THE EAP TREATMENT OF DEPRESSED EMPLOYEES: IMPLICATIONS FOR RETURN ON INVESTMENT

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ABSTRACT
This article applies calculations from the outcome literature on lost productive work time to the EAP treatment of depressed employees. Pre- and post-treatment measures were obtained on 11,756 employees who accessed treatment over a seven-year period. 66% of these employees reported at least moderate symptoms of depression at the time of intake. After treatment, approximately half of the depressed subjects reported no such symptoms. Applying results from research conducted by Stewart, Ricci, Chee, Hahn, & Morganstein (2003) to the present study indicated substantial cost savings associated with the EAP treatment of depression. The article provides a model for calculating return on investment (ROI) by reducing lost productive work time (LPT).

KEYWORDS: EAP, treatment, depression, return on investment

Employee assistance programs continue to be an integral component of many benefit plans, and national worksite surveys have shown an increase in their acceptance and popularity. Having their roots in occupational welfare and job-based alcohol treatment programs, EAPs operate from the premise that assisting individuals in resolving personal problems improves their job performance. Improvement in functioning is typically assessed through client satisfaction data after treatment (Harris, Adams, Hill, Morgan & Stoltz, 2002). Although considerable literature (Harris, 1998; Pearson & Maier, 1995; Selvick & Bingaman, 1998) supports the premise that EAP treatment is of benefit to clients, there is relatively little data that directly demonstrates a favorable impact on job performance, as well as a financial benefit to the employer.

Previously, Hiatt, Hargrave, & Palmetree (1999) reported an outcome study of EAP job performance referrals (JPRs) that reflected a positive impact on job performance. All of the subjects in this research had been referred to their EAP by supervisors due to behavior that interfered with work performance. The supervisors completed both pre- and post-treatment job performance ratings. These ratings reflected improvement in attendance and work quality/quantity after EAP treatment. At the end of treatment, ratings by the EAP counselors also reflected improvement in the JPR clients’ job functioning as well as their marital/family and interpersonal relationships.

More recently, Harris, Adams, Hill, Morgan & Stoltz (2002) used employees’ ratings to assess the benefit of EAP services on job functioning. These authors employed reliable and standardized measures in a pre/post design that investigated a random selection of clients. Their findings were consistent with previous studies in showing that after EAP treatment, clients reported less difficulty with emotional problems that interfered with their productivity, ability to perform work carefully, and ability to actually be at work.

The most common mental health problem in the workplace is depression; it is also the disorder that has the most overall impact on job performance. In 1990, the depressive disorders were estimated to cost employers $43 billion per year (Conti & Burton, 1994). Data from a national survey of workforce disability leave also indicated that workers with depression take 10% more days off work than their non-depressed counterparts (Kessler, Barber, Birnbaum, Frank, Greenberg, Rose, Simon, & Wang, 1999).

Recently, Stewart, Ricci, Chee, Hahn, & Morganstein (2003) published what is, to date, one of the most comprehensive studies of depression’s impact on work performance. These
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authors, who represented four prominent research agencies, recruited subjects from a large-scale work productivity audit. Subjects completed a supplemental interview using the Primary Care Evaluation of Mental Disorders Mood Module for depression, the Somatic Symptom Inventory, and a medical and treatment history for depression. Excess lost productive time (LPT) costs from depression were derived by calculating the difference in LPT among depressed individuals minus the expected LPT of individuals without depression, projected to the U.S. workforce. The authors reported that workers with any depressive disorder had almost four times more health-related LPT than their non-depressed counterparts. They noted that 82% of LPT was primarily due to depressed behavior at work, with the remaining percentage presumably being due to such factors as absenteeism. When LPT was translated into monetary loss, the research indicated that employees with depressive disorders cost employers an estimated $44 billion per year, an excess of $31 billion when compared to peers without depression. The authors noted that this estimate did not include labor costs associated with short- and long-term disability.

Although the previous study did not focus specifically on EAP clients, data collected by the present authors have shown depressive symptoms to be among those most prominent at the time of EAP intake. This appears to be consistent with recent data reported by Selvik, Stephenson, Plaza, and Sugden (2004), showing that 60% of EAP clients are viewed by their counselors as having mental health problems such as depression or anxiety. Given the impact that depressive symptoms have on work performance, and given the reported success of EAP counseling on such problems, an important issue is how this translates into cost savings for the employer. In other words, what is the return on investment (ROI) for employers that provide EAP services for their employees? There is, however, relatively little literature in this area.

The two most referenced cost-effectiveness articles in the literature are the U.S. Department of Health and Human Services (DHHS) publication (Blum & Roman, 1995) and the McDonnell Douglas Corporation Employee Assistance Program Financial Offset Study. The former publication reported data from several studies and concluded that EAP programs are cost effective for such measures as reduction in sickness and accident benefits, mental healthcare costs, absenteeism, lost wages, and medical costs. The McDonnell Douglas study indicated that their EAP was effective in lowering costs associated with medical claims, absenteeism, and employee turnover. A third, relatively large-scale study by Abbott Laboratories (Dainas & Marks, 2000), also reported significantly lower total healthcare costs for employees who used their EAP compared to those who did not. Taken together, these studies reflected an ROI for EAP services to be in the range of 2:1 to 4:1. For every dollar invested in EAP services, there was a savings of 2 to 4 dollars. Most of these studies did not focus on cost savings due to lowered lost productive time.

Much of the research examining EAP cost effectiveness has been conducted on internal programs. These company-based programs have the advantage of a coordinated effort for collecting both treatment outcome and cost data. Another common EAP model is the external program in which a contracted provider facilitates a system of care to multiple employers and/or labor unions. The diversity of client agencies in this latter model renders data collection more difficult. MHN, a national provider of external EAP services to employers and unions, has been conducting research on EAP services since the early 1990’s (Hiatt & Hargrave, 1993). Although most of our previous outcome studies have examined the treatment of both employees and their dependents, the present study investigated the effectiveness of external EAP services provided specifically to employees. It examined depressive disorders among a large sample of employees who work for a large number of employers. The focus of the investigation was on the prevalence of depression among employees, their responses to treatment, and any likely cost savings to employers due to a decrease in lost productive time. In the absence of actual cost data from the multiple employers, treatment outcome results were converted into cost savings using the data reported by Stewart et al. (2003).

**METHOD**

We examined cases in which an employee was provided a referral for EAP counseling with an individual provider. The data set contained all individuals for whom we had both pre- and post-treatment survey information. This yielded information on 11,756 employees (7,994 females and 3,762 males), who had a median age of 40 years old and who had received treatment during 1997-2003.

On the pre- and post-treatment surveys, clients rated problems and symptoms across 10 dimensions, including depression; the survey also contained ratings of functioning in 6 areas. These are depicted in Figures 1 and 2. The pre-treatment survey was administered to clients by the therapist at the time of the first session. The post-treatment survey was mailed to the clients approximately two months after EAP services. On both surveys, the client responded to 10 questions that described the impact of different symptoms and rated each on a scale ranging from 1 (“not at all”) to 5 (“extreme”). Both surveys also contained a rating of job functioning that ranged from 9 (“no problems”) to 1 (“extreme problems”). The post-treatment survey further contained a rating of problem resolution. This latter scale was patterned after

![MHN Logo](https://via.placeholder.com/150)
the Global Outcome Rating used in the Vanderbilt research (Talley, Strupp, & Morey, 1990), and ranged from –5 (“very much worse”) through 0 (“no change”) to +5 (“very much improved”); its use has also been reported in previous MHN research (Hargrave & Hiatt, 1995; Hiatt, Hargrave, & Palmertree, 1999). In addition to the data obtained from clients, diagnoses were obtained from therapists’ claim data.

Preliminary studies had previously examined the reliability and validity of the surveys. Realizing the potential for decreased validity associated with using single item ratings, the symptom statements were correlated with symptom scores on rating instruments. Samples of research clients were administered the surveys simultaneously with instruments that assessed the symptoms with multiple questions. The depression symptom statement correlated significantly with the Beck Depression Inventory total score ($r = .63$, $df = 63$, $p < .01$) and with the depression scale on the Brief Symptom Inventory ($r = .80$, $df = 63$, $p < .001$). Further, clients’ ratings of depression on the pre-treatment survey correlated .41 with clinicians’ initial diagnoses of depression ($n = 34,000$ pairs). We also compared clients’ rating scale scores to those of non-clinical controls, on the assumption that clients presenting for treatment will have more symptoms and lower functioning than non-clinical controls. Questionnaires were sent to two groups: 417 clients, who called for an intake during March and April 1997, and a non-clinical group of individuals ($n = 281$) who were not in treatment. The data reflected highly significant differences ($p < .0001$) between the scores of the clinical and non-clinical groups. Finally, the non-clinical group was used to obtain a measure of test-retest reliability. Two weeks after sending out the initial questionnaire, the questionnaire was mailed to a subgroup of the non-clinical subjects. As expected, their responses on the second administration correlated significantly with those of the first ($r = .75$, $df = 59$, $p < .001$), showing little change in their responses to the two surveys.

Upon receipt of the surveys, the data were scanned into the MHN computer system, and the pre- and post-treatment ratings were compared. The various symptom and functioning measures were also intercorrelated, and the therapists’ diagnoses were correlated with the clients’ ratings of pre-treatment symptoms. The results for depression were then combined with data reported by Stewart, et al. (2003), to estimate return on investment.

RESULTS

Figure 1 shows the pre- and post-treatment ratings of the clients’ symptoms. As can be seen, two-thirds of the clients reported depressive symptoms at a moderate or greater level on the pre-treatment survey. This further corresponded to clinicians’ diagnoses that reflected depressive symptoms for 52% of the sample subjects. When the various symptoms of the 11,756 employees were intercorrelated, the subjects’ depressive symptoms correlated positively, and significantly, with anxiety ($r = .64$), hostility ($r = .57$), and reported health concerns ($r = .38$). Figure 2 shows the ratings of various life functions. When ratings of depressive symptoms were compared to functioning ratings, a significant inverse relationship was found with general feelings of well being ($r = -.60$), and a moderate, and significant, correlation was found with job problems ($r = .34$). In addition, the results noted in Figures 1 and 2 indicate that the number of employees reporting moderate to severe depressive symptoms had decreased by 48%, with corresponding decreases in the correlated measures of anxiety and hostility and major increases in feelings of happiness and well being.
The following model combines the present outcome data with the Stewart et al. (2003) figures to estimate the costs/savings associated with the return on an EAP investment using only the variable of LPT associated with the EAP treatment of depression. It assumes a typical employee population of 2,500 with a 5% utilization rate, an average salary of $20 per hour, an estimated depressive episode duration of 26 six weeks, and an EAP cost of $2.00 per employee per month.

Of the 125 (5%) employees accessing EAP services in this model, MHN data indicate that 66% (or 83 employees) will report a moderate or greater level of clinical depression. Using the Stewart, et al. (2003) data, this translates into a net LPT of 4.1 hours per week for each of these employees (5.6 hours for a depressed employee minus the typical 1.5 hours for a non-depressed employee), or a total loss of 8,848 hours (83 employees x 4.1 hours x 26 weeks). Assuming an average wage of $20 per hour, the loss further translates into a monetary figure of $176,956. This does not include the additional loss due to temporary labor, long-term disability, administrative costs, etc. Applying the MHN outcome data of 48% success rate in the treatment of depression decreases the monetary LPT associated with depression from a loss of $176,956 to a loss of $92,017, a savings of $84,939. The estimated annual cost of the EAP is $60,000 (2,500 employees x $2 per month x 12 months). Thus, for every EAP dollar spent in treating depression, the decrease in LPT alone provides a return of $1.42. Return on investment (ROI) is expressed as a percentage and is calculated with the following formula (Phillips, 2003):

ROI (%) = Net Program Benefits / Program Costs X 100

For the present example, this translates into ROI = Savings / Program Costs X 100 or $84,939 / $60,000 = 142%.

DISCUSSION AND CONCLUSION

Since EAPs are not part of the core business of companies, their costs need to be offset by benefits. Ideally, research in this area should relate measures of treatment effectiveness to actual cost figures. Unfortunately, this poses numerous logistical problems, particularly for programs external to the company. It also does not enable an employer to estimate cost savings in advance of program implementation. The present study provides an approach to this process by examining the successful EAP treatment of one symptom cluster using traditional outpatient treatment methods. The focus on LPT is of particular interest, because it places a value on those “invisible” costs due to reduced performance at work (Stewart, et al., 2003). The present model is also of value in that it combined two sets of empirical data to obtain reasonable cost figures that can be replicated and refined. It focused only on
the variable of lost productive time and, thus, can be expected to underestimate any overall EAP ROI. A useful area for subsequent research would be to combine this approach with variables examined in other ROI research areas (e.g., Blum & Roman, 1995; Dainas & Marks, 2000; Goetzel, et al., 1999). Of particular interest would be adding this approach into calculations of costs associated with healthcare claims, short- and long-term disability, and workers’ compensation. The present model can be also extended to other diagnoses. One of the most promising extensions would be to substance abuse, where LPT is believed to be even greater than it is for depression (Mangione, Howland, & Lee, 1998). As more outcome data emerge that examine the impact of behavioral health disorders on work performance, we can expect a substantial increase in the ability to more accurately determine the return on investment for employee assistance programs.

REFERENCES


