



The impact and value of mental health initiatives by industry sector

A resource to quantify the cost benefit of investing in employee mental health.

Big Health

“All industries experience significant financial losses as a result of poor mental health within the workforce. This paper aims to demonstrate that investing in mental health programs is not only beneficial for employees but also the company’s bottom line.”

**Dr. Michael Darden,
health economist at
Johns Hopkins Carey Business School**

It's more costly to do nothing

Most companies know that investing in mental health will have a positive impact on their people. But knowing how to quantify the financial benefit of that investment is far less clear.

As access to mental health resources and attitudes about mental health improve, employee demands for mental health benefits will follow suit. With that increase in demand, it is paramount that companies invest in mental health solutions that demonstrate meaningful improvements in employee outcomes (e.g., remission).

There is a real financial toll in not doing so. According to the World Health Organization, anxiety and depression cost the global economy an astronomical \$1 trillion in lost productivity every year and self-insured employers shoulder much of that cost burden.

Historically, barriers such as privacy concerns and poor measurement tools have made it too difficult for companies to tie changes in employee mental health to financial value, and thus too easy to forgo further investment.

Not anymore.

There is convincing evidence that it costs more to not invest in mental health benefits. This report proves it.

Foreword

Our clinical team — in partnership with Dr. Michael Darden, a health economist and associate professor at Johns Hopkins Carey Business School — created this report to help business leaders make the business case for investing in employee mental health.

We provide industry-specific evidence to support the hypothesis that if companies prioritize good workplace mental health, they will be making investments that will improve employee well-being and, in turn, company performance. Throughout this report, we operationalize poor mental health as insomnia, anxiety, and depression, three of the most common mental health difficulties experienced by employees.

We provide insights into:

Direct and indirect costs of poor mental health

Prevalence of mental health conditions and associated cost burdens

Research demonstrating the cost benefit of good workplace mental health

Pragmatic ways to implement mental health initiatives to realize those cost benefits

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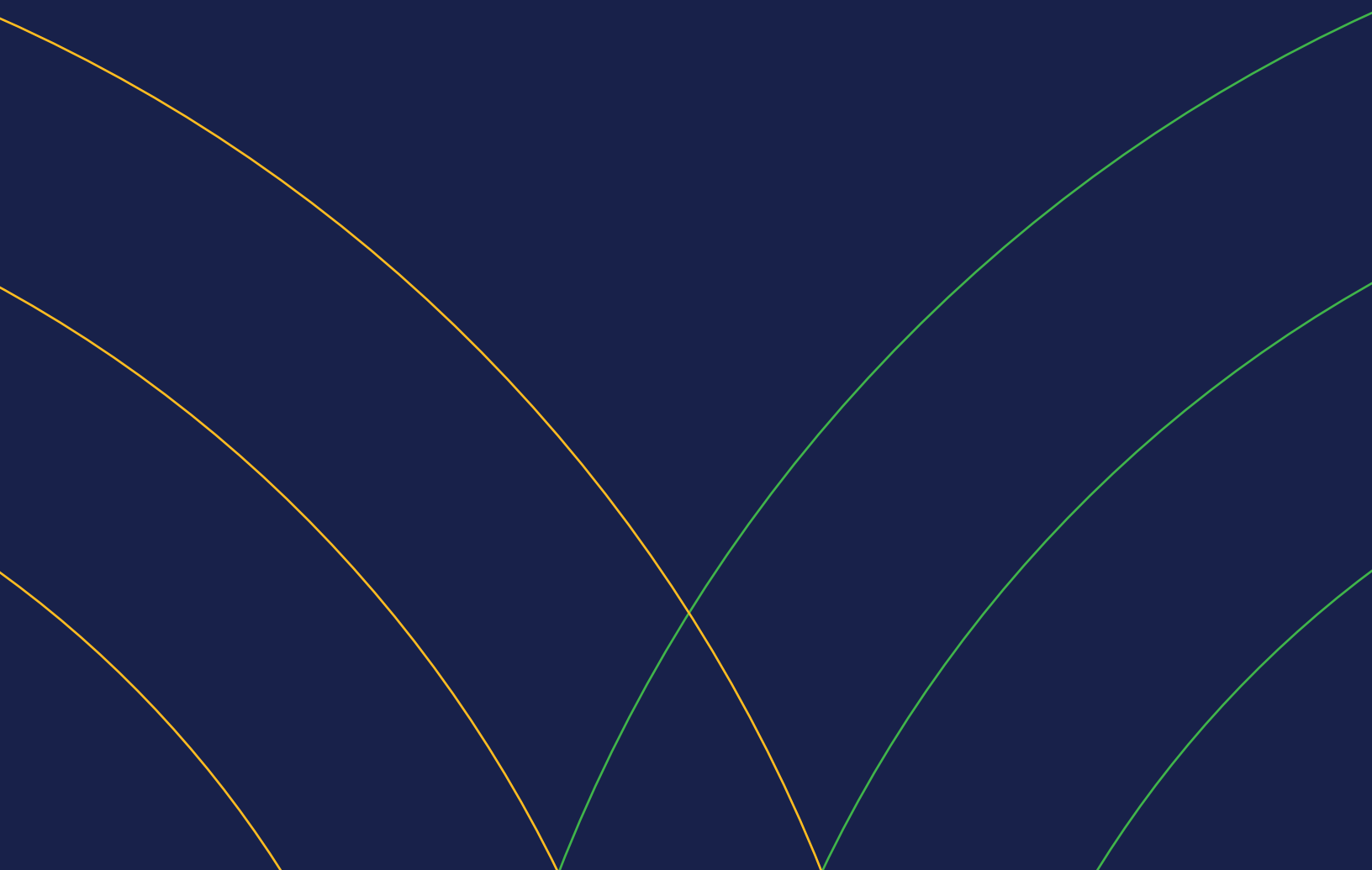
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01

**The direct and
indirect costs of
poor mental health
in the workplace**



The direct and indirect costs of poor mental health

During a recent interview Lauri Tenney, Senior Director of Benefits, Health and Welfare of CVS Health eloquently explained, “when employees come to work, they don’t leave their mental health troubles in the car.”

When employees suffer from poor mental health at work, companies pay for it through numerous direct and indirect costs. Direct costs refer to the “visible costs” associated with the diagnosis and treatment of a mental health condition, such as psychotherapy or psychiatric drug costs. Indirect costs refer to the “invisible costs” associated with the downstream impact of a mental health condition such as productivity, physical health care costs, and accidents.

“when employees come to work, they don’t leave their mental health troubles in the car.”

Lauri Tenney
Director of Benefits, Health
and Welfare for CVS Health

Direct costs of poor mental health

Cost of care

The cost incurred to diagnose and treat mental health conditions. For example, direct medical expenditure for anxiety disorders alone has been estimated at \$38 billion annually.

Disability claims

Research shows that mental health conditions account for 30–40% of all disability claims, and 70% of workplace disability costs. For example, individuals suffering from generalized anxiety disorder (GAD) experience 21.4 days of disability compared to 7.8 days for those without GAD.

“Mental health conditions cost US employers an estimated **\$225.8 billion each year.”**

Indirect costs of poor mental health

“A company can save \$2-4 for every \$1 invested in evidence-based mental health programs.”

Absenteeism

Loss of productivity due to work absences. Individuals suffering from insomnia, anxiety, or depression miss work more often. In fact, stress, anxiety and depression account for 13.8 million lost workdays.

Presenteeism

Impaired work productivity. Poor mental health is a main contributor to this cost burden. For example, insomnia among employees costs companies \$1,942 per employee per year in lost productivity.

Health care costs

Research shows that insomnia, for example, is linked with increased inpatient care, including a higher number of days hospitalized and increased emergency visits. This increase in health care utilization is often the result of co-occurring health problems exacerbated by mental health difficulties.

Workplace accidents

On-the-job injuries and accidents are more likely to occur when employees experience mental health difficulties like insomnia, anxiety, or depression. In fact, the average cost of an insomnia-related accident is \$10,534 higher than other workplace accidents (\$32,062 vs \$21,914).

02

Analyzing the cost burdens of poor mental health by industry sector



Analyzing the cost burdens of poor mental health by industry sector

All companies are affected by the high cost of poor mental health. Just how a company will be impacted — and where costs will show up on the balance sheet — varies based on the employee demographics, socioeconomic characteristics, as well as the job functions of a particular workforce.

In order to provide industry-specific insights we examined insomnia and anxiety¹ claims data — both pharmacy and medical — from 25 self-insured employers.² To ensure further resonance, we created three employee groups using the Bureau of Labor Statistics' demographic information and pay averages, as well as workplace dynamics (e.g., type of work performed, work location, etc.):



Knowledge workers

Included fields: Insurance, technology and information, business services, banking



Service providers

Included fields: Health care, retail, hospitality and tourism, transportation



Industrial workers

Included fields: Manufacturing, utilities, construction, agriculture

1. Claims data provided from 25 self-insured employers consisting of pharmacy and medical claims associated with insomnia and anxiety. 2. While directionally accurate, the personas that follow are informed by research and our real-world experience. Academic research on the cost of mental health by industry remains nascent. By breaking the industries into three groups we recognize that we lose some of the nuance that may exist within a specific work culture or subset of these sectors.

Knowledge workers



Included fields: Insurance, technology and information, business services, banking

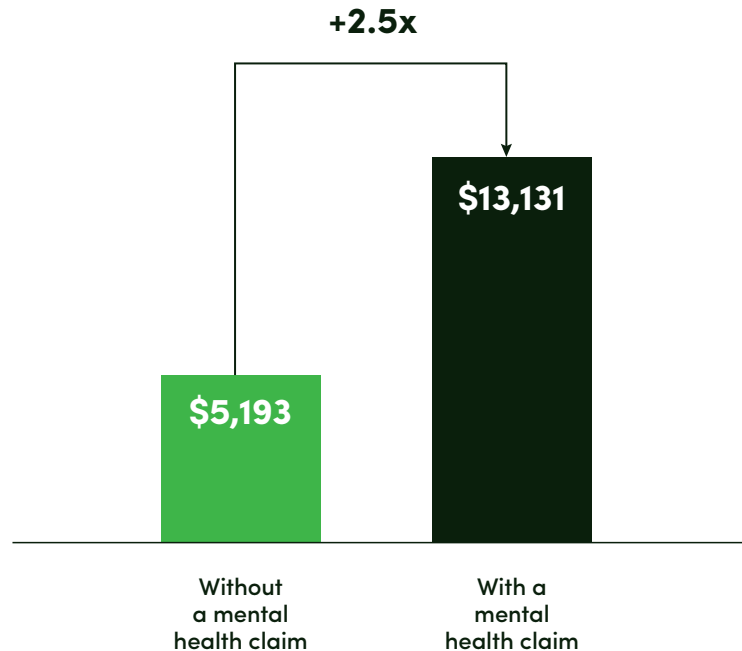
Claims data shows that 8.2% of knowledge workers suffer from anxiety or insomnia.

Knowledge workers

Overworked, burned out, and chronically stressed, this relatively young, mostly male (55-60 percent) group of workers is finding it difficult to enjoy life, despite an average weekly paycheck of around \$1,500 (the highest of the three employee groups).

Researchers have found that insomnia and/or anxiety can impair decision making and reduce concentration. If a knowledge worker is sleep deprived or suffering from anxiety, they may make a costly mistake on a client presentation or accidentally wire the wrong amount of money to a partner.

Average annual cost of health care claims



Knowledge workers with a mental health claim are more expensive

After evaluating the total annual health care spend for knowledge workers, we found that employees suffering from insomnia or anxiety are costing companies over **2.5 times** as much as their healthy counterparts on average; a staggering difference of **\$7,927 per employee.**³

Ranked cost burdens for knowledge workers

Because the financial cost of poor mental health can show up in an array of places — and companies are unlikely to measure them all — we have created a hierarchical snapshot of where poor mental health is likely to drive costs for employers of knowledge workers.

3. Claims data provided from 25 self-insured employers consisting of pharmacy and medical claims associated with insomnia and anxiety.

Ranked cost burdens for knowledge workers

1. Turnover and burnout

Long hours and chronic stress leads to burnout. One study of corporate employees reported that, “77% of respondents say they have experienced burnout at their current job.” Plus, higher paid workers are more expensive to replace.

2. Health care costs

Higher earners are more likely to utilize health care than lower-paid peers. Research conducted at a Fortune 50 retail company revealed that employees who enrolled in Sleepio — a digital therapeutic for poor sleep — had higher salaries on average and were more likely to work at headquarters than retail stores.

3. Productivity

Output is hard to measure for knowledge workers, making it difficult to tie changes in mental health to productivity metrics. While imperfect, productivity in corporate settings can be measured via employee-reported surveys, overall company success metrics, or job performance (for example, whether the sales team hit quota).

4. Disability claims

Higher-paid workers means higher-cost disability claims. In a Deloitte analysis of 10 large Canadian companies, mental health conditions accounted for roughly one-third of short- and long-term disability claims, but 70% of workplace disability costs.

5. Accidents and errors

Office environments are less prone to expensive workplace accidents such as falls, being struck by an object, or machinery malfunction.

The evidence

Big Health partnered with a Fortune 500 insurance company and IBM Watson Health to compare health care utilization and costs for employees who used a digital solution for poor sleep – Sleepio – versus a matched control group of employees who did not use the program.

The study assessed health care costs for 1,102 employees – 551 Sleepio users and 551 matched controls – over a 30-month period. In this sample of knowledge workers, 30% identified as male, 65% were aged 35–54, 17% used sleep medication, and 19% had a hypertension diagnosis.

Key question

Would Sleepio users see lower annualized health care costs relative to matched employee controls?

Key findings

Sleepio users experienced improved sleep leading to lower health care costs compared to matched controls. At follow-up, compared to the control group, Sleepio users had:

28% lower health care costs

93% lower inpatient medical costs⁴

79% fewer days in acute admission⁴

\$1,677 lower annualized health care costs per Sleepio enrollee

4. Claims data provided from 25 self-insured employers consisting of pharmacy and medical claims associated with insomnia and anxiety.

Service providers



Included fields: Health care, retail, hospitality and tourism, transportation

Claims data suggest that 9.1% of all service providers suffer from anxiety or insomnia.

Service providers

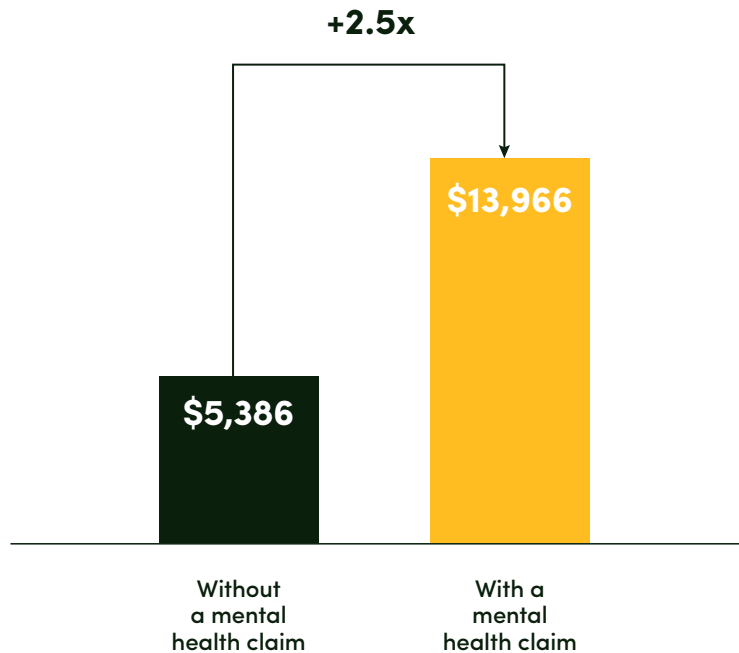
The service sector is the largest component of the global economy, and its diverse group of workers provide services ranging from tending bar to treating patients.

It's a complex group to generalize about, but one common denominator is that employees in all sectors suffer from mental health difficulties.

One study found that hospitality workers had the highest rate of substance use disorders, and that nearly 50% of doctors and nurses experience burnout. In addition, job insecurity, unpredictable hours, and low wages contribute to high stress, absenteeism, and turnover among retail workers.



For jobs that involve interacting with other people, poor sleep can affect someone's ability to be empathetic, leading to negative customer (or patient) experiences. According to NewVoiceMedia, an estimated \$62 billion is lost by US businesses each year following poor customer support.



Service providers with a mental health claim are more expensive

After evaluating the total annual healthcare spend for individuals within the service industry we found that employees suffering from insomnia or anxiety are costing companies over **2.5 times** as much as their healthy counterparts on average; a staggering difference of **\$8,580 per employee.**⁵

5. Claims data provided from 25 self-insured employers consisting of pharmacy and medical claims associated with insomnia and anxiety.

Ranked cost burdens for service providers

1. Disability claims

In occupations which require employees to be replaced for operations to continue, companies pay additional costs on top of disability claims.

2. Accidents and errors

Workers in fields like health care and transportation are more likely to be involved in high-cost workplace accidents. For example, poor sleep can lead to safety concerns for employees that operate motor vehicles – in fact, 21% of all fatal car crashes are due to drowsy driving.

3. Turnover and burnout

In emotionally draining roles, higher burnout rates lead to more turnover. Even under usual work conditions, severe burnout affects as many as 33% of critical care nurses and up to 45% of critical care physicians.

4. Productivity

In occupations where output is more measurable, changes in mental health can be more directly mapped to presenteeism to demonstrate value. For example, number of patients seen, miles driven, classes taught, or tables served.

5. Healthcare costs

Part-time employees who do not have full access to health benefits are less likely to utilize health care due to high out-of-pocket costs.

The evidence

Dr. Michael Darden, a health economist from Johns Hopkins University worked with a national retail chain that employs more than 350,000 individuals to determine whether improving sleep via Sleepio – a digital therapeutic – had an effect on cost drivers for the company: Overall health care expenditures, on-the-job productivity, and absenteeism. More than 5,000 employees participated in the study over a 24-month period.

Key question

Is there a cost benefit of investing in a digital therapeutic for poor sleep at a national retail chain with a diverse population?

Key findings

Sleepio users showed improved productivity, fewer absences, and had lower health care costs, resulting in a total dollar benefit for the company over \$3 million.

\$656

Total cost savings (i.e., health care and productivity) per Sleepio enrollee per year

\$368

Mean decline in absence-related losses per Sleepio enrollee per year

\$3.3M

Total dollar benefit for all 5,044 Sleepio enrollees

“Most studies produce a lower bound on the benefits of mental health investment because they cannot measure all costs. In this case, we only measured the benefits with respect to health care expenditures, absenteeism, and presenteeism. Reduction in accident risk, for example, would yield even greater benefits.”

Dr. Michael Darden,
health economist at
Johns Hopkins Carey Business School

Industrial workers



Included fields: Manufacturing, utilities,
construction, agriculture

Claims data suggest that **8.6%** of all industrial
workers suffer from anxiety or insomnia.

Industrial workers

According to research by Mental Health America, manufacturing employees are more susceptible to mental health problems than the general population, and report the highest rates of workplace stress than any other type of employee: 58% of manufacturing respondents stated that work stress “always or often” impacted their personal relationships. The predominantly male, aging, industrial workforce has a high number of exhausted workers suffering from depression, making them more susceptible to accidents, burnout, and chronic health issues.



Research shows that getting fewer than six hours of sleep per night on average can cause slower reaction times, reduced concentration, and impaired decision making. For industrial workers this can lead to higher rates of costly accidents. Plus, shift workers are at higher risk for sleep difficulties and the risks that come with it.



Industrial workers with a mental health claim are more expensive

After evaluating the total annual healthcare spend for industrial workers we found that employees suffering from insomnia or anxiety are costing companies over **2.6 times** as much as their healthy counterparts on average; a staggering difference of **\$8,105 per employee.**⁶

6. Claims data provided from 25 self-insured employers consisting of pharmacy and medical claims associated with insomnia and anxiety.

Ranked cost burdens for industrial workers

1. Productivity

In occupations where output is more measurable, changes in mental health outcomes can be mapped to presenteeism to demonstrate value. For example, the number of apples picked in an orchard, wheels attached in a factory, and structures built are measurable productivity outputs.

2. Accidents and errors

Work is more often conducted in higher-risk environments, increasing the chance of costly accidents. In fact, 23% of the total cost of workplace accidents are due to insomnia.

3. Turnover and burnout

Research suggests that the turnover rate within manufacturing is 33% higher than the national average of 3.6% turnover per year. This high turnover rate can lead to additional workplace stress for remaining employees, decrease productivity, and degrade company culture.

4. Health care costs

Industrial workers often utilize health care less frequently than other worker types, meaning changes in mental health are less likely to show up in health care claims.

5. Disability claims

In occupations which require employees to be replaced for operations to continue, companies pay additional costs on top of disability claims.

The evidence

A study conducted in 2018 examined the effects of insomnia on the productivity of industrial workers employed by a global manufacturing company with 24,000 employees. Using cross-sectional and pre-post intervention analyses, researchers assessed 2,789 employees across three work locations: office, plant, and retail and service.

Key question

What is the prevalence of poor sleep among nearly 3,000 industrial workers, and how does poor sleep affect work productivity?

Key findings

Poor sleep among employees was associated with lower productivity – most notably for plant workers.

28% average self-reported productivity loss due to poor sleep among plant workers

11% increase in productivity for employees that enrolled in Sleepio

To translate those percentages into dollar figures we can look to a study that sampled over 7,000 US employees and mapped the relationship of insomnia to direct workplace productivity and associated costs:

\$2,280 individual level cost from poor sleep related presenteeism

11 days number of workdays lost to poor sleep related presenteeism

03

**Tearing
down barriers:
How to help your
employees access
mental health care**

The previous three case studies demonstrate that investing in effective mental health care is a good financial decision. But before a company can realize the cost benefits of improved mental health, employees must first engage with and adhere to effective care. Companies can help their employees do so by tearing down the prevalent barriers to care: socioeconomic disparity, employee schedules, societal stigma, the bias for self-care, and limited access to providers. While each and every barrier can affect employees across industries, we highlight one barrier per employee group and provide ways companies can help their employees overcome them.

**TEAR
DOWN
BARRIERS**

**WINNING
WINNERS**

Tearing down barriers: Knowledge workers



Societal stigma

Many knowledge workers do not access mental health care because they do not want to risk being viewed as “weak” or “incompetent.” A new paper suggests that even paying people is not enough to overcome stigma and convince them to attend talk therapy.

Potential solution(s):

1. Invest in manager or peer training to help employees build the skills necessary to sensitively and appropriately talk about mental health in the workplace.
2. Run a proactive, multi-channel anti-stigma campaign aimed at busting myths about prevalence and symptoms of mental health conditions, as well as the effectiveness of care.
3. Provide a stigma-free front door into mental health care that engages a broader range of employees through relatable language that discusses symptoms rather than syndromes. For example, “sleeplessness” or “racing mind” instead of insomnia and anxiety.

Tearing down barriers: Service providers



Socioeconomic disparity

Many service providers may not be able to afford traditional face-to-face therapies.

A 2018 survey co-sponsored by the National Council for Behavioral Health reported that 42% of people cite cost and poor insurance coverage as key barriers to accessing mental health care.

Potential solution

Companies can lessen this financial barrier and help employees across income levels access care. They can increase the number of covered therapy sessions through the EAP, bring mental health services onsite, or offer a digital alternative at no cost to the employee. According to the Business Group on Health, one-third of employers with more than 5,000 employees said they would offer behavioral health counseling on-site in 2020, a big increase from the one-fifth that did so in 2018.

Tearing down barriers: Industrial workers



Employee roles and schedules

Traditional, face-to-face talk therapies require scheduling that doesn't universally align with workplace or personal availability.

Potential solution

Companies should consider offering fully digital, self-paced tools that employees can access from anywhere, at any time – for example, [Sleepio](#) and [Daylight](#). In addition, companies can also look to update policies so that employees have more flexibility to receive care during working hours, or provide personal time (separate from PTO) that employees can use to receive mental health care.


Disclaimer: In the US, Sleepio and Daylight have not been cleared by the FDA for use in diagnosis or treatment of a disease or condition, such as insomnia disorder, generalized anxiety disorder or major depression disorder.

“While companies may not immediately see a return, based on our research, they are likely to see a positive return over time as the program matures. This makes sense considering that improvements to individuals’ mental health can take time, and there may be a lag before investments translate into improvements to productivity.”

Deloitte, 2019

04

**Patience is
key: Seeing the
cost benefit of
improved mental
health takes time**



Patience is key: Seeing the cost benefit of improved mental health takes time

On average, it can take 12–24 months for companies to see the financial impact of mental health initiatives on broad outcomes such as productivity or health care costs. That’s because actually improving employee mental health is the foundation upon which realizing cost savings is possible. And doing so is only achievable by implementing safe, effective, and evidence-based mental health solutions. While 12–24 months may seem like a long time, in comparison to other wellness programs, it’s fairly immediate. For example, the impact of employee cholesterol programs can take decades to realize.

Plus, there is recent evidence that mental health interventions can be cost effective in as little as six months. A health economics study comparing various sleep interventions across 100,000 people, found that Sleepio – a form of digital cognitive behavioral therapy – had a positive net monetary benefit of **\$681.06 per individual over a six-month period.**

As the evidence presented in this paper makes clear, companies across industries that opt to develop and implement high-quality, research-backed, accessible mental health benefits will improve employee well-being and see a financial return in increased employee satisfaction, higher worker productivity, lower health care costs, and better overall company performance.

“When people do not have access to mental health services, their employers can expect to spend as much as 300% more on health care. It’s actually more expensive for companies to do nothing than it is to invest in good mental health.”

**Dr. Jenna Carl,
Vice President of Clinical Development
and Medical Affairs at Big Health**

About Big Health

Big Health's mission is to help millions back to good mental health with evidence-based digital therapeutics for the most prevalent mental health issues. Big Health is charting the future of digital medicine by providing an inclusive, scalable, and affordable approach based on industry-leading peer-reviewed research and randomized control trials. By seamlessly integrating across the care pathway, from member engagement to billing via pharmacy benefit managers, Big Health simplifies adoption for both payers and patients, improving access to mental health care.

Big Health

For more information, please visit
www.bighealth.com