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The Issue

Each year, high blood pressure is estimated to cause 10 million preventable deaths worldwide, and this is expected to increase. Referred to as the “silent killer” because it often has no warning signs or symptoms, hypertension is the leading risk factor for cardiovascular diseases, like heart attack and stroke. Studies show that excess sodium intake — too much salt added to food — is a key risk factor for hypertension. As a result, reducing sodium intake is a global public health priority. A 2007 study found that reducing average sodium intake by 15% in 23 low- and middle-income countries could prevent 8.5 million deaths over 10 years, and would only cost US$0.05 per person.

In the US and most western countries, the main sources of sodium are packaged and restaurant foods, while in China and some other countries it is salt added during cooking. Efforts to reduce sodium intake should focus on the most common sources for each country.

“8.5 million deaths in low- and middle-income countries could be prevented over 10 years if sodium intake were reduced by 15%.”


SMASH chef contest and food industry salt reduction forum.

CDC’s Response

In an innovative partnership, the Centers for Disease Control and Prevention (CDC) is currently working with China’s National Health and Family Planning Commission (formerly the Ministry of Health) and the Shandong provincial government on the Shandong Province & Ministry of Health Action on Salt and Hypertension (SMASH) project. SMASH aims to:

- Reduce daily salt intake from condiments from 12.5 grams/day to 10 grams/day by 2015
- Improve hypertension control within the province
Approaches to reducing sodium intake include changes to food labeling, distribution of scaled spoons for home cooking and preparation, and reforming the food industry, all of which are being broadly adopted.

SMASH also works through restaurants to develop sodium standards for Shandong cuisine, conducts chef training and develops lower-salt menus, tracks salt usage, conducts chef contests for new recipes, and develops communication materials and activities for consumers. Restaurants that follow the lower salt requirement are labeled as a “Distinguished Restaurant.” After learning about US sodium reduction efforts via CDC’s Salt e-Update, a bi-weekly e-newsletter, SMASH officials worked with Philadelphia’s Healthy Chinese Take-Out Initiative to share information on their respective sodium reduction initiatives and translated communication materials.

Through this partnership, China National Health Care Reform is strengthening its package of essential public health services. Access to health care services is being improved, as well as identification, treatment, and management of high blood pressure and other chronic conditions.

The program is already seeing results: mid-term evaluation of SMASH reported that sodium intake from condiments in Shandong decreased from 12.5 grams/day in 2011 to 11.58 grams/day in 2013 among adults aged 18-69 years.

Our Partners

- China CDC
- Shandong CDC
- WHO and regional offices

Sources of Sodium Intake

In Shandong

- Condiment: 9%
- Processed food: 10%
- Naturally occurring: 81%

In United States

- Home cooking: 5%
- Processed and restaurant food: 6%
- Naturally occurring: 12%
- While eating: 81%

Source: Shandong Residents Salt Consumption Hypertension Prevalence and Economic Burden Study Report

For further information, please visit:

Sodium: http://www.cdc.gov/salt/resources.htm

Sodium Reduction Toolkit: http://www.cdc.gov/salt/sodium_toolkit.htm

Million Hearts*: http://millionhearts.hhs.gov/

Sodium Reduction in Communities Program (SRCP): http://www.cdc.gov/dhdsp/programs/sodium_reduction.htm
