

## The U.S. government is poised to withdraw longstanding warnings about cholesterol by Peter Whoriskey February 10, 2015

The nation's top nutrition advisory panel has decided to drop its caution about eating cholesterol-laden food, a move that could undo almost 40 years of government warnings about its consumption.

The group's finding that cholesterol in the diet need no longer be considered a "nutrient of concern" stands in contrast to the committee's findings five years ago, the last time it convened. During those proceedings, as in previous years, the panel deemed the issue of excess cholesterol in the American diet a public health concern.

The finding follows an evolution of thinking among many nutritionists who now believe that, for healthy adults, eating foods high in cholesterol may not significantly affect the level of cholesterol in the blood or increase the risk of heart disease.

The greater danger in this regard, these experts believe, lies not in products such as eggs, shrimp or lobster, which are high in cholesterol, but in too many servings of foods heavy with saturated fats, such as fatty meats, whole milk, and butter.

The new view on cholesterol in food does not reverse warnings about high levels of "bad" cholesterol in the blood, which have been linked to heart disease. Moreover, some experts warned that people with particular health problems, such as diabetes, should continue to avoid cholesterol-rich diets.

While Americans may be accustomed to conflicting dietary advice, the change on cholesterol comes from the influential **Dietary Guidelines Advisory Committee**, the group that provides the scientific basis for the "Dietary Guidelines." That federal publication has broad effects on the American diet, helping to determine the content of school lunches, affecting how food manufacturers advertise their wares, and serving as the foundation for reams of diet advice.

The panel laid out the cholesterol decision in December, at its last meeting before it writes a report that will serve as the basis for the next version of the guidelines. A video of the meeting was later posted online and a person with direct knowledge of the proceedings said the cholesterol finding would make it to the group's final report, which is due within weeks.

After **Marian Neuhouser**, chair of the relevant subcommittee, announced the decision to the panel at the December meeting, one panelist appeared to bridle.

"So we're not making a [cholesterol] recommendation?" panel member **Miriam Nelson**, a Tufts University professor, said at the meeting as if trying to absorb the thought. "Okay ... Bummer."

Members of the panel, called the Dietary Guidelines Advisory Committee, said they would not comment until the publication of their report, which will be filed with the **Department of Health and Human Services and the Department of Agriculture**.

While those agencies could ignore the committee's recommendations, major deviations are not common, experts said.

Five years ago, "I don't think the Dietary Guidelines diverged from the committee's report," said **Naomi K. Fukagawa**, a University of Vermont professor who served as the committee's vice chair in 2010. Fukagawa said she supports the change on cholesterol.

**Walter Willett**, chair of the nutrition department at the Harvard School of Public Health, also called the turnaround on cholesterol a "reasonable move."

"There's been a shift of thinking," he said.

But the change on dietary cholesterol also shows how the complexity of nutrition science and the lack of definitive research can contribute to confusion for Americans who, while seeking guidance on what to eat, often find themselves afloat in conflicting advice.

Cholesterol has been a fixture in dietary warnings in the United States at least since **1961**, when it appeared in guidelines developed by the American Heart Association. Later adopted by the federal government, such warnings helped shift eating habits -- per capita egg consumption dropped about 30 percent -- and harmed egg farmers.

Yet even today, after more than a century of scientific inquiry, scientists are divided.

Some nutritionists said lifting the cholesterol warning is long overdue, noting that the United States is out-of-step with other countries, where diet guidelines do not single out cholesterol. Others support maintaining a warning.

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The forthcoming version of the Dietary Guidelines -- the document is revised every five years -- is expected to navigate myriad similar controversies. Among them: salt, red meat, sugar, saturated fats and the latest darling of food-makers, Omega-3s.

As with cholesterol, the dietary panel's advice on these issues will be used by the federal bureaucrats to draft the new guidelines, which offer Americans clear instructions -- and sometimes very specific, down-to-the-milligram prescriptions. But such precision can mask sometimes tumultuous debates about nutrition.

"Almost every single nutrient imaginable has peer reviewed publications associating it with almost any outcome," **John P.A. Ioannidis**, a professor of medicine and statistics at Stanford and one of the harshest critics of nutritional science, has written. "In this literature of epidemic proportions, how many results are correct?"

Now comes the shift on cholesterol.

Even as contrary evidence has emerged over the years, the campaign against dietary cholesterol has continued. In 1994, food-makers were required to report cholesterol values on the nutrition label. In 2010, with the publication of the most recent "Dietary Guidelines," the experts again focused on the problem of "excess dietary cholesterol."

Yet many have viewed the evidence against cholesterol as weak, at best. As late as 2013, a task force arranged by the American College of

Cardiology and the American Heart Association looked at the dietary cholesterol studies. The group found that there was "insufficient evidence" to make a recommendation. Many of the studies that had been done, the task force said, were too broad to single out cholesterol.

"Looking back at the literature, we just couldn't see the kind of science that would support dietary restrictions," said **Robert Eckel**, the co-chair of the task force and a medical professor at the University of Colorado.

The current U.S. guidelines call for restricting cholesterol intake to 300 milligrams daily. American adult men on average ingest about 340 milligrams of cholesterol a day, according to federal figures. That recommended figure of 300 milligrams, Eckel said, is "just one of those things that gets carried forward and carried forward even though the evidence is minimal."

"We just don't know," he said.

Other major studies have indicated that eating an egg a day does not raise a healthy person's risk of heart disease, though diabetic patients may be at more risk. "The U.S. is the last country in the world to set a specific limit on dietary cholesterol," said **David Klurfeld**, a nutrition scientist at the U.S. Department of Agriculture. "Some of it is scientific inertia."

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The persistence of the cholesterol fear may arise, in part, from the plausibility of its danger.

As far back as the 19th century, scientists recognized that the plaque that clogged arteries consisted, in part, of cholesterol, according to historians.

It would have seemed logical, then, that a diet that is high in cholesterol would wind up clogging arteries.

In 1913, **Nikolai Anitschkov** and his colleagues at the Czar's Military Medicine Institute in St. Petersburg, decided to try it out in rabbits. The group fed cholesterol to rabbits for about four to eight weeks and saw that the cholesterol diet harmed them. They figured they were on to something big.

"It often happens in the history of science that researchers ... obtain results which require us to view scientific questions in a new light," he and a colleague wrote in their 1913 paper.

But it wasn't until the 1940s, when heart disease was rising in the United States, that the dangers of a cholesterol diet for humans would come more sharply into focus.

Experiments in biology, as well as other studies that followed the diets of large populations, seemed to link high cholesterol diets to heart disease.

Public warnings soon followed. In 1961, the American Heart Association recommended that people reduce cholesterol consumption and eventually set a limit of 300 milligrams a day. (For comparison, the yolk of a single egg has about 200 milligrams.)

Eventually, the idea that cholesterol is harmful so permeated the country's consciousness that marketers advertised their foods on the basis of "no cholesterol."

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What Anitschkov and the other early scientists may not have foreseen is how complicated the science of cholesterol and heart disease could turn out: that the body creates cholesterol in amounts much larger than their diet provides, that the body regulates how much is in the blood and that there is both "good" and "bad" cholesterol.

Adding to the complexity, the way people process cholesterol differs. Scientists say some people -- about 25 percent -- appear to be more vulnerable to cholesterol-rich diets.

"It's turned out to be more complicated than anyone could have known," said **Lawrence Rudel**, a professor at the Wake Forest University School of Medicine.

As a graduate student at the University of Arkansas in the late 1960s, Rudel came across Anitschkov's paper and decided to focus on understanding one of its curiosities. In passing, the paper noted that while the cholesterol diet harmed rabbits, it had no effect on white rats. In fact, if Anitschkov had focused on any other animal besides the rabbit, the effects wouldn't have been so clear -- rabbits are unusually vulnerable to the high-cholesterol diet.

"The reason for the difference -- why does one animal fall apart on the cholesterol diet -- seemed like something that could be figured out," Rudel said. "That was 40 or so years ago.

We still don't know what explains the difference."

In truth, scientists have made some progress. Rudel and his colleagues have been able to breed squirrel monkeys that are more vulnerable to the cholesterol diet. That and other evidence leads to their belief that for some people -- as for the squirrel monkeys -- genetics are to blame.

Rudel said that Americans should still be warned about cholesterol.

"Eggs are a nearly perfect food, but cholesterol is a potential bad guy," he said. "Eating too much a day won't harm everyone, but it will harm some people."

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Scientists have estimated that, even without counting the toll from obesity, disease related to poor eating habits kills more than half a million people every year. That toll is often used as an argument for more research in nutrition.

Currently, the National Institutes of Health spends about **\$1.5 billion** annually on nutrition research, an amount that represents about **5 percent** of its total budget.

The turnaround on cholesterol, some critics say, is just more evidence that nutrition science needs more investment.

Others, however, say the reversal might be seen as a sign of progress.

"These reversals in the field do make us wonder and scratch our heads," said **David Allison**, a public health professor at the University of Alabama at Birmingham. "But in science, change is normal and expected."

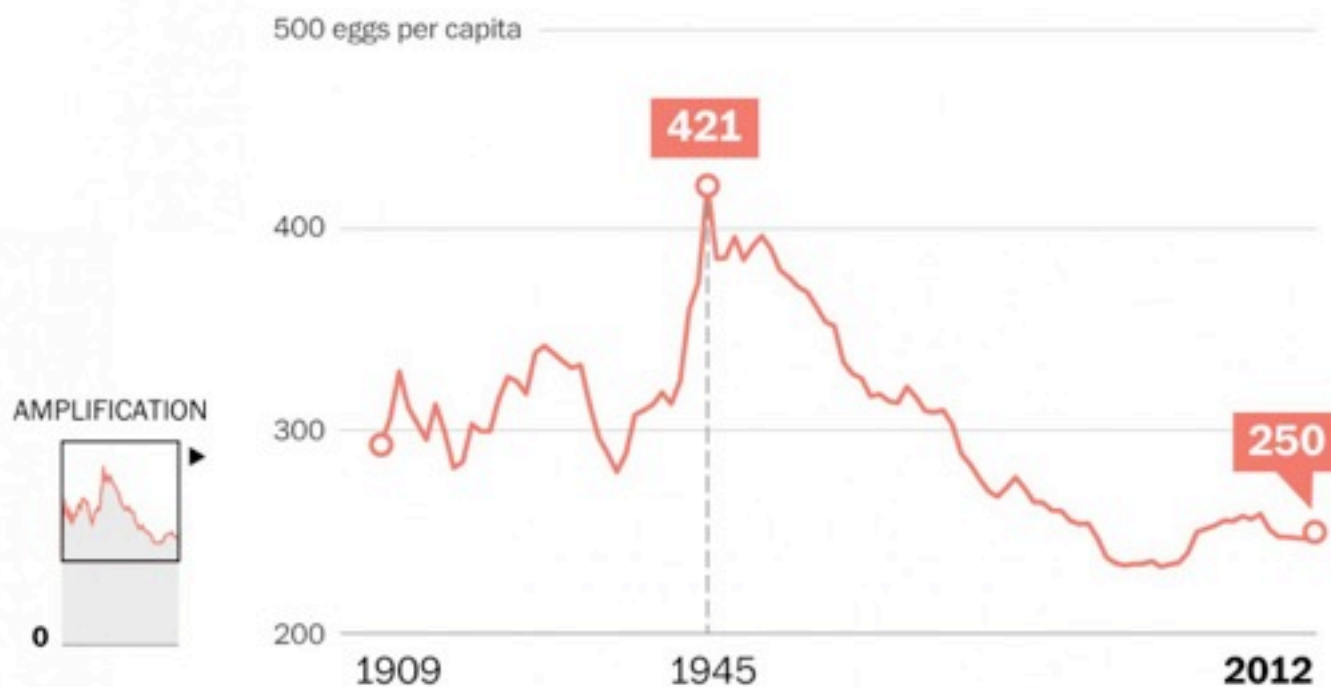
When our view of the cosmos shifted from Ptolemy to Copernicus to Newton and Einstein, Allison said, "the reaction was not to say, 'Oh my gosh, something is wrong with physics!' We say, 'Oh my gosh, isn't this cool?'"

Allison said the problem in nutrition stems from the arrogance that sometimes accompanies dietary advice. A little humility could go a long way.

"Where nutrition has some trouble," he said, "is all the confidence and vitriol and moralism that goes along with our recommendations."

## Americans turn away from eggs

Americans eat on average fewer eggs than they did at almost any other time in the past century. Consumption has plummeted after a peak at the end of the World War II.



Source: U.S. Department of Agriculture  
VESKO CHOLAKOV / THE WASHINGTON POST