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

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| Identifying and definitional attributes | |
| Metadata item type: | Data Element |
| Short name: | Cholesterol—LDL (calculated) |
| METEOR identifier: | 270402 |
| Registration status: | [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Superseded 01/10/2008 |
| Definition: | A person's calculated low-density lipoprotein cholesterol (LDL-C). |

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| Data element concept attributes | |
| Identifying and definitional attributes | |
| Data element concept: | [Person—low-density lipoprotein cholesterol level](https://meteor.aihw.gov.au/content/269576) |
| METEOR identifier: | 269576 |
| Registration status: | [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Standard 01/03/2005 |
| Definition: | A person's low-density lipoprotein cholesterol (LDL-C) level. |
| Context: | Public health, health care and clinical setting. |
| Object class: | [Person](https://meteor.aihw.gov.au/content/268955) |
| Property: | [Low-density lipoprotein cholesterol level](https://meteor.aihw.gov.au/content/310787) |

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| Value domain attributes | |
| Identifying and definitional attributes | |
| Value domain: | [Millimoles per litre N[N].N](https://meteor.aihw.gov.au/content/270940) |
| METEOR identifier: | 270940 |
| Registration status: | [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Standard 01/03/2005 |
| Definition: | Total number of millimoles per litre (mmol/L). |

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| 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) | |



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| 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 6 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. 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](https://meteor.aihw.gov.au/content/359262)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Standard 01/10/2008  Is formed using [Health service event—fasting indicator, code N](https://meteor.aihw.gov.au/content/302941)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Standard 21/09/2005  Is formed using [Person—cholesterol level (measured), total millimoles per litre N[N].N](https://meteor.aihw.gov.au/content/270403)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Superseded 01/10/2008  Is formed using [Person—high-density lipoprotein cholesterol level (measured), total millimoles per litre [N].NN](https://meteor.aihw.gov.au/content/270401)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Standard 01/03/2005  Is formed using [Person—triglyceride level (measured), total millimoles per litre N[N].N](https://meteor.aihw.gov.au/content/270229)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Superseded 01/10/2008  Is re-engineered from  [Cholesterol-LDL calculated, version 1, Derived DE, NHDD, NHIMG, Superseded 01/03/2005 .pdf](https://meteor.aihw.gov.au/content/273665)  (19.7 KB)  *No registration status* |
| Implementation in Data Set Specifications: | [Acute coronary syndrome (clinical) DSS](https://meteor.aihw.gov.au/content/285277)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Superseded 07/12/2005  [Acute coronary syndrome (clinical) DSS](https://meteor.aihw.gov.au/content/319741)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Superseded 01/10/2008  [Cardiovascular disease (clinical) DSS](https://meteor.aihw.gov.au/content/273052)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), 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](https://meteor.aihw.gov.au/content/348289)  [Health](https://meteor.aihw.gov.au/RegistrationAuthority/12), Superseded 04/07/2007  ***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. 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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.   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