B.I.R.O.

Best Information through Regional Outcomes

A Public Health Project funded by the European Commission, DG-SANCO 2005

WORK PACKAGE 3

COMMON DATASET

DOCUMENT V1.7

July 2009

Clinical Technology Centre
University of Dundee
Ninewells Hospital and Medical School
Dundee
DD1 9SY
Scotland

Contents

1. Summary

The purpose of BIRO Work Package 3 is to define a minimum common dataset that is applicable to all BIRO partners in the context of their existing datasets. An analysis of all datasets maintained in the participating regions has been conducted, including an overview of the data formats used to collect clinical data. In addition to the common parameters, supplementary data items have been defined for collection in order to accurately describe and perform comparative analyses across the sources of data.

After the creation of the common dataset, Clinical experts have been involved in a qualitative examination of data to ensure that appropriate data mappings and standards have been maintained. This process will inform the development of a relational database that will be available to all partners and which will provide mapping functionality to migrate original datasets to the common structure.

This document defined the BIRO common dataset and has been based on an analysis of the data items and clinical definitions from:

- DiabCare
- Forum for Quality Systems in Diabetes Care (FQSD)
- The Scottish Diabetes Core Dataset
- Umbria Diabetes Register (PROMODR)

In addition, the dataset was cross-referenced against:

- BIRO WP2 Clinical Review Indicator Development Results
- EUropean Core Indicators in Diabetes (EUCID)
- The Australian Diabetes, Obesity and Lifestyle (AusDiab) study

2. References

BIRO WP2 Clinical Review Indicator Development Results

BIRO Metadata Guidance Document
Version 1.1: BIRO_Metadata_Guidance_v1_1.xls

BIRO Metadata Overview Spreadsheet
Version 1.1: BIRO_Metadata_v1_1.xls

Conversion of SI to Conventional Units: Blood Chemistries:
http://www.medal.org/visitor/www/Active/ch40/ch40.01/ch40.01.07.aspx

The International System of Units (SI):
http://www.bipm.org/en/si/

Scottish Diabetes Core Dataset:
http://www.scotland.gov.uk/Publications/2003/01/16290/17629

Forum for Quality Systems in Diabetes Care:
https://apps.healthgate.at/bars/help/input/en/itemsdef.jsp

The Australian Diabetes, Obesity and Lifestyle (AusDiab) study:
http://www.diabetes.com.au/AusDiab/AusDiab%202000%20data%20dictionary.htm

3. Document Change History

Version	Date	Author	Reason for Update
0.1	July 2006	Scott Cunningham	Initial Template
0.2	August 2006	Frank Culross	Develop content
0.3	September 2006	Scott Cunningham	Final update for Graz Meeting
1.0	November 2006	Scott Cunningham	Update following Graz meeting feedback
1.1	December 2006	Scott Cunningham	Update following local Clinical review
1.2	January 2007	Scott Cunningham	Update following BIRO partner review
1.3	March 2007	Scott Cunningham	Update during WP4: XML Schema development
1.4	May 2007	Scott Cunningham	Update following Dundee meeting feedback
1.5	June 2007	Scott Cunningham	Update following evaluators feedback and discussion at Cyprus meeting
1.6	October 2008	Scott Cunningham	Minor amendments and error corrections
1.7	July 2009	Scott Cunningham	Final Update for submission to European Commission

4. Methodology

BIRO Work Package 2 has created a list of BIRO Core Indicator Candidates based on the published scientific literature. Within this the scientific justification for each of the corresponding data items is included. The final BIRO indicator list must be created based entirely on elements from Work Package 3: Common Dataset. This has been defined on the basis of the compatibility of each parameter across each dataset.

The BIRO core dataset has been defined after an analysis of the existing datasets used by BIRO partners. The objective of this exercise was to identify consistencies and inconsistencies with the recording of data items and to create a universal definition for each of the items comprising the dataset. Where 100% correlation was not possible, a series of data mappings have been specified to ensure compatibility with the BIRO common dataset.

The European datasets analysed were:

- DiabCare
- Scottish Diabetes Core Dataset
- Umbria Diabetes Register (PROMODR)

In addition to mapping data items, where possible data item definitions have been compared in order to create one universally acceptable definition. This is the first time that a dataset with corresponding data definitions has been created for a European Population.

To provide an element of validation for the data items chosen, the EUropean Core Indicators in Diabetes (EUCID) core indicators and the Australian Diabetes, Obesity and Lifestyle (AusDiab) parameters have been analysed to ensure a common and complimentary approach.

Where possible, the International System of Units (SI) definitions have been applied to parameters recorded with inconsistent units of measurement across each of the datasets. Mappings have been defined as appropriate to map local datasets to the common structure.

5. Clinical Parameters

Each item in the BIRO dataset can be classed as a “parameter”. Parameters may include patient data such as HbA1c, Clinic last attended, Patient’s GP Practice, or parameters used to describe clinical sites such as Clinic Population, Catchment Area Population and Specific Guidelines Used. Each BIRO parameter will be given a unique reference code such as BIRO1, BIRO2, etc, along with a field name to be used in the BIRO database.

Additional elements associated with each of the parameters include details such as the parameter data type. Standard data types such as string and numeric fields are supported along with enumerated types and their associated lookup lists. Mandatory fields are marked as such, and the common data item definition is detailed for each parameter.

For data items where there are similarities but mismatches in the units of measurement or definition, a “Data Mapping” is specified in order to translate the local data to the standard BIRO Common Dataset format.

5.1 Validity

During the regional dataset comparison and analysis, it was clear with some data items that, although the basic concept was the same, the clinical data item or definition contained slight variations. The concept of the "validity" of a data item has been defined to clearly identify those items for which comparisons may not have a complete correlation.

Validity Classification: High
Definition: High Validity items are those which are consistent across all analysed datasets

Validity Classification: Medium
Definition: Inconsistencies in 1 dataset during comparison
Example: Blindness – Defined as "Registered Blind" in Scotland but "Receiving Money for Blindness" in DiabCare.

Validity Classification: Low
Definition: Inconsistencies across >1 datasets
Example: Ethnic Group is not recorded in the Umbria dataset or DiabCare Basic Information Sheet. Definition is also controversial.

All Medium validity items will be clearly marked to indicate any discrepancies. Low validity items are only included in the dataset where the data items are required in the core indicators detailed in WP2: Clinical Review.

The initial dataset is defined below:

5.2 Basic Identification Data

Parameter:	Patient ID
BIRO Ref:	BIRO001
Field Name:	PAT_ID
Data Type:	String(200)
Definition:	Unique patient identification number assigned by centre (data source)
Mandatory:	Yes
Validity:	High

Parameter:	Data Source ID
BIRO Ref:	BIRO002
Field Name:	DS_ID
Data Type:	String(10)
Definition:	Unique centre identification number (Defined as a BIRO Clinical Site)
Mandatory:	Yes
Validity:	High

5.3 Basic Patient Information

Parameter:	Type Of Diabetes	
BIRO Ref:	BIRO003	
Field Name:	TYPE_DM	
Data Type:	Enumerated (1, 2, 3)	
Definition:	1 = Type 1	WHO 1999 revised classification: WHO Department of Noncommunicable Disease Surveillance. Definition, Diagnosis and Classification of Diabetes Mellitus and its Complications. Geneva: WHO; 1999. Available from URL http://whqlibdoc.who.int/hq/1999/who_ncd_ncs_99.2.pdf. Type 1 diabetes includes all diabetes due to absolute insulin deficiency caused by a) autoimmune pancreatic destruction and b) idiopathic where there is no evidence of autoimmunity or other identifiable cause.
	2 = Type 2	WHO 1999 revised classification: WHO Department of Noncommunicable Disease Surveillance. Definition, Diagnosis and Classification of Diabetes Mellitus and its Complications. Geneva: WHO; 1999. Available from URL http://whqlibdoc.who.int/hq/1999/who_ncd_ncs_99.2.pdf. Type 2 diabetes includes those forms of diabetes with insulin resistance and an insulin secretory defect.
	3 = Other	Other types of Diabetes Mellitus, not specifically Type 1 or Type 2
Mandatory:	Yes	
Validity:	High	
Data Mapping:	IDDM: Patients marked as having Insulin-Dependent Diabetes Mellitus should be classified as having Type 1 Diabetes NIDDM: Patients marked as having Non Insulin-Dependent Diabetes Mellitus should be classified as having Type 2 Diabetes	

Parameter:	Sex	
BIRO Ref:	BIRO004	
Field Name:	SEX	
Data Type:	Enumerated (1, 2)	
Definition:	1 = Male	Male Phenotype at birth
	2 = Female	Female Phenotype at birth
Mandatory:	No	
Validity:	High	

Parameter:	Date of Birth
BIRO Ref:	BIRO005
Field Name:	DOB
Data Type:	Date/Time
Definition:	Date of birth of subject (ccyy-01-01)
Upper Range:	Current Date
Mandatory:	No
Validity:	High
Data Mapping:	Only year of birth is necessary in order to maintain anonymity. As such all dates of birth should be stored as 'ccyy-01-01' so that only the year of birth is known. This will also allow the full data of birth to be stored without changing the dataset in future.

Parameter:	Year of Diagnosis
BIRO Ref:	BIRO006
Field Name:	DT_DIAG
Data Type:	Date/Time
Definition:	Year of Diagnosis of Diabetes Mellitus (ccyy-mm-dd)
Upper Range:	Current Year
Mandatory:	No
Validity:	High
Data Mapping:	Data stored in date format to allow future refinement. At present, year of diagnosis must be recorded as '01/01/ccyy'

5.4 Episode Date

Parameter:	Date
BIRO Ref:	BIRO007
Field Name:	EPI_DATE
Data Type:	Date/Time
Definition	Date when information recorded - Every clinical field has an associated date of recording or event
Upper Range:	Current Date
Mandatory:	Yes
Validity:	High
Data Mapping:	For datasets such as DiabCare where a date of result is not recorded for each individual data item, but it is known that the result was recorded in the last year, the associated date will be recorded as the review date. This is to allow these datasets to contribute to indicators detailing results “recorded in the last 12 months”.

5.5 Risk Factors

Parameter:	Smoking Status	
BIRO Ref:	BIRO008	
Field Name:	SMOK_STAT	
Data Type:	Enumerated (1, 2, 3)	
Definition:	Smoking status at date of contact	
	1	Current Smoker
	2	Non-Smoker
	3	Ex-Smoker
Mandatory:	No	
Validity:	High	

Parameter:	Cigarettes per day
BIRO Ref:	BIRO009
Field Name:	CIGS_DAY
Data Type:	Integer
Definition:	Number or estimate – 1 pipe/cigar = 3 cigarettes
Lower Range:	0
Mandatory:	No
Validity:	Medium
	Not recorded in SDCD

Parameter:	Alcohol Status	
BIRO Ref:	BIRO047	
Field Name:	ALC_STAT	
Data Type:	Enumerated (1, 2, 3)	
Definition:	Alcohol status at date of contact	
	1	Current Drinker
	2	Non-Drinker
	3	Ex-Drinker
Mandatory:	No	
Validity:	High	

Parameter:	Alcohol Intake
BIRO Ref:	BIRO010
Field Name:	ALCOHOL
Data Type:	Integer
Definition:	Alcohol intake per average week. Recording of a numerical value is preferred since recommended consumption limits are subject to periodic revision and may differ for pregnant women.
Units:	g/week
Lower Range:	0
Mandatory:	No
Validity:	High
	FQSD Definition: Amount or Estimate (Range: <1000 or empty) 50g / week = occasionally 100g / week = some 200g / week = moderate 300g / week = chronic alcoholism
Data Mapping:	1 unit of alcohol = 10g

5.6 Measurements

Parameter:	Weight
BIRO Ref:	BIRO011
Field Name:	WEIGHT
Data Type:	Real (nnn.n)
Definition:	Body-weight of the patient in kilograms
Units:	Kg
Lower Range:	0
Upper Range:	300
Mandatory:	No
Validity:	High

Parameter:	Height
BIRO Ref:	BIRO012
Field Name:	HEIGHT
Data Type:	Real (nnn.nn)
Definition:	Height in metres - measured without shoes. It is particularly important to measure regularly the height of children. In adults a single recording will usually be sufficient.
Units:	Metres
Lower Range:	0.4
Upper Range:	2.5
Mandatory:	No
Validity:	High
Data Mapping:	Height measured in m = height in cm/100

Parameter:	Body Mass Index
BIRO Ref:	BIRO013
Field Name:	BMI
Data Type:	Real (nnn.nn)
Definition:	BMI = weight(kg)/height(m)^2
Units:	kg/ m^2
Mandatory:	No
Validity:	High
	Not an explicitly listed field in DiabCare, but can be easily calculated using weight and height
Data Mapping:	weight(kg)/height(m)^2

Parameter:	Systolic Blood Pressure
BIRO Ref:	BIRO014
Field Name:	SBP
Data Type:	Integer
Definition:	Patient's blood-pressure in mmHg after 5 minutes rest in seated position with arm elevated/supported (*Range:* 70 – 300 or empty)
Units:	mmHg
Lower Range:	70
Upper Range:	300
Mandatory:	No
Validity:	High

Parameter:	Diastolic Blood Pressure
BIRO Ref:	BIRO015
Field Name:	DBP
Data Type:	Integer
Definition:	Patient's blood-pressure in mmHg after 5 minutes rest in seated position with arm elevated/supported (*Range:* 30 – 150 or empty)
Units:	mmHg
Lower Range:	30
Upper Range:	150
Mandatory:	No
Validity:	High

Parameter:	HbA1c
BIRO Ref:	BIRO016
Field Name:	HBA1C
Data Type:	Real (nnn.nn)
Definition:	Current Glycated haemoglobin value in % (Range: 4 - 40, or empty)
Units:	%
Lower Range:	4
Upper Range:	40
Mandatory:	No
Validity:	High

Parameter:	Creatinine
BIRO Ref:	BIRO017
Field Name:	CREAT
Data Type:	Integer
Definition:	Value in µmol/l
Units:	µmol/l
Mandatory:	No
Validity:	High
	SDCD defines creatinine in µmol/l. FQSD defines creatinine in mg/dl – Values can be mapped.
Data Mapping:	To convert mg/dl to µmol/l, divide by 0.0131

Parameter:	Microalbumin
BIRO Ref:	BIRO018
Field Name:	MA_TEST
Data Type:	Enumerated (0, 1, 2)
Definition:	1 = MA Test Normal
	2 = MA Test Abnormal
	0 = No MA Test Recorded
Mandatory:	No
Validity:	High
	In Scotland, urinary albumin testing is acceptable using urine albumin (mg/l), albumin:creatinine ratio (mg/mmol), overnight albumin excretion rate (ug/min) or 24hr albumin excretion rate. Decided at Graz meeting only to record test recorded Y/N. Decided in Cyprus to record Normal / Abnormal.

Parameter:	Total Cholesterol
BIRO Ref:	BIRO019
Field Name:	CHOL
Data Type:	Real (nnn.nn)
Definition:	Serum total cholesterol can be either fasted or unfasted
Units:	mmol/L
Mandatory:	No
Validity:	High
	FQSD also allows total cholesterol in mg/dl.
Data Mapping:	To convert mg/dl to mmol/L, divide by 38.61

Parameter:	HDL
BIRO Ref:	BIRO020
Field Name:	HDL
Data Type:	Real (nnn.nn)
Definition:	Serum HDL cholesterol can be either fasted or unfasted
Units:	mmol/L
Mandatory:	No
Validity:	High
Data Mapping:	To convert mg/dl to mmol/L, divide by 38.61

Parameter:	LDL
BIRO Ref:	BIRO046
Field Name:	LDL
Data Type:	Real (nnn.nn)
Definition:	Serum LDL cholesterol can be either fasted or unfasted
Units:	mmol/L
Mandatory:	No
Validity:	High
Data Mapping:	To convert mg/dl to mmol/L, divide by 38.61

Parameter:	Triglycerides
BIRO Ref:	BIRO021
Field Name:	TG
Data Type:	Real (nnn.nn)
Definition:	Value in mmol/L
Units:	mmol/L
Mandatory:	No
Validity:	High
Data Mapping:	To convert mg/dl to mmol/L, divide by 38.61

5.7 Assessments

Parameter:	Retinal Examination	
BIRO Ref:	BIRO022	
Field Name:	RETINAL_EXAM	
Data Type:	Enumerated (0, 1)	
Definition:	1 = Yes	Fundus Examination Performed
	0 = No	Year of Fundus Examination field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	

Parameter:	Retinopathy Status	
BIRO Ref:	BIRO023	
Field Names:	RETINA	
Data Type:	Enumerated(0, 1, 2)	
Definition:	0 = No Retinopathy	No Diabetic retinopathy
	1 = Background Retinopathy	Background diabetic retinopathy
	2 = Referable Retinopathy	Pre-Proliferative Retinopathy / Proliferative Retinopathy
Mandatory:	No	
Validity:	High	

Parameter:	Maculopathy	
BIRO Ref:	BIRO024	
Field Names:	MACULA	
Data Type:	Enumerated(0, 1)	
Definition:	0 = No Maculopathy	No Diabetic maculopathy
	1 = Referable Maculopathy	Diabetic Maculopathy
Mandatory:	No	
Validity:	High	

Parameter:	Foot Examination	
BIRO Ref:	BIRO025	
Field Name:	FOOT_EXAM	
Data Type:	Enumerated (0, 1)	
Definition:	1 = Yes	Foot Examination Performed
	0 = No	Year of Foot Examination field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	

Parameter:	Foot Pulses	
BIRO Ref:	BIRO026	
Field Name:	PULSES	
Data Type:	Enumerated (0, 1)	
Definition:	1 = Present	Foot pulses should be recorded as present if either one or both of the two major arteries (dorsalis pedis and posterior tibial) of the foot are felt upon physical palpation. The presence of pulses by Doppler ankle pressure should be interpreted with caution since normal readings may be recorded in the presence of medial arterial calcification and could be misleading.
	0 = Absent	Foot Pulses Absent
Mandatory:	No	
Validity:	High	

Parameter:	Foot Sensation	
BIRO Ref:	BIRO027	
Field Name:	FTSENS	
Data Type:	Enumerated (0, 1)	
Definition:	1 = Normal	Normal foot sensation
	0 = Abnormal	Foot Sensation can be considered abnormal if monofilament and/or vibration sensation are impaired as defined below.
Mandatory:	No	
Validity:	High	
Data Mapping:	Monofilament Testing: Test for detection of monofilament of 10 gram weight. Apply monofilament to 1st, 3rd & 5th metatarsal heads and plantar surface of great toe and 3rd toe. Failure to detect two or more out of five stimuli represents abnormal sensation. Vibration Sensation: Test for perception of vibration of a 128 Hz tuning fork over the medial malleolus for 5 seconds or more.	

5.8 Outcomes

Parameter:	End Stage Renal Failure	
BIRO Ref:	BIRO028	
Field Name:	ESRF	
Data Type:	Enumerated(0, 1)	
Definition:	Year that either serum creatinine was chronically greater than 300umol/l (i.e. >300 umol/l on two occasions three months apart) or the patient was placed on permanent dialysis or received a renal transplant.	
	1 = Yes	Year of ESRF field contains valid year number
	0 = No	Year of ESRF field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Renal Dialysis	
BIRO Ref:	BIRO029	
Field Name:	DIALYSIS	
Data Type:	Enumerated(0, 1)	
Definition:	Dialysis (Year)	
	1 = Yes	Year of Dialysis field contains valid year number
	0 = No	Year of Dialysis field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Renal Transplant	
BIRO Ref:	BIRO030	
Field Name:	TRANSPLANT	
Data Type:	Enumerated(0, 1)	
Definition:	Transplantation (Year)	
	1 = Yes	Year of Transplant field contains valid year number
	0 = No	Year of Transplant field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Stroke	
Field Name:	STROKE	
BIRO Ref:	BIRO031	
Data Type:	Enumerated(0, 1)	
Definition:	Cerebrovascular accident (stroke) is defined as rapidly developing signs of focal (and/or global) disturbance of cerebral function lasting more than 24 hours or leading to death with no apparent cause other than vascular origin.	
	1 = Yes	Stroke field contains valid year
	0 = No	Stroke field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Active Foot Ulcer	
BIRO Ref:	BIRO032	
Field Names:	ULCER	
Data Type:	Enumerated(0, 1)	
Definition:	Ulcer is defined as any break in the epithelium greater than a crack below the level of the malleoli. It is required as an indicator of possible risk of future amputation.	
	1 = Yes	Ulcer field contains valid year
	0 = No	Ulcer field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Myocardial Infarction	
BIRO Ref:	BIRO033	
Field Name:	MI	
Data Type:	Enumerated(0, 1)	
Definition:	Myocardial infarction proven by ECG, cardiac enzymes or heart perfusion scan or other reliable methodology, but not on clinical features alone.	
	1 = Yes	MI field contains valid year
	0 = No	MI field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Laser	
BIRO Ref:	BIRO034	
Field Name:	LASER	
Data Type:	Enumerated(0, 1)	
Definition	Record of each episode of laser treatment on eye.	
	1 = Yes	Laser left/right field contains valid year number
	0 = No	Laser left/right field are NULL or contain invalid numeric data
Mandatory:	No	
Validity:	Medium	
	Only reference to laser in Diabcare documentation refers to Laser <3 months after diagnosis	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Hypertension	
BIRO Ref:	BIRO035	
Field Name:	HYPERTENSION	
Data Type:	Enumerated(0, 1)	
Definition	Note that the definition of 'hypertension' is subject to periodic revision. The prevailing definition at the time of data recording should be used.	
	1 = Yes	Hypertension field contains valid year number
	0 = No	Hypertension field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
	FQSD Definition: Hypertension is defined by either hypertension treatment or blood pressure > 140/90	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Blindness	
BIRO Ref:	BIRO036	
Field Name:	BLIND	
Data Type:	Enumerated(0, 1)	
Definition:	Permanent blindness is defined as permanent visual acuity corrected (i.e. wearing corrective lenses) of <3/60 (i.e. CF, HM, PL or NPL) in the better eye.	
	1 = Yes	Blindness field contains valid year number
	0 = No	Blindness field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	Medium	
	Scottish definition specifies clinical status, FQSD concerns compensation payments.	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

Parameter:	Amputation	
BIRO Ref:	BIRO037	
Field Name:	AMPUT	
Data Type:	Enumerated(0, 1)	
Definition	Removal of forefoot or part of the lower limb. Includes transfemoral and transtibial amputations.	
	1 = Yes	Amputation field contains valid year number
	0 = No	Amputation field is NULL or contains invalid numeric data
Mandatory:	No	
Validity:	High	
Data Mapping:	For datasets where only the year is recorded, the data must be recorded as '01/01/ccyy' Where year unknown, but event confirmed, record '01/01/1900'	

5.9 Treatments

Parameter:	Antihypertensive Medication	
BIRO Ref:	BIRO038	
Field Name:	HYPERT_MED	
Data Type:	Enumerated(0, 1)	
Definition:	1 = Yes	Date of record of treatment using antihypertensive drugs is valid
	0 = No	Date of record of treatment using antihypertensive drugs is NULL or contains invalid date
Mandatory:	No	
Validity:	High	
Data Mapping:	For NHS Scotland data, anti-hypertensive medication will be extracted using prescribed drug British National Formulae (BNF) Code	

Parameter:	Hypoglycaemic Drug Therapy	
BIRO Ref:	BIRO039	
Field Name:	DRUG_THERAPY	
Data Type:	Enumerated(1, 2,3, 4)	
Definition:	1	Insulin Only
	2	Tablet Only
	3	Insulin and Tablets
	4	None (Diet Only)
	Date of treatment is valid	
Mandatory:	No	
Validity:	High	

Parameter:	Oral Drug Therapy	
BIRO Ref:	BIRO040	
Field Name:	ORAL_THERAPY	
Data Type:	Enumerated(1, 2,3, 4, 5)	
Definition:	1	Sulphonylureas
	2	Biguanides
	3	Glucosidase Inhibitors
	4	Glitazones
	5	Glinides
	Date of treatment is valid	
Mandatory:	No	
Validity:	High	
Data Mapping:	For NHS Scotland data, oral drug therapy will be extracted using prescribed drug British National Formulae (BNF) Code	

Parameter:	Pump Therapy	
BIRO Ref:	BIRO041	
Field Name:	PUMP_THERAPY	
Data Type:	Enumerated(0, 1)	
Definition:	1 = Yes	Date of record of treatment by insulin pump is valid
	0 = No	Date of record of treatment by insulin pump is NULL or contains invalid date
Mandatory:	No	
Validity:	High	
Data Mapping:	For NHS Scotland data, pump therapy detail will be extracted using prescribed drug British National Formulae (BNF) Code21	

Parameter:	Inhaled Therapy	
BIRO Ref:	BIRO042	
Field Name:	INHALED_THERAPY	
Data Type:	Enumerated(0, 1)	
Definition:	1 = Yes	Date of record of treatment by inhaled therapy is valid
	0 = No	Date of record of treatment by inhaled therapy is NULL or contains invalid date
Mandatory:	No	
Validity:	Medium	
	Inhaled therapy not recorded on DiabCare Basic Information sheet.	

Parameter:	Average Injections
BIRO Ref:	BIRO043
Field Name:	INJECTIONS
Data Type:	Real (nn.nn)
Definition:	Average number of insulin injections recorded per day
Mandatory:	No
Validity:	Low
	Average injections per day not recorded in SDCD or Umbria Dataset.

Parameter:	Self Monitoring	
BIRO Ref:	BIRO044	
Field Name:	SELF_MON	
Data Type:	Enumerated(1, 2, 3)	
Definition:	Self monitoring refers to use of reagent strips for monitoring blood or urinary glucose (at least 1 test per week).	
	1	Urine
	2	Blood Glucose
	3	Both
Mandatory:	No	
Validity:	High	

5.10 Education

Parameter:	Diabetes Specific Education	
BIRO Ref:	BIRO045	
Field Name:	EDUCATION	
Data Type:	Enumerated(0, 1)	
Definition:	This is very difficult to define and has not been defined until now. SDCD holds fields for advice on diet and pregnancy only. DiabCare holds many educational fields: general advice, healthy eating, hypoglycaemia, etc.	
	1 = Yes	Date of diabetes specific education is valid
	0 = No	Date of diabetes specific education is NULL or contains invalid date
Mandatory:	No	
Validity:	Low	
	Vague definition	

6. Clinical Site Parameters

BIRO data will be gathered from a wide range of clinical and administrative data sources, national registers and screening programmes. In order to identify and describe the sources contributing to a data feed, definitions of the various clinic demographics are required. These are necessary in order to perform comparative analyses of the partner sites. Effectively, this includes data regarding the organisation of healthcare and the various aspects of service delivery within the contributing data source. Much of this data may not be routinely recorded, but will be required for submission by each site for use in the statistical analysis:

6.1 Basic Identification Data

Parameter:	Data Source ID
BIRO Ref:	BIRO002
Field Name:	DS_ID
Data Type:	Integer
Definition:	Unique centre identification number (Defined as a BIRO Clinical Site)
Mandatory:	Yes

6.2 Clinical Site Parameters

Parameter:	Country of Origin
BIRO Ref:	BIRO101
Field Name:	DS_COUNTRY
Data Type:	String(25)
Definition:	The country from which the clinical data originates
Mandatory:	Yes

Parameter:	Data Source Type	
Field Name:	DS_TYPE	
BIRO Ref:	BIRO102	
Data Type:	Enumerated	
Definition:	The type of source from which data has been extracted	
	1	GP
	2	Hospital Clinic (Internal Medicine)
	3	Hospital Clinic (Diabetes)
	4	Regional Shared-data Register
	5	Regional Primary Care Project
	6	Disease Management Programme
	7	Hospital Discharge Information
	8	Insurance Programme
	9	Retinal Screening Programme
	10	Diabetes Specialist Nurse Clinic
	11	National Data – Complete
	12	National Data – Sample
	13	Regional Data – Sample
Mandatory:	Yes	

Parameter:	Data Source Name
BIRO Ref:	BIRO103
Field Name:	DS_NAME
Data Type:	String(25)
Definition:	Name used to describe local data source
Mandatory:	Yes

Parameter:	Data Source Denominator
BIRO Ref:	BIRO104
Field Name:	DS_DENOM
Data Type:	Integer
Definition:	Current data source population
Units:	Patients (with or without diabetes)
Mandatory:	Yes

Parameter:	Geographical Area
BIRO Ref:	BIRO105
Field Name:	DS_AREA
Data Type:	Integer
Definition:	Area of coverage for data source
Units:	m^2
Mandatory:	Yes

Parameter:	Website Address
BIRO Ref:	BIRO106
Field Name:	DS_WEBSITE
Data Type:	String(50)
Definition:	Internet address for Data Source
Mandatory:	No

Parameter:	Mailing Address 1
BIRO Ref:	BIRO107
Field Name:	DS_ADDRESS_1
Data Type:	String(25)
Definition:	First line of Data Source address
Mandatory:	Yes

Parameter:	Mailing Address 2
BIRO Ref:	BIRO108
Field Name:	DS_ADDRESS_2
Data Type:	String(25)
Definition:	Second line of Data Source address
Mandatory:	Yes

Parameter:	Mailing Address 3
BIRO Ref:	BIRO109
Field Name:	DS_ADDRESS_3
Data Type:	String(25)
Definition:	Third line of Data Source address
Mandatory:	No

Parameter:	Mailing Address 4
BIRO Ref:	BIRO110
Field Name:	DS_ADDRESS_4
Data Type:	String(25)
Definition:	Fourth line of Data Source address
Mandatory:	Yes

Parameter:	Post Code
BIRO Ref:	BIRO111
Field Name:	DS_POST_CODE
Data Type:	String(25)
Definition:	Post Code of Data Source
Mandatory:	Yes

Parameter:	Clinical Contact
BIRO Ref:	BIRO112
Field Name:	DS_C_CONTACT
Data Type:	String(25)
Definition:	Clinical representative from Data Source
Mandatory:	Yes

Parameter:	Clinical Contact Email Address
BIRO Ref:	BIRO113
Field Name:	DS_C_EMAIL
Data Type:	String(50)
Definition:	Email address of Data Source clinical representative
Mandatory:	Yes

Parameter:	Technical Contact
BIRO Ref:	BIRO114
Field Name:	DS_T_CONTACT
Data Type:	String(25)
Definition:	Technical representative from Data Source
Mandatory:	Yes

Parameter:	Technical Contact Email Address
BIRO Ref:	BIRO115
Field Name:	DS_T_EMAIL
Data Type:	String(50)
Definition:	Email address of Data Source technical representative
Mandatory:	Yes

Parameter:	Hospital Beds
BIRO Ref:	BIRO116
Field Name:	DS_BEDS
Data Type:	Integer
Definition:	Total hospital beds within data source geographical area - not separated by category
Units:	Hospital Beds
Mandatory:	Yes

Parameter:	Physicians
BIRO Ref:	BIRO117
Field Name:	DS_PHYSICIANS
Data Type:	Integer
Definition:	Physicians within data source geographical area. National statistics can provide information on this indicator.
Units:	Physicians
Mandatory:	Yes

Parameter:	Diabetologists
BIRO Ref:	BIRO118
Field Name:	DS_DIABETOLOGISTS
Data Type:	Integer
Definition:	Diabetes Specialist Consultants within data source geographical area. Data should come from national Specialist Registers and can include “Diabetologists” and “Endocrinologists” but not “Internists” or “General Physicians”.
Units:	Diabetes Specialist Consultants
Mandatory:	Yes

Parameter:	Doctors
BIRO Ref:	BIRO119
Field Name:	DS_DOCTORS
Data Type:	Integer
Definition:	Number of doctors who regularly take care of diabetic patients in diabetes clinics in primary or secondary care within data source geographical area.
Units:	Doctors
Mandatory:	Yes

Parameter:	Specialist Diabetes Nurses
BIRO Ref:	BIRO120
Field Name:	DS_DSN
Data Type:	Integer
Definition:	Specialist diabetes nurses within data source geographical area.
Units:	Specialist Diabetes Nurses
Mandatory:	Yes

Parameter:	Disease Management Programmes
BIRO Ref:	BIRO121
Field Name:	DS_PROGS
Data Type:	Integer
Definition:	Number of disease management programmes in data source geographical area. Availability of a DMP influences the level of structured and evidence based treatment.
Units:	Disease Management Programmes
Mandatory:	Yes

Appendix 1: Short Dataset – Clinical Parameters

Reference	Field Name	Parameter	Data Type	Enumerated Codes
BIRO001	PAT_ID	Patient ID	String(12)	
BIRO002	DS_ID	Data Source ID	String(10)	
BIRO003	TYPE_DM	Type Of Diabetes	Enumerated	1 = Type 1 2 = Type 2 3 = Other Types of Diabetes
BIRO004	SEX	Sex	Enumerated	1 = Male 2 = Female
BIRO005	DOB	Date of Birth	Date/Time	
BIRO006	DT_DIAG	Date of Diagnosis	Date/Time	
BIRO007	EPI_DATE	Episode Date	Date/Time	
BIRO008	SMOK_STAT	Smoking Status	Enumerated	1 = Current Smoker 2 = Non-Smoker 3 = Ex-Smoker
BIRO009	CIGS_DAY	Cigarettes per day	Integer	
BIRO047	ALC_STAT	Alcohol Status	Enumerated	1 = Current Drinker 2 = Non-Drinker 3 = Ex-Drinker
BIRO010	ALCOHOL	Alcohol Intake	Integer	
BIRO011	WEIGHT	Weight	Real	
BIRO012	HEIGHT	Height	Real	
BIRO013	BMI	Body Mass Index	Real	
BIRO014	SBP	Systolic Blood Pressure	Integer	
BIRO015	DBP	Diastolic Blood Pressure	Integer	
BIRO016	HBA1C	HbA1c	Real	
BIRO017	CREAT	Creatinine	Integer	
BIRO018	MA_TEST	Microalbumin	Enumerated	1 = MA Test Normal 2 = MA Test Abnormal 0 = No MA Test Recorded
BIRO019	CHOL	Total Cholesterol	Real	

BIRO020	HDL	HDL	Real	
BIRO046	LDL	LDL	Real	
BIRO021	TG	Triglycerides	Real	
BIRO022	RETINAL_EXAM	Retinal Examination	Enumerated	1 = Yes 0 = No
BIRO023	RETINA	Retinopathy Status	Enumerated	1 = No Retinopathy 2 = Background Retinopathy 3 = Referable Retinopathy
BIRO024	MACULA	Maculopathy Status	Enumerated	1 = No Maculopathy 2 = Referable Maculopathy
BIRO025	FOOT_EXAM	Foot Examination	Enumerated	1 = Yes 0 = No
BIRO026	PULSES	Foot Pulses	Enumerated	1 = Present 0 = Absent
BIRO027	FTSENS	Foot Sensation	Enumerated	1 = Normal 0 = Abnormal
BIRO028	ESRF	End Stage Renal Therapy	Enumerated	1 = Yes 0 = No
BIRO029	DIALYSIS	Renal Dialysis	Enumerated	1 = Yes 0 = No
BIRO030	TRANSPLANT	Renal Transplant	Enumerated	1 = Yes 0 = No
BIRO031	STROKE	Stroke	Enumerated	1 = Yes 0 = No
BIRO032	ULCER	Active Foot Ulcer	Enumerated	1 = Yes 0 = No
BIRO033	MI	Myocardial Infarction	Enumerated	1 = Yes 0 = No
BIRO034	LASER	Laser	Enumerated	1 = Yes 0 = No
BIRO035	HYPERTENSION	Hypertension	Enumerated	1 = Yes 0 = No

BIRO036	BLIND	Blindness	Enumerated	1 = Yes 0 = No
BIRO037	AMPUT	Amputation	Enumerated	1 = Yes 0 = No
BIRO038	HYPERT_MED	Antihypertensive Medication	Enumerated	1 = Yes 0 = No
BIRO039	DRUG_THERAPY	Hypoglycaemic Drug Therapy	Enumerated	1 = Insulin Only 2 = Tablet Only 3 = Insulin and Tablets 4 = None (Diet Only)
BIRO040	ORAL_THERAPY	Oral Drug Therapy	Enumerated	1 = Sulphonylureas 2 = Biguanides 3 = Glucosidase Inhibitors 4 = Glitazones 5 = Glinides
BIRO041	PUMP_THERAPY	Pump Therapy	Enumerated	1 = Yes 0 = No
BIRO042	NASAL_THERAPY	Nasal Therapy	Enumerated	1 = Yes 0 = No
BIRO043	INJECTIONS	Average Injections	Real	
BIRO044	SELF_MON	Self Monitoring	Enumerated	1 = Urine 2 = Blood Glucose 3 = Both
BIRO045	EDUCATION	Diabetes Specific Education	Enumerated	1 = Yes 0 = No

Appendix 2: Short Dataset – Clinical Site Parameters

Reference	Field Name	Parameter	Data Type	Enumerated Codes
BIRO002	DS_ID	Data Source ID	String(10)	
BIRO101	DS_COUNTRY	Country of Origin	String(25)	
BIRO102	DS_TYPE	Data Source Type	Enumerated	1 = GP 2 = Hospital Clinic (Internal Medicine) 3 = Hospital Clinic (Diabetes) 4 = Regional Shared-data Register 5 = Regional Primary Care Project 6 = Disease Management Programme 7 = Hospital Discharge Information 8 = Insurance Programme 9 = Retinal Screening Programme 10 = Diabetes Specialist Nurse Clinic 11 = National Data – Complete 12 = National Data – Sample 13 = Regional Data – Sample
BIRO103	DS_NAME	Data Source Name	String(25)	
BIRO104	DS_DENOM	Data Source Denominator	Integer	
BIRO105	DS_AREA	Geographical Area	Integer	
BIRO106	DS_WEBSITE	Website Address	String(50)	
BIRO107	DS_ADDRESS_1	Mailing Address Field 1	String(25)	
BIRO108	DS_ADDRESS_2	Mailing Address Field 2	String(25)	
BIRO109	DS_ADDRESS_3	Mailing Address Field 3	String(25)	
BIRO110	DS_ADDRESS_4	Mailing Address Field 4	String(25)	
BIRO111	DS_POST_CODE	Post Code of Data Source	String(25)	
BIRO112	DS_C_CONTACT	Clinical Contact	String(25)	
BIRO113	DS_C_EMAIL	Clinical Contact Email Address	String(50)	
BIRO114	DS_T_CONTACT	Technical Contact	String(25)	
BIRO115	DS_T_EMAIL	Technical Contact Email Address	String(50)	

BIRO116	DS_BEDS	Hospital Beds	Integer	
BIRO117	DS_PHYSICIANS	Physicians	Integer	
BIRO118	DS_DIABETOLOGISTS	Diabetes Specialist Consultants	Integer	
BIRO119	DS_DOCTORS	Doctors	Integer	
BIRO120	DS_DSN	Specialist Diabetes Nurses	Integer	
BIRO121	DS_PROGS	Disease Management Programmes	Integer	

Appendix 3: BIRO WP2 Cross-Reference

This section cross references the BIRO WP3 Common Dataset with the WP2 Core Indicator candidates. Indicators that are covered by the dataset, and those where there are issues with the contributing data items are marked as appropriate.

Reference No:	1
Indicator:	Annual Incidence of Type 1 Diabetes in children between 0 – 14 years of age at diagnosis (clinical) per 100,000 children
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO005: DOB BIRO104: DS_DENOM
Common Dataset Issues:	None

Reference No:	4
Indicator:	Prevalence of diabetes mellitus per 1,000
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO104: DS_DENOM
Common Dataset Issues:	None

Reference No:	17
Indicator:	Age at diagnosis by 10 year age bands (incidence)
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO005: DOB BIRO006: DT_DIAG BIRO104: DS_DENOM
Common Dataset Issues:	None

Reference No:	19
Indicator:	Hospital beds per 100,000 population
Contributing Data Items:	BIRO002: DS_ID BIRO104: DS_DENOM BIRO116: DS_BEDS
Common Dataset Issues:	None

Reference No:	20
Indicator:	Physicians employed per 100,000 population
Contributing Data Items:	BIRO002: DS_ID BIRO104: DS_DENOM BIRO117: DS_PHYSICIANS
Common Dataset Issues:	None

Reference No:	21
Indicator:	Number of diabetologists per 100,000
Contributing Data Items:	BIRO002: DS_ID BIRO104: DS_DENOM BIRO118: DS_DIABETOLOGISTS
Common Dataset Issues:	None

Reference No:	22
Indicator:	Number of doctors who regularly take care of diabetic patients in diabetes clinics in primary or secondary care per 100,000
Contributing Data Items:	BIRO002: DS_ID BIRO104: DS_DENOM BIRO119: DS_DOCTORS
Common Dataset Issues:	None

Reference No:	24
Indicator:	Number of diabetes nurses employed per 100,000
Contributing Data Items:	BIRO002: DS_ID BIRO104: DS_DENOM BIRO120: DS_DSN
Common Dataset Issues:	None

Reference No:	25
Indicator:	Number of structured Disease Management Programmes
Contributing Data Items:	BIRO002: DS_ID BIRO104: DS_DENOM BIRO121: DS_PROGS
Common Dataset Issues:	None

Reference No:	27
Indicator:	Percentage with one or more HbA1c tests during the last 12 months
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO016: HBA1C
Common Dataset Issues:	None

Reference No:	28
Indicator:	Percentage of patients with one or more Total cholesterol/HDL tests during the last 12 months
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO019: CHOL BIRO020: HDL
Common Dataset Issues:	None

Reference No:	29
Indicator:	Percentage of patients with at least one test for microalbuminuria during the measurement year or who had evidence of medical attention for existing nephropathy
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO018: MA_TEST BIRO028: ESRF BIRO029: DIALYSIS BIRO030: TRANSPLANT
Common Dataset Issues:	None

Reference No:	30
Indicator:	Percentage of diabetes patients who received a dilated eye examination or evaluation of retinal photography by a trained caregiver within the last 12 months
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO022: RETINAL_EXAM
Common Dataset Issues:	None

Reference No:	31
Indicator:	Percentage of diabetes patients receiving at least one foot examination within the last 12 months
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO025: FOOT_EXAM
Common Dataset Issues:	None

Reference No:	32
Indicator:	Percentage of diabetes patients whose smoking status was ascertained and documented within the last 12 months
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO008: SMOK_STAT
Common Dataset Issues:	None

Reference No:	34
Indicator:	Percent with serum creatinine tested in last 12 months
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO017: CREAT
Common Dataset Issues:	None

Reference No:	35
Indicator:	Percentage of patients with diabetes and one or more blood pressure measurements within the last 12 months
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO014: SBP BIRO015: DBP
Common Dataset Issues:	None

Reference No:	36
Indicator:	Percentage of patients with hypertension who receive hypertensive medication
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO035: HYPERTENSION BIRO038: HYPERT_MED
Common Dataset Issues:	None

Reference No:	38
Indicator:	Percentage of patients with diabetes specific education at least once before
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO045: EDUCATION
Common Dataset Issues:	Low Validity: Definition of types of qualifying “education” are vague.

Reference No:	40
Indicator:	Type of oral therapy (distribution of agents) in patients with diabetes type 2
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO040: ORAL_THERAPY
Common Dataset Issues:	None

Reference No:	41
Indicator:	Portion of patients treated with insulin among patients with diabetes
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO039: DRUG_THERAPY
Common Dataset Issues:	None

Reference No:	42
Indicator:	Portion of patients treated with insulin in combination with OADs among patients with diabetes
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO039: DRUG_THERAPY
Common Dataset Issues:	None

Reference No:	44

Indicator:	Percentage of insulin treated patients with pump therapy
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO039: DRUG_THERAPY BIRO041: PUMP_THERAPY
Common Dataset Issues:	None

Reference No:	45
Indicator:	Average number of insulin injections per day in insulin treated patients
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO039: DRUG_THERAPY BIRO043: INJECTIONS
Common Dataset Issues:	Low Validity: Average injections per day not recorded in SDCD or Umbria Dataset.

Reference No:	49
Indicator:	Portion of diabetes patients with anti hypertensive treatment
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO038: HYPERT_MED
Common Dataset Issues:	None

Reference No:	51

Indicator:	Percent of patients with diabetes performing self-monitoring of blood glucose/ urine testing
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO044: SELF_MON
Common Dataset Issues:	None

Reference No:	54
Indicator:	Percentage of patients with most recent HbA1c level >9.0% (poor control)
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO016: HBA1C
Common Dataset Issues:	None

Reference No:	55
Indicator:	Percentage of patients with most recent HbA1c level >7.5%
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO016: HBA1C
Common Dataset Issues:	None

Reference No:	57
Indicator:	Percentage of patients with Total-Chol / HDL-Chol < 4.5
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO019: CHOL BIRO020: HDL
Common Dataset Issues:	None

Reference No:	58
Indicator:	Percentage of patients with most recent blood pressure <140/90 mmHg
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO014: SBP BIRO015: DBP
Common Dataset Issues:	None

Reference No:	60
Indicator:	Percentage of patients with BMI >= 30
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO013: BMI
Common Dataset Issues:	None

Reference No:	61
Indicator:	Percentage of patients with waist circumference above IDF cut-offs
Common Dataset Issues:	Waist circumference has not been included in the BIRO Common Dataset as it does not currently appear in either the Scottish or DiabCare datasets – to be reviewed.

Reference No:	62
Indicator:	Percentage of persons with diabetes mellitus with a fundus inspection in the last 12m, who have proliferative retinopathy and/or maculopathy
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO022: RETINAL_EXAM BIRO023: RETINA BIRO024: MACULA
Common Dataset Issues:	Dataset defines a retinopathy status of “Referable Retinopathy” – this indicator to be revised

Reference No:	64
Indicator:	Percentage of patients with laser treatment ever
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO034: LASER
Common Dataset Issues:	Medium Validity: Only reference to laser in Diabcare documentation refers to Laser <3 months after diagnosis

Reference No:	65
Indicator:	Percentage with microalbuminuria in last 12 months (among those who have been tested)
Common Dataset Issues:	Microalbumin value has not been included in the BIRO Common Dataset as it is currently unclear as to which method should be used for recording this value. Decided at Graz meeting only to record test recorded Y/N – to be reviewed.

Reference No:	66
Indicator:	Rate of current smokers amongst diabetes patients
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO008: SMOK_STAT
Common Dataset Issues:	None

Reference No:	67
Indicator:	Rate of patients with current alcohol abuse/dependence
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO010: ALCOHOL
Common Dataset Issues:	None

Reference No:	69
Indicator:	Former or current foot ulceration
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO032: ULCER
Common Dataset Issues:	None

Reference No:	71
Indicator:	Annual incidence of blindness in patients with diabetes (among those visited during the last 12 months)
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO036: BLIND
Common Dataset Issues:	Blindness has Medium Validity: Scottish definition specifies clinical status, FQSD concerns compensation payments.

Reference No:	73
Indicator:	Annual incidence of dialysis and/or transplantation (renal replacement therapy) in patients with diabetes
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO029: DIALYSIS BIRO030: TRANSPLANT
Common Dataset Issues:	None

Reference No:	74
Indicator:	ESRD in Persons with Diabetes
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO028: ESRF
Common Dataset Issues:	None

Reference No:	75
Indicator:	Annual incidence of amputations above the ankle
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO037: AMPUTATION
Common Dataset Issues:	Dataset specifies “Removal of forefoot or part of the lower limb” – indicator to be reviewed.

Reference No:	76
Indicator:	Annual incidence of stroke in patients with diabetes
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO031: STROKE
Common Dataset Issues:	None

Reference No:	78
Indicator:	Annual Incidence of myocardial infarction in patients with diabetes
Contributing Data Items:	BIRO001: PAT_ID BIRO002: DS_ID BIRO003: TYPE_DM BIRO007: EPI_DATE BIRO033: MI
Common Dataset Issues:	None

Reference No:	80
Indicator:	Annual death rate per 100,000 populations in the general population from all causes, adjusted for standard European population
Common Dataset Issues:	Death not recorded in DiabCare – to be reviewed