



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

Dataset and Business Rules

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Learning Disabilities Indicator Set

Amendment History:

Version	Date	Amendment History
		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	22-Nov-2005	Amended following review by Peter Horsfield
7.3	3-Dec-2005	Draft revised for internal review
7.4	24-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	20-Oct-2006	April Read Code Release April SNOMED CT Release October Read Code Release Corrections and amendments following feedback
8.7	16-Nov-2006	Response to 4 Country Review: Qualifying diagnostic codes returned to v8.5
9.0	30-Nov-2006	Approved by NHSE
9.1	11-Apr-2007	April 2007 Read Code Release
10.0	18-Jun-2007	Signed off following 4 Country review
10.1	27-Aug-2007	April 2007 SNOMED CT 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
13.1	14-Feb-2009	QOF Review 2008 – Text change only
13.2	09-Mar-2009	Amendment following NHSE review
13.3	27-Apr-2009	Amendment following Four-Country Review
14.0	01-May-2009	Signed off following 4 Country review
14.1	25-June-2009	April 2009 Read Code Release
15.0	17-August-2009	Signed off following 4 Country review
15.1	12-October-2009	October 2009 Clinical Codes Release
15.2	28-October-2009	October 2009 Clinical Code Release review
16.0	02-December-2009	Sign off following 4 Country review
16.1	05-May-2010	Internal NHS IC 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.

New GMS contract Q&O framework implementation

Dataset and business rules – Learning Disabilities 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 2010 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. 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

<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

<i>Code criteria</i>	<i>Qualifying diagnostic codes</i>		<i>Time criteria</i>
<i>Included</i>	<i>Read codes v2</i>	<i>CTV3</i>	<i>Latest < (REF_DAT)</i>
	E3...% Eu7..% Eu814 Eu815 Eu816 Eu817 Eu81z 918e.	E3...% XaQZ4 XaQZ3 XaKYb XaREt XaREu Eu81z	
<i>Excluded</i>	<i>(Learning disabilities codes)</i> Age < 18 yrs at REF_DAT		

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	LD_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < REF_DAT
		E3...% Eu7..% Eu814 Eu815 Eu816 Eu817 Eu81z 918e.	E3...% XaQZ4 XaQZ3 XaKYb XaREt XaREu Eu81z	
		<i>(Learning Disability codes)</i>		
4	LD_DAT	Date of LD_COD		Chosen record
5	THY_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < (REF_DAT)
		C03..% C04..%	X40IQ% C061.%	
		<i>(Hypothyroidism diagnosis codes)</i>		
6	THY_DAT	Date of THY_COD		Chosen record
7	THYR_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest >= (REF_DAT – 6 MONTHS) AND < REF_DAT
		f9...%	x01LI%	
		<i>(Hypothyroidism treatment codes)</i>		

8	THYR_DAT	Date of THYR_COD		Chosen record
9	LDEXC_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest < REF_DAT
		9hL.. %	XaRFK%	
		<i>(Learning Disability exception reporting codes)</i>		
10	LDEXC_DAT	Date of LDEXC_COD		Chosen record
11	DS_COD	<i>Read codes v2</i>	<i>CTV3</i>	Earliest < REF_DAT
		PJ0..%	XE1MZ%	
		<i>(Down's Syndrome codes)</i>		
12	DS_DAT	Date of DS_COD		Chosen record
13	TFT_COD	<i>Read codes v2</i>	<i>CTV3</i>	Latest < (REF_DAT)
		442..%	X77Wg% XE2wy% XE25G X7729% X772A% X772B X772C XaDte% XaDtf% 442C. 4422. 4423.	
		<i>(Codes for thyroid function tests)</i>		
14	TFT_DAT	Date of TFT_COD		Chosen record

Indicator rulesets

- 1 **Indicator LD 1:** The practice can produce a register of people aged 18 years or over with learning disabilities.

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 LD 2: The percentage of patients on the learning disability register with Down's Syndrome aged 18 years and over who have a record of blood TSH in the preceding 15 months (excluding those who are on the thyroid disease register).

Overview

This indicator has been developed to measure the effectiveness of the provision of a clinical care component for patients on the Learning Disability register who have a diagnosis of Down's syndrome.

The aspect that is being measured is that of the provision of blood thyroid function tests. In this indicator the recording of a test is used as an indication that the clinical care has been carried out.

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 a learning disability (i.e. there is evidence in the patient's electronic health record of a learning disability diagnosis code)

and

The patient is 18 or over at the time the indicator is measured.

Numerator and Denominator

The success criteria for this indicator (numerator) are achieved for those patients in the denominator who have a record of blood thyroid function tests in the previous 15 months.

The patients that make up the denominator for this indicator are those patients where it is appropriate for the blood thyroid functions to be tested. This is the relevant disease register adjusted for exclusions and exceptions.

Exclusions

For this indicator there are two exclusions.

- This indicator is relevant to a subset of the Learning Disability register – patients who have a diagnosis of Down's syndrome. Consequently patients on the Learning Disability register without a valid Down's syndrome diagnosis code anywhere in the clinical record are excluded.
- Patients who are on the QOF thyroid register should be excluded from this indicator as these patients are likely to have had the required tests. This requires identification of a code for hypothyroidism and that the patient is currently on treatment for hypothyroidism. Specifically patients are excluded from this indicator if they fulfil both of the following:

Their earliest hypothyroidism diagnosis code is prior to the last 15 months

and

the latest record of hypothyroidism treatment is within the last 6 months

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 the tests maybe because there hasn't been an opportunity in the qualifying year to arrange them.
- any patient that has a valid Learning Disability exception code recorded within the previous 15 months.
- any patient that has been diagnosed with Down's syndrome within the last 3 months of the year (new diagnosis of Down's syndrome). Newly diagnosed patients may be regarded as exceptions if they fulfil the criteria of the indicator but have not yet had the tests maybe because there hasn't been an opportunity in the qualifying year to arrange one.

Note: For the 'new' Down's syndrome patient exception, this is only applicable for the first 'ever' diagnosis of Down's for the patient. For subsequent diagnosis, this exception rule is not considered.

Indicator LD 2: The percentage of patients on the learning disability register with Down's Syndrome aged 18 years and over who have a record of blood TSH in the preceding 15 months (excluding those who are on the thyroid disease register)

a) Denominator ruleset

<i>Rule number</i>	<i>Rule</i>	<i>Action if true</i>	<i>Action if false</i>
1	If <u>DS_DAT</u> = Null	Reject	Next rule
2	If <u>THY_DAT</u> < (<u>REF_DAT</u> – 15 months) AND If <u>THYR_DAT</u> ≠ Null	Reject	Next rule
3	If <u>TFT_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Next rule
4	If <u>REG_DAT</u> >= (<u>REF_DAT</u> – 3 months)	Reject	Next rule
5	If <u>LDEXC_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Reject	Next rule
6	If <u>DS_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>TFT_DAT</u> >= (<u>REF_DAT</u> – 15 months)	Select	Reject

Additional Notes:

Denominator

Exclusions

Rule 1: The purpose of rule 1 is to exclude patients who don't have Down's syndrome

- If the patient's record does not have a valid code for Down's Syndrome the outcome of the rule is true and the patient is **rejected** from the denominator
- If the patient's record does have a valid code for Down's syndrome the outcome of the rule is false and the patient will be passed onto next rule.

Rule 2: The purpose of rule 2 is to exclude patients on the QOF thyroid register who will already have had the tests. This requires identification of a valid code for hypothyroidism and that the patient is currently on treatment (within the last 6 months from the reference date) for hypothyroidism.

- If the patient's record has a code for hypothyroidism prior to 15 months before the reference date AND there is a record of the patient receiving treatment for hypothyroidism in the last 6 months the outcome of the rule is true and the patient is **rejected** from the denominator
- If the patient's record does not have a code for hypothyroidism prior to 15 months before the reference date OR the patient is diagnosed as having hypothyroidism but

is not currently receiving treatment for hypothyroidism the outcome of the rule is false and the patient will be passed onto next rule.

Success

Rule 3: The purpose of rule 3 is to identify whether the patient has undergone a thyroid function test within the previous 15 months.

- If the patient has undergone a thyroid function test within the previous 15 months the outcome of the rule is true and they are **selected** for the denominator
- If there is no record of a thyroid function test having been done within the previous 15 months the outcome of the rule is false and the patient will be passed on to next rule.

Exception

It is worth remembering at this point that if a patient has a recording of a thyroid function test within the previous 15 months they will already have been **selected** into the denominator in Rule 3.

Rule 4 The purpose of rule 4 is to identify whether the patient has been registered within the last 3 months of the qualifying year.

- If the patient has been registered within the last 3 months of the qualifying year the outcome of the rule is true and the patient is **rejected** from the denominator
- If the patient was registered before the last 3 months of the qualifying year the outcome of the rule is false and the patient will be passed onto next rule.

Rule 5: The purpose of rule 5 is to identify any patient that has a valid Learning Disability exception code recorded in the previous 15 months.

- If an exception code has been identified the outcome of the rule is true and the patient is **rejected** from the denominator
- If no exception codes have been identified the outcome of the rule is false and the patient will be passed onto next rule.

Rule 6: The purpose of rule 6 is to identify whether the patient has been diagnosed with Down's syndrome within the last 3 months of the year.

- If the patient has been diagnosed with Down's Syndrome within the last 3 months of the qualifying year the outcome of the rule is true and the patient is **rejected** from the denominator
- If the patient was diagnosed with Down's Syndrome before the last 3 months of the qualifying year the outcome of the rule is false and the patient will be **selected** for the denominator

Numerator

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