



## *The Full Costs of Depression in the Workforce*

RESEARCH BY THE INTEGRATED BENEFITS INSTITUTE

# Executive Summary

When employers consider the costs of workforce depression, they often focus on workers out on short-term disability with a depression diagnosis. This focus away from medical costs may result because disability payments appear to be where the money is for depression cases.

At the same time, there is an increasing focus on depression as prevalent and problematic from the patient's viewpoint. Often referred to as "the common cold of mental illness," the problems in identifying, diagnosing and treating depression are legion.

As a result, in this research the Integrated Benefits Institute (IBI) took a broader view of the impact of depression on the workforce and on employers' business realities. This need is driven by the impact of depression and other mental health conditions as being among the top medical conditions that drive full costs for employers.

IBI analyzed claims data from Ingenix for almost 401,000 unique employees, with more than 45,000 of those filing a short-term disability (STD) claim. We next analyzed these STD results in the context of a large national employee self-reporting database populated by the Health and Work Performance Questionnaire (HPQ) to which IBI has access in its partnership with HPQ creator and Harvard researcher Ronald Kessler, Ph.D. That database includes information on 27 self-reported chronic health conditions, including depression.

The analysis shows that depression drives extended disability duration, whether for a depression-diagnosis STD or when depression is co-morbid with another disability diagnosis. When IBI broke down costs for depression disability cases, lost productivity from lost time was found to be the largest cost component of such claims which, with wage-loss payments, are two and a half times the costs of medical care and pharmacy expenditures. Some evidence also showed that early identification and treatment for depressed employees may be cost-effective in reducing disability lost time.

Finally, the analysis demonstrates that claims data can't tell the whole story. Self-reported data from the HPQ documents depression prevalence in the workforce approaching 30%, with 70% of those not currently receiving treatment. Overall, sick leave and presenteeism were found to be responsible for 80% of the lost productivity for employees with depression.

To assist employers in meeting the depression challenges identified in the research, IBI invited experts from its member companies to offer employers pragmatic advice about the management of workforce depression. That advice from this Member Solutions Board is summarized on page 2 and detailed beginning on page 17 of this report.

IBI thanks the following members of the Member Solutions Board for their advice for this research: Aetna, Aon, Benfield Group, Bristol-Myers Squibb, Broadspire, Cisco Systems, Eastman Chemical, Nationwide, Towers Perrin, Unum and Whirlpool.

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As a pioneer, leader and nonprofit supplier of health and productivity research, measurement and benchmarking, IBI is the trusted source for benefits performance analysis, practical solutions, and forums for information and education. IBI's programs, resources and expert networks advance understanding about the link between—and the impact of—health-related productivity on corporate America's bottom line.

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## Key Findings:

- **Depression is associated with longer disability durations.** Employees filing short-term disability (STD) claims for depression have disability durations that are 44% longer than a control group of demographically similar nondepressed claimants. When the depression is co-morbid with another disabling condition, durations are 30% longer than the control group.
- **Depression following or concurrent with a nondepression disability event is more common than depression as a condition that triggers a disability claim.** During the course of the study period, twice as many employees were treated for depression *after* a nondepression disability claim than filed a disability claim for depression.
- **Lost productivity is the largest cost component for disability cases with depression.** Wage-replacement payments during the disability period together with lost-productivity costs are two and a half times the costs of medical care and pharmacy expenditures for STD claimants with a depression diagnosis. For STD claimants with co-morbidity depression, these disability costs are more than one and a half times the medical and pharmacy costs.
- **When depression is co-morbid with another disabling condition, early treatment may shorten disability durations.** Early identification and treatment of depressed employees who file STD claims may be a cost-effective means of reducing disability lost time. Employees who received treatment for depression both before and after a disability event had shorter disability durations than those who received depression treatment only after a disability event.
- **Relying only on claims data to understand the full impact of depression is far too limiting.** Employee self-reported data on chronic conditions show that the prevalence of depression approaches 30%, while about 70% of these employees are untreated for depression by medical professionals. In addition, 97% of employees who report depression also report other co-morbid medical conditions—an average of seven co-morbidities for these employees.
- **Presenteeism and sick leave are the primary sources of lost productivity for depressed employees.** Modeled claims costs and disability outcomes, combined with analysis of self-reported data, suggest that presenteeism (that is, employees who are not fully functioning while at work) and sick leave account for 80% of the lost productivity for employees with depression.

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>> *This report includes specific action items relating to management of workforce depression that were identified by a Member Solutions Board established to help improve employers' strategic response to our research.*

## Actions for American Business Today: Expert Tips

The key findings from IBI's workforce depression research uncovered a broad range of depression impacts that are not altogether obvious to employers. Where the disability diagnosis involves depression, employers may tend to focus only on such claims results as the wage-replacement costs of STD.

To help employers know how best to invest their valuable resources in this time of increased demand for them, IBI invited experts from among its employer and supplier members to suggest ways to meet the challenges and the costs of depression and other behavioral issues in the workforce.

IBI's Member Solutions Board (MSB) for this research helped us identify seven areas that employers might explore for effective investment of resources and effort to meet the needs created by workforce depression.

Here we present a summary of those recommendations in each of the seven areas.

*Thanks to the IBI members who constitute the Member Solutions Board for this research and who submitted employer action items: Aetna, Aon, Benfield Group, Bristol-Myers Squibb, Broadspire, Cisco Systems, Eastman Chemical, Nationwide, Towers Perrin, Unum and Whirlpool.*

*See pages 17 to 21 for the full details of the experts' suggestions.*

### EXPERT TIP #1

Promote a corporate culture in your company that effectively manages stress and behavioral issues, communicates that orientation, and fosters and promotes early identification of potential depression cases for intervention.

### EXPERT TIP #2

Establish disability management/return-to-work (RTW) programs that move your disabled workers away from a disability paradigm.

### EXPERT TIP #3

Engage a disability supplier that will aggressively manage psychiatric disabilities and get beyond the disability diagnosis on the doctor's report. They should look at claims horizontally—probe for family and social or work/life issues when they talk to the claimant.

### EXPERT TIP #4

Integrate, either internally or through a single or coordinated vendors, clinical and system capabilities across all your benefits initiatives and programs.

### EXPERT TIP #5

Collect and monitor data to identify trends, results and needed program improvements.

### EXPERT TIP #6

Mental health parity requirements provide a wonderful opportunity for employers to fine-tune mental health benefits and treatment as a productivity instrument (and not just grudgingly meet the minimal requirements for compliance).

### EXPERT TIP #7

Include an employee assistance program (EAP) as part of the benefits package offered to your employees and promote earlier EAP intervention to avoid or reduce medical and disability costs, absence and presenteeism.

## How Important Is Depression in the Workforce?

Historically, most employers have considered managing the medical costs of a health condition as tantamount to managing the health condition itself. Today, however, that view has become far too narrow for most employers, with the emergence of productivity as a critical health issue,<sup>1</sup> the recognition that medical and pharmacy claims data tell only part of the story and the growing importance of disability lost time.

Depression is a case in point. When employers consider workforce depression as a condition affecting their costs, they likely think of workers out on short-term disability with a depression diagnosis because medical treatment for depression—absent disability—typically hasn't been near the top of the cost-driver list. For these employers, disability payments for depression cases are where the money seems to be. After all, depression is the second-leading cause of disability worldwide.<sup>2</sup>

A focus only on depression-diagnosis STD claims, however, severely underestimates the impact of depression on disability, medical/pharmacy costs and lost productivity. Disabling medical conditions may themselves contribute to depression, in some cases culminating in subsequent depression-diagnosis STD claims. Beyond disability claims, the broader issue is not just the lost productivity and the medical costs associated with depression-related STD absences but also how depression acts as an aggravating, potentially undetected condition that undermines health and productivity more generally. This study draws on two databases—one claims-based and the other employee self-reported—to demonstrate several surprising

results that should cause employers to take a closer look at managing depression in their workforce.

### Broader Effects of Depression in the Workforce

The effects of depression in the workforce are more substantial than short-term disability claims would have us believe. We know from other research that depression in the workforce is widespread and costly to employers in healthcare treatment payments and lost productivity.<sup>3</sup> Studies published in 2007 and 2009 in the *Journal of Occupational and Environmental Medicine*, co-authored by IBI's president, Dr. Thomas Parry, show that depression is a leading driver of total health-related lost productivity, medical care and pharmacy costs.<sup>4</sup> A recent, nationally representative survey of working adults found that more than 6% had a major depressive episode *in the prior 12 months*; the lifetime prevalence of depression is at least twice that amount.<sup>5</sup>

Research also shows that there often are significant delays in depression diagnosis and treatment.<sup>6</sup> Between 2001 and 2003, the National Comorbidity Survey Replication found that half of depressed adults did not receive treatment until at least *eight years*

after the onset of their disorder.<sup>7</sup> Further, IBI's analysis of the database of employee self-reports collected from the Health and Work Performance Questionnaire (HPQ) shows that only 30% of those reporting depression are currently receiving professional medical care.<sup>8</sup>

This study builds on those results to show the relative insignificance of STD claim costs *specifically for depression diagnoses* compared with the full costs associated with lost productivity *among workers suffering from depression*.

<sup>1</sup> Survey findings: Hewitt Associates (2008).

<sup>2</sup> Societal Promise of Improving Care for Depression (2008).

<sup>3</sup> See Lerner and Henke (2008) for an overview of the research literature on depression and productivity published since 2002.

<sup>4</sup> Loeppke, Taitel, Richling et al. (2007) and Loeppke, Taitel, Haufle et al. (2009).

<sup>5</sup> First National Report Card (2006).

<sup>6</sup> See Kessler, Merikangas and Wang (2008) and Kessler, Berglund, Chiu et al. (2008).

<sup>7</sup> Kessler, Merikangas and Wang (2008).

<sup>8</sup> The HPQ is a validated employee self-reporting health tool developed by Harvard Medical School researcher Dr. Ronald Kessler and the World Health Organization.

# Research Approach

In the first part of the analysis, we examine the relationship between depression and health and productivity by focusing on disability lost days and treatment costs that occur subsequent to or simultaneous with a short-term disability claim. For a sample of new short-term disability claimants observed over a three-year period, the study addresses **three main questions**:

- 1 How prevalent is depression among STD claimants? We distinguish between:
  - > Depression severe enough to trigger an STD claim
  - > Depression that is co-morbid to other disabling conditions after the filing of a nondepression STD claim
- 2 What are the lost-time differences between claimants with depression and those without?
- 3 How do cost components—medical, pharmacy, disability and lost productivity—differ for employees filing disability claims with a depression diagnosis compared with those developing depression after the disability event?

We then place our understanding of depression and disability lost productivity into **the context of overall lost productivity**. Based on a sample of employees who are treated for depression—and whom we assume (from prior research)<sup>9</sup> represent roughly one-third of all employees afflicted with depression—we ask:

- 4 How do depression lost-productivity costs associated with STD claims compare with the value of lost time due to sick-day absences and presenteeism for those not filing disability claims?

<sup>9</sup> Health and Work Performance Questionnaire database (2009).

### Depression and Disability in Our Sample

For this study, we use Ingenix data on 400,928 unique employees from six companies, distributed across all 10 geographic regions of the United States. Their group health, pharmacy and disability claims activities were observed at monthly intervals between January 2001 and March 2004. The data allow us to observe each employee for an average of 29.2 months.

### Overall Benefits Accessed

As shown in the top pie chart to the right, 17% of the employees in the sample did not access medical or disability benefits during the study period, while two-thirds received only medical care. The remainder filed a non-occupational or workers' compensation (WC) disability claim or both. Twelve percent filed at least one STD claim during this period.

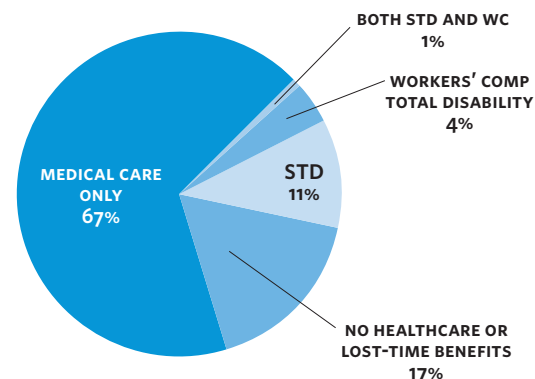
From these cases, we drew a subset of 45,171 employees who had STD claims that began during the study period. For employees with an STD claim, the lower pie chart shows that 80% had neither group health depression treatments nor an STD claim specifically for depression.

For 5%, the first STD claim was specifically for depression compared with 11% who filed an STD claim for another condition and then received depression treatment at some point between the time of their first STD and the end of the research observation period—the STD period.<sup>10</sup>

Finally, 4% of employees sought depression-related treatment only prior to their first STD and not during or after the disability event. Thirty percent of employees with STD who presented with depression (either as the disability diagnosis or as a co-morbid condition) during the STD period also received depression treatment prior to their STD claim.<sup>11</sup>

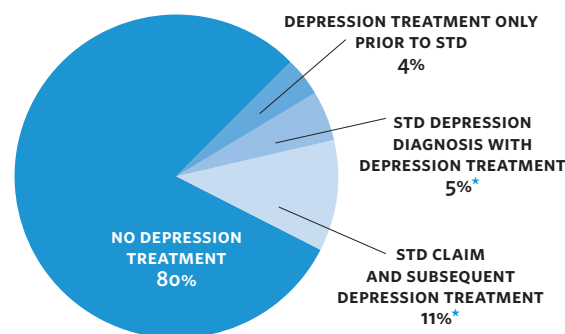
### CLAIMS ACTIVITY IN THE RESEARCH DATABASE

Average STD lost days  
(Sample size: 400,928 employees)



### DEPRESSION TREATMENT AND STD CLAIMANTS

Average STD lost days  
(Sample size: 45,171 employees with STD claims)



\*THIRTY PERCENT OF THE STD CLAIMS OF THESE TWO GROUPS WERE TREATED FOR DEPRESSION PRIOR TO STD.

<sup>10</sup> We refer to the month of the first new STD claim and all subsequent months during the observation period as the "STD period" regardless of the actual duration of the STD.

<sup>11</sup> It is worth noting that in the Ingenix data, depression diagnoses are more common among employees with STD claims than among employees with only medical or pharmacy claims, or with workers' compensation claims but no STD claims (about 10% of employees in each of these groups presented with depression). This pattern holds true even when excluding employees who had an STD claim specifically for depression.

## Depression and Disability: Lost Time and Full Costs

To understand the impact of depression on disability lost time, we first compare the number of STD lost days for employees filing a claim with a depression diagnosis with STD lost days for a control group of disabled employees without depression. (We calculate the total amount of STD lost time by summing the number of lost business days for all STD claims occurring during the STD period.) We then compare STD lost time for a group of claimants with co-morbid depression (that is, employees with a disability claim for a nondepression condition but who also received treatment for depression after the disability event) with the control group. (See Appendix 1 for a full description of the depression categories.)

To ensure comparability in these analyses, we use multivariate regression models to control for differences in the time between the first STD claim and the end of the study period, claimant demographics, chronic health conditions and injuries, pre-STD group health expenditures and lost time under other programs.

### Lost-time Durations

We show in the graph to the right the lost-time results for the depression group employees against a matched control group that had

no depression treatment during the STD period. We also show the lost-time results for the group of employees with co-morbid depression.<sup>12</sup> Employees in the depression group have 44% more lost time—an additional 22 days—than control group employees who had no depression treatment during the STD period.

The co-morbid group has 30% more lost time than the control group—15 more days. Employees in the depression group have slightly more lost time than employees in the co-morbid group, but the difference is not statistically significant. Both groups of employees involving depression, however, have significantly more lost time than employees in the control group. The extended durations imply either that disability conditions are of substantially greater severity for employees who receive treatment for depression or that they face greater challenges in returning to work—or both.

### Comparison-group Definitions

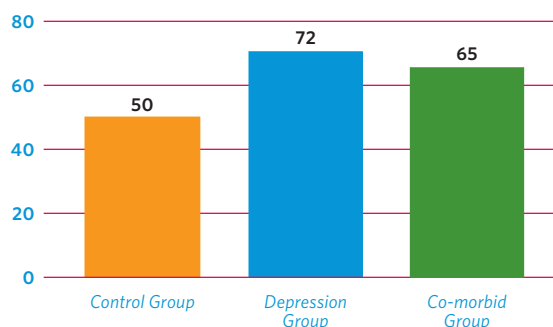
**Control group:** Employees who filed an STD claim for a diagnosis other than depression with no subsequent depression treatment

**Depression group:** Employees who filed a depression-diagnosis STD

**Co-morbid group:** Employees who filed an STD claim for a diagnosis other than depression and who had concurrent and/or subsequent depression medical treatment

### COMPARING STD LOST DAYS

Average STD lost days by comparison group



<sup>12</sup> For the remainder of this report, we refer to employees who filed an STD claim for a diagnosis other than depression with no subsequent depression treatment as the “control group,” employees who filed a depression-diagnosis STD as the “depression group” and employees who filed an STD claim for a diagnosis other than depression but who had subsequent depression medical care as the “co-morbid group.”



### Comparing Cost Components

Employers commonly believe that their most significant benefits challenge is controlling group health costs. We next examine the components of claims costs—medical care for depression and for other health conditions, pharmacy costs and STD wage replacements—and lost productivity for depression group STD claimants. The chart to the right shows the relative magnitude of wage-replacement and lost-productivity costs compared with medical treatment and pharmacy costs for depression-diagnosis STD.<sup>13</sup>

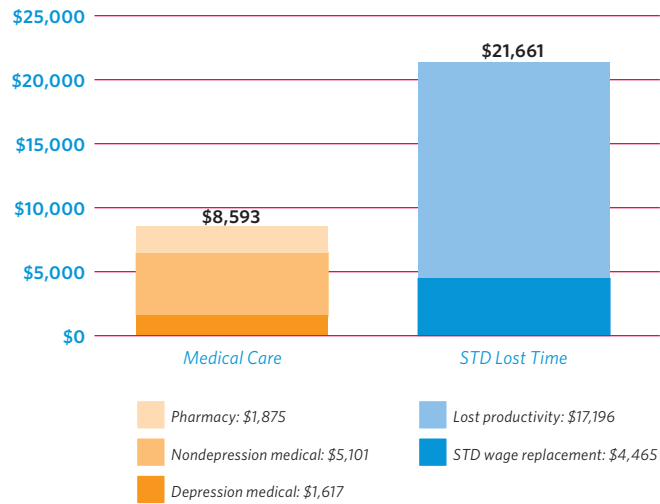
The chart shows the five cost components constituting the \$30,254 in “full costs” for depression group employees during the STD period. Medical costs averaged about \$8,600 for these employees. The costs associated with STD absence—wage-replacement payments during the disability period and the lost-productivity costs associated with STD lost time—are two and a half times the medical costs.

Lost productivity is the single-largest cost component, at nearly 60% of the full costs of these cases. These full-cost results demonstrate that STD absence for these depression-diagnosis cases is a far more important influence on the bottom line than most employers assume when they consider their medical treatment costs alone or consider only paid benefits for depression cases.

Interestingly, medical payments for treating the co-morbid conditions associated with the depression group claimants are more than three times the medical payments for treating the depression condition itself.

### DEPRESSION GROUP FULL COSTS

Total full costs = \$30,254

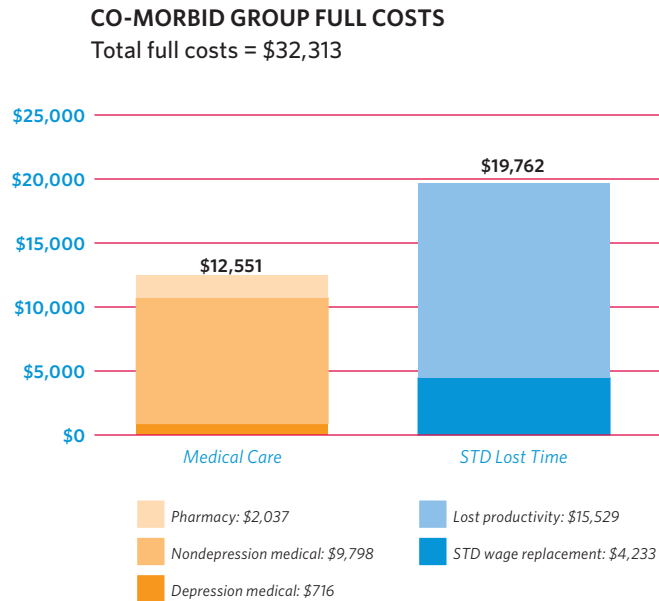


<sup>13</sup> We monetize lost productivity from lost time based on research by Professors Sean Nicholson at Cornell and Mark Pauly at the Wharton School of the University of Pennsylvania. Their work with 800 employers quantifies the opportunity costs of an employee’s absence as a function of the ease with which the employer can replace workers, the degree to which employees work in teams and the time value of output (i.e., whether the employer can sell to the market all its good or services as soon as they are available). See Nicholson, Pauley, Polsky et al. (2006).

In our analysis, the monetized value of lost productivity is the product of (1) the mean estimated lost business days, (2) a daily wage of \$138 estimated from a sample of the U.S. Census Bureau’s Current Population Survey respondents with demographic characteristics similar to those in the Ingenix data set, (3) an average benefits load of 1.25 and (4) a Nicholson/Pauly multiplier of 1.39. Because the wage, benefits load and multiplier are constant, the difference in lost productivity across the groups reflects only the difference in estimated lost time reported above.

The chart to the right illustrates the cost components for the co-morbid group. Not surprisingly, the medical costs for the nondepression medical conditions for this group are significantly greater than for the depression group (because these STDs were filed for other disabling medical conditions) and make up about three-quarters of the total medical expenditures. But the costs associated with STD—wage replacement and lost productivity—represent about 60% of the full costs. Lost productivity is the single-largest cost component, at about half the total.

It is worth noting that despite the finding that both the depression group and the co-morbid group had a similar number of lost workdays, employees with a depression STD had greater depression treatment costs and lower total medical care costs than employees with co-morbid depression. This likely reflects differences in the severity of conditions across the two groups. It is reasonable to conclude that an employee who goes on disability specifically for depression has a more severe mental health condition than a depressed employee who does not. By the same token, employees in the co-morbid group had a physical condition severe enough to warrant disability, whereas employees in the depression group did not.



# Depression Treatment and Disability Durations

To what degree do we observe differences in disability durations for claimants who received depression treatment prior to the disability event compared with those receiving care only during the disability event? The chart below shows results for both the depression group and the co-morbid group.

## Depression Group

We observed no difference in average duration based on prior treatment in the depression group.<sup>14</sup> It seems unlikely that employees in the “no prior treatment” subgroup with serious enough depression to file a disability claim would exhibit no depression symptoms prior to claim filing, yet they received no depression care prior to the disability event. If these employees did, in fact, have depression symptoms, it is interesting that we don’t observe duration differences between the two treatment groups. Either treatment is not effective or, regardless of the approach to care, disability durations are not affected by care for this group. We do know, however, from recent research using a randomized control trial design<sup>15</sup> that proper depression care can have a duration effect, so these results may be more indicative of plan design limitations, issues with access to care, or delays in diagnosis and appropriate referral and treatment.

## Co-morbid Group

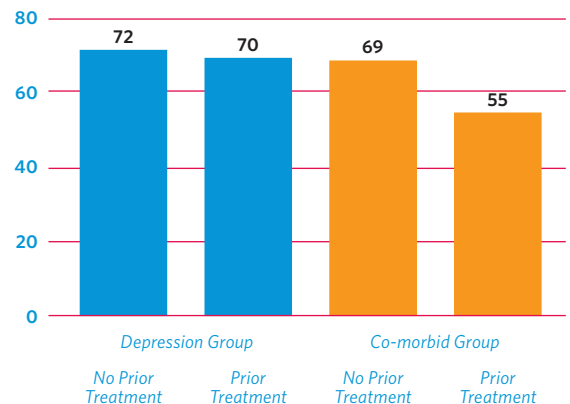
The co-morbid group represents a different situation: Employees who received depression care both before and during the disability event have shorter durations (by 14 days) than those who received

treatment only after the disability event began. The key question is: *Might employers realize lost-time improvements if employees with untreated depression symptoms received care prior to the disability event?*

The chart on the following page shows the full-cost components for co-morbid group employees who received depression treatment prior to the disability event and those who did not. After controlling for age, gender, chronic conditions, injuries and pre-STD healthcare spending, employees *without prior treatment* have higher medical costs, wage-replacement payments and lost productivity during the STD period than those who received prior depression care but lower pharmaceutical and depression treatment costs.

Because we rely only on claims data for this analysis, we don’t know how many of the employees who did not receive prior treatment might have had depression symptoms before the disability event but received no care (although, as we’ll see in the next section, this proportion may be substantial). We therefore can’t fully understand what improvements early depression detection and treatment might yield.<sup>16</sup> We also don’t know if there

**DEPRESSION TREATMENT AND LOST DAYS**  
Average STD lost days by group and treatment



<sup>14</sup> The regression models used in this analysis controlled for age, gender, chronic health conditions, injuries, company, lost time under other programs and pre-STD healthcare spending.

<sup>15</sup> Wang, Simon, Avorn et al. (2007).

<sup>16</sup> For this reason, the experiences of companies such as H-E-B Grocery—which offers outreach and EAP referrals to all employees on disability—deserve close attention. See DMEC (2009).

are underlying severity differences in medical conditions between the two groups.

Despite these gaps in our knowledge, however, there is evidence that treating those with depression symptoms in the “no prior treatment” group would pay off financially. The chart to the right shows that less than \$1,000 is spent on treating depression during the STD episode for employees with ongoing depression treatment, whereas about \$600 is spent for those who did not receive prior treatment. Given that the wage-replacement and lost-productivity difference between the two groups is about \$4,000, an aggressive treatment strategy may be appropriate.

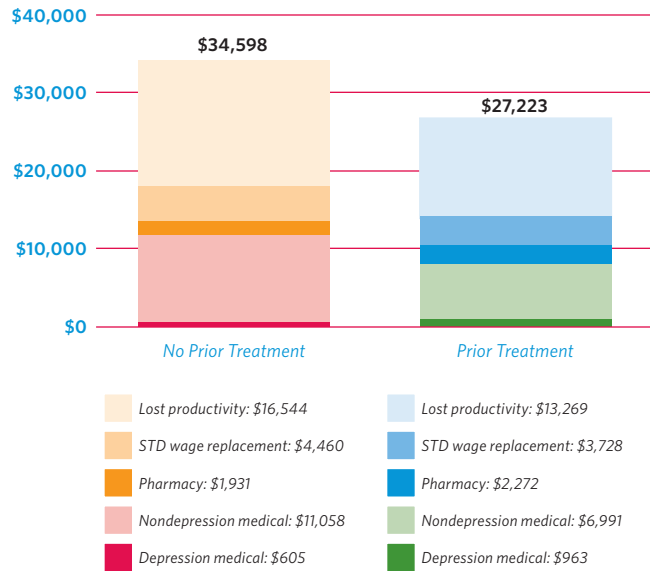
Of course cost savings from early treatment assumes similarity in depression severity in the two groups as well as the ability to identify employees with depression symptoms. An alternative explanation for the differences in lost days is that employees with more-severe STD conditions are also more likely to develop depression after a work disability. If it is true that poor health and slower recovery times contribute to depression rather than the other way around, early interventions to identify and treat depressed employees will not lead to improvements in disability lost days (although they may have other positive benefits for health and productivity costs over the longer term).

Understanding why employees under ongoing depression care would be systematically healthier than those who are treated for depression only after an STD poses

more of a challenge. Our control variables for age, gender, chronic conditions, injuries and pre-STD healthcare spending adjust for some variation in health status but not necessarily for the severity of the condition for which an STD occurred. At the same time, the suggestion that employees under ongoing care for depression may have systematically milder STD conditions does not necessarily contradict the proposition that early identification and treatment for depression can reduce STD lost days. In fact, our findings are consistent with both explanations. Employees under ongoing depression care may be in greater contact with the overall healthcare system than employees with untreated mental health issues and may therefore be willing to seek care for their physical ailments before they become more costly in terms of treatment and lost productivity.

Regardless of whether early identification and treatment of depression speeds recovery or encourages employees to seek care before a medical condition becomes more severe, the beneficial impact of depression screening for new STD claimants and other employees with chronic health conditions and injuries warrants consideration as a cost-effective health and productivity management strategy. By contrast, evidence that would argue against an intervention—for example, if depressed and nondepressed employees had no difference in STD lost days or if the expected costs of additional depression treatments exceed the savings in lost productivity and wage replacements—is absent in our results.

CO-MORBID GROUP FULL COSTS



## Lost Productivity in the Broader Context

Although the costs associated with disability lost time are a large component of the total healthcare and lost-productivity costs for STD claimants, they represent only a relatively small part of the lost-productivity costs for employees who report the existence of depression. Relying only on medical, pharmacy and disability claims data cannot fully represent the impact of employees' health on an employer's bottom line.

Plan design and access to care will have a significant influence on what shows up in claims data but may not reflect employees' true health status. (After all, the most effective medical cost-control strategy for employers is to provide no coverage at all.) For those employers interested in the full effect of employee health on their bottom line, they must rely on broader data than just those reflecting paid medical claims and lost-time benefits.

As part of IBI's partnership with Harvard Medical School's Dr. Ronald Kessler, creator of the Health and Work Performance Questionnaire, IBI researchers have access to the HPQ database of self-reported surveys collected over the past several years. That database includes information on 27 self-reported chronic health conditions and includes information on prevalence, treatment penetration, the extent to which the conditions are being treated by a healthcare professional, and absence and presenteeism lost time. Depression is one of the health conditions included in the HPQ.

### HPQ Workforce Health Results

Based on IBI's analysis of the HPQ data, 28% of employees in the workforce report depression, but 70% of these currently are not under professional care for depression.<sup>17</sup> Thus for every employee for whom we observe depression treatments in the Ingenix data (more than 39,000 employees), there are approximately 2.3 employees with depression symptoms who are not being treated. We would expect these untreated, depressed employees to lose 2.2 days per year due to health-related absences (from all causes) and an additional 7.5 days per year to health-related presenteeism (also from all causes).

IBI's HPQ analysis shows that depressed employees have higher rates of sick-day absences and presenteeism than employees without depression. This is in part because of their high rate of co-morbid chronic conditions: 97% of employees who report depression have at least one co-morbid medical condition, with an average of seven co-morbidities.<sup>18</sup>

<sup>17</sup> This estimate of undertreatment is somewhat higher than that reported by Kessler, Berglund, Chiu et al. (2008), who find that about half of all depressed adults (employed or otherwise) received no depression treatment in the prior 12 months.

<sup>18</sup> HPQ analysis (2009). The HPQ collects self-reported information on 27 chronic health conditions. The most common co-morbid conditions among depressed employees are allergies (62%), fatigue (56%), back or neck pain (48%), sleeping problems (41%) and headaches (39%).

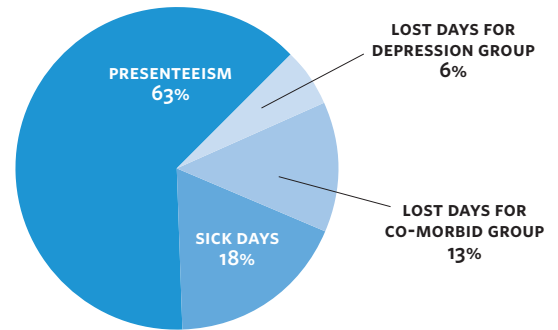
By combining our regression results with information obtained from the HPQ, we can describe a more complete picture of the sources of health-related lost productivity for depressed employees. (See Appendix 2 for a full description of how we calculate the disaggregated components of lost productivity.)

As shown in the chart to the right, despite the fact that employees in the depression group incur more lost time than the control group employees, they contribute only 6% of all lost productivity associated with employees with depression. Lost productivity from co-morbid group claims add another 13%, and sick days for those with depression add an additional 18% of total lost days.<sup>19</sup>

The biggest driver of lost productivity for depressed employees by far, however, is presenteeism. Given the large share of employees with untreated depression, it is not surprising that presenteeism is so significant.

These results should drive home the importance for employers of viewing depression as a leading driver of health-related lost productivity, treatment and pharmacy costs more broadly than is indicated by medical claim costs or even disability results.

**COMPONENTS OF LOST PRODUCTIVITY FOR EMPLOYEES REPORTING DEPRESSION**



<sup>19</sup> As shown in the chart on page 6, employees with co-morbid depression STD have about 15 more disability lost days than employees who do not present with depression. Thus the nondepression disability days related to co-morbid depression would account for only about 10% of the total shown here. We report STD lost days from all claims diagnoses, however, for consistency with all-cause sick days and presenteeism.

# Policy Implications

The results from this multisource analysis of the impact of depression on health and lost-productivity costs in the workforce teach several important lessons:

- 1 Assessments of how depression affects health and productivity costs should start with integrating all sources of information—medical care costs, pharmacy expenditures, disability payments, and lost-time and lost-productivity costs—into a single framework.**
  - > In addition to STD days, this includes self-reported depression symptoms, sick-day absences and presenteeism attributable to depression.
  - > Much of that relevant data may be available only through employee self-reporting tools.
  - > Interventions targeted at key health conditions can be planned and justified once employers know the full costs of those conditions.
- 2 Examine current strategies and programs in place for identifying and managing employee depression.** Employers should ask:
  - > What are the prevalent practices, and do they reflect both administrative and clinical best practices?
  - > How are employee assistance programs designed and used?
  - > Are the practices evidence-based, and does the evidence considered include the lost-time impact of early identification, effective treatment and appropriate management?
- 3 Consider providing routine depression screening shortly after the commencement of any STD claim to minimize excessive disability lost days.**
  - > While this undoubtedly would result in additional depression diagnoses, based on this research the added costs of the early treatment of depression are unlikely to exceed the financial benefits of lower wage-replacement payments and lost-productivity costs.
  - > In many cases without pre-STD depression treatment, early screening would only alter the timing of depression treatment costs for depressed employees who would have eventually sought treatment on their own after suffering unnecessary, additional lost days.

## Appendix 1:

## Depression Categories

Employees are categorized as *with* or *without* depression based on whether or not depression was identified as a primary or secondary diagnosis on any group health (GH) or STD claim during or prior to the period between the time of their first STD and the end of their observed employment period (depression is not diagnosed in any WC or LTD claims). We identify a depression diagnosis by the ICD9 codes associated with each claim. Additionally, we categorize employees based on their experience with depression over both periods and whether their initial STD diagnosis was for depression. Combining depression claims experiences from both periods produces the six categories illustrated below:

STD-period Depression?		Pre-STD Depression Treatment?	
		No	Yes
No	>	<b>1</b>	<b>2</b>
First STD is for depression	>	<b>3</b>	<b>4</b>
First STD is <b>not</b> for depression, but a subsequent depression diagnosis occurs	>	<b>5</b>	<b>6</b>

- 1** Employees in category 1 had no depression diagnosis either before or after their first STD claim.
- 2** Employees in category 2 had a GH depression diagnosis and treatment only prior to their first STD diagnosis.
- 3** Employees in category 3 had no depression diagnosis prior to their first STD, and their first STD claim was for depression (these employees may have subsequent GH or STD depression claims during the STD period).
- 4** Employees in category 4 had a GH depression diagnosis prior to their first STD and a first STD diagnosis for depression (these employees may have subsequent GH or STD depression claims during the STD period).
- 5** Employees in category 5 had no depression diagnosis prior to their first STD, an STD claim for any condition other than depression and a subsequent GH or STD diagnosis of depression.
- 6** Employees in category 6 had a GH depression diagnosis prior to their first STD, an STD claim for any condition other than depression and a subsequent GH or STD diagnosis of depression.



## Appendix 2:

*Components of Lost Productivity Among Depressed Employees*

We simulate the components of depressed employees' health-related lost productivity by combining (1) depression treatment prevalence and disability lost-day information from the Ingenix data with (2) untreated depression prevalence rates and sick-day/presenteeism information from the HPQ. Of the employees in the Ingenix data, 39,461 had at least one disability or group health claim for depression. Among these depressed employees, 29,106 had no STD claims. As a group, depressed employees had 220,200 lost business days for STD depression claims and 505,629 lost business days for STD nondepression claims. Because we observed these employees for an average of 32.8 months (about 2.73 years), this equates to 80,659 and 185,212 annual lost business days, respectively.

Twenty-eight percent of employees in the HPQ data reported depressive symptoms. Of these, only 30% reported ever receiving depression treatment. This indicates that for every depressed employee who receives treatment, there are roughly 2.33 (i.e.,  $70\% \div 30\%$ ) depressed employees who do not receive treatment. While we cannot identify untreated employees in the Ingenix data, we can infer that among the Ingenix employees with no claims for depression treatment 91,944 had depression for which they received no treatment (i.e.,  $39,461 \times 2.33$ ).

We estimate the total lost productivity for all employees with treated or untreated depression by summing the annual estimates

of (1) lost business days for STD depression claims, (2) lost business days for STD nondepression claims, (3) sick days, and (4) presenteeism (in days). We estimate sick days as the product of average sick days for depressed employees (2.162) and the number of depressed employees who had no STD claim ( $91,944 + 29,106 = 121,050$ ). This produces an estimate of 261,710 sick days.

We calculate presenteeism in the same way (i.e., 7.482 annual presenteeism days  $\times$  121,050 employees) to produce the equivalent of 905,696 lost days. Because we take disability lost days as the only sources of lost productivity for depressed employees with an STD claim, our estimates of total sick days and presenteeism for the entire group of depressed employees are conservative.

The table below shows the estimated amounts of lost productivity for each category as well as the percentages of total lost productivity.

	Lost Business Days	Percentage of Total
Total lost disability days for STD depression claims	80,659	5.6%
Total lost disability days for STD nondepression claims	185,212	12.9%
Total sick days	261,710	18.3%
Total presenteeism	905,696	63.2%
Total lost productivity	1,433,277	100.0%

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## Actions for American Business Today: Expert Tips

The key findings from IBI's workforce depression research uncovered a broad range of depression impacts not altogether obvious for employers who may tend to focus only on such claims results as the wage-replacement costs of STD where the disability diagnosis involves depression. To help employers know how best to invest their valuable resources in this time of increased demand for them, IBI invited experts from among its employer and supplier members to suggest ways to meet the challenges and the costs of depression and other behavioral issues in the workforce.

### EXPERT TIP #1

Promote a corporate culture in your company that effectively manages stress and behavioral issues, communicates that orientation, and fosters and promotes early identification of potential depression cases for intervention.

- **Consistently tell your employees** that they can access benefits and services when depression comes into their lives—and that you *want* them to.
- Because depression is often associated with high work demands coupled with lack of control, what can you do, within your business model, to **empower your employees to bring their own ideas and ingenuity to bear on how to be most productive**? Avoid the causes of depression in the first place as the best solution of all.
- **Be sure your wellness program addresses mental well-being and not just cholesterol levels or blood-pressure numbers.** Is your wellness program getting people up, out and doing? One MSB member suggests that depression spreads through contact with sofas, reclining chairs and junk food. Remember that the biggest ROI from wellness is not in health plan utilization but in productivity and in STD and WC events that don't happen.
- **Aggressively identify and treat depression**, especially in jobs/segments of your employee population that your data show are more likely to have disability claims.
- Don't overlook the fact that a poor job fit (due to a bad hire, lack of training and/or poor supervision or low morale) and other nonhealth factors may be causal to both disability claims and mental health status. **Look for patterns of disability and depression for clues in your workforce.**
- Depression usually doesn't occur suddenly but percolates over time. **Train your supervisors on depression** (as well as chemical dependency) to minimize bias related to behavioral health impairments. Depression can have a significant impact on your employees'

job performance. One managed behavioral health organization found that 47% of those claiming psychiatric disability had a prior documented performance problem. Supervisors should know that signs of depression are often similar to performance problems: inability to concentrate, reduced output, higher absence and strained work relations. The employee assistance program can present this training and encourage EAP referrals.

*Thanks to the IBI members who constitute the Member Solutions Board for this research and who submitted employer action items: Aetna, Aon, Benfield Group, Bristol-Myers Squibb, Broadspire, Cisco Systems, Eastman Chemical, Nationwide, Towers Perrin, Unum and Whirlpool.*

## EXPERT TIP #2

Establish disability management/return-to-work programs that move your disabled workers away from a disability paradigm.

- This study provides another important rationale for aggressive return-to-work programs. **Getting your people back on the job, even if in limited, transitional work, likely will reduce the risk of sadness and depression.** Assess cognitive demands of jobs to determine challenges or variables that can be modified for successful RTW flexibility.
- Rather than focus on defining work restrictions and limitations for the employee with depression, **develop a work prescription format to make staying at work or returning to work part of the behavioral health treatment plan.** Applying incremental pathways back to work supports continued productivity during treatment and is a great approach for individuals with behavioral health impairments.
- **Maintain work contact with your disabled employees.** Consider aggressive communications from supervisors that affirm their value as employees. To help alleviate fears, use calls or notes to express concern for their condition, encourage their recovery and anticipate their return to work.

## EXPERT TIP #3

Engage a disability supplier that will aggressively manage psychiatric disabilities and get beyond the disability diagnosis on the doctor's report. They should look at claims horizontally—probe for family and social or work/life issues when they talk to the claimant.

- Require your disability administrators to **screen disability claims for signs of co-morbid psychiatric issues and depression**, and refer depressed claimants to the health plan or behavioral health supplier/EAP for condition management support and a return-to-health result.
  - **Manifest a case management philosophy with RTW as a treatment goal**, not simply the resolution of the disability diagnosis. Promote early, aggressive contacts with the employee, line managers and treating physician to identify RTW obstacles, communicate job responsibilities and duties, and set a frame of reference for recovery. Supplement telephonic case management with behavioral health clinician advisers.
  - **Conduct a disability management audit** to ensure that your supplier has the expertise and the protocols to identify and manage depression for early return to work and avoidance of multiple claims with links to depression. Develop consistent protocols for patient referrals among your suppliers of disability management, disease management, wellness and EAP.
- **Get inside your supplier's process model**—what questions they ask, what information they collect and how they decide when to intervene in a claim that may become “iffy.” If it's the same old “red flag” list you've seen before, get another claim team. The standard models do a poor job of handling co-morbid depression—just look at the results of this study.
  - As an alternative to a single-shot depression screen for disability claimants, which is limited and may result in a false positive, the claims or disability manager can **develop a well-defined work prescription, then monitor the relative progress in a return to productivity or whether the worker is gaining from treatment.** Lack of progress can be a strong risk factor for depression as a co-morbid contributor to extended disability. Correspondingly, such a connection can lead to a more timely resolution of why the person may be stuck.
  - Include in your plan language the requirement that your **employees with behavioral health disability be treated by mental health professionals**; those on psychiatric disability leave of more than two weeks should be under the care of both a psychiatrist and a psychotherapist. Require that the “attending physician statement” addresses important psychological spheres: cognition, emotion and behavior. A behavioral health-focused form can get to the level of psychological detail necessary to tell whether the employee is impaired from performing the core elements of his or her job.
  - Finally, have your absence management vendor **ask about and offer services to family members who also are affected when the employee is on disability.** Leaving an untreated source of stress in the employee's family can lengthen disability duration.

**EXPERT TIP #4**

Integrate, either internally or through a single or coordinated vendors, clinical and system capabilities across all your benefits initiatives and programs.

- Such an alignment in philosophy and practice can help **ensure that employees are receiving information and resources specific to their health needs** (thereby minimizing anxiety about illnesses due to lack of information and/or support).
- **Such coordination is especially important for your behavioral health providers** to enhance identification of emerging depressive features following a nondepression STD claim.
- **Consider co-locating health plan case management with your absence-management intake** for a smoother, earlier coordination of essential services.

**EXPERT TIP #5**

Collect and monitor data to identify trends, results and needed program improvements.

- **Employee self-reporting tools, such as IBI's HPQ-Select, will identify the medical conditions most costly to your company in total costs**, which are not likely to be identified by focusing only on your medical and prescription drug claims.
- As an alternative to a stand-alone lost-time survey tool, you might **require your wellness supplier to add meaningful absence and presenteeism questions** to your employee health assessment.
- **Create incentives** (financial and ease of process) within your health and disability benefits program suppliers to encourage them to coordinate, merge or aggregate your data.
- Research suggests that small to medium-sized employers (with workforces of fewer than 250 employees) have the highest incidence of STD depression claims. To effectively manage these claims, **associations that pool employers for health insurance or health trusts should create a reliable database** to track such patterns across small to medium-sized employer groups.

## EXPERT TIP #6

Mental health parity requirements provide a wonderful opportunity for employers to fine-tune mental health benefits and treatment as a productivity instrument (and not just grudgingly meet the minimal requirements for compliance).

- **Reach out to your benefits administrators and appropriate internal public relations about mental health benefits to take the message to employees**—the benefit can be a win-win for your company and your employees.
- Make your benefits consultants earn their fees by requiring them to **design a mental health benefit that employees can use without having to take time off or deal with unrealistic copays.**
- **Find ways to make outpatient mental health especially easy to access** with attention to who is in the networks and where they are located.
- **Improve treatment for depression and proper use of medications.** Many medical and mental health plan administrators offer enhanced care management services (e.g., depression disease management) for those with depression.
- Most depression sufferers (70%) do not take prescribed medications long enough to determine whether they are effective, and nearly half of those taking antidepressants report side effects that often lead to discontinuing the medication. **Align your education and copay programs to guard against such underuse.**
- Research shows that most (60%) antidepressant medication prescriptions are written by primary care physicians and that underdosing is common (35%). **Interventions to improve the effectiveness of antidepressant prescriptions** are often part of depression disease management programs.
- **Encourage use of commonly prescribed psychoactive drugs that address depression.** IBI research shows the self-defeating nature of making drugs too expensive for employees to use them correctly.<sup>20</sup> Depression medications are likely to be close to the top of the list of drugs that can benefit from such value-based benefits design.
- Given the prevalence of depression in the workforce and the degree to which it is not currently treated, it may be appropriate to **screen all workers using the PHQ-9 questionnaire**<sup>21</sup> (the nine-item depression scale of the Patient Health Questionnaire), which employees can complete and return to their primary care physician.

<sup>20</sup> Jinnett, Parry and Lu (2007). <<http://ibiweb.org/do/PublicAccess?documentId=519>>

<sup>21</sup> For information, see <http://www.depression-primarycare.org/clinicians/toolkits/materials/forms/phq9>.

## EXPERT TIP #7

Include an EAP as part of the benefits package offered to your employees and promote earlier EAP intervention to avoid or reduce medical and disability costs, absence and presenteeism.

- **Ensure that your EAP is designed to really work.** Inexpensive EAPs may substitute Web pages or mailings for meaningful interactions with employees by clinicians. This study shows exactly why a cheap alternative may be penny-wise, pound-foolish. Especially look for an EAP with effective counseling services that sit outside the copay barrier. An EAP able to work with the employee who is on the brink, having problems coping but not desperate, is a great way to intervene before the problem turns into an STD or WC event.
- That's not to say that self-care resources for depression aren't important. Poor treatment outcomes are often due to a lack of understanding about how to take prescribed medication, when psychotherapy should be considered, how to select a therapist and where to turn if treatment is not working. **Review Web-based depression resources that your EAP and behavioral health plan offer.** Such resources should include comprehensible articles and links, information about common medications and a depression self-screening tool.
- To reduce employee anxiety, stress and/or depression, **make sure your EAP targets a full range of issues:** behavioral health, wellness and life management issues; financial, job security and legal issues that arise in difficult economic times; addictions; and family problems, such as divorce, domestic violence, parenting and child care.
- **Company-sponsored wellness fairs should include depression and anxiety screenings.**
- **Use an EAP to educate/counsel managers who directly supervise employees** regarding mental health signs/symptoms (identification of employees at risk) and how to avoid creating unnecessary stress during performance reviews or job actions.
- **Stress mental health outreach in the EAP.** Consider including requests for assistance and counseling in the health assessment if your program is equipped to respond quickly. Offer focused seminars on stress, substance abuse and conflict resolution.
- Don't offer or advertise counseling services, however, until you are **sure your EAP can handle any foreseeable demand.** Offering counseling and then not delivering will damage your ability to continue to engage.
- As a trigger for offering/promoting EAP interventions, you also might **consider other life event changes** (e.g., birth, death, marriage, divorce and a new child).

The **Integrated Benefits Institute** (IBI) provides employers and their supplier partners with resources to prove the business value of health. As a pioneer, leader and nonprofit supplier of health and productivity research, measurement and benchmarking, IBI is the trusted source for benefits performance analysis, practical solutions, and forums for information and education. IBI's programs, resources and expert networks advance understanding about the link between—and the impact of—health-related productivity on corporate America's bottom line.

For more than a decade, IBI has been in the forefront, leading businesses from concept to reality in integrating health, absence and disability management benefits as an investment in a productive workforce. IBI's independent, cutting-edge approach and innovations consistently provide added value to a prestigious roster of employers, from leading corporations to small companies as well as their benefits management business partners.

IBI is committed to and invested in groundbreaking analysis of health, productivity, disability and absence issues as they cut across traditional health-related benefits, as well as expanding and enhancing its proven suite of measurement tools. Tackling the latest business challenges with state-of-the-art research, insights and thought leadership, IBI provides companies with robust and actionable integrated health and productivity benefits strategies. In close collaboration with frontline experts working on today's critical business issues, IBI helps employers blaze a new trail both to superior benefits management in alignment with company objectives and to proving the business value of their health investment.

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