



# What's in the Breakroom: Employee Diet and Productivity

## Employee Diet and Productivity

Hold the donuts and the soda machine. Be careful with the fundraising candy bars. Research shows that what we eat impacts our performance at work. From mental clarity, to energy and stamina—food determines just how well our bodies function.

Employers have understood this for years, at a big picture level. Workplace wellness programs started becoming popular in the 1990s and have gained increasing momentum as employers realize the cost benefits of a healthier workforce.

These programs focus on overall health with incentives to exercise, get routine medical screenings, stop smoking AND eat better. The results have been overwhelmingly positive with case study after case study demonstrating health improvements and lower insurance rates. One six year study of the staff and retirees in a Nevada school district determined that the health promotion program returned a cost saving ratio of \$16 for every \$1 spent in reduced absenteeism alone.<sup>1</sup>



But far, far less energy has been spent on the relationship between diet and productivity or performance in the workplace.<sup>2</sup> Sure, the health magazines tell us to eat selenium-rich foods like eggs and nuts for our brains,<sup>3</sup> and to ensure certain antioxidants to maintain our energy levels,<sup>4</sup> but we're not translating this on a broad workforce level.

Employee nutrition is about more than reducing absenteeism; it can be about increasing "presenteeism"—the ability for employees to be fully engaged and mentally focused on their work.

### A malnourished workforce

An extensive body of literature examines the impact of poor diet and nutrient deficiency on worker productivity in developing countries where food scarcity issues are common. In India, for example, the cost of lost productivity, illness and death due to malnutrition is an estimated \$10-28 billion, in U.S. dollars.<sup>5</sup>

<sup>1</sup> Brigham Young University. *Workplace Health Promotion Programs show 16:1 Return on Investment*. Medical News Today. 13 Mar. 2005. Web. 6 Aug. 2009. <[www.medicalnewstoday.com](http://www.medicalnewstoday.com)>.

<sup>2</sup> Edwards, John S.A. "Employee Feeding – Productivity and Performance." *International Journal of Contemporary Hospitality Management*. 1993, 5, 5.

<sup>3</sup> "Can Eggs Make you Smarter?" *RealAge*. Web. 11 Aug. 2009.

<sup>4</sup> "Keep Your Energy up with This Antioxidant." *RealAge*. Web. 11 Aug. 2009. <<http://www.realage.com>>.

<sup>5</sup> Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New

Here in the United States, such “work”-related nutrition research focuses almost exclusively on children and school performance. Children who are hungry can’t concentrate and don’t perform well in school,<sup>6</sup> thrice-weekly consumption of fast food can lower test scores by up to 16%,<sup>7</sup> and children who eat breakfast show improved cognition, attention and memory.<sup>8</sup>

Children are most vulnerable to the effects of malnutrition, as a lack of sufficient food and nutrients leads to poor brain and organ development. Malnutrition in the first few years of life can lead to a lifetime of learning problems and behavioral issues.



But while children may be most vulnerable in terms of the long-term impact of malnutrition, they are not the largest population of hungry in the United States. Research shows that when food resources are inadequate to feed a family, children are usually the last to be affected.<sup>9</sup> Adults will skip meals and short-change their own portions as much as possible before disrupting a child’s diet.

That means behind every hungry child are thousands more hungry adults. In 2004, 6.6 percent of U.S. adults were “food insecure” and reported skipping meals or cutting meal sizes. The percentage of U.S. children who “sometimes or often” don’t get enough to eat is 4.6 percent.<sup>10</sup> Both significant numbers, to be sure.

But when we read about the number of children in our local schools who are getting free or subsidized meals, do we think about the adults in those households? Do we recognize that these adults are coming to our workplaces and may be too hungry to stay adequately, safely alert?

Food scarcity is highest, of course, among low income households, making hunger an issue primarily for employers with low wage workers. However, rates of food insecurity were also substantially higher in families with children headed by a single woman (30.2%)<sup>11</sup> where even moderate wages might not be enough to sustain a household.

---

York: International Labour Office, 2005. Print.

6 Jyoti, Diana F. “Food Insecurity Affects School Children’s Academic Performance, Weight Gain, and Social Skills.” *Journal of Nutrition*. Dec. 2005. Web. 6 Aug. 2009. <jn.nutrition.org>

7 Paton, Graeme. “Too much fast food harms children’s test scores.” *Telegraph*. 22 May 2009. Web. 10 Aug. 2009. <www.telegraph.co.uk>

8 Wesnes KA, Pincock C, Richardson D, Helm G, Hails S. “Breakfast reduces declines in attention and memory over the morning in schoolchildren.” *Appetite* 2003; 41, 3.

9 Household Food Security in the United States, 2007, Economic Research Service, USDA. Nov. 2008.

10 Korry, Elaine. “Housing Costs Play Role in Urban Hunger.” *NPR*. 23 Nov. 2005. Web. 10 Aug. 2009. <www.npr.org>.

11 Household Food Security in the United States, 2007, Economic Research Service, USDA. Nov. 2008.

## Nutrition and chronic disease

In developing countries like the United States, significantly more focus is directed at food and its link to chronic health conditions such as heart disease, diabetes and obesity. Because poor diet is a primary contributor to poor health, we see a clear connection between what our employees eat and the amount of time they spend working.

vielife, a company that offers workplace wellness solutions, studied 15,000 people in the U.S. and the U.K. and found that employees with poor nutritional balance reported 21% more sick-related absence and 11% lower productivity than healthier colleagues.<sup>12</sup> Other vielife research showed that the most healthy quartile of the workforce is seven hours more productive a week than the least healthy quartile.<sup>13</sup>

For example, another scholarly study estimates that diabetes alone costs U.S. businesses \$39.8 billion annually in lost work days, restricted activity and permanent disability.<sup>14</sup> And, as we'll discuss more in an upcoming section on the link between nutrition and brain function, people with glucose problems—such as diabetics—perform more poorly on memory tests.<sup>15</sup>

In the United States, more than two-thirds of the population is overweight and 30% are considered obese. In one year, obesity contributed to more than 39.2 million lost work days and 239 million restricted work days. In all, these workers were twice as likely to miss work as their thinner counterparts.<sup>16</sup>

The U.S. military is one employer that won't tolerate obesity in its team members. Over the past four years, 47,447 potential recruits were turned away because they were overweight. That's a fraction of the 200,000+ applicants the military tests every year, but still a significant number for an organization that spent more than \$600 million (incentives included) to attract volunteers in 2008.<sup>17</sup> Approximately 3000+ more service personnel are asked to leave every year for failing to maintain appropriate weight standards.

Major General Thomas Bostick, head of the Army Recruiting Command, said weight issues loom as a bigger challenge for the military than lack of high school degree, criminal behavior or other health issues such as eye or ear problems that prevent people from entering the service.<sup>18</sup>

12 O'Reilly, Sally. "Eating the Profits." *Personnel Today* 4 July 2006: 26. ProQuest. Web. 6 Aug. 2009.

13 Beagrie, Scott. "How to improve productivity through employee health management." *Personnel Today* 7 June 2005: 25. ABI/Inform. Web. 6 Aug. 2009.

14 Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New York: International Labour Office, 2005. Print.

15 "Diabetes and Memory Impairment." *Johns Hopkins Health Alert. Johns Hopkins Medicine*, 29 Nov. 2007. Web. 10 Aug. 2009. <[www.johnshopkinshealthalerts.com](http://www.johnshopkinshealthalerts.com)>.

16 Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New York: International Labour Office, 2005. Print.

17 "Top Army recruiter weighs fat camp for recruits." *MSNBC*, 12 Jan. 2009. Web. 10 Aug. 2009. <[www.msnbc.msn.com](http://www.msnbc.msn.com)>.

18 "Top Army recruiter weighs fat camp for recruits." *MSNBC*, 12 Jan. 2009. Web. 10 Aug. 2009. <[www.msnbc.msn.com](http://www.msnbc.msn.com)>.



It's a strange predicament for the government to be in considering that about 60 years ago the school lunch program was established because too many young men were too malnourished for the WWII draft. A nation of young people too thin to serve is now a nation of people too overweight.

Yet, obesity and malnutrition are not mutually exclusive. Far from it. Today, health experts understand that malnutrition is as much about what we eat as what we don't. Malnutrition is not so much lack of food, but literally, bad nourishment. It is either a lack of adequate food or an overabundance of nutritionally bankrupt products.

## Nutrition and performance

In 2004, health and science writer Christopher Wanjek was commissioned by the International Labor Organization to research how workers eat around the world. His findings culminated in a 400+ page book titled, *Food at Work Workplace Solutions for Malnutrition Obesity and Chronic Disease*. A seminal work praised by unions and nutritionists, the book has spawned worker-feeding legislation throughout the world.

Among Wanjek's evidence are a variety of studies connecting nutrition to both brain and body function—performance measures with direct links to workplace productivity.

**Regular Meals.** Many of us, for instance, have experienced feelings of lightheadedness or lethargy when we go too long without eating. As Wanjek explains, this is attributed to hypoglycemia, or low blood sugar, a temporary condition that shortens attention span and slows the speed at which humans process information.<sup>19</sup>

Ingrid Kiefer, writing a piece on brain food for the magazine *Scientific American Mind*, explains the problem of hypoglycemia in more detail. "The brain, unlike muscles, cannot store carbohydrates, and so it requires a constant supply of glucose," she writes. "When blood glucose drops, say, from lack of food, our faculties fade and we lose the ability to concentrate."<sup>20</sup>

Both Kiefer and Wanjek highlight the value of regular food consumption throughout the day in order to keep the brain functioning properly. The ability for workers to access healthy food and take time to eat cuts across all industries.

Nurses, for example, are often forced to skip break periods when demand for their service is high. Office professionals are regularly tempted to eat at their desk or



<sup>19</sup> Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New York: International Labour Office, 2005. Print.

<sup>20</sup> Kiefer, Ingrid. "Brain Food." *Scientific American Mind* 18.5 (Oct. 2007): 58. MasterFILE Premier. EBSCO. 10 Aug. 2009

put off an evening meal as they stay late at the office. Construction workers must come prepared with a packed lunch because vending machines, cafeterias, and even refrigeration aren't available on many work sites. And production workers, where a 30-minute lunch break is typical, might not have ample time to walk to the cafeteria, retrieve a meal, eat, and take a restroom break in that abbreviated time period.

The workplace, as Wanjek points out, is often a hindrance to good nutrition. "It's hard to get a good meal at work," he writes. "Cafeterias, if they exist, are often expensive and have unhealthy offerings. Many workers have no access to food, let alone access to food storage, water and tables."

Accordingly, some studies are beginning to show that flexible workers—people who telecommute or have greater control over their work hours—are healthier<sup>21</sup>. Workers on a tight time schedule are more likely to reach for high calorie, high fat convenience foods which are generally easier to prepare and consume. That is to say, people generally don't make healthy food choices when they are rushed—whether it's out the door to work in the morning or feeding the kids before a 6:00 soccer match.

**Iron.** Iron deficiency, the most common nutritional disorder in the world, is associated with sluggishness and lack of coordination.<sup>22</sup> People with iron deficiency have demonstrated as much as 30% impairment in physical work capacity and performance. One 2007 study of U.S. women found that only 42 of 149 study participants has sufficient iron in their blood, and those 42 women outperformed the others in cognitive tests. However, 16 weeks of iron supplementation for the others closed the gap, increasing cognitive performance between five- and sevenfold.<sup>23</sup>

**Protein.** School children are often encouraged to eat eggs or nuts before an exam, and parents are advised to feed them protein-rich breakfasts in the morning before school. Not only is this because protein has more "staying power" in the body—helping you to feel fuller, longer—but studies also suggest that protein can make people more alert and attentive. Research has shown improved mental performance after small, high-protein meals containing low-fat dairy, fish, lean meat and beans.<sup>24</sup>

**Saturated Fats.** According to a 2003 report from the Society for Neuroscience, junk food does more than expand your waistline; it can also hurt your brain.

Evidence is growing that a diet high in saturated fat can hinder brain function. Studies show that rats who consumed approximately 40% of their daily calories



21 Zimmerman, Mark. "Flexible Work & Healthy Behavior." *LifeMeetsWork.com*. Web. 10 Aug. 2009.

22 Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New York: International Labour Office, 2005. Print.

23 Kiefer, Ingrid. "Brain Food." *Scientific American Mind* 18.5 (Oct. 2007): 58. MasterFILE Premier. EBSCO. 10 Aug. 2009

24 Kiefer, Ingrid. "Brain Food." *Scientific American Mind* 18.5 (Oct. 2007): 58. MasterFILE Premier. EBSCO. 10 Aug. 2009

from saturated fats performed poorly on memory and learning tests. Human studies have also shown negative affects.<sup>25</sup>

**Hydration.** Water, too, is important for proper brain function. A 1% decrease in hydration levels can lead to a 20% decrease in productivity.<sup>26</sup> Companies that promote water consumption also realize a side benefit in reducing the quantity of soda consumed. One such campaign at Glaxo Wellcome Manufacturing in Singapore led to a 50% increase in water consumption and a 15% decline in sugary drinks.<sup>27</sup>

## Workplace nutrition efforts

The links between workplace performance and diet, then, are manifold. We can identify productivity as a measure of physical presence, but also one of mental clarity. Not only do businesses lose out on productivity due to lost time for chronic illness and obesity, but employers also lose out when worker minds are less than alert and present.

This sort of mental sluggishness leads to mistakes, lower output, lost innovation and even accidents.

Responding to these challenges is a matter of establishing company nutritional policies, working with vendors to provide healthy food options, providing adequate resources for staff in terms of both time and access to healthy food, and educating employees as to the value of sound nutrition.

**Cafeterias.** The company cafeteria at Dole corporate headquarters got a massive overhaul in 2003. Unlike most company cafeterias which offer employees the option of a healthy meal or a not-so-healthy alternative, Dole offers only foods low in saturated fats. No red meat, pork, no fried foods, no bologna, or hot dogs, no full-fat dairy, no butter, and no sugary soft drinks—just to name a few of the limitations.

Meals are company subsidized to keep costs low, encouraging workers who might otherwise brown bag it or leave campus to stay and consume the healthy options.<sup>28</sup>

While company leaders say employees were resistant at first, today its healthy café is part of what attracts and retains employees at the corporation.<sup>29</sup> Recently, the company began



25 "Diet and the Brain." *Brain Briefings* (Mar. 2003). Society for Neuroscience. Web. 10 Aug. 2009. <web.sfn.org>.

26 Beagrie, Scott. "How to improve productivity through employee health management." *Personnel Today* 7 June 2005: 25. ABI/Inform. Web. 6 Aug. 2009.

27 Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New York: International Labour Office, 2005. Print.

28 Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New York: International Labour Office, 2005. Print.

29 Esola, Louise. "Out with bologna and hot dogs; in with glazed salmon and soy." *Business Insurance* 41.15 (09 Apr. 2007): 14-14. Business Source Premier. EBSCO. 10 Aug. 2009

offering a co-branded [Dole Corporate Wellness Toolkit](#) that packages its own successful program for use at partnering businesses.

**Healthy vending.** Consistent with its cafeteria changes, vending machines at Dole also follow a no-junk food policy, but are instead stocked with healthy snack substitutions such as nuts, dried fruit, protein bars and baked chips.

Healthy vending is a growing trend—available from traditional vendors as well as new health-focused vending companies such as Yo-Naturals and Vend Natural Inc. Also popping up in the marketplace are food delivery services such as the Fruit Guys which ship pesticide-free fruit cases to workplaces (and homes and dorm rooms) across the United States.

Yamaha is one such company using the Fruit Guys service, swapping out regular employer-purchased pies in favor of the fruit boxes—cutting expenses, calories and fat in the process.<sup>30</sup>

Several studies in the U.K, Denmark and U.S. are examining the impact of a free fruit program in the workplace. Initial results in Denmark showed that 96% of employees, when provided fruit free or at 50% of cost, ate fruit daily or near daily. Meanwhile, consumption of candy or sweet snacks declined by 50%.

Large companies like Kaiser Permanente in northern California have hit upon a different way to encourage fruit consumption, inviting farmers to set up fresh produce booths on campus in areas conspicuous and easily accessible to employees. The company pays only for the cost of any required government sales permits.

While junk food laden vending machines may be a source of income for a company, management should realize that the costs to both productivity and overall health outweigh cash revenues.

**Nutrition education.** Nutrition is an integral part of employee nutrition programs. Wanjek identified several workplace campaigns where education was key to motivating employees to eat well. He also found case studies in which a lack of employee education led to employees rejecting healthy food offering to the extent that vendors refused to provide them anymore because they didn't sell.<sup>31</sup>



<sup>30</sup> "Report: Healthy Eating Improves Productivity." Red Orbit News. No date. Web. ProQuest. 6 Aug. 2009.

<sup>31</sup> Wanjek, Christopher. *Food At Work Workplace Solutions For Malnutrition, Obesity And Chronic Diseases*. New York: International Labour Office, 2005. Print.



At Microsoft, a color-coded system of food icons makes the healthy choices recognizable, including symbols for vegan, gluten-free, organic sustainable, sugar-free, carb-control and nondairy options.<sup>32</sup>

And at Tameside Metropolitan Borough Council in the U.K., an education campaign has focused on increasing water consumption, giving staff free water bottles and even issuing 'pee charts' to measure throughput. Other health education measures include free fruit days and articles in the staff magazine. Two years into the program, management calculates it saved 4,000 work days due to reduced absenteeism.<sup>33</sup>



### **Nutrition policies**

A workplace nutrition policy can govern the use of employer-provided food as well as set expectations for vending machine options and even fundraisers that employees bring from home.

A nutritional policy, for example, might prohibit donuts at morning meetings and company-purchased cakes. Instead of cookies and soda at meeting breaks, the policy might allow low-fat yoghurt, whole grain crackers, water and low-fat cheeses.

It could stipulate that healthy food choices be available for purchase at a lower cost than other choices. This so-called "calorie tax" is becoming increasingly popular in companies that want to discourage purchase of candy bars and chips from the company vending machines.

Similar to the calorie tax are programs that subsidize healthy food options. When Caterpillar offered garden burgers for a buck in its cafeteria, sales soared fivefold to 2,500 a month. And back in spring of 2008, employees at Freddie Mac who ordered six healthy meals in the cafeteria would get the seventh one free.<sup>34</sup>

Other policies might also require food vendors to supply at least one meatless and/or low fat option per dining period along with fresh fruits and vegetables.

At the Waters Corporation, located in Milford, Massachusetts, management asked its food vendor to provide one non- or low-fat or no-cholesterol entree at every meal. In response, its vendor developed a healthy choice bar, featured daily at breakfast and lunch. On average, 5-10% percent of employees choose the healthy choice bar. Sales figures show the new, healthier options may have attracted more



<sup>32</sup> Conlin, Michelle. "Hide the Doritos! Here Comes HR." *BusinessWeek*. 28 Apr. 2008. Web. ProQuest. 6 Aug. 2009.

<sup>33</sup> Conlin, Michelle. "Hide the Doritos! Here Comes HR." *BusinessWeek*. 28 Apr. 2008. Web. ProQuest. 6 Aug. 2009.

<sup>34</sup> Conlin, Michelle. "Hide the Doritos! Here Comes HR." *BusinessWeek*. 28 Apr. 2008. Web. ProQuest. 6 Aug. 2009.

users who typically avoided the cafeteria because of its high-fat content, with patronage increasing by 5%.<sup>35</sup>

For more nutrition policy resources, visit the Union River Healthy Communities program online, offering [sample nutrition policies](#) on its Eating Well page. Also, the Nutrition Resource Centre, part of the Ontario Public Health Association published a comprehensive [Guide to Nutrition Promotion in the Workplace](#), available free online. The guide includes workplace nutrition assessment tools as well as sample nutrition policies. Likewise, Dole and Sodexo also offer catering assessment and employee education tools.

All in all, workplace nutrition programs keep people healthier—and that means more time on the job and focused on work. While the investments do not need to be overly large, the payback can be significant.

Again, recall the Nevada school district which realized a 16 to 1 payback for its wellness program, and the British municipality which cut absenteeism by 4,000 days—the equivalent of 27 additional employees per year.

Less measurable, of course, are the number of workplace accidents avoided because employees are alert, the number of new ideas generated by optimum-functioning minds, or the value of improved customer service given by team members whose blood sugar is stable and energy levels are high.

And while employee nutrition is certainly valuable from an employer's perspective, the ultimate winner is the employee who enjoys better health and quality of life every day.



<sup>35</sup> *Nutrition Policy Profiles: Workplace Policies To Offer Nutritious Foods*. Prevention Institute, May 2002. Web. 10 Aug. 2009. <[www.preventioninstitute.org](http://www.preventioninstitute.org)>.

Prevention Institute