Glycosylated Haemoglobin (HbA1c) - measured

Important note: This is an archived metadata standard from the AIHW Knowledgebase. For current metadata standards and related information please access METeOR, the AIHW's Metadata Online Registry at http://meteor.aihw.gov.au

Identifying and Definitional Attributes

Data Dictionary:	NHDD		
Knowledgebase ID:	000824	Version number:	1
Metadata type:	DATA ELEMENT		
Registration Authority:	NHIMG	Admin status:	SUPERSEDED
		Effective date:	01-MAR-05
Definition:	A person's measured glycosylated haemoglobin (HbA1c) level.		
Context:	Public health, health care and clinical settings.		

Relational and Representational Attributes

Datatype:	Numeric	
Representational form:	QUANTITATIVE VALUE	
Representation layout:	NN.N	
Minimum Size:	3	
Maximum Size:	4	
Data Domain:	99.9	Not stated / inadequately described
	NOVAL	Measured in % to 1 decimal point
Guide For Use:	Record the absolute result of the test [%].	
Verification Rules:	.	
Collection Methods:	Test is performed in accredited laboratories. -A single blood sample is sufficient and no preparation of the patient is required. -Measure HbA1c ideally using High Performance Liquid Chromatography (HPLC)	
Related metadata:	relates to the data element Glycosylated Haemoglobin (HbA1c) - upper limit of normal range version 1	

Administrative Attributes

Source Document: National Diabetes Outcomes Quality Review Initiative (NDOQRIN) data dictionary.

Source Organisation: National Diabetes Data Working Group

Comments: The HbAIc along with regular blood glucose monitoring is the best way to see the overall picture of blood glucose levels.

HbA1c is a measurement of long-term blood glucose control and is used to assess the effectiveness of treatment. The level of HbA1c is proportional to the level of glucose in the blood over a period of approximately two months, because glucose attaches to the haemoglobin (red blood cells) and remains there for the life of the red blood cell, approximately 120 days. The HbA1c gives an average of the blood glucose level over the past 6- 8 weeks and therefore haemoglobin A1c is accepted as an indicator of the mean daily blood glucose concentration over the preceding two months.

HbA1c is formed by the non-enzymatic glycation of the N-terminus of the B- chain of haemoglobin Ao. It is a convenient way to obtain an integrated assessment of antecedent glycaemia over an extended period under real life conditions used as a standard for assessing overall blood glucose control.

HbA1c results vary between laboratories; use the same laboratory for repeated testing.

When reporting, record absolute result of the most recent HbA1c level in the last 12 months.

Research studies in the United States have found that for every 1% reduction in results of HbA1c blood tests, the risk of developing micro vascular diabetic complications (eye, kidney, and nerve disease) is reduced by 40 percent.

The maintenance of good glycaemic control [in diabetes Type 1 and Type 2], significantly reduces progression of diabetes-related complications such as retinopathy, nephropathy and neuropathy, as indicated in the Diabetes Control and Complications Trial (DCCT 1993) and United Kingdom Prospective Diabetes Study (UKPDS 1997).

The target proposed by the Australian Diabetes Society for glycosylated haemoglobin (HbA1c) is 7.0% or less and a doctor may order this test about every 3 - 6 months.

References:
Koening, R. J. Peterson, CM and Kilo, C et al. Hemoglobin A1c as an indicator of the degree of glucose intolerance in diabetes. Diabetes 259 (1976): 230-232.

Nathan, D.M., Singer, D.E, Hurxthal, K, and Goodson, J.D. The clinical information value of the glycosylated hemoglobin assay. N. Eng. J. Med. 310 (1984): 341-346.

Data Element Links

Information Model Entities linked to this Data Element

Data Agreements which include this Data Element

DSS - Diabetes (clinical) From 01-Jan-03 to