

EAP Treatment Impact on Presenteeism and Absenteeism: Implications for Return on Investment

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SUMMARY. This article reports data on increased work productivity resulting from the employee assistance program (EAP) treatment of employees. Participants ($N = 155$) had various psychiatric diagnoses and were seen in individual counseling by network clinicians. Measures of "presenteeism," absenteeism, and degree of problem resolution were obtained from members' ratings. The results indicated that 80% of costs associated with lost productivity was associated with presenteeism, with absenteeism accounting for the remainder. Characteristics associated with lost productivity were energy level, concentration, and work quantity/quality. A return on investment (ROI) calculated using these data in a typical EAP

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indicated that for every dollar spent for the program, there is an expected return of between \$5.17 and \$6.47.

KEYWORDS. EAP, presenteeism, productivity, return on investment

INTRODUCTION

The impact of mental disorders on work productivity has recently received increasing attention. Hertz and Baker (2002), in their new analyses of the National Comorbidity Survey (NCS) and the National Mortality Followback Survey (NMFS) noted that each year 217 million workdays are completely or partially lost among workers aged 18 through 54 years due to mental disorders. This translates into an annual employer cost of \$17 billion dollars. Lost workdays (absenteeism) among persons with psychiatric disorders account for \$5 billion of this amount; reduced at-work productivity (presenteeism) accounts for the remainder.

Researchers describe presenteeism as being on the job but having impaired functioning due to mental or physical symptoms (Hemp, 2004). Studies of this condition have shown major productivity losses associated with physical and mental disorders (Goetzel, Hawkins, Ozminkowski, & Wang, 2003; Goetzel et al., 2004; Hemp, 2004). Those mental health conditions identified as contributing most to presenteeism are bipolar disorder and depressive episodes, with other disorders (e.g., anxiety, personality disorders) contributing to a lesser extent.

Depression has been the primary focus of research in this area because the depressive disorders constitute the most common mental health workplace problem (Conti & Burton, 1994; Kessler et al., 1999; Stewart et al., 2003). Stewart et al. (2003) published one of the most comprehensive studies of depression's impact on work performance. These authors concluded that workers with any depressive disorder had almost 4 times more health-related lost productive time than their nondepressed counterparts, costing employers an estimated \$44 billion per year. Although they did not provide information on treatment outcome, they noted that 82% of lost productive time (LPT) was primarily due to depressed behavior at work, or presenteeism. Their data indicated that any form of depression resulted in 5.6 hours of LPT per week, compared to 1.5 hours of LPT for nondepressed workers.

The personal factors contributing most to presenteeism have not been clearly identified. Goetzel et al. (2004) noted that although there is variation in defining what constitutes lost productivity, the impact of several employee characteristics on work performance provides an area for valuable research; these include ability to concentrate, quality of interpersonal communications, the need to repeat tasks, working too slowly, and low performance measures. Finally, Hemp (2004) noted that, although presenteeism can be helped somewhat by managers being more aware of the problem and by educating employees, the most important variable is spending to save. This latter dimension involves providing effective treatment procedures.

Although not focused specifically on presenteeism, an early study by Mintz et al. (1992) examined the effect of psychotherapy and/or drugs on "work impairment." They defined this concept as a combined measure of absenteeism, productivity, and interpersonal conflict. They reported generally improved work outcomes when treatment was symptomatically effective. Lo Sasso et al. (2006) comparably investigated self-reported productivity of employees who were depressed and reported a "meaningful return on investment" from "enhanced depression treatment." Berndt et al. (2000) also linked employer-provided objective productivity data to employees' medical care use data in a large U.S. claims processing company. The authors reported no significant differences in at-work productivity between employees diagnosed and treated for mental health disorders and those without such disorders. Although this research did not assess productivity for employees with untreated mental health disorders, the findings suggest that treatment of mental disorders results in productivity gain benefits.

Treatment offered through employee assistance programs (EAPs) has demonstrated cost savings as assessed by such indicators as reduced expenses associated with medical claims, accident benefits, mental health care costs, absenteeism, lost wages, medical costs, and employee turnover (Blum & Roman, 1995; Dainas & Marks, 2000; McDonnell Douglas Corporation, 1990).

Two recent studies have also examined the actual return on investment (ROI) associated with effective EAP treatment. S.B. Phillips (2004) used a standardized form to assess treatment satisfaction for the EAPs associated with six universities. The satisfaction ratings were then assumed to be associated with levels of productivity (e.g., *strongly agreeing* that one's performance had suffered equated to

a 20% loss in productivity). These levels of productivity were then analyzed with formula from other research, and estimated improvements were used to determine savings and to estimate ROIs for the EAP programs. These derived values were in the vicinity of 4 to 1.

The other study (Hargrave & Hiatt, 2004) comparably evaluated the LPT of over 7,000 employees who were depressed by applying the data reported by Stewart et al. (2003) to the EAP treatment outcome. Pretreatment measures of these employees reflected moderate levels of depression. After treatment, approximately half of the participants who were depressed reported no such symptoms. Applying the calculations from Stewart et al. (2003) to the treatment outcome data reflected a substantial cost savings associated with the EAP treatment of depression (ROI = 1.42 to 1).

Hargrave et al. (2007) also examined the reduction in absenteeism for a sample ($N = 480$) of employees as a result of EAP treatment. After treatment, these participants, who had a wide range of psychiatric diagnoses, were asked to rate their degree of problem resolution and the number of workdays they would have missed had treatment not been provided. Eighty-six percent of the employees reported improvement in their condition, and the average number of days saved reported per employee was 1.86. These results, when generalized to the total number of employees who accessed treatment for the year, yielded an estimated annual employer cost savings resulting from EAP treatment of \$2,543,984.

This study expands the previous research by having EAP clients rate the degree of problem resolution they experienced as a result of treatment as well as the impact that treatment had on specific work-related variables. These latter variables included their productivity, tardiness, and use of sick days. In addition, the survey assessed the treatment effect on other work-related variables (e.g., relationships with others, work quantity/quality, energy level, and concentration). Finally, it examined the interrelationships of variables as well as their association with the participants' psychiatric diagnoses.

METHOD

Posttreatment surveys were mailed to 1,000 employees, of multiple employers, who received EAP services during a 10-week period in

2006. One-hundred-and-fifty-five surveys were returned (15.5%). Out of the returned surveys, complete data sets were obtained on 133 participants. The 155 participants consisted of 57 males and 98 females. Their ages were not reported. Diagnostic categories were obtained on 126 participants; these were distributed as follows: Anxiety ($n = 10$), major depression ($n = 26$), other depression ($n = 29$), adjustment disorders ($n = 52$), and V codes ($n = 9$).

The survey contained three questions and nine rated areas. The questions were as follows:

1. In the 7 days before you sought services, how many hours was your productivity at work reduced because of health or emotional problems?
2. In the past 7 days, how many hours was your productivity at work reduced because of health or emotional problems?
3. If you had not used these services, how many days of work would you have missed?

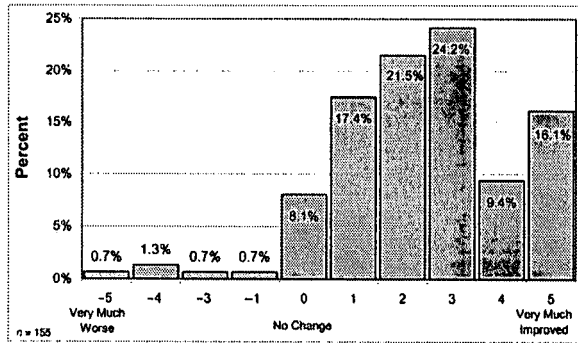
The rated areas consisted of degree of problem resolution, number of sick days, tardiness, concentration, energy, quality of work, quantity of work, relationships with other employees, and relationships with supervisors. These variables were selected because they are rationally related to the concepts of *presenteeism* and/or *absenteeism*. Each variable was rated using an 11-point scale that ranged from *very much worse* (-5) through *no change* (0) to *very much improved* (+5). This scale has been reported in previously published MHN (Managed Health Network) research (Hargrave & Hiatt, 1995; Hiatt, Hargrave, & Palmertree, 1999). Finally, the diagnosis of each treated employee was obtained from a separate claims database.

RESULTS

The following analyses focused on those variables associated with presenteeism and absenteeism, with the primary emphasis being on the economic impact of EAP services on work productivity.

Figure 1 shows the participants' ratings for degree of problem resolution. As the figure shows, 88.5% of the employees reported improvement in their problems, with 25.5% reporting much improvement (ratings of 4 and 5). These data are highly consistent with those

FIGURE 1. Problem Resolution

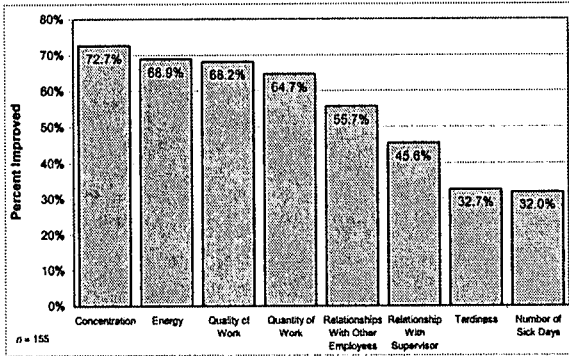


reported in previous research on 7,000 employees (Hargrave & Hiatt, 2004). Thus, the sample appears to represent typical outcome data. The following summarizes the participants' responses to the four questions on absenteeism and productivity:

- The average reduction in productivity during the 7 days preceding treatment was 9.22 hours per responding participant.
- The average posttreatment rating of reduced productivity during the 7 days prior to completing the survey was 2.70 hours.
- The mean post- and pre-difference ("change score") for the above was a 6.36-hour increase in productivity ($n = 150$). This represents an overall improvement of 954 hours for the sample.
- The estimated average number of workdays that would have been missed, had services not been obtained, was 2.60 days per person ($n = 155$), or a total of 403 days saved for the reporting sample. Three participants reported a savings in excess of 30 days.

Figure 2 shows the reported percentages of improvement for the remaining variables of concentration, energy level, quality and quantity of work, and relationships with supervisors and coworkers, tardiness, and number of sick days. As the figure shows, the percentage of improved participants ranges from a low of 32% (sick days) to a high of 73% (concentration). It is noteworthy that the four variables of concentration, energy, quality of work and quantity of work are highly and significantly correlated, with coefficients ranging from 0.764 to 0.845. Although the relationship variables do not correlate strongly with the other areas of improvement, they correlate strongly

FIGURE 2. Percentage of Improved Participants



with each other (0.725). Comparably, tardiness and sick days also correlate significantly (0.649).

When problem resolution was correlated with the work measures change score and days saved, neither was significant (0.073 and 0.139, respectively).

To further examine the interrelationships between rated areas, a factor analysis was conducted using the eight variables (number of sick days, tardiness, concentration, energy, quality of work, quantity of work, relationship with other employees, and relationship with supervisor). The data were analyzed with three solutions: Kaiser's criterion, changes in the shape of the scree plot, and parallel analysis. The principle components analysis yielded two components, accounting for 76% of the variance. The data were then analyzed with varimax and oblique rotations, the two methods yielding comparable results. Three factors were extracted.

The first factor, accounting for 41% of the variance, comprised the variables energy, concentration, quantity of work and quality of work with factor loadings ranging from 0.837 to 0.884. The second factor, comprising 23% of the variance, consisted of tardiness and number of sick days, with respective loadings of 0.849 and 0.814, and the third factor, accounting for 22% of the variance, consisted of the two relationship variables (with loadings of 0.870 and 0.846). The resulting factors were labeled Presenteeism, Absenteeism, and Relationships. The three factors were moderately, and significantly, correlated with each other, the coefficients ranging from 0.320 ($p = 0.000$) to 0.448 ($p = 0.000$).

Next, the factor scores for each of the three variables were calculated for each of the participants using the regression method. These factor scores were then correlated with the primary outcome variables of problem resolution, days saved as a result of treatment, and change in productivity as a result of treatment. Those variables most associated with the Presenteeism factor were problem resolution ($r = 0.440$, $p = 0.000$), and change in productivity ($r = 0.320$, $p = 0.000$). Those variables most associated with Absenteeism were problem resolution ($r = 0.273$, $p = 0.001$) and days saved ($r = 0.264$, $p = 0.001$). Those variables most associated with Relationships were also problem resolution ($r = 0.261$, $p = 0.002$), and days saved ($r = 0.293$, $p = 0.000$).

The final analysis was an examination of diagnoses and their relationships to the outcome measures. These data were analyzed using separate analyses of variance (ANOVAs), comparing each diagnostic category on the three variables of problem resolution, days saved, and change in productivity. None of these analyses was statistically significant.

DISCUSSION

The primary finding in this study was that the vast majority of participants improved as a result of treatment, in problem resolution and the outcome measures, regardless of diagnosis. Diagnoses were not significantly related to degree of problem resolution or to the outcome variables of days saved and changes in productivity. A surprising finding was that individuals with V-code diagnoses experienced losses in productivity and improvement after treatment similar to those with more serious diagnoses. This finding demonstrates that problems in living impact heavily upon job performance, even when they do not result in serious psychiatric symptoms. Because EAPs (unlike other behavioral health benefit programs) address problems in living, they can make a unique contribution to increasing productivity.

The factor analysis of the eight rated variables identified three moderately correlated factors associated with work performance variables. The factor accounting for most of the variance was labeled Presenteeism and was composed of the variables energy, concentration, quality of work, and quantity of work. It is noteworthy that this finding is consistent with the presenteeism dimensions identified by Goetzel et al. (2004). The second factor, identified as Absenteeism, consisted of tardiness and number of sick days. Finally, the smallest

factor was composed of the two relationship variables and was labeled Relationships. The only factor related to improved productivity, although modestly, was Presenteeism; this factor, however, was not related to days saved. The other two factors, Absenteeism and Relationships, were primarily related to days saved.

An unexpected finding was that the problem resolution variable did not have a significant relationship with change in productivity and days saved. An examination of the statistical distributions for these two performance measures showed wide variability, no doubt contributing to this outcome. Although problem resolution correlated significantly with all three factors, these relationships were moderate to modest. These correlations were also likely affected by the highly variable outcome distributions. Resolving the problem that prompted treatment is clearly not synonymous with more global improvement. Although elements of treatment obviously contributed to improved job functioning, these appear to be somewhat separate from solving the specific problem that resulted in treatment.

A major purpose for this study was to use the participants' rated productivity measures to estimate cost savings associated with their improved functioning. As noted previously, the present data indicated an average of 6.36 hours saved per week per individual as a result of treatment. Assuming a conservative average wage of \$30 per hour (that used by Goetzel et al., 1999) and an average problem duration of 3 months (13 weeks), this translates into a savings of \$2,480 per treated employee per year. For an employer of 1,000 employees with an EAP utilization rate of 5%, this savings in lost productive time is \$124,000 ($.05 \times 1,000 \text{ employees} \times \$2,480$). In addition, the average number of workdays lost had EAP services not been provided is 2.6. Assuming that the days saved and changes in productivity are independent, the savings of 2.6 additional days had services not been provided would add another \$31,200 ($.05 \times 1,000 \times \240×2.6), for a total of \$155,200 ($\$124,000 + \$31,200$). Assuming a typical annual estimated EAP cost of \$2 per month per employee, the overall cost of the EAP program is \$24,000. The ROI can be calculated by the following formula (J.J. Phillips, 2003):

$$\text{ROI (\%)} = \text{Net Program Benefits/Program Costs} \times 100$$

For the present example, this translates into $\text{ROI} = \text{Savings/Program Costs} \times 100$ or $\$155,200/\$24,000 \times 100 = 647\%$. If the

two cost variables are not independent, the ROI would range between 517% ($\$124,000/\$24,000 \times 100$) and 647%. In other words, for every dollar spent, there is an expected return of between \$5.17 and \$6.47. This figure is approximately 4 times larger than the ROI we previously calculated for the treatment of depression (Hargrave & Hiatt, 2004). A major factor contributing to this was that the previous study focused only on depression. These data consisted of extrapolated findings from research on employees who are depressed versus employees who are not depressed. This study included actual productivity ratings of employees who had a full range of issues, including mental health and problems in living. All of these conditions respond to EAP services. Overall, this demonstrates Hemp's (2004) important concept of "spending to save."

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