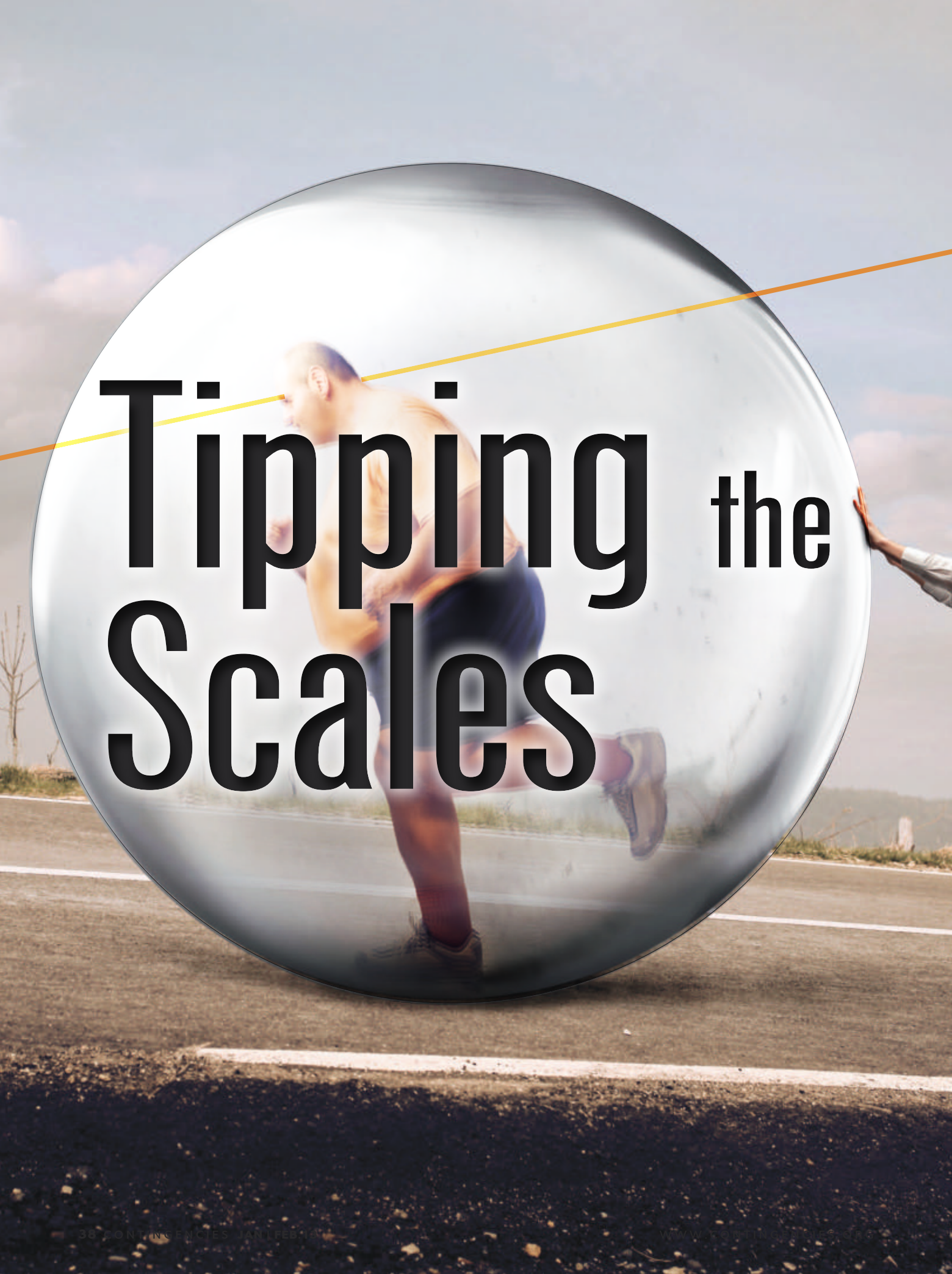
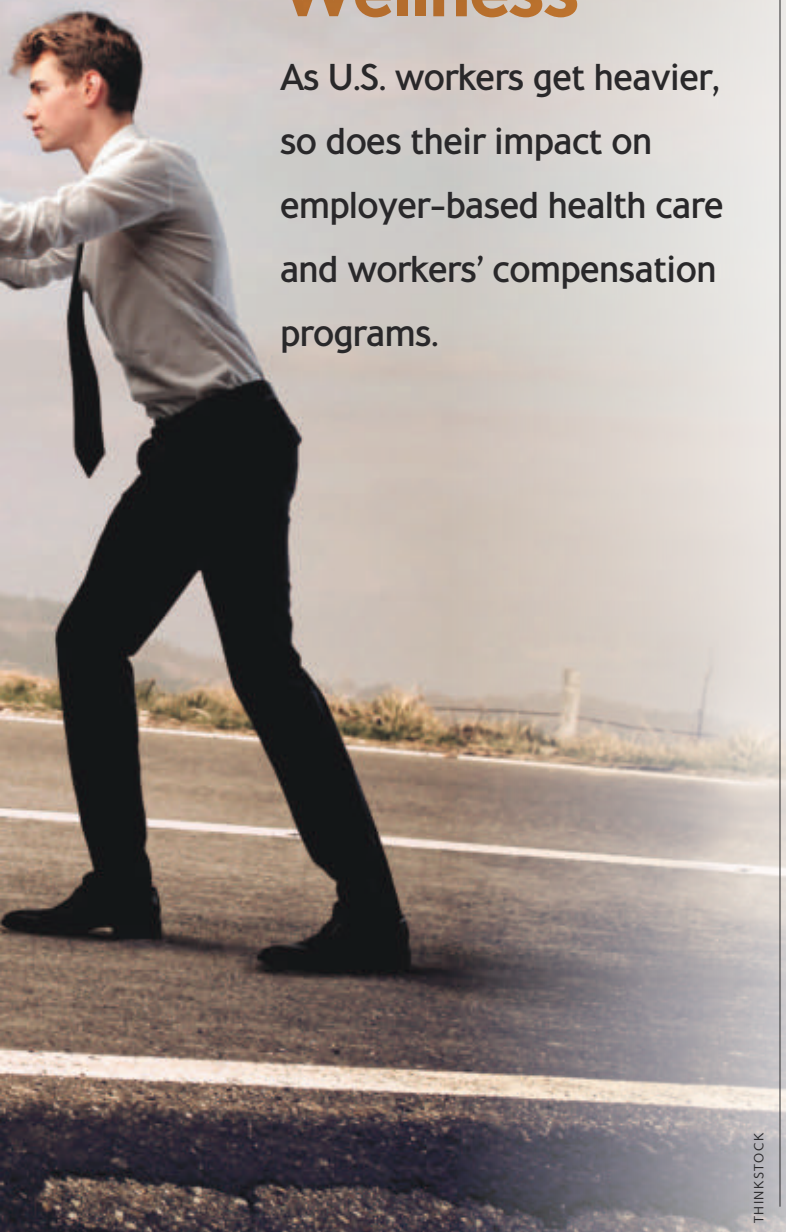


Tipping the Scales

By Todd Whitthorne, Kevin Bingham, and James Guszcza

The Burden of Obesity on Workforce Wellness

As U.S. workers get heavier, so does their impact on employer-based health care and workers' compensation programs.



THINKSTOCK

IN 1986, DIRECTOR RON HOWARD RELEASED THE movie *Gung Ho*, a comedy about efforts by the foreman of an American auto manufacturing plant to save the jobs of autoworkers in Hadleyville, Pa. Foreman Hunt Stevenson, played by Michael Keaton, persuades Tokyo-based Assan Motors Corp. to reopen the plant. Although the journey isn't easy, the Assan Motors leadership team and the Hadleyville autoworkers eventually come together to produce an amazing 15,000 cars in a single month.

Inspiring story. But what stood out to us was the scene in which George Wendt (Norm from the 1980s television show *Cheers*) refuses to do a single jumping jack and openly mocks the daily calisthenics required by the new owners.

This scene was pretty funny at the time. But 25 years after the movie's release, organizations across America still struggle to engage their workers on the benefits of personal wellness. With the Centers for Disease Control and Prevention (CDC) estimating that in 2010 35.7 percent of Americans age 20 and older were obese (a figure that potentially could rise to 42 percent by 2030), America is reaching a tipping point in workforce wellness.

The Cost of Obesity

America's epidemic rates of obesity are burdening employers with increasing durations of injury, rising medical costs, and expanding lost-time claims in a workforce that has a higher propensity toward multiple co-morbidities. According to the Stanford Hospital and Clinics, obesity-related conditions cost over $150 billion each year and cause an estimated 300,000 premature deaths in the United States. The health effects associated with obesity include, but are not limited to, high blood pressure, diabetes, heart disease, joint problems including osteoarthritis, sleep apnea and respiratory problems, cancer, metabolic syndrome (a combination of medical disorders that, when occurring together, increase the risk of developing cardiovascular disease and diabetes), and psychosocial effects.

A new report from the Robert Wood Johnson Foundation and Trust for America's Health, *F as in Fat: How Obesity Threatens America's Future 2012*, further accentuates the challenges facing America. The report notes that over the next 20 years:

- Obesity rates for adults could reach or exceed 44 percent in every state and exceed 60 percent in 13 states;
- The number of new cases of Type 2 diabetes, coronary heart disease and stroke, hypertension, and arthritis could increase 10 times between 2010 and 2020—and double again by 2030;
- Obesity-related health care costs could increase by more than 10 percent in 43 states and by more than 20 percent in nine states.

From a workers' compensation perspective, it is well known that obesity adversely affects knees, backs, and hips. Excess weight

Defining Obesity

The U.S. Centers for Disease Control and Prevention (CDC) defines as overweight an adult with a body mass index (BMI) between 25 and 29.9. The CDC defines as obese an adult with a BMI of 30 or higher.

puts massive pressure on vulnerable joints. Much like the weight capacity warnings on elevators or on support columns on a bridge, many structures (including the human body) are designed to hold only so much weight before their structural integrity begins to break down.

Two studies by the National Council on Compensation Insurance Inc. (NCCI) highlight the effect of obesity on workers' compensation claims. According to *Reserving in the Age of Obesity*, a Nov. 1, 2010, NCCI study by Chris Laws and Frank Schmid, the ratio in the medical costs per claim of obese to nonobese claimants develops adversely over time from a ratio of 2.8 at the end of one year, to 4.5 at the end of three years, to 5.3 at the end of five years. In a following study from May 29, 2012, *Indemnity Benefit Duration and Obesity*, authors Frank Schmid, Chris Laws, and Mathew Montero found the duration of obese claimants is more than five times the duration of nonobese claimants, after controlling for primary International Classification of Diseases (ICD)-9 code, injury year, state, industry, gender, and age for temporary total and permanent total indemnity benefit payments.

When developing predictive models for workers' compensation claims, modelers often look at hundreds of candidate variables, leveraging univariate analysis (a one-way analysis of the relationship between an explanatory or predictive variable and a variable that needs explaining or predicting). For lost-time workers' compensation claims, the number of medical conditions at the time of injury plays a significant role in determining the ultimate severity of a claim:

- For claims with no existing medical conditions, the claim severity is only 20 percent of the average workers' compensation claim cost;
- For claims with one existing medical condition, the claim severity is 45 percent of the average claim cost;
- For claims with two existing medical conditions, the claim severity is approximately 80 percent of the average claim cost.
- In those claims with three or more existing medical conditions, the claim severity jumps to more than 240 percent of the average claim cost.

In other words, claims with three or more existing medical conditions are 12 times as costly as claims with no existing medical conditions. Given that obesity often signals multiple comorbidities, these statistics offer a sobering glimpse of potential future claim costs.

Personal and Corporate Wellness

Without properly addressing the causes of obesity (diet, inactivity, emotional issues, medical conditions, etc.) through either lifestyle change or medication, we have few ways to affect the direct results of obesity (diabetes, osteoarthritis, etc.) and the complications of those disease processes (heart disease, hypertension, renal disease, etc.).

But while disease drives the cost of health care, risk factors often drive disease. By creating corporate cultures that support and encourage healthy habits, we can reduce risk factors and improve productivity, decrease absenteeism, and lower health care costs in general. To accomplish this, workforce wellness must be treated like any other economic factor that, if ignored, has the potential to negatively affect a business.

The Next Generation of Employees

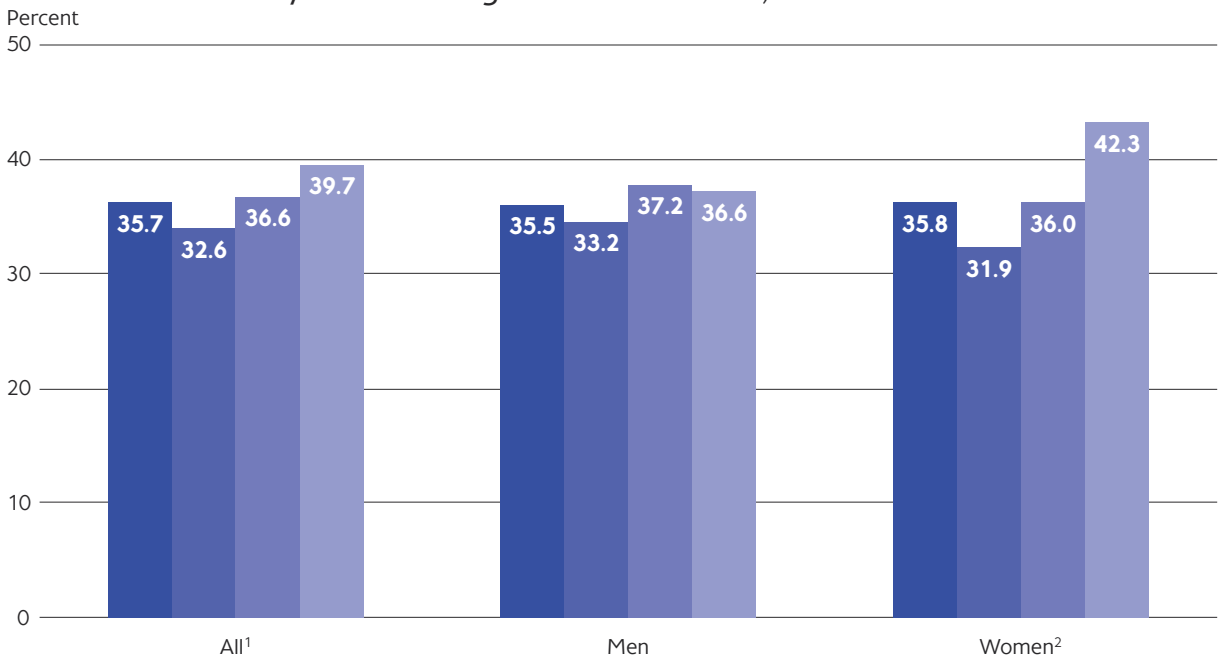
Research published in the *Archives of Pediatrics and Adolescent Medicine* shows that currently 18.4 percent of 4-year-olds are obese. The figures are actually above 20 percent in the Hispanic and African-American populations. At the same time, according to the Kaiser Family Foundation, 8- to 18-year-olds now spend over 53 hours per week in a physically passive state—watching television, playing video games online, texting friends, visiting social media sites, etc. That works out to seven hours and 38 minutes per day. The combination of obesity and physical inactivity, sadly, are the two largest drivers of Type 2 diabetes. And according to William Klish, a recently retired childhood obesity specialist from Houston, children who develop Type 2 diabetes before the age of 15 shorten their life span by between 17 and 27 years. Currently the U.S. military recognizes 27 percent of all potential recruits as too heavy to serve. Is it any wonder that the Centers for Disease Control and Prevention predicts that one in three adults could be diabetic by 2050?

The economic implications of diabetes are sobering. United Healthcare data shows that the direct and indirect annual cost of health care for a diabetic with complications is $30,000, compared with $2,669 for someone without diabetes—a 1,000 percent increase.

THINKSTOCK

FIGURE 1

Prevalence of Obesity Among Adults Aged 20 and Older, by Sex and Age: United States, 2009–2010



[1]Significant increasing linear trend by age ($p < 0.01$)
[2]Significant increasing linear trend by age ($p<0.001$)
NOTE: Estimates were age adjusted by the direct method to the 2000 U.S. Census population using the age groups 20–39, 40–59, and 60 and older.
Source: CDC/NCHS, National Health and Nutrition Examination Survey, 2009–2010

A growing number of employers recognize this and are making an attempt to encourage their workers to choose a healthier lifestyle by:

- Promoting regular physical activity and publishing fitness newsletters;
- Encouraging preventive health care through flu shots and on-site health screenings;
- Establishing online wellness portals and offering discounted wellness services and coaches such as personal trainers or nutritional consultants;
- Offering fitness classes or partially funding gym memberships, the purchase of exercise equipment, or vitamin supplements;
- Focusing on healthy vendor and cafeteria options;
- Offering smoker cessation programs and establishing smoke-free work environments;
- Providing nurse help-line services for employee questions;
- Sponsoring health fairs, offering awards such as cash or time off for choosing healthier lifestyle options, and promoting healthy activities through employeewide competitions.

Knowing and Doing

Two of today's most important intellectual and cultural trends, behavioral economics and the widespread use of data analysis to guide effective decisions, suggest further avenues toward promoting a healthier population. A major theme of modern cognitive science (recently popularized in such books as *Nudge: Improving Decisions About Health, Wealth, and Happiness*, by Richard Thaler and Cass Sunstein, and *Thinking, Fast and Slow*, by Daniel Kahneman) is that people's choices are influenced to a surprising extent by their environments and by systematic cognitive biases. Thaler and Sunstein famously wrote that ordinary humans more closely resemble Homer Simpson from *The Simpsons* than Mr. Spock from *Star Trek* (who is a good exemplar of the ideally rational homo economicus from classical economics). When we decide what to buy, what to eat, or how much to save, we tend not to rationally evaluate the alternatives and choose the most sensible one. Rather, we are systematically influenced by the order in which the choices are arranged, habits and a bias toward the status quo, short-term pleasures and pains, and social effects. Borrowing a phrase from the behavioral economist Dan Ariely, we are "predictably irrational."

This is illustrated by a series of experiments by Cornell researcher Brian Wansink and his colleagues. Wansink's team gave 158 moviegoers either medium or large tubs of free popcorn. Some of the people were given fresh popcorn, others stale popcorn that was described as "terrible." Perhaps not surprisingly, the researchers found that those who were given large tubs of fresh popcorn ate 45 percent more popcorn than those given medium tubs. More surprising, however: People who were given large tubs of the "terrible" stale popcorn ate 34 percent more than those given medium stale tubs. Even if the food is terrible, the larger consumption norms implied by container size dramatically affect people's eating decisions. It is not rational, but it is predictable—and avoidable.

If "irrational" is the bad news, "predictable" is the good news in that it can raise the possibility that our irrationalities can be managed in strategic, data-driven ways. In his recent book *The Power of Habit*, Charles Duhigg writes that we now understand the mechanics of why habits emerge and how we can re-engineer them in ways that benefit us. We can establish cues that promote exercise and healthier eating; we can change our routines to rid ourselves of unwanted habits; and we can set up rewards that reinforce positive habits.

Related to the theme of changing habits as well as the power of social influences, the Harvard physician and *New Yorker* staff writer Atul Gawande has written eloquently about the power of well-chosen health coaches to prompt chronic disease patients to better manage their conditions and stay on their treatments. It is interesting to contemplate the application of predictive analytics to match health coaches, support groups, and wellness programs to employees, students, and patients.

Cornell researchers Wansink and David Just already have explored strategies for promoting healthier eating in the school lunchroom using the tools of psychology and behavioral economics. Examples include keeping the lid closed on the freezer containing ice cream; putting fruit rather than snack foods near the cash register, where impulse purchases are likely to happen; and moving the salad bar to the center of the room, where it is less easily avoided. One can imagine employers investigating analogous behavioral strategies to promote healthier workforces.

While the causes of obesity are complex, there is growing evidence that understanding the mechanics of human decisions and habits can lead to fruitful strategies to promote healthier eating and lifestyles.

The Tipping Point

We are at a tipping point for the health of our nation's workforce, and the direction in which we are currently heading is a frightening one. The challenge is to prioritize the issue and employ demonstrated methods and business practices to change course. The solutions are out there. But it very likely will take vision, leadership, and personal and professional commitment to achieve long-term change. One thing is clear: Continuing to ignore the problem is no longer an option. □

The Dividends of Wellness

A CASE STUDY

AFTER LEARNING THROUGH BIOMETRIC screenings in 2009 that more than 73 percent of its total workforce was overweight or obese and that 51 percent of its employees stationed at field sites had metabolic syndrome (a combination of medical disorders that, when occurring together, increase the risk of developing cardiovascular disease and diabetes), a Southwest-based U.S. oil and gas company adopted a targeted approach to employee wellness.

More than 92 percent of the company's workers actively participate in the company program. From 2009 to 2011, despite adding 250 employees, the company has realized a 4 percent reduction in health care cost trend (accounting for dependent audits and annual plan change modifications). And employees have shown statistical improvement in many critical health risk categories, including:

- Year-over-year improvement in 10 out of 10 clinical risk factors;
- A 6 percent year-over-year reduction in the number of health risks per employee;
- A 7 percent year-over-year reduction in the number of employees with more than three risk factors;
- A 6 percent overall reduction in employees with metabolic syndrome.

Carrot and Stick

SOME EMPLOYERS HAVE ADOPTED A CARROT-AND-STICK APPROACH in promoting wellness programs. In 2009, Florida's Broward County implemented a penalty aimed at increasing the participation of government employees in its wellness program. The county imposed a $20 biweekly charge on employees enrolled in the group health plan who had not completed a confidential health risk assessment and biometric screening.

Although controversial, the fine was upheld in August 2012, when the 11th U.S. Circuit Court of Appeals sustained a lower court decision that ruled the charge did not violate the Americans with Disabilities Act, falling instead within the act's insurance safe harbor exception.

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