

# New tool demonstrates high cost of lack of sleep in the workplace

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Sleep disorders and sleep deficiency are hidden costs that affect

employers across America. Seventy percent of Americans admit that they routinely get insufficient sleep, and 30 percent of U.S. workers and 44 percent of night shift workers report sleeping less than six hours per night. In addition, an estimated 50-70 million people have a sleep disorder, often undiagnosed. Costs attributable to sleep deficiency in the U.S. was estimated to exceed \$410 billion in 2015, equivalent to 2.28 percent of the gross domestic product.

Analysis of existing data, using a new Fatigue Cost Calculator tool developed through the Sleep Matters Initiative at Brigham Health for the National Safety Council (NSC), reveal that a U.S. employer with 1,000 workers can lose about \$1.4 million dollars each year in absenteeism, diminished productivity, healthcare costs, accidents and other occupational costs associated with exhausted employees, many of whom have undiagnosed and untreated [sleep disorders](#).

The Fatigue Cost Calculator is a free online tool, developed by experts at Brigham Health and introduced at the NSC Congress and Expo, and is available for employers to determine the financial cost of sleep deficiency to their business. Employers enter specific data, including workforce size, industry and location to predict the prevalence of sleep deficiency and common sleep disorders among employees. Using an algorithm generated by integrating information from sleep science literature and publicly available government data, the calculator can estimate the prevalence of sleep deficiency in the workplace and the resulting financial losses. The calculator also provides an estimate of the savings that might be expected with the implementation of a [sleep health](#) education program that includes screening for untreated sleep disorders, such as [obstructive sleep apnea](#) and insomnia, to improve sleep behavior and overall health.

"We estimate that the costs of fatigue in an average-sized Fortune 500 company consisting of approximately 52,000 employees, is about \$80

million annually," said Matthew Weaver, PhD, a scientist working in the Brigham Health Sleep Matters Initiative who worked on the development of the cost calculator."

The mission of the Sleep Matters Initiative, led by investigators from Brigham Health and Harvard Medical School, is to foster excellence in the treatment of sleep and circadian disorders in order to improve health, safety, and performance; and to promote widespread change in social norms that will engender a culture of sleep health.

"Promotion of healthy sleep is a win-win for both employers and employees, enhancing quality of life and longevity for workers while improving productivity and reducing healthcare costs for employers," said Charles A. Czeisler, PhD, MD, FRCP, director of the Sleep Matters Initiative at Brigham Health and the Baldino Professor of Sleep Medicine at Harvard Medical School. "Additionally, Occupational Fatigue Management Programs can increase knowledge of sleep disorders, educate participants on the impact of reduced alertness due to sleep deficiency and teach fatigue countermeasures, as well as screen for untreated sleep disorders."

Other findings revealed by the Fatigue Cost Calculator developed by the Brigham Health Sleep Matters Initiative for the NSC include:

- A national transportation company with 1,000 employees likely loses more than \$600,000 annually in decreased productivity because of tired employees. Motor vehicle crashes are the leading cause of workplace deaths, underscoring the need for alert, attentive employees.
- More than 250 employees at a 1,000-worker national construction company likely have sleep disorders, which increase the risk of being injured or killed on the job. The construction industry has the highest number of on-the-job deaths each year.



- A single [employee](#) with obstructive sleep apnea can cost an employer more than \$3,000 in excess healthcare costs each year.
- An employee with untreated insomnia is present but not productive for more than 10 full days of work annually, and accounts for at least \$2,000 in excess healthcare costs each year.
- An average Fortune 500 company could save nearly \$40 million annually if half of its workforce were engaged in a sleep health program.

"This research reinforces that sleepless nights hurt everyone," said Deborah A.P. Hersman, president and CEO off the National Safety Council. "Many of us have been conditioned to just power through our fatigue, but worker health and safety on the job are compromised when we don't get the sleep we need. The calculator demonstrates that doing nothing to address [fatigue costs](#) employers a lot more than they think."

Development of the Fatigue Cost Calculator was supported by a contract from the National Safety Council to the Brigham and Women's Physicians Organization.

Brigham Health is a global leader, devoted to maintaining and restoring [health](#) for people everywhere. Brigham Health is composed of Brigham and Women's Hospital, Brigham and Women's Faulkner Hospital, and Brigham and Women's Physicians Organization, a physician governed organization, dedicated to enabling its members to meet the challenges of the rapidly changing healthcare environment.

Provided by Brigham and Women's Hospital

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