



# Under Pressure

Strategies for Sodium Reduction in Worksites

National Center for Chronic Disease Prevention and Health Promotion  
Division for Heart Disease and Stroke Prevention



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# Under Pressure: Strategies for Sodium Reduction in Worksites

## Why Worksites?

Heart disease and stroke, the primary types of cardiovascular disease, are among the leading causes of death and disability as well as the most expensive medical conditions for businesses in our nation.<sup>1,2</sup> High blood pressure (hypertension) affects approximately one in three U.S. adults, and prehypertension affects nearly one in four U.S. adults. Importantly, having high blood pressure increases the risk for heart disease and stroke.<sup>3</sup> Employees at risk for heart disease and stroke can increase the cost of doing business through increased absenteeism, workers' compensation, health benefits, and lost productivity.<sup>4</sup> In 2002, employers paid an average of \$18,618 per employee for all costs related to health and lost productivity<sup>5</sup>; four of the five most costly health conditions for employers are related to heart disease and stroke: high blood pressure, heart attack, diabetes, and angina (chest pain).<sup>6</sup> Importantly, in a study of more than 46,000 employees from six large U.S. companies, employees at a high risk for heart disease and stroke had significantly higher health care expenditures (228% higher for heart disease, 85% higher for stroke) than employees not at risk.<sup>7</sup> Further, an analysis of insurance claims for roughly 4 million individuals covered by employer-based benefits at large U.S. companies found that the average annual payment for those with heart-related health care claims exceeded \$4,000 per patient, which is more than double the average payment for other conditions.<sup>8</sup>

Many of the risk factors for heart disease and stroke are preventable and can be controlled. Strategies related to worksite wellness can lead to cost savings for employers as well as improved health outcomes for employees. A review of 42 studies found that worksite health promotion programs can lead to more than 25% reductions in

absenteeism, health care costs, and disability/workers compensation costs.<sup>9</sup> In addition, complementary efforts to support blood pressure reduction and control also can help the bottom line. One 1991 study showed a \$2 or more reduction in health care claims among hypertensive employees per dollar spent on implementing a hypertension control program at the worksite.<sup>10</sup>



A developmental goal of *Healthy People 2020* relates to increasing the proportion of worksites that offer nutrition or weight management classes or counseling.<sup>11</sup> A comprehensive worksite health promotion program addressing multiple factors has proven to be the most effective approach to support healthy lifestyles and prevent heart disease and stroke.<sup>12,13,14</sup> Importantly, in a 2010 survey of 121 large employers, 91% reported support for worksite health improvement programs. However, as of 2004, only 6.9% of employers offered a comprehensive worksite health promotion program.<sup>15</sup> The physical and social environment of the workplace can positively or negatively influence health-related behaviors. Focusing

on the food environment as a critical component of a worksite wellness program can help improve employee wellness, potentially leading to cost savings.



## Worksite Food Environment

Poor nutrition is a risk factor for four of the seven leading causes of death in the United States—heart disease, cancer, stroke, and diabetes.<sup>16</sup> According to the American Time Use Survey, in 2010, employees worked an average of 7.5 hours each day.<sup>17</sup> Because the workplace is where large numbers of employees spend a significant amount of time, the food environment can affect health status through the choices available to employees throughout the day. Worksites may range in the types and varieties of foods they serve as well as the types of settings that serve food. Worksites may have a cafeteria onsite with myriad options from which to choose, or they may be more limited in their settings and offer food solely through vending machines and snack kiosks.

## The Role of Sodium in Worksite Wellness

Sodium is needed in small amounts to maintain fluid and electrolyte balance as well as blood volume.<sup>18</sup> Small amounts of sodium are found naturally in certain foods, such as vegetables and dairy products, but the vast majority of sodium consumed is from packaged and restaurant food (including food intended for food-service venues such as worksites) as a direct result of food processing. Excessive sodium intake increases blood pressure. High blood pressure is a leading risk factor for cardiovascular diseases, including heart disease, stroke, and other vascular diseases—the leading cause of death in the United States. Importantly, a 2011 workplace intervention program among 41 hypertensive male workers in Japan resulted in significant blood pressure reductions and salt excretion after four weeks among workers who received email advice via their cell phone.<sup>19</sup> Further, workers in China involved in an eight-year workplace intervention that encouraged reduction of sodium intake experienced significantly reduced sodium intake and blood pressure (–5.3/–2.9 mm Hg). Morbidity and mortality from stroke in the company population for both the intervention and control sites were markedly reduced by 54.7% and 74.3%, respectively, over the eight-year period.<sup>20</sup> Thus, workplace interventions to reduce sodium can lead to reduced rates of hypertension and associated costs among workers.

Average sodium consumption in the United States is more than 3,300 milligrams (mg) per day, nearly twice what is recommended for the majority of adults. The *2010 Dietary Guidelines for Americans* recommend that Americans aged 2 and up reduce sodium intake to less than 2,300 mg per day. People 51 and older and those of any age who are African American or who have high blood pressure, diabetes, or chronic kidney disease—about half the U.S. population and the majority of adults—should reduce sodium intake to 1,500 mg per day.<sup>21</sup> Reducing average population sodium intake to 1,500 mg per day may save

\$26 billion health care dollars annually. Even reducing sodium intake to 2,300 mg per day could save \$18 billion health care dollars annually.<sup>22</sup>

Improving worksite wellness should be a multifaceted approach, of which the food environment is one critical piece. Further, efforts to improve the food environment in worksites should consider nutrition broadly and not be limited to sodium reduction. This may include decreasing trans fat and saturated fat intake and increasing fruit and vegetable intake. Because reduction of sodium has some unique challenges, a range of strategies to improve the worksite food environment with a special emphasis on sodium reduction follows. Not all strategies are evidence based.



## Strategies to Improve the Worksite Food Environment

### ► **Establish a Worksite Wellness Team**

Establishing and using a worksite wellness team can help advance and support work toward improving the worksite food environment and can be done by anyone within an organization. The team can assist in conducting a baseline assessment of the current food environment in a given worksite, including what is currently available and attitudes and beliefs related to food served by employers. The goals of the wellness team can be broader than just sodium reduction and food and may include physical activity, alcohol, tobacco, and mental wellness. Ideally, the team will be multidisciplinary and include employee representation from all sectors of the worksite, including mid- and senior-level management and food service. The Wellness Council of America (WELCOA) recommends the following steps to develop a successful worksite wellness program<sup>23</sup>:

- Obtain buy-in from management and organizational leaders to help drive the goals of the team and create a culture of wellness across all levels of your organization. Communicating the business case for environmental change within your worksite to organizational leaders can help build support from upper management. Emphasis placed on employee absenteeism, health care and clinical costs, and framing employee health as a primary business strategy will be beneficial in securing support from leadership.
- Create the team by reaching out to diverse employees within your organization. This outreach may include health care-related staff, human resources representatives, food and nutrition services staff, managers or members of the board of directors, interns, and possibly community members.

- If possible, collect data to help justify programs that the team develops; evaluate changes in productivity, health status, and cost savings related to the programs; determine what employees desire from the worksite wellness program; and assess participation.
- Create an operating plan that includes clearly stated, measurable goals. A timeline, a budget, work expectations, marketing plans, an evaluation, and the overall mission of the worksite wellness team should be included.
- Choose interventions built around the worksite culture, employees, type of business, employee demographics and interests, and worksite wellness budget.
- Evaluate the work of the team after wellness programs have been implemented, including employee participation, employee satisfaction levels, behavior changes, health improvements, productivity, and return on investment. A well-documented evaluation can help identify areas for improvement or justify a budget increase.

### Case Example:

The North Dakota Worksite Wellness initiative launched in 2009 as a collaborative effort among the Dakota Medical Foundation, BlueCross BlueShield of North Dakota, and the North Dakota Department of Health with the goal of encouraging more North Dakota businesses and organizations to offer and participate in worksite wellness programs. Members of the initiative developed a toolkit to help plan, develop, implement, and evaluate a worksite wellness program.

### ► **Establish a Comprehensive Food Policy**

Worksites can be large purchasers of food, which can have a significant impact on overall demand for healthful foods. Through responsible food purchasing decisions, worksites can promote better nutrition by providing healthful and appealing food choices for employees that are lower in sodium. A comprehensive food policy should have clearly

defined goals and purchasing requirements, including nutrient standards for foods served in the worksite setting. Settings could include the employee cafeteria, vending machines, gift shops, franchises, café carts, conferences, meetings, and parties. In addition, such a policy could include innovative strategies for incorporating sustainability and local sourcing into the available food options. When drafting a comprehensive food policy, consider:

- Using the worksite wellness team to conduct an environmental scan of foods and beverages currently served in all settings across the worksite.
- Including language supporting locally grown agriculture, such as allowing local mobile farmers markets to operate at the worksite or establishing a Community Supported Agriculture (CSA) program.
- Including purchasing requirements (via nutrition standards) as a deciding factor to accept or reject a bid for food service to increase the percentage of available healthful, lower sodium food options, such as fresh fruits and vegetables, low- or no-fat dairy products, and trans fat free items throughout the worksite.
- Adopting language supporting the availability of healthful, lower sodium foods at meetings and workshops hosted by or at your worksite.

### Case Example:

In 2011, the U.S. Department of Health and Human Services (HHS), in cooperation with the General Services Administration, adopted a comprehensive food policy, "Health and Sustainability Guidelines for Federal Concessions and Vending Operations." The guidelines translate the *2010 Dietary Guidelines for Americans* into clear and definitive standards that food-service operators can follow to provide healthier and more sustainable choices to HHS employees. Included in the guidelines are standards for the amount of sodium allowed in meals and individual food items.



### **Food Procurement Requirements—Outlining Nutrient Standards**

Defining nutrient standards for foods and beverages served in the worksite food environment increases access to healthful, lower sodium food by only allowing foods and beverages to be sold that meet a minimum nutritional quality. Limits for certain nutrients, such as sodium, may be required for meals and snacks served in the cafeteria, vending, café cart, or other worksite setting that provides food. Nutrition standards may include:

- Limiting certain nutrients, including sodium, for all foods and beverages served in worksite cafeterias, café carts, vending machines, gift shops, and franchises.
- Establishing a fast-food-free zone by disallowing fast food chains to operate in the facility.
- Increasing the availability of locally sourced and/or organic foods.

#### **Case Example:**

L.L.Bean, a direct marketer of clothing and outdoor gear with 9,000 participating employees, subsidized fruit and salad bars in cafeterias, resulting in a lower percentage of participating employees with high blood pressure and cholesterol compared to state and national averages.

### **► Use Marketing Techniques to Promote Consumption of Healthful Foods and Adoption of Healthful Habits**

Lower sodium and more nutritious foods may be promoted with savory descriptors on menu boards, serving lines, and other areas around the worksite where food is sold. Successful marketing also creates opportunities for the worksite to be highlighted in media coverage, which can resonate with the local community. Strategies may include:

- Labeling foods to identify those considered more healthful and lower in sodium.
- Provide information about the amount of sodium in meals and snacks.
- Using creative signage and descriptors to highlight nutrient-rich, lower sodium food choices available in the worksite.
- Designing stickers highlighting the amount of calories in each serving size offered for all beverages and placing them under the name of the beverage on the soda machines in the cafeteria.
- Highlighting locally sourced cafeteria food by providing information about the farmer.
- Displaying thought-provoking ads on vending machines and around food-service settings, such as comparing a piece of fruit or 100% fruit juice with a traditional packaged snack and a logo that reads “choose wisely, your heart will thank you.”
- Working with vendors to advertise the worksite garden on vending machines.
- Posting motivational signs or posters to promote the consumption of fruits and vegetables in the cafeteria and/or break room.

Research has shown that a healthy diet and good nutrition can:

- Promote weight management and reduce the risk of obesity.
- Reduce the risk of developing high cholesterol or reduce cholesterol in those who already have high cholesterol.
- Reduce the risk of developing type 2 diabetes.
- Reduce the risk of developing high blood pressure or reduce blood pressure in those who already have high blood pressure.

- Advertising incentives through employee wellness programs.
- Communicating consistent and frequent information related to healthful eating and sodium reduction to employees throughout the organization in the form of posters, memos, newsletters, e-mails, or intranet websites.

### ► **Offer Incentives to Employees**

According to “Reducing the Risk for Heart Disease and Stroke: A Six-Step Guide for Employers,”<sup>4</sup> incentives to motivate employees to participate in health promotion programs are a key to the success of these programs. Incentives could include gift cards, lower health insurance premiums, tuition reimbursement, giveaways such as pedometers, or discounts to an exercise facility. Incentives could be offered in many ways, including:

- Developing recognition programs for staff adopting healthful eating habits.

- Allowing employees to design and display artwork related to healthful eating in the worksite cafeteria.
- Offering free taste tests and soliciting feedback from employees.
- Offering free healthful cooking classes in the cafeteria.
- Implementing and promoting pricing strategies as incentives for purchasing healthful foods.
- Subsidizing Community Supported Agriculture (CSA) for employees through employee benefit programs.
- Offering free mobile blood pressure screening and follow-up.
- Offering monetary incentives for employees who complete health risk assessments and comply with prevention and treatment measures.
- Offering lifestyle coaching through employee programs such as fitness centers and lunch-n-learns.
- Adopting policies to allow employees to use work time for health promotion activities.
- Partnering with local wellness programs such as YMCAs to offer lifestyle services for employees of worksites that are too small to support stand-alone services.
- Extending health promotion activities to include employees’ family members.

### **Case Example:**

Johnson & Johnson, a manufacturer of health care products with more than 106,000 participating employees, offered a \$500 premium incentive for completing health risk assessments, which resulted in a reduction in medical expenses by \$225 per participating employee per year over four years. The program also resulted in lower absenteeism.



## ► **Modify the Built Environment to Promote Healthful Foods**

The built environment may have a substantial impact on food choice and preference. Worksite food environments can be modified to display healthful, lower sodium options more prominently, which may increase the likelihood they will be chosen. Strategies may include:

- Placing lower sodium, more healthful options such as fruit at and around the point of purchase.
- Procuring and distributing reusable plates that emulate the MyPlate design.
- Placing vending machines that still provide traditional unhealthy items in inconspicuous places.
- Placing healthful café carts in high-traffic, high-visibility areas such as the building's lobby and potentially include mobile carts that deliver healthy foods to offices.
- Establishing a healthful snack bowl program for break room areas that encourages employees to bring healthful snacks to share with others.
- Establishing edible gardens around the worksite to grow and sell food to employees and visitors.



## ► **Educate Employees**

Educating employees about the importance of healthful eating and reducing sodium can be a complementary strategy carried out with changes to the worksite food environment. Education may be incorporated into myriad aspects of the worksite setting, including:

- Providing nutrition and sodium education during new employee orientations.
- Including sodium information, especially major sources of sodium, as part of a lunch-n-learn series on nutrition.
- Encouraging clinicians to distribute sodium information during employee blood pressure screenings.
- Offering free wellness classes to employees with topics such as weight loss, healthful eating, and sodium reduction.
- Providing nutrition information in and around food-service settings in the worksite (i.e., table tents, signage, menu labeling, murals, and brochures).
- Preparing educational materials for employees' families regarding the impact of sodium on blood pressure and hidden sources of sodium.
- Incorporating nutrition information and the importance of sodium reduction into the worksite newsletter and other publications.
- Implementing an education campaign to promote a healthful food environment to staff and visitors.
- Offering professional development training for food-service staff on lower sodium and from-scratch cooking techniques.
- Working with the local dietetic association to identify registered dietitians to whom you can refer employees for nutritional counseling.

## Conclusion

Worksites, small or large, can positively impact employees' lifestyle choices by adopting a culture of wellness and modeling healthful nutrition throughout the workplace. Tactics that have worked for some worksites may not work for all worksites. When working to reduce sodium and offer more healthful choices, consider what will work best for your specific setting. The examples listed in this guide are just some of the many things that can be done to improve the worksite food environment and the health of employees who work there. Please see the following page for more worksite related resources.

## Resources

CDC Division of Nutrition, Physical Activity, and Obesity  
Healthier Worksite Initiative

[www.cdc.gov/nccdphp/dnpao/hwi](http://www.cdc.gov/nccdphp/dnpao/hwi)

CDC National Center for Chronic Disease Prevention  
and Health Promotion Worksite Wellness Information

[www.cdc.gov/workplacehealthpromotion](http://www.cdc.gov/workplacehealthpromotion)

Food at Work: Community Supported Agriculture

[www.eatwellworkwell.org/community-supported-agriculture.htm](http://www.eatwellworkwell.org/community-supported-agriculture.htm)

*Health and Sustainability Guidelines for Federal  
Concessions and Vending Operations*

[www.gsa.gov/portal/content/104429](http://www.gsa.gov/portal/content/104429)

North Dakota Worksite Wellness

[www.ndworksitewellness.org](http://www.ndworksitewellness.org)

U.S. Department of Agriculture MyPlate

[www.choosemyplate.gov](http://www.choosemyplate.gov)

Wellness Council of America

<http://welcoa.org>

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