

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

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

Identifying and definitional attributes

Metadata item type:	Data Element
Short name:	Cholesterol—LDL (calculated)
METEOR identifier:	270402
Registration status:	Health! , Superseded 01/10/2008
Definition:	A person's calculated low-density lipoprotein cholesterol (LDL-C).
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				
Supplementary values:	<table><thead><tr><th>Value</th><th>Meaning</th></tr></thead><tbody><tr><td>99.9</td><td>Not stated/inadequately described</td></tr></tbody></table>	Value	Meaning	99.9	Not stated/inadequately described
Value	Meaning				
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: $\text{LDL-C} = (\text{plasma total cholesterol}) - (\text{high density lipoprotein cholesterol}) - (\text{fasting plasma triglyceride divided by } 2.2).$
Collection methods:	<p>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.</p> <p>Note that the Friedwald equation becomes unreliable when the plasma triglyceride exceeds 4.5 mmol/L.</p> <p>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 6 weeks after an event.</p> <ul style="list-style-type: none">• 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. Thus, the evidence linking CHD to plasma total cholesterol and LDL-C is essentially the same.

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.

Relational attributes


Related metadata references: Has been superseded by [Person—low-density lipoprotein cholesterol level \(calculated\), total millimoles per litre N\[N\].N](#)
[Health!](#), Standard 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

Is re-engineered from  [Cholesterol-LDL calculated, version 1, Derived DE, NHDD, NHIMG, Superseded 01/03/2005 .pdf](#) (19.7 KB)
No registration status

Implementation in Data Set Specifications: [Acute coronary syndrome \(clinical\) DSS](#)
[Health!](#), Superseded 07/12/2005

[Acute coronary syndrome \(clinical\) DSS](#)
[Health!](#), Superseded 01/10/2008

[Cardiovascular disease \(clinical\) DSS](#)
[Health!](#), Superseded 15/02/2006

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 \(clinical\) DSS](#)
Health!, Superseded 04/07/2007

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[Cardiovascular disease \(clinical\) DSS](#)
Health!, Superseded 22/12/2009

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