601002%, 40276003% 43658003, 195182007, 195602006, 195601004, 266257000%, 15258001		
		(Stroke or TIA codes)			
8	STRT_DAT	Date of STRT_COD			Chosen record
		<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	
9	HYP_COD	G2... G20..% G24.. - G2z.. (Excluding G24z1)	38341003% (excluding 69909000, 72022006%, 198941007%, 367390009%, 62275004, 64715009%, 38481006%, 206596003, 169465000, 194791005% 199008003)	XE0Ub XE0Uc% G24..% (excluding 61462) G2...% G202. Xa3fQ Xa0Cs XSDSb	Earliest < REF_DAT

		<i>(Hypertension diagnosis codes)</i>			
10	HYP_DAT	Date of HYP_COD			Chosen record
11	HYPRES_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT) AND > (HYP_DAT)
		21261 212K.	162659009	21261	
		<i>(Codes for hypertension resolved)</i>			
12	HYPRES_DAT	Date of HYPRES_COD			Chosen record
13	DM_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Earliest < REF_DAT
		C10E.% C10F.% (Excluding C10F8)	46635009% 44054006%	X40J4% X40J5% X40J6	
		<i>(Codes for diabetes)</i>			
14	DM_DAT	Date of DM_COD			Chosen record
15	DMRES_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT) AND > (DM_DAT)
		21263 212H.	315051004	XaFsp	
		<i>(Codes for diabetes resolved)</i>			
16	DMRES_DAT	Date of DMRES_COD			Chosen record
17	COPD_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Earliest < REF_DAT

		H3... H31..% (excluding H3101, H31y0, H3122) H32..% H36.. - H3z..	63480004% 13645005% (excluding 195951007%, 47895001%)	H31..% H32..% H3...% (excluding XE0YL%, H3122%)	
		<i>(COPD codes)</i>			
18	COPD_DAT	Date of COPD_COD			Chosen record
19	AST_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Earliest < REF_DAT
		H33..% (excluding H333., H33z1)	195967001% (excluding 281239006, 266364000%)	H33..% (excluding Xa1hD, XE0YW% H44..%) X1020	
		<i>(Asthma diagnosis codes)</i>			
20	AST_DAT	Date of AST_COD			Chosen record
21	ASTRES_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT) AND > (AST_DAT)
		21262 212G.	162660004	21262	
		<i>(Codes for asthma resolved)</i>			
22	ASTRES_DAT	Date of ASTRES_COD			Chosen record
23	ASTTRT_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest >= (REF_DAT - 1y) AND < (REF_DAT)
		c1...% c2...% c3...%	386098006% (excluding 96328007%, 350621008%, 91435002%, 386151000%, 76289007%)	x02IF% x02IG% c67..%	

		c4...% c5...% c6...% c7...% cA...%	108624006% 349953003% 407730002% 86498000% 353867005% 349969005%, 349968002%, 346678001% 420623007% 108627004% (excluding 330529007%) 108616001%	c69..% c1C..% x01Cm% cA...% c41..% c42..% c43..%	
<i>(Asthma-related drug treatment codes)</i>					
24	ASTTRT_DAT	Date of ASTRES_COD			Chosen record
25	CKD_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest first or new episode < (REF_DAT)
		1Z12. 1Z13. 1Z14. 1Z15. 1Z16. 1Z1B. - 1Z1L	200451000000101% 200461000000103% 200471000000105%	XaLHI% XaLHJ% XaLHK%	
		<i>(Chronic kidney disease codes 3-5)</i>			
26	CKD_DAT	Date of CKD_COD			Chosen record
27	MH_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < (REF_DAT)
		E10..%, E110..%, E111..%, E1124 E1134 E114. - E117z	69322001% (excluding 408858002 18260003%, 231450007%, 129602009) 13746004% 231494001% 231496004	X00S6% (excluding Xa9B0%, E14..%) X00SL X00SM% X00SJ% E11z., E11z0, E11zz	

		<p>E11y.% (excluding E11y2) E11z., E11z0, E11zz, E12..%, E13..% (excluding E135.) E2122, Eu2..% Eu30.% Eu31.% Eu323, Eu333</p>			
		<i>('Psychosis, schizophrenia + bipolar affective disease codes)</i>			
28	MH_DAT	Date of MH_COD			Chosen record
29	DIAG_DAT	The earliest diagnosis date of disease for inclusion in the co-morbidity register			<p>Earliest of IHD_DAT, STRT_DAT, HYP_DAT (where (HYPRES_DAT = Null)), DM_DAT (where (DMRES_DAT = Null) AND (PAT_AGE &gt;=</p>

					17)), COPD_DAT, AST_DAT (where (ASTRES_DAT = Null) AND (ASTTRT_DAT ≠ Null) AND (PAT_AGE ≥ 20)), CKD_DAT (where PAT_AGE ≥ 18), MH_DAT
30	SMOK_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT
		137.. - 137D. 137F. - 137H. 137J., 137K. 137M. - 137T. 137V. 137X. - 137h.	365981007% (excluding 266927001, 8392000, 160618006%) 266918002%	Ub0oo% (excluding XE0oo, XaIQi% Ub0oq, 137L.)	
		<i>(Smoking habit codes)</i>			
31	SMOK_DAT	Date of SMOK_COD			Chosen record
32	NSMOK_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Most recent of SMOK_COD < REF_DAT
		1371.	266919005	XE0oh	
		<i>(Code for never smoked)</i>			
33	NSMOK_DAT	Date of NSMOK_COD			Chosen record

34	EXSMOK_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Most recent of SMOK_COD < REF_DAT
		1377. - 137B. 137F. 137K. 137N. - 137O. 137S. - 137T.	8392000% (Excluding 8392000, 160618006%)	Ub1na% (Excluding 137L.)	
		(Codes for ex-smoker)			
35	EXSMOK_DAT	Date of EXSMOK_COD			Chosen record
36	CSMOK_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Most recent of SMOK_COD < REF_DAT
		1372. - 1376. 137C. - 137D. 137G. - 137H. 137J. 137M. 137P. - 137R. 137V. 137X. - 137f. 137h.	365981007% (excluding 8392000%, 266927001) 266918002% (excluding 401201003) 401159003	137R.% XE0og% (excluding XaIuQ) 137C. 137G. 137M. XaIiu XaItg XaJX2	
		(Current smoker codes)			
37	CSMOK_DAT	Date of CSMOK_COD			Chosen record
38	CESS_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT
		6791. 67A3. 8B2B. 8CAL. 8HTK. 13p..% 900..% 9N4M. 9N2k.	225323000% 315232003 390905006, 315055008, 313396002 390900001% 308512009% 401068004, 395700008, 25261000000107, 384742004 310429001%	6791. XaFw9 Xa1dC% XaIQn, XaFst XaEku, XaIQi% XaBUG% XaIye	

		8H7i. 67H1. 8B3Y. 8B3f. 745H.%		XaJIs XaItC XaIpo XaCGL% XaMII%	
		<i>(Smoking cessation codes)</i>			
39	CESS_DAT	Date of CESS_COD			Chosen record
40	EXSMOK1_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest >= (EXSMOK_DAT - 24 months) AND < (EXSMOK_DAT - 12 months)
		1377. - 137B. 137F. 137K. 137N. - 137O. 137S. - 137T.	8392000% (Excluding 8392000, 160618006%)	Ub1na% (Excluding 137L.)	
		<i>(Codes for ex-smoker)</i>			
41	EXSMOK1_DAT	Date of EXSMOK1_COD			Chosen record
42	EXSMOK2_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest >= (EXSMOK_DAT - 36 months) AND < (EXSMOK_DAT - 24 months)
		1377. - 137B. 137F. 137K. 137N. - 137O. 137S. - 137T.	8392000% (Excluding 8392000, 160618006%)	Ub1na% (Excluding 137L.)	
		<i>(Codes for ex-smoker)</i>			
43	EXSMOK2_DAT	Date of EXSMOK2_COD			Chosen record
44	LSMOK_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT
		1372. - 1376. 137C. - 137D. 137G. -	365981007% (excluding 8392000%, 266927001) 266918002% (excluding 401201003) 401159003	137R.% XE0og% (excluding XaIuQ) 137C. 137G.	

		137H. 137J. 137M. 137P. - 137R. 137V. 137X. - 137f. 137h.		137M. XaIlu XaItg XaJX2	
		<i>(Smoker codes)</i>			
45	LSMOK_DAT	Date of LSMOK_COD			Chosen record
46	SMOKEXC_COD	<i>Read codes v2</i>	<i>SNOMED-CT</i>	<i>CTV3</i>	Latest < REF_DAT
		9hG1. 9hG0.	205951000000100 205941000000103	XaLIZ XaLIY	
		<i>(Smoking exception reporting codes)</i>			
47	SMOKEXC_DAT	Date of SMOKEXC_COD			Chosen record

**Indicator rulesets**

- 1 **Smoking 3**: The percentage of patients with any or any combination of the following conditions: coronary heart disease, stroke or TIA, hypertension, diabetes, COPD, asthma, CKD, schizophrenia, bipolar affective disorder or other psychoses whose notes record smoking status in the previous 15 months.

## a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If ( <a href="#">IHD_DAT</a> ≠ Null) OR If ( <a href="#">STRT_DAT</a> ≠ Null) OR If ( <a href="#">COPD_DAT</a> ≠ Null) OR If ( <a href="#">HYP_DAT</a> ≠ Null AND <a href="#">HYPRES_DAT</a> = Null) OR If ( <a href="#">DM_DAT</a> ≠ Null AND <a href="#">DMRES_DAT</a> = Null AND <a href="#">PAT_AGE</a> ≥ 17) OR If ( <a href="#">AST_DAT</a> ≠ Null AND <a href="#">ASTRES_DAT</a> = Null AND <a href="#">ASTTRT_DAT</a> ≠ Null AND <a href="#">PAT_AGE</a> ≥ 20) OR If ( <a href="#">CKD_DAT</a> ≠ Null AND <a href="#">PAT_AGE</a> ≥ 18) OR If ( <a href="#">MH_DAT</a> ≠ Null)	Next Rule	Reject
2	If <a href="#">CSMOK_DAT</a> ≥ ( <a href="#">REF_DAT</a> – 15 months)	Select	Next rule
3	If <a href="#">PAT_AGE</a> > 25 AND <a href="#">NSMOK_DAT</a> ≠ Null AND <a href="#">NSMOK_DAT</a> ≥ <a href="#">DIAG_DAT</a> AND <a href="#">NSMOK_DAT</a> > <a href="#">PAT_DOB</a> +25 years	Select	Next rule
4	If <a href="#">PAT_AGE</a> ≤ 25 AND <a href="#">NSMOK_DAT</a> ≥ ( <a href="#">REF_DAT</a> – 15 months)	Select	Next rule
5	If <a href="#">EXSMOK_COD</a> ≠ Null AND <a href="#">EXSMOK_DAT</a> ≥ ( <a href="#">REF_DAT</a> – 15 months)	Select	Next rule
6	If (( <a href="#">EXSMOK_COD</a> ≠ Null) AND If ( <a href="#">EXSMOK1_COD</a> ≠ Null) AND If ( <a href="#">EXSMOK2_COD</a> ≠ Null)) AND If (( <a href="#">LSMOK_COD</a> = Null) OR If ( <a href="#">LSMOK_DAT</a> < <a href="#">EXSMOK2_DAT</a> ))	Select	Next rule
7	If <a href="#">REG_DAT</a> ≥ ( <a href="#">REF_DAT</a> – 3 months)	Reject	Next rule

8	If <u>SMOKEXC_DAT</u> >= ( <u>REF_DAT</u> – 15 months)	Reject	Next rule
9	If <u>DIAG_DAT</u> >= ( <u>REF_DAT</u> – 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 <u>CSMOK_DAT</u> >= ( <u>REF_DAT</u> – 15 months)	Select	Next rule
2	If <u>PAT_AGE</u> > 25 AND <u>NSMOK_DAT</u> ≠ Null AND <u>NSMOK_DAT</u> >= <u>DIAG_DAT</u> AND <u>NSMOK_DAT</u> > <u>PAT_DOB</u> +25 years	Select	Next rule
3	If <u>PAT_AGE</u> <= 25 AND <u>NSMOK_DAT</u> >= ( <u>REF_DAT</u> – 15 months)	Select	Next rule
4	If <u>EXSMOK_COD</u> ≠ Null AND <u>EXSMOK_DAT</u> >= ( <u>REF_DAT</u> – 15 months)	Select	Next rule
5	If (( <u>EXSMOK_COD</u> ≠ Null) AND If ( <u>EXSMOK1_COD</u> ≠ Null) AND If ( <u>EXSMOK2_COD</u> ≠ Null)) AND If (( <u>LSMOK_COD</u> = Null) OR If ( <u>LSMOK_DAT</u> < <u>EXSMOK2_DAT</u> ))	Select	Reject

#### Additional Notes:

**Rule 1:** The aim of this rule is to reject any patient, diagnosed with Asthma, who is on the QOF Smoking Register but is under the age of 20.

N.B. This rule is required because patients aged under 20 are checked for 'smoking status' under an indicator within the Asthma Indicator Group (ASTHMA3) but the 'cessation advice' is handled under the Smoking Indicator Group. Therefore any patient diagnosed with Asthma must be on the QOF Smoking Register. Hence, the need to remove the patients diagnosed with Asthma aged under 20 from the SMOKE 1 indicator specifically.

After following the logic of Rule 1, any patient that has not been rejected will therefore be considered for this indicator as the patient having an ongoing diagnosis of one of the eight morbidities (and in the correct age range where appropriate).

**Rule 2:** The aim of this rule is to identify any patient who's most recent smoking status is 'current smoker' and that it has been recorded in the last 15 months.

True: If the patient has a latest smoking status recorded in the last 15 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 15 months of 'current smoker', then the patient is further considered.

Rules 3 & 4 are to handle the scenarios for patients who have 'never smoked'.

**Rule 3:** 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 diagnosis date AND after the patient's 25<sup>th</sup> birthday, then the patient is to be included in both the numerator and the denominator.

False: If the patient is aged over 25 and but does not have a latest smoking status of 'never smoked' recorded after the diagnosis date AND after the patient's 25<sup>th</sup> birthday, then the patient is further considered.

**Rule 4:** 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 15 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 15 months, then the patient is further considered.

Rules 5 & 6 are to handle the scenarios for patients who are 'ex-smokers'.

**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'.

True: If the patient has a latest smoking status of 'ex-smoker' which has been recorded in the last 15 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 15 months, then the patient is further considered.

**Rule 6:** 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 ending at the date the latest recording of 'ex-smoker' 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 2 to 6 above are found, then the patient records should be further examined to see if there are any 'exceptions' (Rules 7 to 9) that apply before including/excluding the patient in/from the denominator.

**Rule 7:** 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.

**Rule 8:** The aim of this rule is to identify any patient that has an accepted 'Smoking Exception read code' recorded. If the patient has an accepted 'Smoking Exception read code' recorded in the last 15 months, the patient should not be included in the denominator.

**Rule 9:** The aim of this rule is to identify any patient that has been 'recently diagnosed' as any of the morbidities used to populate the QOF Smoking Register. If the earliest diagnosis for inclusion has been diagnosed in the last 3 months, the patient should not be included in the denominator.

- 2 Smoking 4: The percentage of patients with any or any combination of the following conditions: coronary heart disease, stroke or TIA, hypertension, diabetes, COPD, asthma, CKD, schizophrenia, bipolar affective disorder or other psychoses who smoke whose notes contain a record that smoking cessation advice or referral to a specialist service, where available, has been offered within the previous 15 months.

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>CSMOK_COD</u> = Null	Reject	Next rule
2	If <u>CESS_DAT</u> >= ( <u>REF_DAT</u> – 15 months)	Select	Next rule
3	If <u>REG_DAT</u> >= ( <u>REF_DAT</u> – 3 months)	Reject	Next rule
4	If <u>SMOKEXC_DAT</u> >= ( <u>REF_DAT</u> – 15 months)	Reject	Next rule
5	If <u>DIAG_DAT</u> >= ( <u>REF_DAT</u> – 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 <u>CESS_DAT</u> >= ( <u>REF_DAT</u> – 15 months)	Select	Reject