A report being published today in the Journal of the American Medical Association says levels of LDL cholesterol, the bad one, fell 4.5% in the past decade, to 123 from 129. The study, based on the periodic government-sponsored National Health and Nutrition Examination Surveys, attributes the reduction to a sharp increase in prescriptions for statins and to a slight decrease in consumption of saturated fats. Statin drugs include Pfizer Inc.'s Lipitor, AstraZeneca PLC’s Crestor, Bristol-Myers Squibb Corp.’s Pravachol and Merck & Co.’s Zocor.

"People shouldn't think that the message is, 'Leave it to the drugs,' " says Dr. [James Cleeman]. "The way the general public should approach keeping themselves heart healthy is through lifestyle change."

"It makes perfect sense," says Christopher Cannon, cardiologist at Brigham and Women's Hospital and Harvard Medical School, Boston. "But it's very encouraging to see it in real life."

In an encouraging sign for the nation’s health, there’s growing evidence that preventive medical strategies have led to declines in heart attacks and in cholesterol levels among Americans.

One important piece of evidence that preventive strategies are boosting health comes from a large, federally sponsored study. It shows that growing use of cholesterol-lowering drugs called statins and modest changes in diet are contributing to a gradual reduction in harmful cholesterol levels, especially in the older population.

Moreover, a report from Solucient LLC, a health-data company in Evanston, Ill., finds that annual hospital admissions for heart attacks have fallen more than 6% since 2000. Admissions for other conditions related to coronary-artery disease are leveling off or shrinking as well.

"Bit by bit, we are seeing improvement in heart health and heart outcomes relating to a whole host of factors that is neutralizing the increase you might expect to see in the baby-boom era," says Steven Nissen, a cardiologist and researcher at the prominent Ohio heart facility, the Cleveland Clinic.

The two studies -- done separately and with different methodologies -- are far from definitive and not designed to be linked. But many researchers say they offer a reasonable argument that gains are being made against the world's leading killer.

Some experts disagree. James Field, executive director at the Advisory Board Company, a Washington, D.C., health-care consulting company, says numerous medical studies convince him that poor compliance with prescription drugs and lifestyle changes even among high-risk heart patients means hospital admissions for cardiovascular disease will continue to grow over the next decade.

"Doctors know there is a difference between what happens in trials and what happens in clinical practice," he says.

Still, the evidence challenges long-held assumptions that the baby-boom generation, now entering prime heart-attack

Deaths from cardiovascular disease have been declining for several decades, thanks significantly to a decline in smoking. Researchers have also documented lower average levels of LDL cholesterol in previous studies and a decline in some other risk factors as well. But until now, the impact of preventive strategies on heart attacks themselves hasn't been widely documented.

"We don't have a good surveillance system," says Lori Mosca, director of preventive cardiology at New York-Presbyterian Hospital, New York. "It is really hard for us to correlate the improvement in risk factors with what is actually going on with heart disease in the country."

The biggest hurdle to continued progress in the nation's heart health is the growing prevalence of obesity and diabetes. These two burgeoning problems could, if left unchecked, reverse the trend, and increase the number of heart attacks and need for major cardiovascular treatments in the years ahead. The worry, says Dr. Nissen, is that obesity and diabetes will "lead to the defeat of contemporary strategies designed to reduce society's overall risk of heart disease."

Of special concern is younger adults, who because of their age are at less immediate risk of heart problems, but who haven't been as attentive to heart health as their older counterparts.

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Though the reduction was modest -- total cholesterol fell just three points, to 203 from 206 -- researchers said in men over 60 and women over 50, the actual reduction in LDL cholesterol was at least 10 points. Generally, a 1% reduction in LDL is associated with a 1% reduction in the risk of a heart attack or other serious cardiovascular event.

Current national guidelines call for patients with average risk to have LDL below 130; for those at high risk the target is below 100, and below 70 for the highest-risk patients. Total cholesterol is based on a combination of LDL, HDL, or good, cholesterol, and other potentially harmful blood fats called triglycerides. But LDL is the main event.

"Some of the risk factors are going down, and that's a very positive development," says James Cleeman, director of the National Cholesterol Education Program and a co-author of the JAMA study. The study's lead author is Margaret D. Carroll, a researcher at the U.S. Centers for Disease Control.

The study, which involved more than 13,000 adults surveyed between 1999 and 2002, found that use of statin drugs nearly tripled to 9.3% of adults age 20 and over, compared with a similar-size survey taken between 1988 and 1994. Among men 60 and over, statin use nearly quadrupled to 24.3% from 6.8%, while it jumped to 21.6%, from 8.7%, in women that age.

Saturated fat as a percentage of total calories dipped slightly in the recent period to 10.8% in men, from 11.3%, and 10.7% in women, from 11.1%. Those results weren't statistically significant but they could have contributed to improvement in LDL cholesterol readings.

At the same time, levels of blood fats called triglycerides rose slightly, possibly reflecting an increasing prevalence of people who are overweight or obese, which was also reflected in the findings.

"People shouldn't think that the message is, 'Leave it to the drugs,' " says Dr. Cleeman. "The way the general public should approach keeping themselves heart healthy is through lifestyle change."

A separate report from Quest Diagnostics, a Lyndhurst, N.J., medical-diagnostic testing company, said an analysis of 80 million laboratory tests found that LDL cholesterol fell about 10% between 2001 and 2004, to an average of 112 among people who were under a doctor's care.

Solucient's report of a decline in heart attacks is based on an analysis of data that include 55% of all hospital discharges, as well as additional data that enable the company to make the analysis current as of the end of 2004.
Kaveh Safavi, chief medical officer at Solucient, says in 2000, based on the aging of the population alone, the number of heart attacks would have been expected to grow 11% between 2000 and 2004, to about 1.1 million. Instead, the admission rate for acute heart attacks declined slightly, but steadily, during each of the years, to 927,600 last year, from 991,199, or a 6.4% drop.

Moreover, admissions for both chest pain, called angina, and unstable chest pain declined by about one-third over the same period. Dr. Safavi said increased use of statin drugs and increased public awareness of the signs and prevention of heart disease could have contributed to the findings.

The results don't prove statins or other interventions led to the decline, but they are consistent with a series of large randomized clinical studies sponsored by leading statin makers, including Merck, Bristol-Myers Squibb and Pfizer. Those studies have linked long-term use of statins to 25% to 30% reductions in risk of heart attacks and other serious events.

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**Lower Levels**

The average LDL cholesterol in U.S. adults has dropped in the past decade.

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**Indexing (document details)**

Subjects: Preventive medicine, Public health, Cholesterol, Heart attacks

Classification Codes: 9190, 1200, 8320

Author(s): Ron Winslow

Document types: News


Source type: Newspaper

ISSN: 00999660

ProQuest document ID: 909970301

Text Word Count: 1273