



HEALTH SOLUTIONS

THE IMPACT OF DIABETES ON THE WORKPLACE



ABSTRACT:

Over a hundred million people in the U.S. are living with type 2 diabetes or prediabetes. And diabetes in full-time employees costs employers up to \$16 billion annually, according to a 2017 Gallup poll.

With employees spending 40+ hours per week at their place of work, employers are uniquely positioned to help their employees manage these conditions. After all, this kind of support could ultimately save money in healthcare costs, reduce absenteeism, and help your company run more efficiently. Read on to learn how.



OVERVIEW: THE CASE FOR WORKPLACE DIABETES MANAGEMENT

DIABETES TAKES A TOLL

Diabetes is a metabolic disorder that interferes with the body's ability to properly produce insulin and regulate its blood sugar levels. People with diabetes are faced with the complexities of managing this condition by monitoring their blood sugar throughout the day, watching what they eat, attending frequent doctor visits, and, if the condition worsens, eventually self-administering between two and four insulin shots per day.¹ Over a hundred million people in the U.S. are living with type 2 diabetes or prediabetes. In fact, 90% of people with prediabetes don't even know they have it.²

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Source: CDC, 2017.

EMPLOYERS ARE WELL-POSITIONED TO HELP THEIR EMPLOYEES MANAGE IT

With full-time employees spending 40+ hours per week at their place of work, employers are uniquely positioned to offer support. Providing your employees with the resources they need to determine if they are at risk for prediabetes or diabetes, and the tools to manage their diagnosis or prevent their progression can help them maintain their health and productivity. This can be done by providing employees with coaching tools and education through technology, which can ultimately reduce the burden on healthcare providers—and your HR department.

DIABETES MANAGEMENT CAN IMPROVE YOUR COMPANY'S BOTTOM LINE

Helping your employees with their diabetes diagnosis can ultimately save money in healthcare costs, reduce absenteeism, and help your company run more efficiently. While coverage for diabetes is included in virtually every employer-sponsored health plan, the condition itself still has a significant impact on the workplace in terms of time, money, and resources. For example, diabetes in full-time workers costs employers \$16 billion annually, largely due to absenteeism, according to a 2017 Gallup poll.³

THREE WAYS THAT DIABETES CAN IMPACT YOUR COMPANY'S BOTTOM LINE

01

ADDED HEALTHCARE COSTS:

\$14,999: per capita annual healthcare costs for company-sponsored insured individuals with diabetes; that's \$10,000 more than individuals without diabetes.⁴

02

ABSENTEEISM:

Complications of poorly managed diabetes can contribute to more days away from the job⁵, which may include doctor's visits, possible hospitalizations, and specialist visits.

03

POOR QUALITY OUTPUT:

Employees missing work due to a chronic condition like diabetes can also result in poor-quality goods and services resulting from fatigue or understaffing, reduced productivity, excess manager time looking for employee replacements, hiring temp workers, and poor morale among employees who must perform extra work to cover for absent co-workers.⁶

A recent Australian dataset linked diabetes with productivity losses, causing researchers to posit the condition could be costing the country billions of dollars. Researchers estimated a 10% decrease in productivity across the represented population.⁷ Although the Gallup poll estimated that diabetes costs U.S. employers \$16 billion annually (largely due to reduced productivity), some studies peg this number even higher. A 2017 American Diabetes Association (ADA) report estimated about \$90 billion lost due to reduced productivity,⁸ as the study factored in absenteeism, reduced productivity while at work, reduced productivity for those not in the workforce, inability to work due to diabetes-related disability, and lost productivity due to premature deaths attributed to diabetes.

10%

An Australian study linked diabetes with a 10% decrease in productivity.

Source: Diabetes Care, 2018.

THE CURRENT LANDSCAPE OF DIABETES MANAGEMENT AT WORK

Addressing diabetes by helping employees make healthier lifestyle changes isn't new. Many companies have tried initiating workplace-oriented strategies to help prevent and manage this condition. According to NBGH and Fidelity Investments' 2018 annual wellbeing survey, 84% of employers are offering or will offer a diabetes management program for their employees this year.⁹

Common employer health strategies include:



CLINICAL BENEFITS

- Health risk assessments (to help employees identify whether they have the risk factors associated with diabetes)¹⁰
- On-site primary care practices available to their employees¹¹
- On-site biometric screenings (which give employees insight into their blood glucose levels)¹²



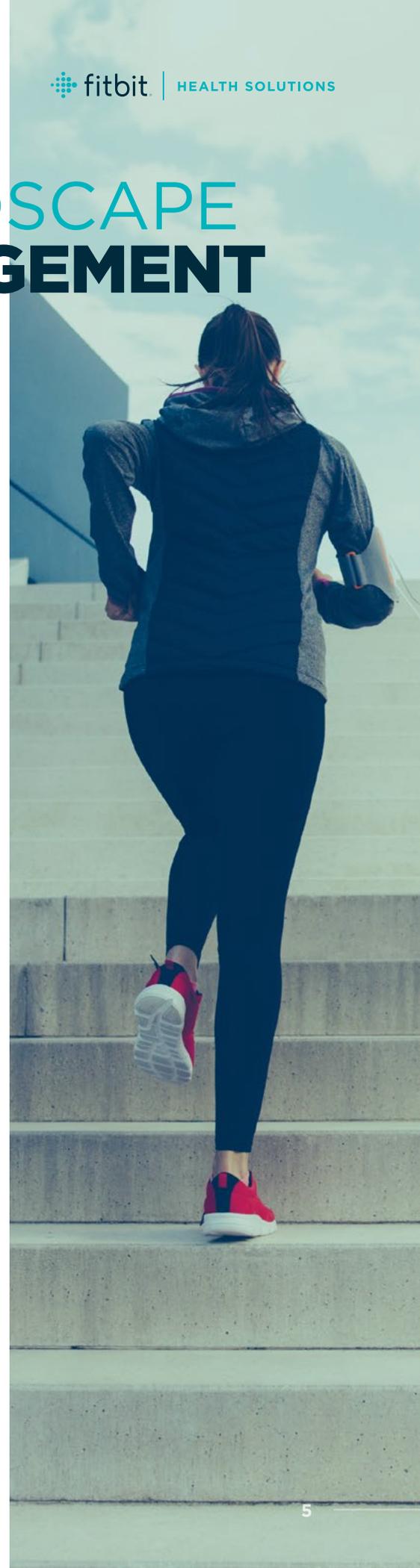
EDUCATION AND COUNSELING

- Telephone education¹³
- Free nutrition counseling¹⁴
- Self-management for diabetes and other chronic conditions⁶
- The American Diabetes Association has programs like National Healthy Lunch Day on September 18th and provides a free toolkit with ideas on how to participate at your company¹⁴



LIFESTYLE AND FITNESS INTERVENTIONS

- Weight loss modification programs¹⁵
- Reimbursement for Weight Watchers members or offering Weight Watchers at Work
- On-site fitness center, on-site fitness classes, or reimbursements for qualifying gym memberships¹⁶
- Fostering a company culture of health, fitness, and healthy eating¹⁷



EARLY SUCCESS OF WORKPLACE DIABETES PREVENTION PROGRAMS

One meta-analysis of over 4,000 study participants has shown promising results within workplace diabetes prevention programs.¹⁸

Researchers at The University of Texas at Austin reviewed 22 studies that looked at programs focused on healthy eating behaviors, physical activity and/or monitoring and self-managing diabetes and cardiovascular risk factors, and the degree to which they improve diabetes-related outcomes in employees diagnosed with or at risk for type 2 diabetes.

The outcomes of the studies, measured at six and 12-month intervals, consistently showed health improvements in biological measures, self-reported behavioral adherence measures, and psychosocial variables. The meta-analysis concluded that workplace interventions hold promise for preventing diabetes and/or its complications.

ENSURING THAT YOUR CORPORATE WELLNESS PROGRAM IS A SUCCESS

Although the research around workplace diabetes prevention programs is promising, there historically have been challenges with engagement in corporate wellness programs overall. However, there are tactics and best practices that can help ensure more employees get involved.

PROBLEM:

Lack of awareness

While those employees who do participate in employee wellness programs often report it having a positive impact on their health, many employees often don't even know a wellness program exists. While 85% of large employers offer a wellness program, Gallup research showed that only 60% of U.S. employees are aware that their company offers one, and then only 40% of those who were aware participated.¹⁹

SOLUTIONS:

- Develop a communications plan that effectively onboards employees to the program and reminds them about it at regular intervals (e.g. every six months).
- Host a launch event where you introduce the program to your workforce and spark enthusiasm among your employees (e.g. fun run). This event may be combined with another major company event where employee attendance is normally high and help them enroll on the spot.
- Make the wellness program an active part of new employee orientation or training.

PROBLEM:**Lack of support from managers**

Gallup has seen that there's a relationship between managers being involved and a higher incidence of employees participating in well-being initiatives. Managers account for at least 70% of team variation on employee engagement, and engaged workers are 28% more likely to participate in a wellness program offered by their company than are average employees. Plus, direct reports of managers with high overall well-being are 15% more likely to have high overall well-being six months later.¹⁹

64%

Over half of employers are considering offering subsidies or discounts for fitness trackers this year.

Source: NBGH/Fidelity survey, 2018.

SOLUTION:

- Design an internal communications plan to help managers understand that by encouraging their teams to participate, it shows those employees that their manager cares about their well-being. Workers who feel that are more likely to be top performers, produce higher quality of work, get sick less, and change jobs less often.¹⁶

PROBLEM:**Inertia**

Even if employees are aware of their company's corporate wellness program, often times they aren't inclined to participate. According to a recent United Healthcare Consumer study, while 70% of employees expressed an interest in taking steps to improve their health and wellness, most of them don't want to put in the time to do so.²⁰ It may be that they are stuck in an unhealthy habit but find the prospect of behavior changes to be too daunting a task. They need help adopting and maintaining healthier behaviors.

SOLUTIONS:

- Offer financial incentives: There's good evidence that small monetary rewards give employees exactly the nudge they needed to start making healthy changes. A 2018 report from National Bureau of Economic Research detailed studies based on financial incentives and wellness initiatives. In one of their studies, giving participants a \$75 wellness incentive, as compared to a \$25 incentive, generated a 12-percentage point increase in the likelihood of the employee completing a fall or spring wellness activity. Other incentive ideas include gift cards, attractive prizes, or even a couple of hours off on a Friday afternoon.²¹
- Offer fitness trackers: In the NBGH and Fidelity Investments 2018 wellbeing survey, over half of employers are considering offering fitness trackers to their employees this year.⁹ Many survey respondents in the United Healthcare study expressed interest in activity trackers as a resource to help improve their health: among employees without an activity tracker, 62% said they would be interested in using a wearable fitness tracker as part of a workplace wellness program.²⁰

FOUR WAYS TECHNOLOGY CAN HELP BOOST ENGAGEMENT IN CORPORATE WELLNESS PROGRAMS

You may want to provide as many resources as you can to help your employees achieve their health goals, but you only have so much time to assist each of them individually. That's where technology can help employees, especially those with diabetes or prediabetes.

By prompting them to check their glucose levels, encouraging them along the way, and monitoring their progress, employees can use technology to more easily manage their condition and stay healthy.

Here are four key examples of how people are using technology to better manage their health:

01

SIMPLIFYING GLUCOSE MONITORING

Continuous glucose monitoring (CGM), one type of wearable technology, enables people to measure their blood glucose levels in real time all day.²² A small electrode called a glucose sensor is inserted under the skin to measure glucose levels in tissue fluid. From there, a transmitter wirelessly sends the information to a monitor. The device can detect and notify users when their glucose is reaching a high or low limit.

Companies that offer such devices to their employees can reduce the need for breaks to check blood sugar.

02

CONNECTING WITH HEALTH COACHES ONLINE

One recent study examined the outcomes of a Medicare population who participated in a program combining digital health with human coaching for diabetes risk reduction. Researchers looked at participants in Humana's Medicare Advantage program, and saw that after 12 months, participants lost 7.5% of their initial body weight, and improved their cholesterol and glucose levels.²³

Another health coaching study found that when people with diabetes used combination therapy (standard care + health coach + an early version of Fitbit Health Solutions' health coaching platform then known as Twine Health) they experienced a 3.2% drop in their A1C test numbers in three months.²⁴ In the study, researchers took a complicated concept of averaging one's blood glucose for three days to determine the insulin dose a diabetic should give themselves and simplified it using tools on a tablet computer that did calculations for the individual, as well as notifications to remind them to check.

“There was a video call from a coach with each person where they helped them inject that insulin that first time,” said one of the researchers, John Moore, MD, Medical Director, Fitbit. “Someone was virtually there with them holding their hand so that it wouldn't be so overwhelming”.

“Our experimental group had a 3.2% drop in A1C in three months, which is arguably one of the largest magnitude improvements in diabetes outcomes that's ever been published. People loved this experience and their satisfaction with their care was way higher than the control groups,” said Dr. Moore.

This shows that mobile health technology with coaching could be an effective tool in sharing data, enhancing communication, and improving glycemic control while enabling collaborative decision making in diabetes care.

03

USING PUSH NOTIFICATIONS TO MAKE HEALTHIER DECISIONS

Persuasive technology—a term coined by Stanford researcher B.J. Fogg—incorporates insights into the design of products like mobile apps and wearables. The goal is to modify people's habits and beliefs.²⁵ Many wearable devices and mobile apps serve up well-timed notifications to get users to move their bodies, avoid unhealthy foods, get better sleep and more.

04

WEARING ACTIVITY TRACKERS TO STAY ACCOUNTABLE TO PHYSICAL ACTIVITY GOALS

In a small, 12-week study where patients received free wearable activity trackers, improvements were seen in clinical outcomes, attitudes towards the trackers, and physical activity behaviors. They also lost an average of 0.5 pounds a week and saw a 9.2% decrease in LDL “bad cholesterol” levels.²⁶ Diabetes tends to lower “good” HDL cholesterol and increase LDL, which puts the person at risk for cardiovascular disease.

“The reason that coaching is so valuable is because it allows people to see that diabetes doesn't need to be so overwhelming,” said Dr. Moore. “You can break the process into little bits and those little bits are easy to achieve and you can build that up to big success. People need that social support to help them on a daily basis because our brains aren't wired to do that on our own,” he said.²⁷

The right technology can help minimize diabetes in employee populations.

REDUCING THE RISK FOR PREDIABETES AND TYPE 2 DIABETES IN YOUR WORKFORCE

There are a number of ways that your company can help employees cultivate positive health behaviors that can reduce the likelihood that employees will develop prediabetes or type 2 diabetes. Here are just a few:



ACTIVITY CHALLENGES

- Step challenges: Run a physical activity challenge and encourage employees to hit certain step goals each day or week. Enter those who hit over a certain amount (averaging 8-10,000/day) in a drawing at the end of the month to win a prize—like an extra vacation day.
- Non-step-based challenges: If you want to think beyond steps, consider running a challenge that's based on active minutes, enabling employees to partake in physical activities such as a workout class, swimming, or cycling, within such a challenge. Being inclusive of many kinds of physical activity can be empowering to employees. As for the health implications, an employee may be able to prevent or delay diabetes by losing 5% to 7% of their starting weight.



CULTURE

- Meeting-free lunches: Designate one to two “meeting free” lunch hours per week, encouraging employees to instead use the time to be more physically active.
- Food labeling: Let employees know which foods in the break room are low-carb or diabetes-friendly. If you offer catered meals, make note of which options are healthier.



MOTIVATIONAL COMMUNICATIONS

- Digital communications: This may be the easiest place to start. You can consider posting motivational and supportive messages in the company intranet, or sending them via email to your employees.
- In-person communications: Consider taking advantage of the real estate around your office to promote your wellness efforts. You can hang up posters announcing an upcoming activity challenge in the common spaces, or even put up signs in the break room when there are healthy snacks.



HEALTH COACHING

- Digital coaching: Leverage online platforms to help make health coaching more scalable and accessible to your employees. Look into diabetes prevention program networks, especially ones that offer online solutions.
- In-person coaching: Have a Certified Diabetes Educator host a demonstration on reading nutrition labels and even how to cook diabetes-friendly meals.

Learn more about how Fitbit Health Solutions' health coaching platform helps to enable real and sustainable behavior change.

ABOUT FITBIT HEALTH SOLUTIONS

Fitbit Health Solutions, part of Fitbit, Inc., delivers health and wellness solutions designed to increase engagement, improve health outcomes and drive positive returns for employers, health plans and health systems. Our portfolio enterprise SaaS solutions includes an engaging wellness program including challenges and reporting, and a proven health coaching platform that combines scalable technology with timely human care to drive healthy behavior change. Powered by Fitbit's world-renowned suite of smartwatches, trackers and mobile apps, our solutions span the full spectrum of care, from wellness and prevention to chronic condition management.

- 1 Centers for Disease Control and Prevention. (2017). <https://www.cdc.gov/diabetes/data/index.html>
- 2 Centers for Disease Control and Prevention. (2017). <https://www.cdc.gov/diabetes/basics/prediabetes.html>
- 3 Gallup. (2017). <http://news.gallup.com/poll/221078/diabetes-costs-economy-estimated-266b-annually.aspx>
- 4 Health Care Cost Institute. (May 2015.) Per Capita Health Care Spending on Diabetes: 2009-2013. <http://www.healthcostinstitute.org/files/HCCI%20Diabetes%20Issue%20Brief%205-7-15.pdf>
- 5 Gallup Study (2013.) <http://news.gallup.com/poll/162344/poor-health-tied-big-losses-job-types.aspx>
- 6 The Benefits Guide (2018.) "Diabetes in the Workplace: How You Can Help Your Employees" <https://thebenefitsguide.com/diabetes-workplace-can-help-employees/>
- 7 Diabetes Care. (2018.) "The Productivity Burden of Diabetes at a Population Level." <http://care.diabetesjournals.org/content/41/5/979>
- 8 American Diabetes Association. (2017.) "Economic Costs of Diabetes in the U.S. in 2017." <http://care.diabetesjournals.org/content/early/2018/03/20/dci18-0007>
- 9 NBGH and Fidelity Investments, 2018. "Ninth Annual Employer-Sponsored Health and Well-being Survey." <https://www.businessgrouphealth.org/news/nbgh-news/press-releases/press-release-details/?ID=343>
- 10 Corporate Wellness Magazine (2014) <http://www.corporatewellnessmagazine.com/worksites-wellness/health-risk-assessments-well-spent/>
- 11 Fortune (2016) <http://fortune.com/2016/03/15/companies-with-onsite-health-care/>
- 12 Corporate Wellness Magazine (2014) <http://www.corporatewellnessmagazine.com/worksites-wellness/health-risk-assessments-well-spent/>
- 13 National Center for Biotechnology Information (2016) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4636035/>
- 14 American Diabetes Association <http://www.diabetes.org/in-my-community/wellness-lives-here/mission-engagement-days/nhl/>
- 15 PlanSponsor (2018) <https://www.plansponsor.com/employers-adopting-aggressive-health-plan-wellness-program-features/>
- 16 Society for Human Resources Management (2017) <https://www.shrm.org/hr-today/news/hr-magazine/0917/pages/employers-take-wellness-to-a-higher-level.aspx>
- 17 ERC (2013.) <https://www.yourerc.com/blog/post/8-Ways-to-Create-a-Culture-of-Wellness.aspx>
- 18 Brown, Sharon A. et al. (2017.) "Effectiveness of workplace diabetes prevention programs: A systematic review of the evidence." <https://www.ncbi.nlm.nih.gov/pubmed/29339040>
- 19 Gallup (2014) <http://news.gallup.com/businessjournal/168995/why-workplace-wellness-program-isn-working.aspx>
- 20 United Healthcare Consumer Study. (2017.) <https://newsroom.uhc.com/news-releases/study--wellness-program.html>
- 21 National Bureau of Economic Research (NBER). (2018.) "What Do Workplace Wellness Programs Do? Evidence From The Illinois Workplace Wellness Study." <http://www.nber.org/papers/w24229.pdf>
- 22 Medtronic. (2018.) Continuous Glucose Monitoring. <https://www.medtronicdiabetes.com/treatments/continuous-glucose-monitoring>
- 23 Sweet, C.M.S., Chiguluri, V., et al. (2017.) "Outcomes of a Digital Health Program With Human Coaching for Diabetes Risk Reduction in a Medicare Population." <http://journals.sagepub.com/doi/full/10.1177/0898264316688791#articleCitationDownloadContainer>
- 24 Hsu, W. C., Lau, K. H. K., Huang, R., Ghiloni, S., Le, H., Gilroy, S., ... & Moore, J. (2016). Utilization of a cloud-based diabetes management program for insulin initiation and titration enables collaborative decision making between healthcare providers and patients. *Diabetes technology & therapeutics*, 18(2), 59-67. <https://www.ncbi.nlm.nih.gov/pubmed/26645932>
- 25 The Institute. (2018.) "How Persuasive Technology Can Change Your Habits." <http://theinstitute.ieee.org/technology-topics/consumer-electronics/how-persuasive-technology-can-change-your-habits>
- 26 Gualtieri, L., Rosenbluth, S., & Phillips, J. (2016). Can a Free Wearable Activity Tracker Change Behavior? The Impact of Trackers on Adults in a Physician-Led Wellness Group. *JMIR Research Protocols*, 5(4), e237. <http://doi.org/10.2196/resprot.6534>
- 27 American Heart Association. (2018.) http://www.heart.org/HEARTORG/Conditions/More/Diabetes/WhyDiabetesMatters/Cholesterol-Abnormalities-Diabetes_UCM_313868_Article.jsp