

A lost decade: No Meaningful Changes in Low-Density Lipoprotein Cholesterol in the United States, 2008-2017: Insights from a National Reference Laboratory

Background

- A high blood level of low-density lipoprotein cholesterol (LDL-C) is a risk factor for cardiovascular disease.¹
- Average LDL-C levels declined 2 mg/dL/year in the US adult population between the years 2001 and 2008. However, they stabilized from 2008 through 2011.²
- Prolonged stabilization could indicate a need for new strategies to further reduce LDL-C levels.
- **Objective:** The investigators of this study report the recent trends (2010-2017) in LDL-C blood levels among the US adult population.

Methods

- This retrospective analysis included LDL-C test results of specimens from adults (20-99 years old).
- Specimens were tested at a national reference laboratory, Quest Diagnostics, from 2010 through 2017; for patients tested more than once in a calendar year, only the first result was used.
- LDL-C levels were measured with Olympus AU analyzers and calculated using the Friedewald method until September 2017 and by the Martin-Hopkins thereafter.
- The percentages of results in each LDL-C range (eg, <40 mg/dL, 160-189 mg/dL, ≥190 mg/dL) were determined for each year.

Results

- A total of 126,000,570 LDL-C test results were obtained from 50,386,603 adults.
 - 56% women; mean age \pm SD: 52 \pm 17 years
 - 44% men; mean age \pm SD: 52 \pm 16 years
- From 2010 through 2017, the mean LDL-C for the overall population did not change substantially (range of 105 mg/dL to 107 mg/dL).
 - Women: 107 to 109 mg/dL
 - Men: 103 to 105 mg/dL
- No substantial changes in LDL-C levels were observed across age groups or within any specific LDL-C ranges.

Conclusions

- According to data from a national reference laboratory, the average LDL-C blood level remained relatively stable for both men and women, regardless of age group. Furthermore, the distribution of LDL-C ranges did not substantially change.
- These data suggest that new solutions are needed further reduce LDL-C levels in the US population.

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References

1. Centers for Disease Control and Prevention. Cholesterol fact sheet. Available at: https://www.cdc.gov/dhbsp/data_statistics/fact_sheets/fs_cholesterol.htm. Accessed March 21, 2019.
2. Kaufman HW, Blatt AJ, Huang X, et al. *PLoS One*. 2013;8:e63416.