TAS, VIC and SA GP patients have highest cholesterol levels:

Finding from Australia’s largest study of cholesterol levels

- Analysis of almost 200,000 GP records finds more than half have sub-optimal levels of ‘bad’ cholesterol
- Lowest average levels of total cholesterol found in Queensland and ACT
- Upswing in national average cholesterol level seen after five years of improvement

Australians’ cholesterol levels vary significantly by state, according to a new report released today by Baker IDI Heart & Diabetes Institute. Australia’s Cholesterol Crossroads: An analysis of 199,331 GP patient cholesterol records from 2004 to mid-2009 found that GP patients in Tasmania, Victoria and South Australia have the highest cholesterol levels in the country.¹

The study provides detailed analysis of nearly 200,000 GP patient cholesterol records collected over five and a half years. It shows that cholesterol levels amongst GP patients remain sub-optimal despite modest improvements over the study period.¹

Cholesterol (also known as lipids) is a type of blood fat. There are two main types: LDL-C* or ‘bad’ cholesterol which transports cholesterol from the liver to the arteries forming fatty deposits (‘plaques’) which can narrow and sometimes block arteries triggering a heart attack or stroke; and HDL-C* or ‘good’ cholesterol which helps remove excess cholesterol from the artery walls and back to the liver for processing or excretion, and thus may reduce plaques and risk of heart attack and stroke.¹

According to one of the report authors, Professor Simon Stewart, Head of Preventative Health at Baker IDI Heart & Diabetes Institute, these study findings are a timely reminder that Australians need to work towards reaching, and maintaining, healthy cholesterol levels.

“In this study, we found that over one in three GP patients had less than ideal total cholesterol (TC) and ‘good’ cholesterol (HDL-C) levels and more than half had sub-optimal ‘bad’ cholesterol (LDL-C) levels.¹ This is concerning given the link between cholesterol and heart disease, the leading cause of death in this country.

“Furthermore, the study also shows a small upward inflection in the average total cholesterol levels in the first half of 2009. Whether this indicates a reversal of some encouraging trends requires further investigation,” continued Prof. Stewart.

Abnormal cholesterol levels are a risk factor for cardiovascular (CVD) disease. Past studies have shown that a 1 mmol/L reduction in LDL-C cholesterol can reduce the risk of heart attack, stroke or the need for heart surgery by around 22 percent.²

The Cholesterol Crossroads study also found potentially important differences in average cholesterol levels between Australian states. Average levels of ‘bad’ cholesterol were highest amongst GP

¹ LDL-C stands for low density lipoprotein cholesterol; HDL-C stands for high density lipoprotein cholesterol
patients in Tasmania, South Australia, Victoria and Queensland. Average levels ranged from 3.03 mmol/L in New South Wales and the Northern Territory to 3.23 mmol/L in South Australia and Tasmania.¹

Commenting on the variances in state cholesterol levels, Prof. Stewart said:

“It is unclear why average cholesterol levels of GP patients vary by state, but it could be a symptom of socioeconomic differences or variances in healthcare management services available. What is clear is that all states recorded average levels of LDL or ‘bad’ cholesterol that fall short of ideal levels, suggesting more should be done to reduce risk profiles right around the country. Observed differences indicate that patients in these ‘high cholesterol’ states are at higher risk of preventable strokes and heart attacks compared to their interstate counterparts.”

The National Heart Foundation of Australia (NHFA) and Cardiac Society of Australia and New Zealand (CSANZ) recommend an LDL-C level of below 2.0 mmol/L for higher risk individuals.¹³ There is less information available to define LDL-C target levels for those at lower risk, but a level less than 3.0 mmol/L is generally recommended.¹

Average levels of ‘good’ cholesterol, HDL-C, ranged from 1.11 mmol/L among patients in Tasmania to 1.04 mmol/L in Western Australia and the Northern Territory.¹ Importantly, patients in all states included in the study recorded average HDL-C levels above the NHFA desirable level of 1 mmol/L.³

“The thing to remember is that the lower your LDL cholesterol, the lower your risk of heart attack and stroke. When it comes to HDL cholesterol, the higher the better. To maintain heart health and reduce the risk of heart attack and stroke, we must make lifestyle changes now such as stopping smoking, getting more exercise, eating more fruit and vegetables and reducing saturated fat intake,” Prof Stewart said.

The Cholesterol Crossroads report also tracked the impact on cholesterol when Australians visited their GP for regular cholesterol monitoring. Based on over 60,000 patients, average TC levels were shown to improve by almost 0.5 mmol/L (5.22 to 4.76 mmol/L) over six regular GP visits showing the benefit of regular GP monitoring.¹

“This is an important reminder that GPs play a critical role in helping Australians get their heart health on track. Regular GP visits and active cholesterol management can make a real difference. All Australians should know their cholesterol numbers and make necessary lifestyle changes to reduce their risk,” concluded Prof. Simon Stewart.

To address the findings identified in this report, the authors suggest that Australian adults:¹

- Adopt a healthy lifestyle approach in order to achieve recommended cholesterol levels, including cessation of smoking, dietary modifications, physical exercise and weight control.
- Know your ‘good’ and ‘bad’ cholesterol numbers and concentrate on reaching ideal levels or better.
- If your cholesterol levels are high, you have other risk factors for heart disease or you have been previously diagnosed with heart disease, have regular cholesterol tests and attain a copy of the results for ongoing comparison and monitoring.
- Understand what cholesterol is and the impact elevated total cholesterol and LDL-C can have for your heart health.
- Remember to take medications regularly (if prescribed) to help you achieve recommend levels.
- Work with your GP to develop a long-term plan to treat and monitor your cholesterol levels in order to reach and maintain your individual, ideal targets.
The Cholesterol Crossroads research was undertaken by Dr Melinda Carrington and Prof. Simon Stewart from Baker IDI Heart & Research Institute and was sponsored by AstraZeneca. Data used in this report were provided by Health Communication Network (HCN). Health Communication Network (HCN) is a provider of clinical and practice management software for Australian GPs and specialists.

Australian adults should seek information and advice about cholesterol from their GP.

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Note to editors:
- Total cholesterol (TC) is the total amount of ‘bad’ cholesterol, ‘good’ cholesterol and triglycerides (another type of blood fat) found in the blood. High cholesterol is defined as a total cholesterol level of 5.5 mmol/L or more. However, the National Heart Foundation of Australia (NHFA) and Cardiac Society of Australia and New Zealand (CSANZ) recommend that higher risk individuals should be treated to a target of below 4.0 mmol/L.
- The National Heart Foundation of Australia (NHFA) and the Cardiac Society of Australia and New Zealand (CSANZ) recommend a target for high risk patients of <2.0 mmol/L for LDL-C levels, >1.0 mmol/L for HDL-C levels and <1.5 mmol/L for triglycerides.
- The NHFA and CSANZ recommend that lifestyle changes such as diet modification be used prior to lipid modifying therapy in primary prevention patients but in conjunction with treatment in secondary prevention patients and those at high risk of CVD.

Key information from the Cholesterol Crossroads report outlined below:

![Figure 7. Average TC levels of first patient records, 2004 to mid-2009](image-url)
**Figure 31.** Average TC levels in each Australian State and Territory, 2004 to mid-2009  
\( n=199,331 \)

**Figure 32.** Average LDL-C levels in each Australian State and Territory, 2004 to mid-2009  
\( n=112,100 \)

**References:**