

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

Dataset and Business Rules

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Cancer Indicator Set

Amendment History:

Version	Date	Amendment History
Draft 0.3	21-Jun-2003	From Pete Horsfield
1.0	24-Sep-2003	Standard Headers and footers Applied and set to approved.
1.1	03-Nov-2003	Added headers and footers to Version 0.4 received from Pete Horsfield on 03/11/03.
2.0	12-Nov-2003	Amended following 4 Country review
3.0	20-Jan-2004	Amended following January READ Code Release
4.0	04-Feb-2004	Amended following 4 Country, GPSS and internal review
4.1	09-Apr-2004	SNOMED-CT codes added, 4-byte Read codes removed
4.2	09-Jul-2004	Amended following July READ code release
5.0	27-Sep-2004	Amended following 4 Country Review
5.1	18-Jan-2005	Amended following January READ Code Release
5.2	21-Jun-2005	Amended following 4 Country Review
6.0	21-July-2005	Signed off following 4 Country review
6.1	21-July-2005	Amended following July 2005 Read Code release and January 2005 SNOMED CT release
6.2	21-Aug-2005	Amended following 4 Country review
7.0	23-Sep-2005	Signed off following 4 Country review
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	25-Feb-2006	Amended following internal & 4 Countries review
8.0	15-Mar-2006	Signed off following 4 Country review
8.1	20-Apr-2006	Responding to queries raised a) Amend wording for Note 3 b) Amend Denominator Rule 3 & Numerator Rule 1 for CANCER3 to remove redundant check
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 Amend Cancer 3 rules to identify patients that have a cancer diagnosis within the last 6 months and have no cancer review to date.
8.7	30-Nov-2006	Following the 4-Country Review: Address incorrect cluster hierarchy for Diagnostic Codes and CAN_COD
9.0	30-Nov-2006	Approved by NHSE
9.1	11-Apr-2007	April 2007 Read Code Release
9.2	13-Jun-2007	Following 4-Country Review: Correction in Rule 2 (Cancer 3) to standardise date check
10.0	18-Jun-2007	Signed off following 4 Country review
10.1	20-Aug_2007	April 2007 SNOMED Release
10.2	23-Sep-2007	October 2007 Read Code Release October 2007 SNOMED CT Release
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
12.0	24-Jul-2008	Signed off following 4 Country review
12.1	06-Oct-2008	October 2008 Read Code Release 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
14.1	25-June-2009	April 2009 Read Code Release
14.2	14-August-2009	Amendment following 4 Country review
15.0	17-August-2009	Sign off following 4 Country review
15.1	12-October-2009	October 2009 Clinical Code Release
15.2	28-October-2009	October 2009 Clinical Code Release review
16.0	02-December-2009	Sign off following 4 Country review
17.0	07-May-2010	April 2010 Read Code Release following NHS IC review
18.0	29-October-2010	October 2010 Read Code Release following NHS IC review
19.0	13-December-2010	Signed off following 4 Country review
20.0	13-May-2011	April 2011 Read Code Release following NHS IC review
21.0	10-November-2011	October 2011 Read Code Release following NHS IC review
22.0	12-December-2011	Signed off following 4 Country review
23.0	31-May-2012	Awaiting confirmation from UKTC of changes to cancer codes for April 2012 Read Code Release.
24.0	31-October-2012	October 2012 Read Code Release following HSCIC review
25.0	28-March-2013	Signed off following consultation
26.0	01-June-2013	April 2013 Read Code Release following HSCIC review
27.0	25-October-2013	October 2013 Read Code Release following HSCIC review
Dates_1415	17-January-2014	Review of proposed date changes for QOF 2014/15
Jan14_Review	23-January-2014	Internal review of changes for 2014/15
28.0	28-March-2014	Signed off following review and negotiations. Changes made to incorporate new date terminology
29.0	27-June-2014	April 2014 Read Code Release following HSCIC review
30.0	10-October-2014	October 2014 Read Code Release following HSCIC review

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New GMS contract Q&O framework implementation

Dataset and business rules – Cancer indicator set

Notes

- 1) QOF has been in operation since 2003 as the landscape within the NHS and Primary Care changes, the QOF dataset and rulesets must change in accordance with that new landscape. QOF is categorised as one of many Quality Services and a Quality Service has a start date (Quality Service Start Date) and an end date (Quality Service End Date). For QOF these reflect the QOF Year (i.e. 1st April to 31st March).
- 2) 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 use of a number of dates. The dates are as follows
 - a) **ACHIEVEMENT_DAT**: The date up to which patient information is considered when determining the output for each extraction.
 - For QOF 2014/15, **ACHIEVEMENT_DAT** will vary for each extraction depending on the reporting period for that extraction, e.g. for the end of **September extraction** it would have a value of **30.09.2014**; for the end of **March extraction** it would have a value of **31.03.2015**.
 - b) **PAYMENTPERIODEND_DAT**: The end date of the period for which payments are made for a given Quality Service. For any given Quality Service there will be one or more payment periods.
 - For QOF 2014/15, **PAYMENTPERIODEND_DAT** is **31.03.2015**
 - c) **QUALITY_SERVICE_START_DAT (QSSD)**: The start of the period during which a GP Practice provides the Quality Service
 - For QOF 2014/15, **QUALITY_SERVICE_START_DAT (QSSD)** is **01.04.2014**, however it is not utilised within the QOF dataset and rulesets.
 - d) **QUALITY_SERVICE_END_DAT (QSED)**: The end of the period during which a GP Practice provides the Quality Service
 - For QOF 2014/15, **QUALITY_SERVICE_END_DAT (QSED)** is **31.03.2015**
- 3) When interpreting these dates midnight is to be taken as meaning
 - a) **for the 'start of a period'**: the midnight is at the start of that day, For example; **"If CSMOK_DAT > (PAYMENTPERIODEND_DAT – 24 months)"**
This example is used to determine if a code has been recorded in the 24 months preceding end of the payment period. If PAYMENTPERIODEND_DAT has a value of 31.03.2015, then this condition uses a value of 31.03.2013, but to be true the recorded code must be **after** 31.03.2013 and therefore this equates to the midnight between 31.03.2013 and 01.04.2013. This means information effective on 31st March will be excluded but information effective on 1st April will be included for the extraction.
 - b) **for the 'end of a period'**: the midnight at the end of that day, For example; **"Earliest <= ACHIEVEMENT_DAT"**
This example is used to determine if a recorded code has been recorded before the achievement date. If ACHIEVEMENT_DAT has a value of 30th September (i.e. the end of September extraction) then this condition uses a value of 30.09.2014, but to be true the recorded code must be **on or before** 30.09.2014 and therefore this equates to the midnight between 30.09.2014 and 01.10.2014. This means information effective on 30th September will be included but information effective on 1st October will be excluded from the extraction.

- c) **for Patient Age:** the midnight at the end of that day, For example;
"Patients age (years) at ACHIEVEMENT_DAT"

This example is used to determine a patients age, in years, at the achievement date. If ACHIEVEMENT_DAT has a value of 30th September (i.e. the end of September extraction) then this condition determines a patient age as of 30.09.2014. Therefore this equates to the midnight between 30.09.2014 and 01.10.2014.

- 4) 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 all of the dates (described in point 2 above) are specified prior to extraction of data and are available for computation in the data extraction routine. The dates are required to be included in the data extraction to support processing of rules that are dependent upon them. 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.
- 5) Clinical codes quoted are (where known) from the October 2014 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 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).
- 6) 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.

- 7) 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
- 8) 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) | |
- 9) 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

<i>Current registration status</i>	<i>Qualifying criteria</i>
Currently registered for GMS	Most recent registration date <= (ACHIEVEMENT_DAT)
Previously registered for GMS	Any sequential pairing of registration date and deregistration date where both of the following conditions are met: registration date <= (ACHIEVEMENT_DAT); and deregistration date > (ACHIEVEMENT_DAT)

b) Diagnostic code and demographic status

<i>Code criteria</i>	<i>Qualifying diagnostic codes</i>		<i>Time criteria</i>
<i>Required</i>	<i>Read codes v2</i>	<i>CTV3</i>	
	<p>B0... - B32z. B34.. -B6z0. (excluding B677.) Byu.. - Byu41 Byu5. - ByuE0 K1323 K01w1 68W24 C184.</p>	<p>X78ef% (excluding X00Z9, XaYiK, Xa0KC%, X00Z6%, X78gs%, D41y1% Xa0i6%, Xa0Sj%, B934., X20FX, Xa0SY%, C332.%, C3330, X78ha, X78hm, X78hn, Xa0EY, X00ZC, B330., Xa34C, Xa34D), B62y.%, Xa0Dp% XaabR THEN ADD B32..%, X00ZB, B691., B582.</p>	

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 <= (ACHIEVEMENT_DAT)
3	CANEXC_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest <= (ACHIEVEMENT_DAT)
		9h8..%	XaJ4U%	
		<i>(Cancer exception reporting codes)</i>		
4	CANEXC_DAT	Date of CANEXC_COD		Chosen record
5	CAN_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest first or new episode<= (ACHIEVEMENT_DAT)
		B0... - B32z. B34.. - B6z0. (excluding B677.) Byu.. - Byu41 Byu5. - ByuE0 K1323 K01w1, 68W24, C184.	X78ef% (excluding X00Z9, XaYiK, Xa0KC%, X00Z6%, X78gs%, D41y1% Xa0I6%, Xa0SJ%, B934., X20FX, Xa0SY%, C332.%, C3330, X78ha, X78hm, X78hn, Xa0EY, X00ZC, B330., Xa34C, Xa34D), B62y.%, Xa0Dp% XaabR THEN ADD B32.%, X00ZB, B691., B582.	
		<i>(Codes for relevant malignancies)</i>		

6	CAN_DAT	Date of CAN_COD		Chosen record
7	MDRV_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest <= (ACHIEVEMENT_DAT) AND >= CAN_DAT
		8BAV.	XaIyc	
		<i>(Code for cancer care review)</i>		
8	MDRV_DAT	Date of MDRV_COD		Chosen record

Indicator rulesets

- 1 Indicator CAN001: The contractor establishes and maintains a register of all cancer patients defined as a 'register of patients with a diagnosis of cancer excluding non-melanotic skin cancers diagnosed on or after 1 April 2003'.

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 CAN003: The percentage of patients with cancer, diagnosed within the preceding 15 months, who have a patient review recorded as occurring within 6 months of the date of diagnosis.

Overview

This indicator has been developed to measure the effectiveness of the provision of a clinical care component for patients on the Cancer register.

The aspect that is being measured is that of the provision of a clinical care component for patients with cancer. The aspect being measured is that relating to a review being recorded.

Disease register

The disease register is made up of patients who are eligible to receive the required care component. In this case;-

Patients who have a diagnosis of cancer (i.e. there is evidence within the patient's electronic health record of a cancer diagnosis code occurring after 1 April 2003)

Numerator and Denominator

The success criteria for this indicator (**numerator**) is where those patients in the denominator have had a review recorded within 6 months of the date of diagnosis.

The patients that make up the **denominator** for this indicator are those patients where it is appropriate for the cancer management to be carried out. This is the relevant disease register adjusted for exclusions and exceptions.

Exclusions

For this indicator there are two exclusions:

- If the patient's latest 'first' or 'new' episode of cancer is recorded outside the preceding 15 months then they will be excluded
- If the patient's earliest cancer care review (after their latest 'first' or 'new' episode of cancer) was outside the preceding 12 months then they will be excluded.

Exceptions

Patients that don't achieve the success criteria of the indicator are checked for valid exceptions.

For this indicator the exceptions are

- any patient who has been registered within the last 3 months of the qualifying year (new patient). New patients may be regarded as exceptions if they fulfil the criteria of the indicator but have not yet had a review - maybe because there hasn't been an opportunity in the qualifying year to arrange it.
- any patient that has a valid cancer exception code recorded within the preceding 12 months.

- any patient that has been diagnosed with cancer within the last 3 months of the year (new diagnosis of cancer). Newly diagnosed patients may be regarded as exceptions if they fulfil the criteria of the indicator but have not yet had a review - maybe because there hasn't been an opportunity in the qualifying year to arrange it.

Indicator CAN003: The percentage of patients with cancer, diagnosed within the preceding 15 months, who have a patient review recorded as occurring within 6 months of the date of diagnosis.

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>CAN_DAT</u> <= (<u>PAYMENTPERIODEND_DAT</u> – 15 months)	Reject	Next rule
2	If <u>MDRV_DAT</u> <= (<u>PAYMENTPERIODEND_DAT</u> – 12 months)	Reject	Next rule
3	If <u>MDRV_DAT</u> <= (<u>CAN_DAT</u> + 6 months)	Select	Next rule
4	If <u>REG_DAT</u> > (<u>PAYMENTPERIODEND_DAT</u> – 3 months)	Reject	Next rule
5	If <u>CANEXC_DAT</u> > (<u>PAYMENTPERIODEND_DAT</u> –12 months)	Reject	Next rule
6	If <u>CAN_DAT</u> > (<u>PAYMENTPERIODEND_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>MDRV_DAT</u> <= (<u>CAN_DAT</u> + 6 months)	Select	Reject

Additional Notes:

Denominator

Exclusions

Rule 1: CAN_DAT is the date of the latest 'first' or 'new' episode of cancer that is recorded for the patient before the end of the current QOF Financial Year.

True: If the episode is outside the preceding 15 months, then the patient is disregarded and not included in the denominator.

False: If the episode is within the preceding 15 months, then the patient is further considered.

Rule 2: MDRV_DAT is the date of the earliest cancer care review that is before the end of the current QOF Financial Year AND falls on or after the cancer diagnosis date used in Rule 1 (i.e. CAN_DAT) that is recorded for the patient.

True: If the review is outside the preceding 12 months, then the patient is disregarded and not included in the denominator.

False: If the review is within the preceding 12 months, then the patient is further considered.

N.B. Patients should be disregarded under this rule, because the review has fallen in an earlier QOF Financial Year and will have been rewarded for the indicator in that earlier year. This rule is in place to prevent duplicate payments.

Success

Rule 3: MDRV_DAT is the date of the earliest cancer care review that is before the end of the current QOF Financial Year AND falls on or after the cancer diagnosis date used in Rule 1 (i.e. CAN_DAT) that is recorded for the patient.

True: If the review is performed within 6 months of the cancer diagnosis, then the patient is to be included in both the numerator and the denominator.

False: If the review is more than 6 months after the cancer diagnosis, then the patient is further considered.

Exceptions

It is worth remembering at this point that if a patient's cancer review meets the success criteria they will have already been selected into the denominator in Rule 3.

Rule 4: The aim of this rule is to identify any patient that 'recently registered' at the practice. If the patient has registered at the practice within the last 3 months, the patient should not be included in the denominator.

Rule 5: The aim of this rule is to identify any patient that has an accepted 'Cancer Exception' Read Code recorded. If the patient has an acceptable 'Cancer Exception' Read Code recorded within the preceding 12 months, the patient should not be included in the denominator.

Rule 6: The aim of this rule is to identify any patient that has been 'recently diagnosed' as a Cancer patient. If the patient has been diagnosed within the last 3 months, the patient should not be included in the denominator. Otherwise the patient will be selected into the denominator.

Numerator

The success criterion for this indicator is as per Denominator Rule 3.