

How to Calculate the ROI on Your Wellness Program



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You have a wellness program. You know what you pay for it. You have no idea what you get in return. The vendor promised fantastic results based on metrics that the vendor selected and will shovel back to you. But in baseball we don't let the pitcher call balls and strikes. We have an umpire for that.

The Integrated Benefits Institute (IBI) reports that only 23% of employers collect any data on their wellness programs (IBI 2022). In this paper, we show you how to use data that you already have to measure the return that you're getting on general wellness programs for everyone, such as walking and weight reduction programs; disease management programs for employees with specific chronic conditions, such as diabetes and obesity; and employee assistance programs (EAPs) for employees with behavioral health issues.

Let's begin at the beginning. The purpose of a wellness program is to keep your employees — well. Why? Two reasons. First, employers pay most of the healthcare expenses for their employees, and sick

employees cost more than well ones. Second, sick employees miss more work because they're sick.

You can measure the return on your wellness programs on two levels. The first level uses human resources (HR) data that everyone has. Stopping here will give a sense whether your program is working or not.

The second level ratchets things up by combining that HR data with the medical and pharmacy claims under your health plan to calculate the program's return on investment (ROI). Armed with that number in your budget meeting with the CFO, you will win every time.

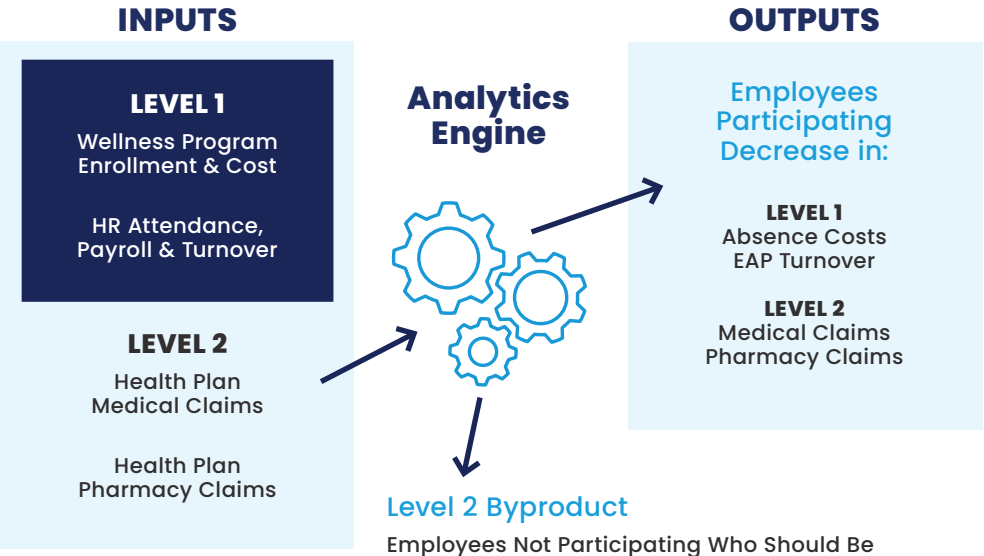
Think of these analytics as an engine, with the inputs on the left and the outputs on the right.

LEVEL 1 – OCCUPATIONAL OUTCOMES

In Level 1, you measure the "occupational outcomes" of the wellness program, the effect of the program on your absence costs, and for EAPs, the program's turnover rate, too. Your inputs will be the program's enrollment and costs and your HR attendance, payroll and turnover records.

The program vendor will already be giving you proxy measures, such as the number of steps that the employees in a walking program took or the decrease in the A1c scores of employees participating in a diabetes program. These are helpful, but they're proxies for what really matters. If the steps went up, or the A1c scores went down, the assumption is that the employees are healthier — and if they're healthier, you assume that your healthcare costs and employee absenteeism will go down. There are a lot of "ifs" there. Better to measure the actual healthcare and absence costs themselves. In Level 1, you measure the absence costs; in Level 2, both the absence and the healthcare.

FIGURE 1 Measuring the ROI for a Wellness Program



To calculate the decrease in absence costs, compare the number of sick days during the current year for employees participating in the program against their sick days during the base year (the year immediately before the program). Each year, you will compare your results back to this base year. You won't compare them to the immediately preceding year, because both of those years have the benefit of the program. If you terminate the program, your results will eventually go back to the year when you didn't have it. (There will be times when you don't have a base year, such as when a new employee joins the program on their first day at work. There are ways to compensate for this, although space does not permit getting into them here.)

For example, take Amy — known to you only as Employee X (You must always be sensitive about who knows what when dealing with your employees' health-care, and this is especially so with employees participating in EAPs. More on this later.) She is an analyst who participates in an EAP for depression that costs you \$1,200 a year for each participant.

Amy took three sick days this year. In the base year, she took seven. Amy's salary is \$75,000, which equals \$285 per day. You therefore spent \$1,200 on Amy to save \$1,140 ($[7-3] \times \$285 = \$1,140$).

With EAPs, there is also something else to look at — the turnover rate. A real cost for employers is employee turnover, and employees with behavioral health issues are prone to quit. How many employees started the EAP and then quit the company? You didn't save anything on them.

At this level, you're looking at things with a broad brush. How do you know how many of Amy's sick days were due to depression and not something else? What if you have a PTO program that co-mingles Amy's sick days with her vacation? That's why we have Level 2, but first, let's lay the groundwork with the healthcare equation.

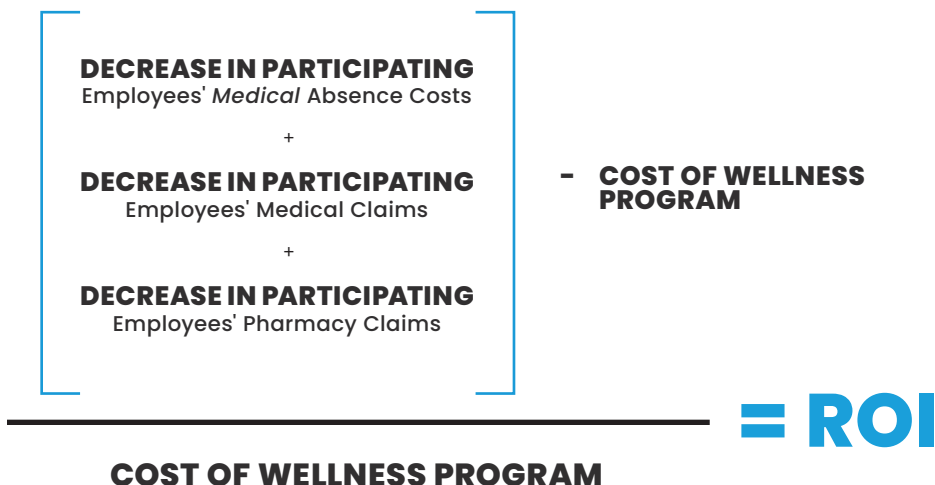
HEALTHCARE EQUATION

You know what you're spending on healthcare — your health plans, workers' compensation programs and wellness programs. You know to the penny what you're paying in claims to doctors and hospitals. What you don't know is what you're getting in return for those claims dollars.

Today, we measure the return for those dollars in terms of quality. These measures, which are qualitative by definition, focus on what a doctor did or didn't do. Did the doctor follow clinical guidelines? Did the patient like the doctor? For a diabetes program, these quality measures might be whether the A1c levels went down, or whether the number of times an employee visited their primary care physician went up to the recommended four visits a year?

The input into the healthcare equation is the claims, which are in dollars and cents. What we need is for the output to be in dollars and cents too so that we can compare the input with the output.

FIGURE 2 The Wellness ROI Formula



The diagram illustrates the Wellness ROI Formula. It features a large blue bracket on the left side containing three stacked items: 'DECREASE IN PARTICIPATING Employees' Medical Absence Costs', '+', 'DECREASE IN PARTICIPATING Employees' Medical Claims', '+', and 'DECREASE IN PARTICIPATING Employees' Pharmacy Claims'. To the right of this bracket is a minus sign followed by 'COST OF WELLNESS PROGRAM'. Below the bracket and minus sign is a horizontal line. Underneath the line, the text 'COST OF WELLNESS PROGRAM' is written in bold. To the right of the line is an equals sign followed by 'ROI' in large, bold, blue letters.

$$\begin{aligned} & \text{DECREASE IN PARTICIPATING} \\ & \text{Employees' Medical Absence Costs} \\ & + \\ & \text{DECREASE IN PARTICIPATING} \\ & \text{Employees' Medical Claims} \\ & + \\ & \text{DECREASE IN PARTICIPATING} \\ & \text{Employees' Pharmacy Claims} \\ & - \text{COST OF WELLNESS PROGRAM} \\ \hline & = \text{ROI} \end{aligned}$$

And that output needs to measure what really matters, the outcome for the patient. Did the patient get better? And if so, how much did it cost and how long did it take?

With these hard numbers, you can calculate your wellness program's ROI.

LEVEL 2 — HEALTHCARE OUTCOMES

Think back to our analytics engine. The engine needs fuel — the input, which it converts into motion, the output. For a wellness program, the inputs are:

- Employees participating in the wellness program and what the employer pays the wellness vendor, including in that cost any discounts that the employer gives participating employees (e.g., \$50 off their monthly insurance premium)
- Medical and pharmacy claims paid under the employee health plan (both the employer and employee portions)
- HR attendance, payroll and turnover records

The engine is the algorithms that sift through the inputs to produce the outputs. For the employees participating in the wellness program, these outputs are:

- How much their medical and pharmacy claims went down, plus
- The decrease in their absence costs related to those claims

From here it's just math to calculate the ROI. Now, let's get into the details.

INPUTS

Your wellness vendor can send you a list of the employees participating in the program and what it is charging for them. You already have your HR attendance, payroll and turnover data in-house, or if an HR payroll vendor maintains it for you, you can get it.

If you have self-insured your health plan, then you own the medical and pharmacy claims data, even though your third-party administrator and pharmacy benefit manager process those claims and maintain them for you. If you ask, they must send you this claims data, because you own it.

GROUPING CLAIMS

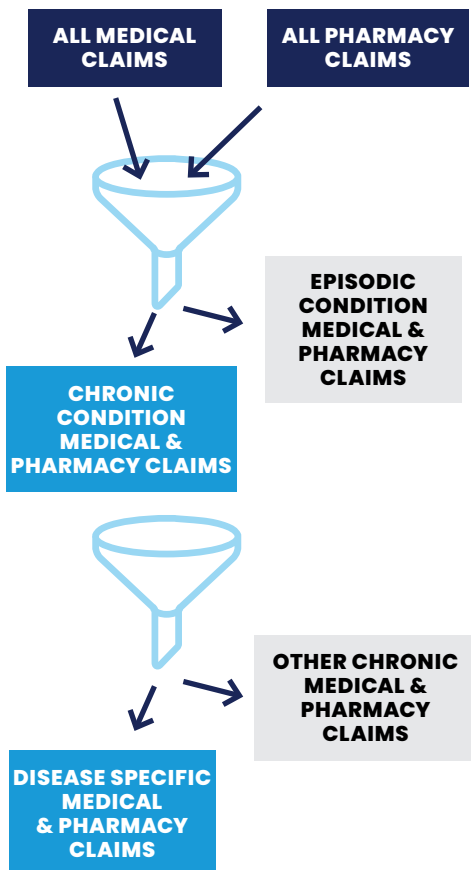
The first step is to group the claims by diagnosis over the continuum of care, slicing those groupings by the period that you want to measure, usually a calendar year. For a diabetes diagnosis, you would group together the claims for a doctor’s office visit for the employee to check on their diabetes, a hospital stay for diabetic shock and the prescription cost for their insulin. You wouldn’t include the employee’s trip to the emergency department for a broken arm. You can purchase “groupers” from any number of vendors, or you can group the claims yourself.

After grouping the claims, you must decide which groups to include in your calculations: all the claims, just the claims related to chronic conditions or just the claims related to a specific chronic condition. Which claims you’ll use depends

on which program you’re measuring.

For a general wellness program, you may use all the claims or exclude the claims for episodic conditions such as accidents. No wellness program can prevent an employee from slipping and breaking an arm, so you may want to exclude those claims. On the other hand, that broken arm will cost more and take longer to heal for a diabetic employee who hasn’t managed their diabetes than for an employee who has. Similarly, for a disease management program, you may want to use all the claims, only the claims for chronic conditions or only the claims for the chronic condition that you’re measuring.

FIGURE 3 Grouping Claims



ABSENCE COSTS

After grouping the claims, juxtapose the claim dates against the HR attendance records (either sick days or PTO) to identify the medical absences related to those claims. If the medical

claims show the employee in the hospital for a heart attack on Tuesday, assume that the PTO day that the employee took on Tuesday is because of the heart attack. As an aside, once a year compare each employee's hospital claims against their attendance records. You may be amazed by the number of employees simultaneously in the hospital while at work.

Once you identify the medical absences related to a diagnosis, value that time off at either the employee's actual pay rate or a normalized rate. If an employee makes \$15 an hour and misses eight hours, value those eight hours at \$120 ($\$15 \times 8 = \120). When dealing with highly compensated employees, however, you may want to use a normalized rate instead of the actual one. You wouldn't want to skew the results by lumping together the eight hours from a \$15 an hour employee with the eight hours from your million-dollar CEO.

MATH

Now, it's just math. Subtract the current year costs for the medical and pharmacy claims that you selected (all, chronic only, or specific chronic condition), and the related absence costs, from their corresponding base year costs adjusted for inflation.

For example, assume that Charlie participates in a general wellness program. In the year before he joined the program, Charlie had \$6,500 in medical claims under the health plan, \$2,500 in pharmacy claims and \$1,000 in absence costs related to those claims, all as adjusted for inflation to state them in current year dollars. During the current year, Charlie had \$6,400 in medical claims, \$2,600 in pharmacy claims and \$800 in absence costs, the wellness vendor charged \$100 for Charlie to be in the program, and the employer gave Charlie a \$100 discount off his health insurance premiums for joining. Your ROI is 0%.

Medical claims went down \$100 ($\$6,500 - \$6,400$), pharmacy claims went up \$100 ($\$2,500 - \$2,600$), and absence costs went down \$200 ($\$1,000 - \800) — an overall decrease of \$200 ($\$100 - \$100 + \200). To get this \$200 of savings, you spent \$200 (\$100 to the vendor and the \$100 premium discount), so your net return is \$0 ($\$200 - \200). Your ROI is your net return divided by your cost, which is 0% ($\$0 - \$200 = 0\%$).

Disease management programs usually fare a little better, because they're more targeted. Assume that Jane participated in a diabetes program. Jane's inflation-adjusted diabetes base year costs — not all her costs, just those for diabetes — were \$4,000 medical, \$2,000 pharmacy and \$1,500 absence. Jane's current year costs are \$3,700 medical, \$1,800 pharmacy and \$1,400 absence, and you spent \$550 for Jane to be in the program. Accordingly, your net return was \$50 — $[(\$4,000 - \$3,700) + (\$2,000 - \$1,800) + (\$1,500 - \$1,400) - \$550 = \$50]$ — and your ROI was 9% ($\$50 - \$550 = 9\%$).

What about employees in a wellness program that aren't on your health plan, but their spouse's? You won't have any health plan claims to include in their

calculations, or to match against their absences. The wellness program should still be driving down their healthcare costs and driving up the ROI — it will just be someone else's healthcare costs and ROI, not yours. Generally, this is something that you'll have to live with. You don't want to require enrollment in the health plan as a condition to join the wellness programs. Doing so would cost much more than you'll save. The purpose of wellness programs, however, is to drive down your costs by more than you spend to do so, and in extreme circumstances, this spousal phenomenon could preclude you from saving anything at all, in which case the economic justification for the wellness programs goes away.

Why do the above examples calculate such low ROIs? Because that's probably what you're going to get. Read on to find out why and what you can do about it. But before we do that, let's talk about behavioral health issues and the EAPs that combat them.

EAPS

In the early days of the COVID-19 pandemic, the percentage of adults suffering from at least one behavioral health issue shot up to more than 40% (Vahratian et al. 2021). Behavioral health issues are very expensive. Not only do you have to treat the behavioral health issue itself, but it's a comorbidity that makes everything else more expensive too. A depressed employee with a broken leg will cost more than an employee who isn't depressed.

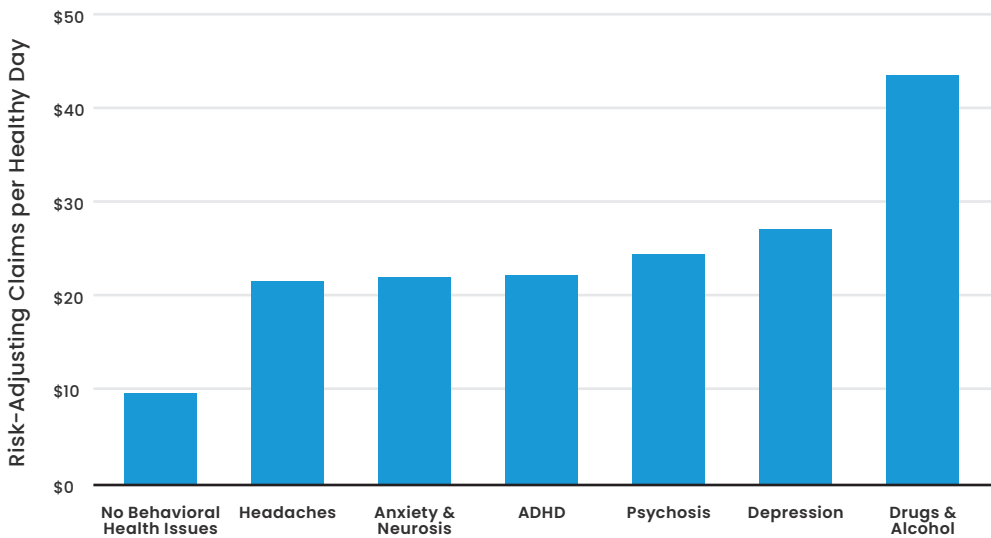
Figure 4 illustrates this concept. One way to quantify healthcare outcomes is by calculating the claims per day to keep someone healthy. This chart shows that it costs \$10 per day to keep someone healthy who doesn't have any behavioral health issues. That doubles to \$20 per day for employees with headaches, anxiety and ADHD and then doubles again to over \$40 per day for employees with drug and alcohol problems.

With EAPs, there's also one more thing you can add to the overall numerator when calculating the ROI — turnover cost. We talked about this earlier, but now with the health plan data, you can put a number on it. People with behavioral health issues quit or are fired more often than other employees, and you can compare that turnover rate for employees with behavioral health conditions in the base year with that rate for employees in your EAPs.

The earlier examples calculated the ROIs on a per employee basis, which you roll up for all the employees to get the program's overall ROI. You can't calculate turnover cost per employee, but you can calculate your overall turnover savings and add that savings to the ultimate ROI calculation.

For example, assume that you have an EAP to combat depression. Sifting through the medical and pharmacy claims in the base year, you identify 75 employees with a depression diagnosis or who were on anti-depressants. During that year, 25 of these employees quit or were fired — a 33% turnover rate. During the current year, you have 30 employees in the EAP. Based on the 33% turnover

FIGURE 4 The Daily Cost of Behavioral Health Issues



rate, you would have expected to lose 10 of them. You only lost six, cutting the turnover rate to 20%. If your per employee turnover cost is \$15,000, then the EAP saved you an additional \$60,000 $([10 - 6] \times \$15,000 = \$60,000)$.

Turnover cost includes severance payments; payments for unused vacation time; recruiting costs for the replacement, such as search firm fees and LinkedIn ads; and payroll costs for the new employee during the orientation and training period. There are other “softer” costs, such as the decrease in productivity when a quitting employee winds down and their replacement ramps up. This is similar to presenteeism, when a sick or injured employee shows up for work but can’t fully perform their job because of their illness or injury. These are real costs, but because you can’t quantify them, don’t include them in your calculation. When you show your ROI numbers to your wellness vendor, you don’t want any fluff in them.

WHY IS MY ROI SO LOW?

You will probably find that your true ROI is nowhere near what the vendor promised, especially for new wellness programs. Why? One reason may be self-selection.

If you ask any doctor why their costs are more than another doctor, they will always give you the same answer: “Because my patients are sicker.” And sometimes, they’re right.

If you have two employees with identical back injuries, one a 25-year-old who runs marathons and the other an obese senior citizen who sits in a cubicle, it’s going to cost more and take longer to get the senior citizen better. So you have to assign each employee a risk score to filter that out and level the playing field.

That way, when comparing doctors, you're evaluating them based solely on their performances.

There are several risk scoring systems that you can purchase, but they tend to be "black boxes." They assign each employee a risk score but don't tell you why. Transparency will be essential when you take your results back to your wellness vendor. For that reason, and because they're free, it's better to use an open-source risk scoring system.

One is the Chronic Illness and Disability Payment System (CDPS) risk scoring system designed by the University of California at San Diego (CDPS 2022). CDPS looks at the patient's age, gender, comorbidities (e.g. chronic conditions such as cardiac problems, diabetes and hypertension) and the prescription drugs that they're on, all of which are in the claims, and assigns them a score: 1.00 is normal, below 1.00 healthier than normal (the lower, the healthier), and above 1.00 sicker than normal (the higher, the sicker). CDPS is used by many Medicaid programs around the country, so it's demographically appropriate for a working-age population.

Another open-source risk scoring system appropriate for a working-age population is the Department of Health and Human Services Hierarchical Condition Categories (HHS-HCC 2020). The Centers for Medicare & Medicaid Services (CMS) developed HHS-HCC to pay health insurers in the Affordable Care Act marketplace (the sicker someone is, the more the insurer gets paid).

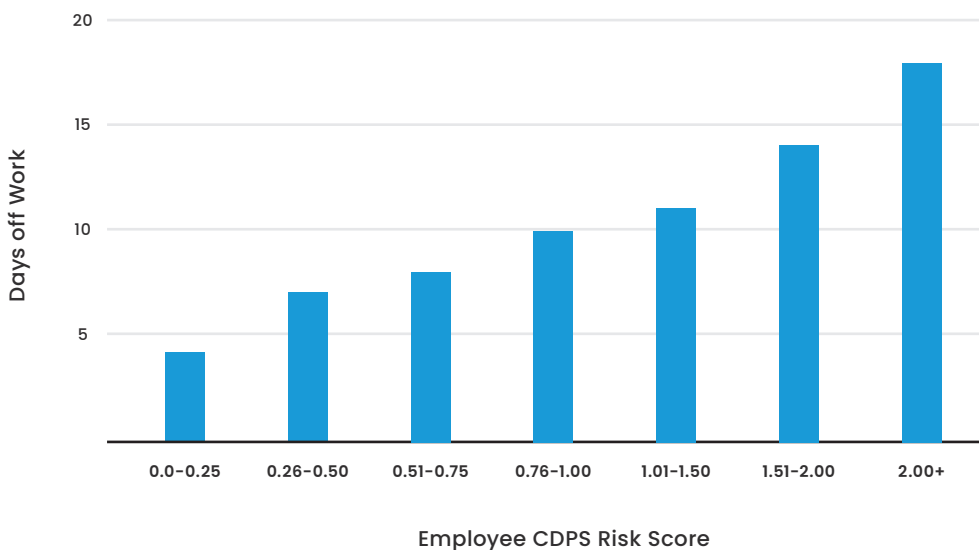
Figure 5 shows a large employer's relationship between an employee's risk score and the days that they miss from work. As you probably guessed, the higher the risk score, the sicker the employee, and the more time that they miss.

Now, back to wellness programs. A byproduct of the analytics engine will be to identify employees not participating in a program who would benefit from it. For example, when sifting through the claims, you will identify employees with a diabetes diagnosis or insulin prescription who didn't sign up for the diabetes program. This is similar to the young employee and the old one with the same back injury. In this case, we have employees with diabetes who signed up for the program, and employees with diabetes who didn't.

What do you think you'll find if you have the analytics engine calculate the risk scores of these two groups? The employees with diabetes who signed up for the program may have much lower risk scores than the diabetic employees who didn't. Why? The employees who signed up were probably very conscientious about their health and already self-managing their diabetes. And being so conscientious, when the program came along, they were the first to sign up. Unfortunately, because they were already self-managing their diabetes, they didn't have much room to improve.

In contrast, the employees with diabetes who didn't sign up weren't very conscientious — Exhibit A being that they didn't bother to sign up. If you can get them to sign up, they could improve a lot and you may start to approach that promised ROI.

FIGURE 5 Employee CDPS Risk Score



EXPLOIT YOUR BYPRODUCT

So now you know why your wellness program ROI is so low. What do you do about it?

The byproduct of the analytics engine is the list of employees who should be in the program but didn't sign up. Get them to!

What about the Health Insurance Portability and Accountability Act (HIPAA n.d.)? The wall between an employer and their employees' healthcare. You certainly have to take precautions. The supervisor who can promote or fire an employee can't know about their healthcare conditions.

On the other hand, you probably have a high deductible health plan (HDHP) as one of your health plan options. Your employees are therefore paying a significant part of their healthcare expenditures under your health plan regime. Don't you have a fiduciary duty to safeguard their money like you do for your 401(k) plan?

You can have case managers walled off from the supervisors talk to these employees or use a third-party vendor to call them. Your wellness vendor should be happy to do it. They'll want to avoid triggering the penalties in your contract for not meeting the promised ROI. You do have those, don't you?

EAPs are different. You'll still want to make sure that they're delivering a decent ROI, but you're not going to want to dig too deep into the details. It's one thing to have a case manager call an employee with diabetes who hasn't signed up for the diabetes program, it's a whole other thing to call an employee with depression who hasn't signed up for an EAP (if you haven't guessed already—don't do it).

CONCLUSION

You don't have to rely on your wellness vendor to tell you whether their program is working. Using data that you already have, you can calculate the occupational returns and ROIs on your wellness programs. Now you'll know which programs are working, which ones aren't and what to do about it. ■

ABOUT THE AUTHORS

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