Person—low-density lipoprotein cholesterol level (calculated), total millimoles per litre N[N].N

Exported from METEOR (AIHW's Metadata Online Registry)

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Identifying and definitional attributes

Metadata item type:	Data Element
Short name:	Cholesterol—LDL (calculated)
METEOR identifier:	359262
Registration status:	Health, Standard 01/10/2008
Definition:	A person's calculated low-density lipoprotein cholesterol (LDL-C) in millimoles per litre.
Data Element Concept:	Person—low-density lipoprotein cholesterol level
Value Domain:	Millimoles per litre N[N].N

Value domain attributes

Representational attributes

Representation class:	Total	
Data type:	Number	
Format:	N[N].N	
Maximum character length:	3	
	Value	**Meaning**
Supplementary values:	99.9	Not stated/inadequately described
Unit of measure:	Millimole per litre (mmol/L)	

Data element attributes

Collection and usage attributes

Guide for use:

Formula:

LDL-C = (plasma total cholesterol) - (high density lipoprotein cholesterol) - (fasting plasma triglyceride divided by 2.2).

Collection methods:

The LDL-C is usually calculated from the Friedwald Equation (Friedwald et al. 1972), which depends on knowing the blood levels of the total cholesterol and HDL-C and the fasting level of the triglyceride.

Note that the Friedwald equation becomes unreliable when the plasma triglyceride exceeds 4.5 mmol/L.

Note also that while cholesterol levels are reliable for the first 24 hours after the onset of acute coronary syndromes, they may be unreliable for the subsequent 8 weeks after an event.

- Measurement of lipid levels should be carried out by laboratories, or practices, which have been accredited to perform these tests by the National Association of Testing Authorities.
- To be collected as a single venous blood sample, preferably following a 12-hour fast where only water and medications have been consumed.

Comments:

High blood cholesterol is a key factor in heart, stroke and vascular disease, especially coronary heart disease (CHD).

Poor nutrition can be a contributing factor to heart, stroke and vascular disease as a population's level of saturated fat intake is the prime determinant of its level of blood cholesterol.

The majority of the cholesterol in plasma is transported as a component of LDL-C. Recent trials support a target LDL-C of <2.0 mmol/L for high risk patients with existing coronary heart disease.

Source and reference attributes

Submitting organisation: Cardiovascular Data Working Group

Origin:

National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand, Lipid Management Guidelines - 2001, MJA 2001; 175: S57-S88.

National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand, Position Statement on Lipid Management - 2005, Heart, Lung and Circulation 2005; 14: 275-291.

Relational attributes

Related metadata references:

Supersedes Person—low-density lipoprotein cholesterol level (calculated), total millimoles per litre N[N].N
Health, Superseded 01/10/2008

Is formed using Health service event—fasting indicator, code N
Health, Standard 21/09/2005

Is formed using Person—cholesterol level (measured), total millimoles per litre N[N].N
Health, Superseded 01/10/2008

Is formed using Person—high-density lipoprotein cholesterol level (measured), total millimoles per litre [N].NN
Health, Standard 01/03/2005

Is formed using Person—triglyceride level (measured), total millimoles per litre N[N].N
Health, Superseded 01/10/2008

Implementation in Data Set Specifications:

Acute coronary syndrome (clinical) DSS
Health, Superseded 01/09/2012

Acute coronary syndrome (clinical) DSS
Health, Superseded 02/05/2013

Acute coronary syndrome (clinical) NBPDS 2013-
Health, Standard 02/05/2013
Implementation start date: 01/07/2013

Cardiovascular disease (clinical) DSS
Health, Superseded 01/09/2012
DSS specific information:

Many studies have demonstrated the significance of blood cholesterol components as risk factors for heart, stroke and vascular disease.

Scientific studies have shown a continuous relationship between lipid levels and Coronary Heart Disease (CHD) and overwhelming evidence that lipid lowering interventions reduces CHD progression, morbidity and mortality.

There are many large-scale, prospective population studies defining the relationship between plasma total (and Low-density Lipoprotein (LDL)) cholesterol and the future risk of developing CHD. The results of prospective population studies are consistent and support several general conclusions:

- the majority of people with CHD do not have markedly elevated levels of plasma total cholesterol or LDL-C,
- there is a continuous positive but curvilinear relationship between the concentration of plasma total (and LDL) cholesterol and the risk of having a

coronary event and of dying from CHD,
- there is no evidence that a low level of plasma (or LDL) cholesterol predisposes to an increase in non-coronary mortality.

The excess non-coronary mortality at low cholesterol levels in the Honolulu Heart Study (Yano et al. 1983; Stemmermann et al. 1991) was apparent only in people who smoked and is consistent with a view that smokers may have occult smoking related disease that is responsible for both an increased mortality and a low plasma cholesterol.

It should be emphasised that the prospective studies demonstrate an association between plasma total cholesterol and LDL-C and the risk of developing CHD. (Lipid Management Guidelines - 2001, MJA 2001; 175: S57-S88 and Commonwealth Department of Health & Ageing and Australian Institute of Health and Welfare (1999) National Health Priority Areas Report: Cardiovascular Health 1998. AIHW Cat. No. PHE 9. HEALTH and AIHW, Canberra pgs 14-17).

In settings such as general practice where the monitoring of a person's health is ongoing and where a measure can change over time, the service contact date should be recorded.

Cardiovascular disease (clinical) NBPDS
Health, Superseded 17/10/2018
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