

## Proposed industry effort to reduce salt in food could save lives, money, study shows

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A voluntary effort by the U.S. food service industry to reduce salt in processed foods could have far-reaching implications for the health of the U.S. population, preventing strokes and heart attacks in nearly a million Americans and saving \$32.1 billion in medical costs, according to a new study by researchers at the Stanford University School of Medicine and the Veterans Affairs Palo Alto Health Care System.

In the study, the researchers developed a computerized model that simulates the effects of reduced [sodium intake](#) on a large population of people between the ages of 40 and 85. Based on a similar, salt-reduction campaign in the United Kingdom, the researchers estimated that a collaborative industry effort could lead to a 9.5 percent decline in Americans' [salt intake](#).

That, in turn, would lead to a very modest decline in blood pressure among American consumers, minimizing a major risk factor for cardiovascular problems.

"In our analysis, we found these small decreases in blood pressure would be effective in reducing deaths due to cardiovascular disease," said Crystal Smith-Spangler, MD, a postdoctoral scholar at the VA and first author of the study. "The numbers of affected people are huge, so even a small decrease is significant if you have large numbers of people involved."

By the researchers' calculations, some 513,885 Americans would be

spared from potentially fatal strokes in their lifetimes, and another 480,358 would not suffer heart attacks as a result of the reduced salt campaign. The findings will be published in the March 2 [Annals of Internal Medicine](#).

The study comes at a time when there is much interest, both in the United States and abroad, in regulating salt content in foods as a way to lower blood pressure and thereby improve health outcomes. [High blood pressure](#) remains an enormous public health problem in the United States, with some 73 million Americans — or one in three adults — believed to suffer from the condition, which accounted for \$73.4 billion in health-care costs in 2009, according to a recent report from the Institute of Medicine.

Many clinical studies have shown that limiting people's salt consumption reduces blood pressure, Smith-Spangler noted. Most Americans consume far more salt than recommended, with as many as 75 percent indulging in more than the suggested maximum of 2.3 grams a day, Thomas Frieden, MD, MPH, director of the federal Centers for Disease Control and Prevention, noted in an editorial accompanying the study.

"After tobacco control, the most cost-effective intervention to control chronic diseases (such as cardiovascular disease) might be reduction of sodium intake," Frieden wrote.

He noted that the United Kingdom began working with manufacturers in 2003 to decrease salt content in foods, resulting in a 20 to 30 percent decline in salt found in processed foods sold in stores. Japan, Finland, Ireland, Australia and Canada have recently launched similar initiatives, he said.

In January, New York City introduced a wide-ranging health initiative to encourage food manufacturers and restaurant chains to curtail their salt

use by 25 percent over the next five years. The Institute of Medicine also has called on the U.S. Centers for Disease Control and Prevention, as well as state and local governments, to develop new strategies for reducing dietary sodium.

Smith-Spangler, who is also a postdoctoral scholar at Stanford's Center for Health Policy, said the Stanford researchers were inspired by the U.K. experience to investigate whether a similar campaign in the United States could be cost-effective and worthwhile.

"Based on our data, it looks like it could be worth doing because it's very cheap and because cardiovascular disease is such a huge problem and hypertension is such a major risk factor for cardiovascular disease," she said. "Even small reductions in risk can have worthwhile benefits for the population."

In the study, the researchers relied on data from a variety of sources, including the Framingham Heart Study and the 2006 Medical Panel Expenditure Survey, to develop a hypothetical model of health benefits and costs of two different methods to reduce salt intake on a large scale. One was a voluntary industry program, while the other was a government excise tax on salty foods.

The industry collaboration, they found, would cut salt intake by 9.5 percent, enough to reduce blood pressure by a modest 1.25 millimeters of mercury (mmHg) in the age group studied. This reduction would extend the lives of Americans by a collective 1.3 million years over the lifetime of the group studied, the researchers estimate. It would also save \$32.1 billion, including \$14 billion in hospitalizations for stroke and [heart attack](#).

The researchers estimated that the sodium tax would have less impact, leading to a 6 percent decrease in salt intake and a 0.93 mmHg reduction

in blood pressure. That would result in 327,892 fewer strokes and 306,173 fewer heart attacks, they calculated. But the feasibility of this option seems less realistic, Smith-Spangler said.

She said the researchers did consider some of the unintended consequences of a reduced salt campaign. Manufacturers use salt to make their products appealing to consumers; with less [salt](#), consumers might turn to fat instead to improve taste, thus wiping out potential benefits, she noted. These and other possible health impacts of the campaign would have to be carefully monitored, she said.

Provided by Stanford University Medical Center

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