

# Person—high-density lipoprotein cholesterol level (measured), total millimoles per litre [N].NN

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# Person—high-density lipoprotein cholesterol level (measured), total millimoles per litre [N].NN

## Identifying and definitional attributes

|                      |                                                                              |
|----------------------|------------------------------------------------------------------------------|
| Metadata item type:  | Data Element                                                                 |
| Short name:          | Cholesterol—HDL (measured)                                                   |
| METEOR identifier:   | 270401                                                                       |
| Registration status: | <a href="#">Health</a> , Standard 01/03/2005                                 |
| Definition:          | A person's high-density lipoprotein cholesterol (HDL-C), measured in mmol/L. |

## Data element concept attributes

### Identifying and definitional attributes

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Data element concept: | <a href="#">Person—high-density lipoprotein cholesterol level</a> |
| METEOR identifier:    | 269571                                                            |
| Registration status:  | <a href="#">Health</a> , Standard 01/03/2005                      |
| Definition:           | A person's high-density lipoprotein cholesterol (HDL-C) level.    |
| Context:              | Public health, health care and clinical settings                  |
| Object class:         | <a href="#">Person</a>                                            |
| Property:             | <a href="#">High-density lipoprotein cholesterol level</a>        |

## Value domain attributes

### Identifying and definitional attributes

|                      |                                                   |
|----------------------|---------------------------------------------------|
| Value domain:        | <a href="#">Total millimoles per litre [N].NN</a> |
| METEOR identifier:   | 270899                                            |
| Registration status: | <a href="#">Health</a> , Standard 01/03/2005      |
| Definition:          | Total number of millimoles per litre (mmol/L).    |

## Representational attributes

|                           |                              |                                     |
|---------------------------|------------------------------|-------------------------------------|
| Representation class:     | Total                        |                                     |
| Data type:                | Number                       |                                     |
| Format:                   | [N].NN                       |                                     |
| Maximum character length: | 3                            |                                     |
|                           | Value                        | Meaning                             |
| Supplementary values:     | 9.99                         | Not measured/inadequately described |
| Unit of measure:          | Millimole per litre (mmol/L) |                                     |

## Data element attributes

## Collection and usage attributes

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Guide for use:</b>      | <p>When reporting, record whether or not the measurement of High-density Lipoprotein Cholesterol (HDL-C) was performed in a fasting specimen.</p> <p>In settings where the monitoring of a person's health is ongoing and where a measure can change over time (such as general practice), the date of assessment should be recorded.</p>                                                                                                                                                                                                                                                                                   |
| <b>Collection methods:</b> | <p>When reporting, record absolute result of the most recent HDL-Cholesterol measurement in the last 12 months to the nearest 0.01 mmol/L.</p> <p>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.</p> <ul style="list-style-type: none"><li>• To be collected as a single venous blood sample, preferably following a 12-hour fast where only water and medications have been consumed.</li><li>• Prolonged tourniquet use can artefactually increase levels by up to 20%.</li></ul> |

## Source and reference attributes

|                                 |                                                                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Submitting organisation:</b> | Cardiovascular Data Working Group<br>National Diabetes Data Working Group                                                                                |
| <b>Origin:</b>                  | 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

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Related metadata references:</b> | <p>Is used in the formation of <a href="#">Person—low-density lipoprotein cholesterol level (calculated), total millimoles per litre N[N].N</a><br/><a href="#">Health</a>, Standard 01/10/2008</p> <p>Is used in the formation of <a href="#">Person—low-density lipoprotein cholesterol level (calculated), total millimoles per litre N[N].N</a><br/><a href="#">Health</a>, Superseded 01/10/2008</p> <p>Is re-engineered from  <a href="#">Cholesterol-HDL - measured, version 1, DE, NHDD, NHIMG, Superseded 01/03/2005.pdf</a> (22.0 KB)<br/><i>No registration status</i></p> |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Implementation in Data Set Specifications:</b> | <p><a href="#">Acute coronary syndrome (clinical) DSS</a><br/><a href="#">Health</a>, Superseded 07/12/2005</p> <p><a href="#">Acute coronary syndrome (clinical) DSS</a><br/><a href="#">Health</a>, Superseded 01/10/2008</p> <p><a href="#">Acute coronary syndrome (clinical) DSS</a><br/><a href="#">Health</a>, Superseded 01/09/2012</p> <p><a href="#">Acute coronary syndrome (clinical) DSS</a><br/><a href="#">Health</a>, Superseded 02/05/2013</p> <p><a href="#">Acute coronary syndrome (clinical) NBPDS 2013-</a><br/><a href="#">Health</a>, Standard 02/05/2013</p> <p><b>Implementation start date:</b> 01/07/2013</p> <p><a href="#">Cardiovascular disease (clinical) DSS</a><br/><a href="#">Health</a>, Superseded 15/02/2006</p> <p><b>DSS specific information:</b></p> |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

High-density Lipoprotein Cholesterol (HDL-C) is easily measured and has been shown to be a negative predictor of future coronary events.

An inverse relationship between the level of HDL-C and the risk of developing premature coronary heart disease (CHD) has been a consistent finding in a large number of prospective population studies. In many of these studies, the level of HDL-C has been the single most powerful predictor of future coronary events. Key studies of the relationship between HDLs and CHD include the Framingham Heart

Study (Castelli et al. 1986), the PROCAM Study (Assman et al 1998), the Helsinki Heart Study (Manninen et al. 1992) and the MRFIT study (Stamler et al. 1986; Neaton et al 1992).

There are several well-documented functions of HDLs that may explain the ability of these lipoproteins to protect against arteriosclerosis (Barter and Rye 1996). The best recognised of these is the cholesterol efflux from cells promoted by HDLs in a process that may minimise the accumulation of foam cells in the artery wall. The major proteins of HDLs and also other proteins (e.g. paraoxonase) that co-transport with HDLs in plasma have anti-oxidant properties. Thus, HDLs have the ability to inhibit the oxidative modification of LDLs and may therefore reduce the atherogenicity of these lipoproteins.

Overall, it has been concluded from the prospective population studies that for every 0.025 mmol/L increase in HDL-C, the coronary risk is reduced by 2-5%. For a review of the relationship between HDL-C and CHD, see Barter and Rye (1996). A level below 1.0 mmol/L increases risk approximately 2-fold (Gordon et al. 1989; Assmann et al. 1998). (Lipid Management Guidelines - 2001, MJA 2001; 175: S57-S88.

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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#### [Cardiovascular disease \(clinical\) DSS](#)

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#### [Cardiovascular disease \(clinical\) NBPDS](#)

[Health](#), Superseded 17/10/2018

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#### [Cardiovascular disease \(clinical\) NBPDS](#)

Health, Standard 17/10/2018

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#### [Diabetes \(clinical\) DSS](#)

Health, Superseded 21/09/2005

##### **DSS specific information:**

Lowered HDL-Cholesterol, with increased serum triglyceride and increased low-density lipoprotein cholesterol are important risk factors for vascular disease in type 2 diabetes.

In the New South Wales Principles of Care and Guidelines for the Clinical Management of Diabetes Mellitus, recommendations are that HDL, total cholesterol, triglycerides are to be measured:

- every 1-2 years (if normal)
- every 3-6 months (if abnormal or on treatment)

and the target is:

- to increase HDL Cholesterol to more than or equal to 1.0 mmol/L
- to reduce total Cholesterol to less than 5.5 mmol/L
- to reduce triglyceride levels to less than 2.0 mmol/L.

If pre-existing cardiovascular disease (bypass surgery or myocardial infarction) total cholesterol should be less than 4.5 mmol/L. A level below 1.0 mmol/L increases risk approximately 2-fold (Gordon et al. 1989; Assmann et al, 1998), (Draft NHF Lipid Guidelines Paper 2001). It has been concluded from prospective population studies that for every 0.025 mmol/L increase in HDL-C, the coronary risk is reduced by 2-5%.

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 date of assessment should be recorded.

References:

*National Heart Foundation of Australia - Lipid Management Guidelines 2001.*

[Diabetes \(clinical\) NBPDS](#)  
[Health](#), Standard 21/09/2005

**DSS specific information:**

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