

<b>Data and Business Rules – Flu vaccine Indicator Set</b>					
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## **New GMS Contract QAIF Implementation**

### **Dataset and Business Rules**

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### **Flu Vaccination Indicator Set (FLU)**

### **Wales**

**Amendment History:**

<b>Version</b>	<b>Date</b>	<b>Amendment History</b>
2015-16 1.0W	01-July-2015	Business rules update
2015-16 2.0W	04-Dec-2015	2015/16 October Business rules update
2016-17 1.0W	09-June-2016	2016-17 Business rules update
2017-18 1.0W	01-July-2017	2017-18 Business rules update
2018-19 1.0W	23-July-2018	2018-19 Business rules update
2018-19 1.1W	19-Nov-2018	FLU_COM and FLU_END dates updated
2019-20 1.0	28-Oct-2019	2019-20 Business rules update

## **New GMS contract QAIF 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 01.10.2020 equates to midnight on 30.09.2020).
- 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 2016 release of Read codes version 2. The codes are shown within the document as a 5 character value to show that the Read Code is for a 5-Byte system.
  - a) 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.
  - b) 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).
- 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 Flu). 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.

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.
- 8) The new GMS contract requires that influenza vaccinations should be given between 1st August and 31st March of any given contract year in order to qualify for the relevant indicators. Hence in the contract year 2018 – 2019 the relevant dates will be 1st August 2019 and 31st March 2020 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>Qualifying criteria</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 (patient population with co-morbidity of coronary heart disease, stroke, diabetes or COPD  
 (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>Earliest &lt; (REF_DAT)</i>
	G3... – G309. G30B. - G330z (excluding G310.) G33z. – G3401 G342. - G35X. G38.. – G3z.. Gyu3.% (excluding Gyu31)	

<i>Code criteria</i>	<i>Qualifying diagnostic codes (Stroke)</i>	<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i>	<i>Earliest &lt; (REF_DAT)</i>
	G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% (excluding G669.) G6760 G6W.. G6X.. Gyu62 – Gyu66 Gyu6F Gyu6G	
	<i>(Stroke disease codes)</i>	

<i>Code criteria</i>	<i>Qualifying diagnostic codes (Stroke)</i>	<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i>	<i>Latest &lt; (REF_DAT)</i>
	C10.., C109J, C109K C10C., C10D., C10E.% C10F.% (Excluding C10F8) C10G.%, C10H.% C10M.%, C10N.% C10P.%, PKyP., C10Q.	
	<i>(Diagnostic codes for diabetes mellitus)</i>	
<i>Excluded</i>	<i>Read codes v2</i>	<i>Latest &lt; (REF_DAT) AND &gt; Date of /*/diagnostic code above</i>
	21263 212H.	
	<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>	Earliest < (REF_DAT)
	H3... H31..% (excluding H3101, H31y0, H3122) H32..% H36.. - H3z.. (excluding H3y0., H3y1.) H5832, H4640, H4641, Hyu30, Hyu31	
	<i>(Diagnostic codes for COPD)</i>	
<i>Excluded</i>	<i>Read codes v2</i>	Latest < (REF_DAT) AND Date of diagnostic code above
	2126F	
	<i>(COPD resolved codes)</i>	

c) Patient population who are aged 65 years and over

<u>Action</u>	<u>Qualifying criterion</u>
<i>Included</i>	Age >= 65 yrs at REF_DAT

**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	PAT_AGE	Patients age (years) at REF_DAT	Unconditional
4	PAT_DOB	Patients date of birth	Unconditional
5	FLU_COD	Read codes v2	Latest < REF_DAT
		n47..% (Excluding n47A., n47B., n47D., n47G., n47r., n47s., n47t.) 65ED%	
		(Flu vaccination codes)	
6	FLU_DAT	Date of FLU_COD	Chosen record
7	XFLU_COD	Read codes v2	Latest < REF_DAT
		14LJ. U60K4 ZV14F	
		(Flu vaccine contraindication: persistent)	

8	XFLU_DAT	Date of XFLU_COD	Chosen record
9	TXFLU_COD	<i>Read codes v2</i>	Latest < REF_DAT
		68NE. 90X51 8I2F0 8I6D0 68NE0 90X54 90X56	
		<i>(Flu vaccine contraindication: expiring)</i>	
10	TXFLU_DAT	Date of TXFLU_COD	Chosen record
15	DM_COD	<i>Read codes v2</i>	Earliest < REF_DAT
		C10., C109J, C109K C10C., C10D., C10E.% C10F.% (Excluding C10F8) C10G.%, C10H.% C10M.%, C10N.% C10P.% PKyP., C10Q.	
		<i>(Codes for diabetes)</i>	
16	DM_DAT	Date of DM_COD	Chosen record
19	DMRES_COD	<i>Read codes v2</i>	Latest < (REF_DAT) AND > (DM_DAT)
		21263 212H.	
		<i>(Codes for diabetes resolved)</i>	
20	DMRES_DAT	Date of DMRES_COD	Chosen record
21	COPD_COD	<i>Read codes v2</i>	Earliest < REF_DAT
		H3... H31..% (excluding H3101, H31y0, H3122) H32..% H36.. - H3z.. (excluding H3y0., H3y1.) H5832 H4640 H4641 Hyu30 Hyu31	
		<i>(COPD codes)</i>	
22	COPD_DAT	Date of COPD_COD	Chosen record

63	COPDRES_COD	<i>Read codes v2</i>	Latest < REF_DAT AND > (COPD_DAT)
		1377. – 137B. 137F. 137K. 137N. – 137O. 137S. – 137T. 137j., 137l.	
		(COPD)	
64	COPDRES_DAT	Date of COPDRES_COD	Chosen record
5	IHD_COD	<i>Read codes v2</i>	Earliest < REF_DAT
		G3... – G309. G30B. - G330z (excluding G310.) G33z. - G3401 G342. - G35X. G38.. – G3z.. Gyu3.% (excluding Gyu31)	
		(Ischaemic heart disease codes)	
6	IHD_DAT	Dat	Chosen record
7	STROKE_COD	<i>Read codes v2</i>	Earliest < REF_DAT
		G61..% (excluding G617.) G63y0 - G63y1 G64..% G66..% (excluding G669.) G6760 G6W.. G6X.. Gyu62 – Gyu66 Gyu6F Gyu6G	
		(Stroke codes)	
8	STROKE_DAT	Date	Chosen record

<p>35</p>	<p>DIAG_DAT</p>	<p>The earliest diagnosis date of disease for inclusion in the co-morbidity register</p>	<p>Earliest of  IHD_DAT,    STROKE_DAT,  DM_DAT (where  (DMRES_DAT = Null)  AND (PAT_AGE &gt;=  17)),    COPD_DAT (where  (COPDRES_DAT =  Null),</p>
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**Indicator rulesets**

Indicator FLU001W: The percentage of the registered population aged 65 years of more who have had influenza immunisation in the preceding 1 August to 31 March

## a) Denominator ruleset Rule

<u>Rule number</u>	<u>Rule</u>	<u>Action if true</u>	<u>Action if false</u>
1	If <u>PAT_AGE</u> >= 65	Next Rule	Reject
2	If <u>FLU_DAT</u> >= <u>FLU_COM</u> AND If <u>FLU_DAT</u> <= <u>FLU_END</u>	Select	Next rule
3	If <u>REG_DAT</u> >= ( <u>REF_DAT</u> – 3 months)	Reject	Next rule
4	If <u>TXFLU_COD</u> >= ( <u>REF_DAT</u> – 15 months)	Reject	Next rule
5	If <u>XFLU_COD</u> ≠ Null	Reject	Select

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

<u>Rule number</u>	<u>Rule</u>	<u>Action if true</u>	<u>Action if false</u>
1	If <u>FLU_DAT</u> >= <u>FLU_COM</u> AND If <u>FLU_DAT</u> <= <u>FLU_END</u>	Select	Reject

**Indicator FLU002W:** The percentage of patients aged under 65 years included in (any of) the registers for CHD, COPD, Diabetes or Stroke who have had influenza immunisation in the preceding 1 August to 31 March

a) Denominator ruleset

<u>Rule number</u>	<u>Rule</u>	<u>Action if true</u>	<u>Action if false</u>
1	If <u>PAT_AGE</u> > 6 months AND If <u>PAT_AGE</u> < 65	Next Rule	Reject
2	If <u>FLU_DAT</u> >= <u>FLU_COM</u> AND If <u>FLU_DAT</u> <= <u>FLU_END</u>	Select	Next rule
3	If <u>REG_DAT</u> >= ( <u>REF_DAT</u> – 3 months)	Reject	Next rule
4	If <u>TXFLU_COD</u> >= ( <u>REF_DAT</u> – 15 months)	Reject	Next rule
5	If <u>XFLU_COD</u> ≠ Null	Reject	Next Rule
6	If <u>DIAG_DAT</u> >= ( <u>REF_DAT</u> – 3 months)	Reject	Select

Numerator ruleset: To be applied to the above denominator population

<u>Rule number</u>	<u>Rule</u>	<u>Action if true</u>	<u>Action if false</u>
1	If <u>FLU_DAT</u> >= <u>FLU_COM</u> AND If <u>FLU_DAT</u> <= <u>FLU_END</u>	Select	Reject