The Business Response of Employers to Absence

ANALYTIC CASE STUDIES IN THREE INDUSTRIES:
UTILITIES, FINANCE AND RETAIL

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Executive Summary

Few companies track health-related absence, and those that do know little about its actual impact on their business. The Integrated Benefits Institute (IBI) and other researchers can model the business impact of employers' likely responses to absence. Little has been done, however, to investigate the actual response and its business effects for individual employers with different business models and under different business circumstances.

This new study by IBI and research partner Dr. Sean Nicholson of Cornell University takes steps to fill that need. We examine the true costs of absence by showing how a regional power company, a financial services employee call center and a major national retailer actually respond to absence from work. Further, this study quantifies the business result of each response and explores the implications of that response for companies and managers.

A key conclusion from the research is that, in general, the true costs of absence exceed the costs of wage-replacement benefits plus the costs of replacement workers. The business results from absence vary in sometimes surprising ways, however, depending on the employers' business and practices, including the flexibility of their absence response, staffing decisions, output requirements and compensation program.

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The **Integrated Benefits Institute** is a nonprofit, member-directed organization supported by employers and their benefits products and services suppliers that have an interest in integrating employee benefits and investing in workforce productivity through improved workforce health and managing disability.

To best serve the needs of employers and employees, IBI identifies and analyzes health, productivity, disability and absence issues as they cut across traditional health- and productivity-related benefits.

IBI's programs include research and health and productivity educational forums. IBI also provides a full range of health-related benefits performance measurement, benchmarking and database tools.

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Key findings from the three case studies:

- In practice, absence costs for individual employers exceed the simple costs of wage-replacement benefits. The cheapest form of additional costs can come when regular replacement workers are available to fill in. When no replacement employees are available, premium pay for overtime or temporary employees is a significant added cost.
- Absorbing the costs of absence-related reduced output or service disruption can be the most expensive option of all. Depending on the "client" served—whether internal employees or external customers—not providing adequate service in busy times may appear to be the least risky response in the short term. In the longer run, however, this option is likely to be more expensive than would be more flexibility in replacement hiring because of lost revenue, which must be higher than the marginal cost of workers.
- Employers with a paid-time-off plan still should track leaves by type and whether they are scheduled. Unless such information is available, it is difficult to know how to manage around the absences and, in cases of health-related absence, how much may be prevented.
- Sometimes costs of absence may be obscured by other, more disruptive issues in the workplace. These can include inadequate or excessive staffing overall or a misaligned compensation system.
- Even within the same company, the real business impact of lost time may not be uniform across departments or by season. Managers must be armed with the relevant information for their particular business model to make targeted decisions in mitigating the costs of health-related lost time.
- When a fixed volume of output is required (or where an employer can sell all it produces), there are fewer absence-replacement options. Where a pool of replacement workers isn't available and where absence is uneven, paying overtime at premium pay rates is a rational response.
- Unscheduled absences hurt business. We found a strong relationship between unscheduled absences and higher production costs, either in increased staffing or reduced productive output. Because health-related absence accounts for the largest portion of unscheduled absence, employers should manage workforce health more effectively to reduce these added costs.
- Employees have an interest in controlling unscheduled absences, as well. All things being equal, in the long run the employer's opportunity costs associated with unscheduled absence will be passed on as a wage reduction.

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Why Study Health-related Lost Time?

Fewer than 20% of large companies track the incidence of or payments for health-related absence to their business.[1] For those that do, researchers are developing means for estimating the business impact of a likely response.[2,3] Little has been done, however, to determine how individual employers, with different business models and in different business circumstances, actually respond to such absence.

Also, little is known about the real costs around those responses and how that response affects the business. Such real-world information would be of value to allow employers to modify researchers' estimates to reflect an employer's own operations and likely responses.

This investigation takes steps to fill that need and examines the true costs of absence by showing how several employers, across a variety of industries and operating models, actually respond to absence from work. Further, this study quantifies the business result from each response.

IBI partnered in this work with Dr. Sean Nicholson, associate professor and economist at Cornell University, to examine absence-management practices and results for a regional power company, a financial services employee call center and a major national retail establishment.

[1] C. Navarro and C. Bass, "The Cost of Employee Absenteeism," *Compensation Benefits Review* 38 (26) (2006).

[2] S. Nicholson, M. Pauly, and D. Polsky, "Measuring the Effects of Work Loss on Productivity with Team Production," *Health Economics* 15: 111–123 (2006).

[3] S. Nicholson, M. Pauly, and D. Polsky, et al., "How to Present the Business Case for Health Quality to Employers," *Applied Economic Health Policy* 4 (4): 209–218 (2005).

Quantifying Lost Time

Unfortunately, most employers that capture absence information consider only the resulting wage-replacement payments as absence costs. Others estimate absence costs in the traditional economic model, based on the absent worker's wages multiplied by the time lost, still resulting in severe underestimations for most employers.

Over the past nine years, IBI has developed a way to view the relative costs of a variety of responses to absence *in addition to the costs of wage continuation benefits for employees* who are out of work for health-related reasons.

These additional costs are in the nature of what economists refer to as "opportunity costs," that is, a substitute for the advantages an employer could have received by not having the absence occur. These costs are particularly relevant as "lost productivity" in the context of human capital and represent a commitment of financial resources to replacing absent workers that could be used productively elsewhere in the business.

In the graph to the right, the relative costs of each response are shown per full-time equivalent based on results from IBI's 2002 Full Cost of Absence survey.

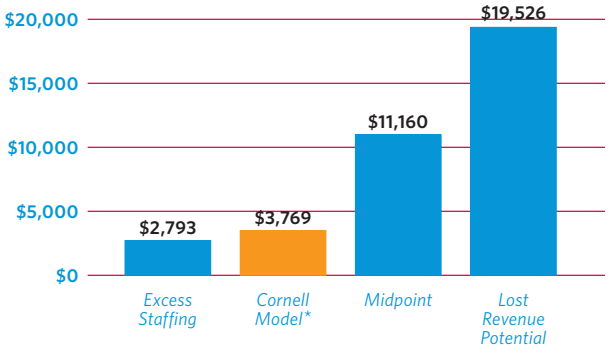
The least expensive response, shown as "Excess Staffing" on the left end of the exhibit's scale, represents the cost of a replacement worker who is readily available, such as from a union hiring hall, or who is already on staff. In addition to the wage-replacement payments to the absent worker, these additional costs amount to the replacement worker's wages plus benefits. They are conservative in that they don't include training costs for these extra workers or the income forgone that could have been generated by other uses of these funds by the employers—opportunity costs.

Of course, employers seldom have the luxury of knowing who will be absent on a given day or having substitutes available who are fully trained to step into the shoes of absent workers. For some employers, this isn't as difficult, for example for route truck drivers or for cross-trained assembly line workers.

To the far right of the scale is the most expensive option: losing the revenue that the absent employee could have produced. For many employers—those that can sell all they produce—this cost is high and has further implications unmeasured in this model, such as loss of goodwill and customer dissatisfaction from missed deadlines or failing to meet contractual obligations. Employers can identify where their own strategies fit into this range, combining such responses as paying overtime, hiring temporary workers at premium pay and losing part of expected revenue due to less skilled replacement workers.

LOST PRODUCTIVITY COST RANGE FROM ABSENCE

By average cost per full-time employee (FTE)



* S.Nicholson, M.Pauly, and D.Polsky, "Measuring the Effects of Work Loss on Productivity with Team Production," *Health Economics* 15: 111–123 (2006).

Source: 2002 IBI Benefits Benchmarking Data

The Lost-productivity Multiplier

Nicholson and Pauly provide additional means to estimate such opportunity costs.[4] They find through research on 800 employers that the real cost of absence is a function of the ease with which the employer can replace employees, the time sensitivity of their output and the degree to which employees work in teams. The position on the scale labeled "Cornell Model" in the exhibit on the previous page shows this cost impact as an average multiplier across industries of the basic wage plus benefits for absent workers.

Using this multiplier, IBI estimated the potential cost of lost productivity for lost time by program for the 87 employers that participated in IBI's Full-cost Benchmarking Program for 2002 benefits. Though the sample is not nationally representative, these employers generated $1.3 trillion in operating revenue and employed a workforce of 3.3 million. These results demonstrate the profound additional cost effect of lost productivity from absence—over and above benefits payments—by program for these participating employers.

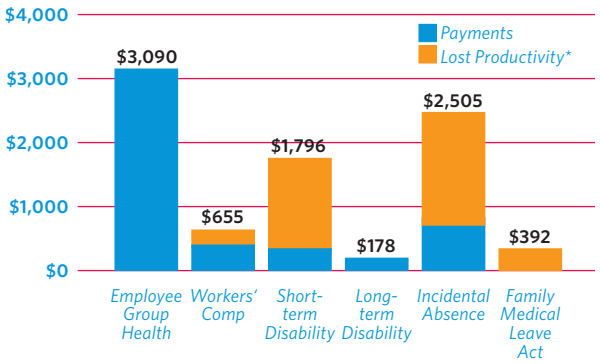
In IBI research,[5] CFOs report how their companies commonly respond to absence. Their responses mirror the opportunity costs of absence suggested by the range of potential responses shown in the graph on the previous page.

[4] S. Nicholson, M. Pauly, and D. Polsky, "Measuring the Effects of Work Loss on Productivity with Team Production," *Health Economics* 15: 111–123 (2006).

[5] *The Business Value of Health: Linking CFOs to Health and Productivity*, Integrated Benefits Institute (May 2006) <www.ibiweb.org/publications/research/50/>

REAL COSTS BY PROGRAM

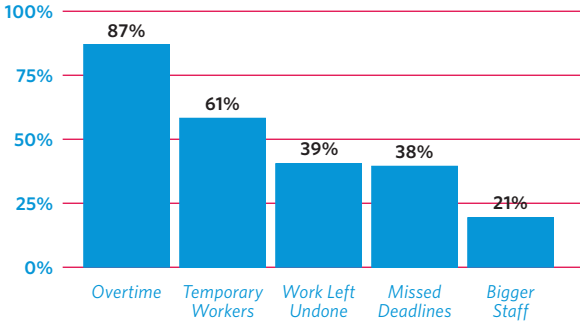
By average cost per FTE



* 1.35 Nicholson Lost-Productivity Modifier

Source: 2002 IBI Full-cost Benefits Data

HOW COMPANIES RESPOND TO ABSENCE



Source: *The Business Value of Health: Linking CFOs to Health and Productivity*, Integrated Benefits Institute (May 2006) www.ibiweb.org/publications/research/50/.

Real-world Execution

Instead of attempting to estimate the likely response of employers to absence, this paper goes the other way. Here we identify the actual response to absence for individual employers based on their own unique circumstances. We use the results as a basis for suggesting how responses might be tailored to other, similarly situated employers.

Further, this paper deals only with absence and doesn't estimate the presenteeism effects of ill health (continuing to work while in ill health but at a lower capacity due to the health condition). A variety of instruments now are available to allow employers to quantify those costs as well, which can amount to two to three times the cost of absence alone.[6,7]

One thing is clear: Health-related absence can have a real impact on important business results. Failure to measure anything but the most apparent costs (e.g., wage-replacement payments) will seriously hamper accurate analysis and sound business decisions.

[6] S. Mattke, A. Balakrishnan, G. Bergamo, and S. J. Newberry, "A Review of Methods to Measure Health-related Productivity Loss," *American Journal of Managed Care* 13 (44): 211–217 (2007).

[7] M. Prasad, P. Wahlqvist, R. Shikiar, and Y. Tina Shih, "A Review of Self-report Instruments Measuring Health-related Work Productivity: A Patient-reported Outcomes Perspective," *PharmacoEconomics* 22 (4): 225–244 (2004).

Case-by-case Review

In this section, we briefly review and draw likely conclusions and observations from the analysis conducted by Dr. Nicholson of three companies that had available some form of production data and absence data. These companies vary by the additional data they can report, the industry they are in, their compensation programs, their output requirements and the characteristics of their "clients."

We find major differences in the way these employers respond to absence as a likely result of all the above characteristics. Employers should consider these differences in working to quantify lost productivity from lost time for their own operations.

Case 1: *Regional Power Company*

Lessons Learned

This analysis covers absence for employees at six power plants operated by a regional power company. At this company, a level of output is mandated yet the absence of skilled workers is highly variable over the year. Unless there is a pool of workers willing and able to step into variable, temporary openings, management has little choice but to fill the labor vacuum with overtime pay. When this occurs, the additional costs of absence are substantially more than wages plus benefits multiplied by lost time. Here, the output is fixed by mandate, but for other employers that can sell the entire product they make or that face fixed deadlines, the response options may be similar.

Overview of Data Provided

For every month of 2003 and 2004 and for December 2005, the power company could provide us only the following information for six different power plants:

- *Kilowatt-hours of output—scheduled and actual*
- *Salaries and wages—scheduled and actual*
- *Overtime costs—scheduled and actual*
- *Headcount—scheduled and actual*
- *Paid-time-off incidence*

Burden of Absence

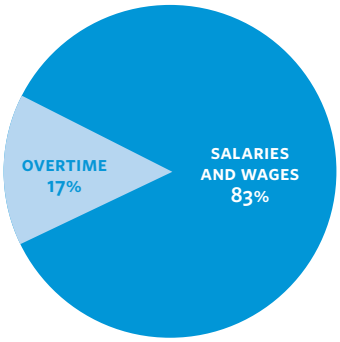
This company's paid-time-off (PTO) program does not distinguish between sick pay, vacation pay, family-related leave and pay for other types of leave, nor does it track absence by cause. Thus, for this company all direct benefits costs and incidence information are combined into one bucket and are not available in a form that allows analysis of health-related absence or whether the absence is scheduled or unscheduled. It is important to note here that the existence of a PTO policy, by itself, need not restrict the collection of such information essential to the fine-tuning of health and productivity management.

Over the three-year study, employees were absent and drawing PTO for 8.9% of total scheduled hours. The PTO rate does not vary much among plants, ranging from a low of 8.3% to a high of 10.3%. Absence does vary substantially, however, within each plant from month to month. For example, the monthly PTO rate in one plant ranged from 3.7% to 23.9% during 2003.

PTO includes substantial scheduled time off for vacation. Because this company doesn't differentiate in its recordkeeping between scheduled and unscheduled absence and PTO by cause, fluctuation can be expected as employees choose which vacation days to be away.

For this employer, overtime represents 17% of total labor costs for the average plant on a monthly basis.

POWER PLANT AVERAGE MONTHLY LABOR COSTS



The Power Company's Response to Absence and Its Costs

We can make several observations about the effect of absence on output and labor costs for these six power plants that will help employers understand how this employer—in its particular situation—responds to absence and the resulting costs. (Details on methodology can be found in Appendix 1: Regional Power Company.)

- **PTO absence doesn't affect plant output.**

  The power company's management predicted at the outset of the project that a plant's output is not related to absence due to regulatory constraints that require utility companies to provide the power demanded by the community. Our analysis confirmed that prediction.

- **PTO absence does affect labor costs.**

  Analysis showed that absence *does* affect labor costs. That is, when a plant's PTO rate is high relative to that plant's average, actual labor costs necessary to ensure a fixed level of plant output, including PTO salary continuation, are higher.

  For this employer, when a typical worker is absent for a single day the cost to the power company is $197—64% more than the $120 daily wage of a worker. For the average plant in the sample, this translates into an additional $1,670 in total additional labor costs per plant for a month.

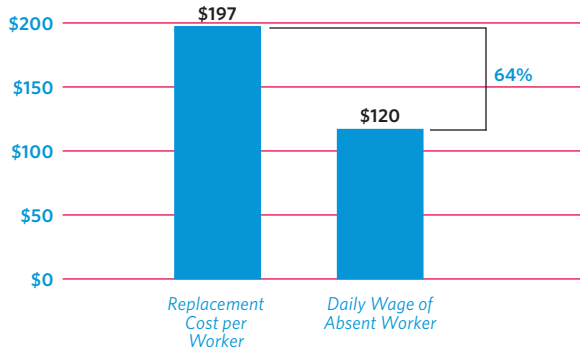
  Each power plant is required to maintain a continuing level of output, which can be met only by ensuring that skilled workers are on the job. A rational response to unusual spikes in absence requires premium pay at overtime rates, especially in areas where there isn't a pool of skilled workers readily available, temporarily, to come on the job. Overtime costs represent approximately 17% of total labor expenses, so this explanation seems plausible. Each year, the six plants spent $3.5 million on overtime. Overtime is used for a variety of reasons, including worker absence, planned outages that occur periodically for maintenance and other improvements, and unexpected events such as downed power lines.

- **How costly are absences in total?**

  Using the average PTO absence rate of 8.9%, the annual cost in overtime to the power company to replace all workers on PTO across all six power plants is $1,070,000. If the power company could reduce PTO by 10% through improved health, this would translate into an estimated savings of $107,000 for employees of the six power plants.

ABSENCE COST BURDEN FOR POWER PLANT

Replacement cost differential per day



Insights

- In theory, employing excess staff to handle absence is the cheapest way to respond to lost productivity from absence. It is the cheapest strategy overall, however, only if it doesn't result in periodic overstaffing that offsets any savings. When absence is highly variable, as here, it would be difficult not to be overstaffed for many months of the year if such a strategy were chosen.
- Simply not making the product is an expensive but viable option for most employers but is not an option here, where a given output is required.
- If we assume that most power plants for this employer are not located near pools of skilled, temporarily available workers, overtime is likely the best choice. Accordingly, although absence does not affect plant output, it does affect labor costs.
- For this employer, labor costs to replace an absent worker are 64% more than the costs of the worker who is absent—in addition to the PTO salary replacement paid the absent worker.
- The 64% in additional cost to replace an absent worker is equivalent to a health-related absence multiplier of 1.64 using the methodology discussed above that was developed by Dr. Nicholson and his associates. Although it is speculative, the cost here may be roughly equivalent to that estimated for utilities at 1.41.[8] The average multiplier across all industry groups is 1.61.[9] Perhaps the cost is higher here given the skill level and the availability of the workforce that would be necessary to tap to replace absent workers for this employer and the region in which these power plants are located. Costs also may be exacerbated by the relative inability of this employer to track and better manage its PTO program.

[8] S. Nicholson, M. Pauly, D. Polsky, et al., "How to Present the Business Case for Health Quality to Employers," *Applied Economic Health Policy* 4 (4): 209–218 (2005).

[9] S. Nicholson, M. Pauly, and D. Polsky, "Measuring the Effects of Work Loss on Productivity with Team Production," *Health Economics* 15: 111–123 (2006).

Implications for Companies and Managers

Without knowing more about the preventability of PTO absence here, paying overtime appears a reasonable response to absence for this employer. To offer insight into how absence for these six plants might be managed more effectively, more information is needed about whether the PTO is unscheduled and health related. As seen by the call center case study later in this report, employers can track the cause of PTO absence and can quantify the extent to which it is unscheduled. If a substantial portion of the PTO is in lieu of sick pay, peak absence periods may be managed and moderated through prevention initiatives and wellness and disease management initiatives.

One thing is clear: The costs of absence for this employer are more than wages multiplied by lost time—the traditional means used by economists to monetize the costs of absence. Knowing these excess costs and the full scope of available savings can help managers present a full return on investment to support health and wellness initiatives.

Case 2: *Financial Services Call Center*

Lessons Learned

This analysis covers employees at a financial services call center that handles all human resources, benefits and payroll issues within the company. Here, the "customer" is an employee who is seeking advice and assistance. In the call center, unscheduled absence was an important driver of performance problems for the department. We also found that the common employee practice of scheduling PTO during less busy days of the week and months of the year actually helped adjust the workforce to meet workload demands. Still, performance suffers during the busy times more than in less busy times. This employer may need to consider making hiring more flexible on days of unusually high unscheduled absence and during periods known to be busy.

Overview of Data Provided

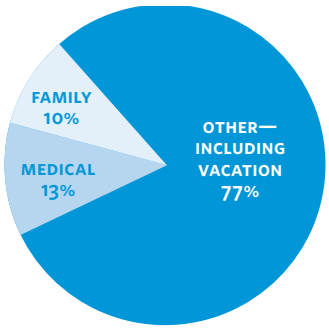
The financial services call center provided a rich linkage of types of PTO leave to absence days that were not available for the other two case studies. We were given blinded data on the number of PTO hours by employee, by day, for calendar 2006—for a total of 251 workdays. Also included were the number of hours of PTO per day, the cause of the PTO (e.g., family, health, other) and whether the PTO was scheduled or unscheduled.

More than three-fourths of PTO is taken for vacation and other leave programs. Thirteen percent is taken for medical reasons, and 10% is taken for family-related leave.

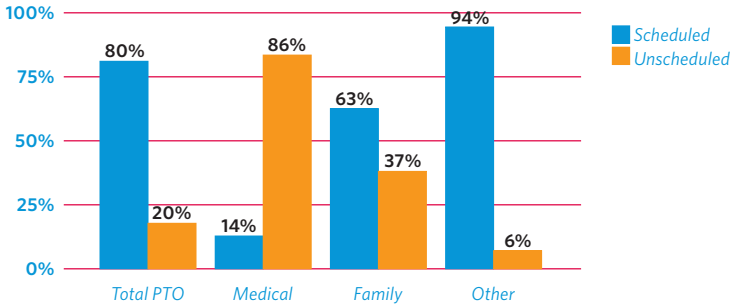
Most PTO hours were scheduled rather than unscheduled. Medical-related absences averaged 2.4 hours of the 18 PTO hours averaged per day. Although medical reasons represented only 13% of the total PTO hours, 86% of medical absences were unscheduled.

Medical-related PTO is scheduled 14% of the time, however, and constitutes 57% of unscheduled time.

CALL CENTER PTO HOURS BY REASON



SCHEDULED/UNSCHEDULED ABSENCE BY TYPE



Burden of Absence

The financial services call center reported 18 PTO hours per day on average. Thus, for the 18 workers reported as employed by the call center, PTO represented 12.5% of available hours, assuming an eight-hour day.

The call center also provided three performance measures and one output measure for each day of calendar 2006. The employer linked to each of the four measures de-identified employee data by type of PTO hours—family, medical and other—and whether scheduled or not.

Performance measures:

- Percentage of calls answered within 30 seconds
- Average number of seconds for a phone call to be answered
- Number of abandoned phone calls (i.e., the question was not resolved or the call was not answered)

Output measure:

- Total number of contacts with employee clients: the sum of calls answered, e-mails answered and walk-ins

According to management, it has established targets for two of the three performance measures:

- Answer 80% of calls within 30 seconds
- Fewer than 5% of calls abandoned

On average over the calendar year, almost 77% of calls were answered within 30 seconds, calls were answered in just under a minute on average and 3.9 percent of calls were abandoned.

Workflow varies widely, with the department's busiest months in October, November, December, January and February. This corresponds to the benefits enrollment period when employees are likely to call the department with questions. Additionally, Mondays and Tuesdays were the busiest days of the week. Further, data showed that there were fewer contacts from customers on days with a high number of PTO hours.

The department's performance is worse during many of these busy months and days. As noted above, on average the department answered 77% of calls within 30 seconds over the entire year. The department did much worse, however, in November (32%), December (23%) and January (52%). The percentage of calls answered within 30 seconds on Mondays is 7 percentage points lower than on Wednesdays. A similar pattern exists for the average number of seconds required to answer a call and the percentage of calls abandoned.

The Call Center's Response to Absence and Its Costs

We can make several observations about the effect of absence on performance and output for this call center department. (Details on methodology can be found in Appendix 2: Financial Services Call Center.)

- **Effect of unscheduled PTO on performance:**

  In theory, managers should be better able to adapt to scheduled PTO—assuming they have flexibility in scheduling the work, hiring flexibility or access to overtime or part-time workers—compared with when it is unscheduled. To test this, we compared the three performance measures for scheduled PTO versus unscheduled. We found that the more unscheduled PTO hours, the worse the department's performance for all three performance measures. We also found that there is no effect on the department's three performance measures related to a high level of scheduled PTO. Because medical-related absence is highly likely to be unscheduled absence, medical-related absence may be a principal driver of the negative effect of unscheduled absence.

  If an employee's absence is unexpected, say, for a health condition, analysis predicts that the percentage of calls answered within 30 seconds would be 2.3 percentage points lower on that day per employee unexpectedly absent (from the baseline average of 76.6% to 74.3% for that day); the average time to answer a call would increase by 17.7 seconds (from 59.4 seconds to 77.1 seconds) and the percentage of calls abandoned would increase by 1 percentage point (from 3.9% to 4.9%).

- **Do total PTO hours affect the department's performance/output?**

  We also examined whether a relatively high level of PTO incidence—for both scheduled and unscheduled absence—had an effect on the three performance measures and the one output measure. We found no relationship between a high number of PTO hours in a day and the three performance measures: percentage of calls answered within 30 seconds, average number of seconds to answer a call and percentage of calls abandoned. We did find, however, that there were fewer customer contacts on those days that have a high number of PTO hours.

  Because we found no relationship between the extent of PTO and the three measures of performance, a good explanation is that employees tend to take PTO on days or months that they expect not to be as busy, that is, when they expect a relatively small number of calls, e-mails and walk-ins.

  Based on the data and the discussions with managers, this is both likely and possible because the department schedules the same number of workers each month and each day, but the amount of work is highly variable.

- **Is PTO more detrimental when it occurs on a busy day or during a busy month?**

  PTO may be particularly costly or disruptive when it occurs on a busy day or during a busy month. To test this, we associated scheduled and unscheduled PTO hours with busy days and months and non-busy days and months.

  First, we found that there is more scheduled PTO at times when there are fewer contacts with the call center by employees. This confirms our hypothesis that employees tend to schedule their PTO on days when the department receives few inquiries and that PTO in and of itself does not cause fewer contacts.

  We also found that the effect of unscheduled PTO on performance measures is as bad, but no worse, on busy days or during busy months than when the call center is less busy. This finding also begs the question of how bad the effects of unscheduled absence are regardless of their occurrence during busy versus less-busy times.

Insights

- The analysis demonstrates that unscheduled absence negatively affects performance and productivity. As unscheduled absence increases, performance and productivity decline. Further, it is possible that some of the family and personal reasons could be classified as health related, and some of the health-related PTO may not be reported as such.
- Apparently, this employer's relatively inflexible scheduling practice is eased by the employee practice of scheduling time off when the workload isn't as high.
- Because for this employer 80% of PTO is scheduled, employee willingness to schedule time off during the less busy days and months means that the crunch of too few workers to handle the workload during busy times isn't as dire as it would be if employees scheduled PTO uniformly throughout the week and the year.
- But the employer's inflexibility in managing workload does mean that when there is an unexpected surge in unscheduled absence, regardless of whether it occurs at busy or less busy times, performance does suffer, presumably because the workload is too high for the remaining employees to handle and it isn't possible to bring in replacement workers.
- We also note that despite the fact that unscheduled absence alone does not result in poorer workforce performance during busy times compared with less busy times, performance nevertheless suffers during those times based on the three performance measures.
- If the clients for this call center were external customers instead of internal employees, however, the absence-response strategy adopted by this employer would be the one most expensive to its bottom line over the continuum of costs: i.e., forgoing revenue or missing deadlines.

Implications for Companies and Managers

It is apparent from our analysis that dealing with unnecessary unscheduled absence would assist in reducing absence-related performance problems. Because medical absence constitutes 57% of unscheduled time, it may be that managing such lost time through better health, managing treatment and managing absence would improve results for this employer. As mentioned to the left, health-related PTO may be under-reported or, even, unrecognized as health related. For example, they may be treated as "mental health days" that arise from job stress but not be specifically attributed to ill health.

In a situation like this, where the additional burden of unscheduled absence adversely affects performance at both peak times and slow times, it may be prudent to add staffing for this function overall. This may prove to be the cheapest response to absence, if such an option is available. Because the impact of unscheduled absence is the same at busy times as at slow times, using overtime or hiring temp workers to replace workers while out on unscheduled absence would work to correct the problem.

In addition, the fact that performance is worse during busy times independent of the effect of scheduled and unscheduled absence may mean that the seasonality and day-of-week burden needs to be dealt with by the employer. Because performance suffers during busy times, it may be possible to hire seasonal workers during the enrollment period or part time workers for busy days of the week in an effort to smooth out the workload independent of absence. One way an employer could determine when adding staff or using overtime would improve service to employees is to use its own performance standards as a measure of whether it is systematically understaffed. If, for example, the department's experience shows that performance doesn't meet standards when two or more employees are out on unscheduled absence, that threshold could be the trigger for asking employees to work overtime.

Another way to determine the efficacy of adding staffing overall would be to develop data on how much extra time other employees at the call center spend on the phone because of an unscheduled absence. Quantifying the additional time required and the negative impact on productivity would allow the employer to know if it is sufficiently costly to merit attention.

Finally, management may have chosen to put resources into serving customers directly rather than in assisting employees with benefits, payroll and human resource issues. Although this may make sense in the short term, there may be a long-term cost to the company in employee satisfaction and resulting turnover. In addition, the more time employees spend in getting answers to their questions from the call center, the less time they have to spend on customer-related issues. In the long run, these effects could have an impact on the company's bottom line as much as failing to promptly and effectively service customer calls would have.

Case 3: Major National Retailer

Lessons Learned

This analysis covers employees of a large, national retail store in three departments: clothing, cosmetics and women's shoes. In the shoe department, where volume, service and hustle can make a big difference in commission compensation, the more absence that occurs, the higher the sales. In the other two departments, the level of absence had no effect on sales. This case study shows how the effects of absence on business results and productivity may be obscured by other issues such as the staffing philosophy for a department, the type of compensation program in place (e.g., flat wages, base wages plus commission) and the relative skills and motivation of the workers remaining when others are absent.

Overview of Data Provided

For each day of September 2005 in three departments (clothing, cosmetics and women's shoes) at eight stores across the country, the department store provided data on scheduled hours, absences and sales results, by department, as follows:

- *The number of hours people in the department were scheduled to work*
- *The number of hours people were absent*
- *The number of replacement hours that were called in*
- *Projected sales based on day of the week, sales from the prior year and any scheduled events*
- *Actual sales and the number of customers who purchased any item*

Burden of Absence

We collected PTO absence information for each day of September 2005 in three departments (clothing, cosmetics and women's shoes) at eight department stores across the country. The PTO program for this employer combines sick pay and vacation.

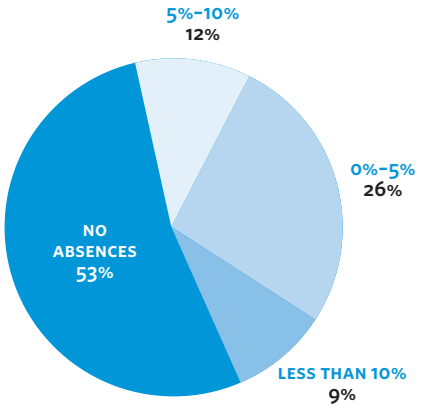
We received no data comparing scheduled versus unscheduled PTO, nor could the employer report PTO leave by cause, including health-related absence versus absence for other reasons.

On average overall, 3.2% of the employees scheduled to work were absent. Because only September was considered, what appears to be a relatively low absence rate could reflect a decreased likelihood that vacations are scheduled during this back-to-school month when summer vacation periods have just ended.

Absence varied significantly over the month, however. On about half the days observed, there were no absent employees in a department, whereas for 9% of the observed days employees were absent for more than 10% of the scheduled hours in a department.

PERCENTAGE OF SCHEDULED HOURS ABSENT

By day for all departments



The Retail Store's Response to Absence and Its Costs

We can make several observations about the effect of absence on output for these three departments. We found the results to be surprising and counterintuitive. Using statistical analysis, we examined how sales in each department were affected on days when that department experienced a relatively large number of absences. (Details on methodology can be found in Appendix 3: Major National Retailer.)

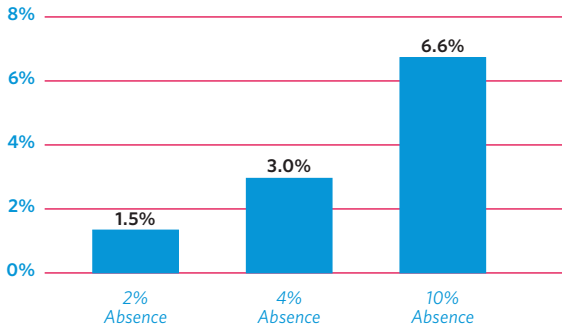
- **Absence increases sales for women's shoes.**

  For the women's shoe department, we found that sales are relatively high on days when absences in the department are relatively high. For example, where 2% of the workers were absent in a department on a particular day, sales were 1.5% higher than projected for that day. Where 4% of the workers were absent, sales would be 3% higher than projected. When 10% of the workers were absent, sales would be 6.6% higher.

  Associating increased absence with increased sales is consistent across levels of absence on a given day, duration of absence and the department's response. Results generally were the same when we: (1) compared situations where a department called in replacement workers and when it did not; (2) analyzed sales when absence was less than 5% and 10%; (3) examined absence over more than one day and (4) compared weekend and weekday absence.

IMPACT OF ABSENCE ON SHOE SALES

Increased sales at varying levels of absence



- **Absence has no effect in the other departments.**

  Further, we found that this surprising effect occurred only in the shoe department, with no increased-sales effect in the clothing and cosmetics departments. This may mean that these other departments may be actively managing absences and have developed effective ways of dealing with the costs of those absences for the business. We can't test this, however, until we can compare the human capital cost per unit of sales on high-absence days versus low-absence days for these two departments versus the shoe department. Unfortunately, the relevant data aren't available from this employer.

- **In the shoe department, employees appear more effective when absence is high.**

  We calculated the average amount purchased by a customer per department per day as one measure of the impact of the sales force that was present on that day. In the shoe department, customers tend to purchase more, on average, on a day when the shoe department has a relatively large number of absences. We did not find this relationship in the other two departments. In other words, the remaining employees in the shoe department, whether part of the regular sales force or comprising additional replacement workers, appear to be working more effectively. Though all three departments depend on base compensation plus commission, the shoe department requires constant attention of the sales staff to retrieve shoes for customers as compared with the self-service orientation of the other two departments.

- **Another way that absences could be costly:**

  Absences may not lead to reduced sales if managers build in enough extra staffing to ensure that absence doesn't affect revenue. But if this occurs here, the impact of potential absence is to drive up staffing costs rather than depress sales. We examined whether departments with high absence rates (measured at two levels: at least 5% and 10% of scheduled hours absent where 3.2% was average) had relatively low levels of expected sales per scheduled hour overall (a low value of expected sales per scheduled hour is consistent with a heavy staffing level). We found no such relationship, however.

Insights

- In the shoe department, something is going on beyond absence rates that enhances sales when absence is high. To the extent this is a counterintuitive result, the fact that absence doesn't decrease sales in the other two departments may indicate that something similar is going on in those two departments as well but perhaps not to as great a degree.
- As noted above, in times of higher absence the sales staff appears to be working harder or more effectively when there are fewer employees present. There may be several explanations for this that have little to do with the direct effects of absence, and the effect may not be sustainable over the longer term.
- It may be that employees who are less effective and motivated are more likely to be absent. This would leave better workers on the sales floor. Poorer workers also may choose to be absent on days they know will be busy, as they might on the day of a sale that is not built into the projected sales figure. Store management told us this is unlikely, as the base-pay-plus-commission compensation program that applies in each department should provide a strong incentive for workers to exceed their sales targets on busy days. It may be that for marginal workers, however, such an incentive is inadequate to ensure their presence on what they know will be an unusually busy day.
- One may question why the increased-sales effect occurs only in the women's shoe department. In this full-service store, shoes are available only if brought to the sales floor from storage by a salesperson. In the other two departments, there is likely to be less reliance on service for sales. It also may be that an effective salesperson brings out more than just the shoe requested, on the basis of, "If you liked that, you probably will like this." This would account for a higher sales volume per customer.
- When employees are absent, each worker who is present can earn large commission payments because there will be more customers available per worker. Basing compensation on base pay plus commissions would reward harder and more creative work in a way that flat compensation would not. The commission system probably creates the result that customers aren't ignored—in fact the opposite is true. Thus, lowered revenue—the most expensive response to absence—is not the absence replacement strategy used here.
- It also may be that replacement workers are more skilled than the workers who are absent. Anecdotally, store management told us that replacement workers can be drawn from store sales managers. These are likely to be superior salespeople who have been promoted. It would stand to reason that sales would increase when this type of worker replaces absent workers, regardless of the quality of the worker being replaced. There may be a tradeoff, however. If sales managers are working the floor, perhaps they cannot spend enough time on management duties—unless their jobs have the excess time built in to accommodate their serving as a replacement worker for absent employees.

Implications for Companies and Managers

Do these results imply that managers should encourage workers to be absent in order to boost sales? Absolutely not.

The finding that excess staffing is not an absence-management tool here is not surprising. On average, 53% of the time there is no absence in a department. Excess staff would be unproductive during those periods. Although in the short run the department store would pay less for unproductive staff using a commission basis, in the long run this strategy would result in losing the harder-working, more skilled workers, as their commissions would suffer.

The counterintuitive finding of higher sales on higher absence days is the case in only one department, which means that absence can have differential effects across departments. Management should review both the commission structure and the tailoring of that commission structure to particular department types (e.g., perhaps productivity is more important to sales in the shoe department, where individuals need to hustle to get shoes for people, unlike self-serve departments). The company may be incurring costs to make sure that absences don't affect sales, for example, by overstaffing. In this study, we may not have captured data necessary to confirm potentially costly strategies a company may have implemented to ensure that absence has a relatively small effect on its bottom

Implications continued

line or, in this case, sales in certain departments.

Financial incentives are important. Every company wants a compensation system that encourages all employees to work hard, attracts the most productive employees in the market and rewards the most productive employees so they don't go elsewhere. Certainly, if each customer purchases more because low-productivity or less skilled sales workers tend to be absent, this highlights the value of attracting and keeping the most productive salespeople.

Our finding that customers purchase more on days when there is an unusual level of absence in a particular department highlights the importance of incentives. If employees responded to the unusually good commission opportunity by working harder, it implies that the company may want to lower the base pay and increase the commission rate of its sales staff, assuming such an increased workload will promote increased productivity and heightened sales over the longer term. But the employer must also be aware of different effects of absence in the different departments.

It is difficult for a company to measure the true cost of absence, even when it has detailed data on the incidence of absences, labor costs and sales by department, as was the case with this employer. The difficulty stems from trying to observe the unobservable: What would have happened if employees who were actually absent had instead showed up for work, or what would have happened if employees who actually showed up for work were absent.

Finally, as the company adjusts its workforce to winnow out less productive workers and balance its compensation system to be sure it works in a way that maximizes productivity over the longer term, absence can be expected to have a result that reflects lower productivity during times of higher absence. At that time, it will be important to know where to invest in health management and what the effect is likely to be. Unless this employer does a better job distinguishing scheduled and unscheduled absence and determining what part is health related, it will not know where it might do a better job of managing health conditions and the likely effect it will have on absence.

Next Steps

In discussing the findings for each respective business with the managers, the following lessons and implications for management intervention emerged.

Manage unscheduled absences and workforce health.

Managers need to be able to answer several questions in dealing with unscheduled absence:

- How many of the unscheduled health-related absences can be scheduled?
- How much can some be prevented?
- How can managers respond differently from an operations-management view?

Managers need to assess the medical conditions that are having an impact on lost time for their workforce to better manage absences related to health. Managers need to know how costly it would be either to take steps to reduce absences or to change operations and operating policy to reduce the effect of absences on production.

It may be that current operating practices, such as overstaffing, overtime or allowing work to go undone, is optimal given the exigencies of the workplace. In this case, managing and investing in workforce health may be the best way to reduce costs of absence.

Track health-related lost time.

Employers that offer PTO should not stop capturing the detail around those absences. Without that detail, managing absence and its business impact becomes difficult if not impossible. Such detail includes:

- Do managers track absence data and share it with human resources and the C-Suite?
- Can they identify absence by type of absence, particularly that which is "health related"?
- Can they differentiate between scheduled and unscheduled PTO?
- Do managers identify both PTO and program-specific absences like workers' compensation, STD and LTD for their workforce for specific departments/work units and for specific periods of time?
- Are managers able to identify production output metrics for those same departments/work units?
- Are managers able to relate the absence data to the production metrics?

If employers find it too difficult to construct responsive administrative systems to track absence detail, they may wish to investigate the use of employee absence and presenteeism self-report tools, such as the HPQ-Select self-report survey offered by IBI.

Understand the business impact.

Knowing about absence and its causes is not enough. Employers must link the effects of absence to a variety of possible business responses to choose the optimal mix of absence management and operational flexibility and response. These links include:

- How are absences likely to affect business operations (e.g., higher staffing costs, lost sales)?
- Are there differences among departments, locations and times of the year in how absences are planned for and/or managed?
- What are the business effects of interventions?
- Are absence effects swamped by underlying problems such as chronic under- or overstaffing, underskilled staff or inequitable compensation programs?

IBI offers tools.

Tracking and maintaining high-quality and useable data on lost time and its impacts may seem daunting—certainly when viewed from the operations manager level. Getting a handle on the relationship between health-related lost time and business impacts demands integrated data.

Fortunately, a variety of tools are available—from self-report tools to claims warehouses to fully integrated data systems—for employers and others interested in getting started with or further developing their health and productivity intelligence.

IBI offers IBI Benchmarking and the HPQ-Select employee self-report lost-time questionnaire to help management at all levels understand the impact of health-related absence on workforce productivity and where interventions can best be made.

Appendix 1: Regional Power Company

Key questions we can answer with the data provided:

- Across the six power plants studied, how does absence affect plant output?
- Does absence affect labor costs?
- How does this company respond to incidental absence?
- How costly is an absence?
- How costly are absences in total?

Scheduled hours were derived by multiplying head count by the number of work hours per month per plant.

To examine the effect of absence on plant output, we modeled the actual kilowatt-hours of power produced by each plant in a month, using the expected amount of kilowatt-hours, a plant's PTO percentage for that month, and a full set of month indicator variables and year indicator variables. The month indicator variables are included to capture any seasonal relationship between actual and expected productivity. As expected, the coefficient on a plant's PTO rate (PTO hours divided by scheduled hours) was not significantly different from zero. That is, there is indeed no relationship between absences and output.

To examine the effect of absence on labor, we first modeled the ratio of actual labor costs (salaries and wages plus overtime) to the scheduled labor costs for each plant for each of the 25 months in our sample period, using a full set of month indicator variables, year indicator variables, and the PTO rate for that plant in that month. The effect of the PTO rate is positive and statistically significant. This indicates that when a plant's PTO rate is high relative to that plant's average, actual labor costs are higher than average. By including a plant's expected labor costs in the denominator of the dependent variable, we control for the possibility that management expects labor costs to fluctuate over the course of a year and plans for these fluctuations accordingly.

In the models described above, the effect of a plant's PTO rate on labor costs has a coefficient of 0.56. This indicates that in a month when a plant's PTO rate is 1 percentage point higher than average (e.g., 9.9% rather than the sample average of 8.9%), that plant's labor costs are 0.56% higher than average. For the average plant in the sample, this translates into an additional $1,670 of labor costs for a month.

Appendix 2: Financial Services Call Center

Key questions we can answer with the data provided:

- How do unscheduled absences affect performance and productivity?
- Does scheduling absence improve productivity results?
- How much of the unscheduled absence is health related?
- What is the optimal staffing strategy?

On average for the three performance measures overall, more than three-quarters of calls were answered within 30 seconds, calls were answered in just under a minute and 3.9% of calls were abandoned. The standard deviations of these three variables that measure performance are large, which indicates that there is a lot of variation in these performance measures from day to day.

We separately modeled the four department performance or output measures using the total number of PTO hours in the department for a particular day, indicator variables for the day of the week and indicator variables for the month of the year. The indicator variables were included to account for the seasonality of the department's workload and the potential effect of the seasonality on performance.

The first question is whether managers are better able to adapt to PTO when it is scheduled rather than when it is unscheduled. We ran above after splitting the PTO variable into the number of scheduled PTO hours on a day (e.g., a planned vacation) from the number of unscheduled PTO hours. We find that scheduled PTO hours continue to have no effect on the department's performance, whereas unscheduled PTO hours have a negative effect (i.e., the more unscheduled PTO hours, the worse the department's performance) for all three performance measures. The unscheduled-PTO-hour variable is statistically significant at the 5% or 10% level in all three regression models.

The next question of interest is whether the department's performance or output suffers on a day when there are a relatively large number of PTO hours, controlling for the day of the week and the month of the year. To find out, we ran the model above.

Interestingly, there was no relationship between the total number of PTO hours in a day and the three performance measures—percentage of calls answered within 30 seconds, average number of seconds to answer a call and percentage of calls abandoned. There was a negative relationship between total PTO and the department's output—the number of contacts.

We tested whether PTO is particularly costly or disruptive when it occurs during a busy month or on a busy day. To test this, we included the number of scheduled and unscheduled PTO hours, as before, and then interacted the total number of PTO hours with a dummy variable that equals one during a busy month and is zero otherwise and separately a dummy variable that equals one on a Monday or Tuesday and is zero otherwise. This allows the effect of PTO to differ between busy and non-busy months and busy and non-busy days.

The three regression models show that unscheduled PTO is no more destructive or costly during busy months or busy days. It is apparent that unscheduled PTO does not affect the department's output, measured by total contacts, whereas scheduled PTO is negatively associated with output. This confirms our hypothesis that employees tend to schedule their PTO on days when the department receives few inquiries, but PTO in and of itself does not cause fewer contacts.

Appendix 3: Major National Retailer

Key questions we can answer with the data provided:

- How costly are absences to this department store?
- How does the department store respond to incidental absence?
- What is the potential cost of the absence strategy—extra staff, overtime or temporary workers, lost sales or creating management inefficiencies beyond the sales function?
- Does the cost and absence result vary by department and, if so, why?

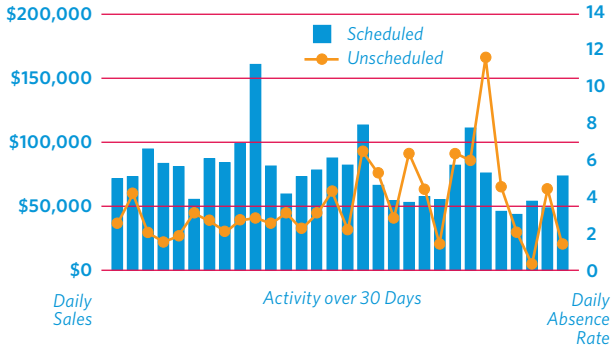
Using regression analysis, we examined whether actual sales in a department were lower than expected on days when that department experienced a relatively large number of absences. The analysis was conducted at the department-day level, so there were approximately 560 observations (roughly 30 days for 24 departments, but the data were not usable in every single department for every single day).

For three departments in eight stores, we had access to information on sales and absences for each day of one month. The daily absence rate and the daily sales are depicted for one department in the figure at above right. By using an analytic method like regression, we can test whether there is systematic variation in the relationship between the absence rate and sales.

We could test two hypotheses: (1) When employees are absent, each worker present works harder to earn large commission payments because there will be more customers available per worker, and (2) if relatively low-productivity workers are more likely to be absent, the high-productivity employees who come to work can generate more sales per customer than had sales also been allocated to the absent, low-productivity employees.

To test these hypotheses, we calculated the average amount purchased by a customer per department per day as one measure of the impact of the sales force that was present on that day. In the shoe department, customers tend to purchase more on a day when a department has a relatively large number of absences. There was no significant relationship between absence and sales in the other two departments. This is consistent with both hypotheses: sales staff work harder when there are fewer present employees because staff can make substantial commissions, and/or the more effective sales staff are less likely to be sick and they do a better job than the absent employees would have done. We did not have data to distinguish these two potential explanations.

DAILY SALES AND ABSENCES OVER A 30-DAY PERIOD IN ONE DEPARTMENT



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