

Cost-Effectiveness of EAP

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“Because service quality is intangible, there is a strong tendency to manage service businesses by focusing on what is most tangible: such as numbers of customers served, costs of providing the service, and revenues generated. But focusing on what’s easily measured leads to looking good without being good – to having measurable performance indicators that are acceptable yet not providing quality service.” (Senge)

Introduction

For any employee benefits program to exist in the public or private sector today, it must be able to prove itself in economic terms. “In order to win the approval of [most] CEOs, some quantitative measure would have to assure the proposed project’s economic viability; that is, the program would have to project a dollar value.” (Scanlon)

For most organizations, the costs associated with employee behavior are unknown. There are four reasons why this is so:

- “1. Personnel people do not know how to measure the costs of behavior. Many practitioners have little or no background in the statistics of psychometrics... organizations in the past generally did not train their personnel managers to measure their results...”
2. Top management has accepted the myth that personnel activities cannot be evaluated in quantitative terms...
3. Some personnel managers do not want [their programs] to be measured...

4. A number of human resource managers would like to apply some measures to their function, but they haven't been able to do so." (Cascio)

Contrary to popular opinion, human resource management can be measured in quantifiable terms, analyzed for comparisons and trends, and treated as any other operational function within the organization. Given today's economic climate, employee benefits programs that are unable to prove their effectiveness place themselves in a precarious position.

Costs of Employee Problems to the Organization

"The corporate culture has historically told employees to leave their personal problems at home. But for most employees, that's no longer possible, because nobody is at home to solve those problems." (Wall Street Journal, 1990). The cost of personal problems associated with work stress, mental health, suicide, depression, and substance abuse is phenomenal.

"In the aggregate, personal problems are estimated to affect 18% of the workforce, resulting in a productivity loss of 25%. As a consequence of employee alcohol and drug abuse, U.S. businesses have estimated annual productivity losses in the billions." (Cherskov)

The losses to a company due to substance abuse and mental health problems have a negative economic effect on employers. There can be administrative and hidden losses, losses with legal implications, and losses due to health care costs. Following are some examples:

Administrative losses (measurable in monetary terms):

- Absenteeism
- Overtime pay
- Tardiness
- Sick leave abuse
- Disability payments
- Accidents

Hidden losses (contribute to the cost of employees' personal problems):

- Diverted supervisory/managerial time
- Friction among workers
- Waste
- Damage to equipment
- Poor decisions
- Damage to public image
- Personnel turnover
- Premature death

Losses to organization with legal implications include:

- Workers' Compensation
- Illegal drug trafficking on the job
- Disciplinary actions
- Grievance procedures/other legal actions
- Threat to public safety
- Security issues

Cost Benefit/Cost Effective Analysis

Cost-Benefit. "A cost-benefit analysis (CBA) addresses the question of whether an organization can expect a reasonable return for its investment of resources in a program in terms of identifiable cost reduction. The evaluation estimates a dollar value for the benefits the EAP provides to the organization. CBA measures the direct and indirect costs, including program operational expenses and costs attributable to the employee's problem(s), in order to determine the total dollar expenditure for implementation of the program as compared to the costs that would be incurred

without the program. These two amounts are weighed to evaluate whether the program, given its estimated cost, can be justified economically.” (Masi)

Direct costs related to industry include absenteeism, disability payments, early pension payments, and supervisory time required for discipline. Indirect costs are more difficult to measure and reports on such costs include increased accidents, inefficiency of alcoholic workers, inefficiency of fellow workers, deterioration of morale, added sick-pay, and replacing trained workers.

“The benefits that are important from an organizational viewpoint are related to the amount of money invested in a program versus the ratio by which that investment is returned in terms of savings related to the rehabilitation of the employee. Program benefits can be calculated in dollar savings on such variables as sick leave, absenteeism, sickness and health benefits paid out, disciplinary actions against an employee and number of grievances. Cost-benefit analysis is the most feasible method to use in measuring the value of an employee counseling program. It is considered the most feasible method because it encompasses a larger and more in-depth area than does cost-effectiveness. Cost benefit takes into account both the employer and the employee and it considers some rather important variables that are not included in measuring cost-effectiveness.” (Maiden)

Cost-Effective. “Like a CBA, a cost effectiveness analysis (CEA) quantifies program outcomes, most likely in dollars, and compares this with the available program costs. But unlike the CBA, it does not require a projection of intangible or future savings for various types of programs. A CEA addresses whether a program is being conducted at an acceptable level of effectiveness, in terms of optimum return

per dollar expended. A cost-effectiveness study could be used to show the ratio of dollars invested to decreases in absenteeism, without necessarily showing the actual monetary costs of absenteeism. In addition, cost-effectiveness evaluation can be used to compare alternative EAP strategies against a common outcome, and can represent a viable alternative to the more complex and problematic CBA.” (Masi)

Evaluating the cost-effectiveness of a program involves comparing one approach of treatment or intervention to another. One method is to use control groups. This involves the comparison of one group of people who have had exposure to a counseling program to another group which has not (the control group). The comparison of the two groups would be performed before and after program intervention. The two groups could be compared in terms of absenteeism, accident rates, excessive leave, etc. Cost-effectiveness can also be measured by comparing the cost of one form of intervention to another and conducting a comparison study of the final results.

Issues in the Evaluation of Program Effectiveness:

- 1. Personnel Items.** An evaluator should consider all personnel items for which there is data in the personnel file, such as absenteeism, sick leave, advance leave, and costs incurred from medical insurance, alcoholism and drug use, mental health insurance, prescription drugs, accidents, and workers’ compensation claims. The evaluator determines which items to include in measuring the cost savings generated by the program.
- 2. Insurance Companies.** Health insurance companies have information on the physical health of employees and their family members. This information is filed by individual and not by family. Insurance companies are no longer uncooperative. They have found it in their best interest to share this information. This is the only measurement for nonemployee clients. It is therefore essential in any cost-effectiveness analysis.
- 3. Cost Comparative Analysis.** Making this data reliable is a challenge. Conducting comparisons one year before and one year after client use is not

effective by itself. This method is not valid unless it is matched to **controls**. The EAP cannot take credit for increased attendance or decreased Workers' Compensation unless it can be shown that the EAP is the only variable that caused the change. Other variables (supervisory transfers, changes in the client's relationship, etc.) must be eliminated by using controls. The cost of the program must also be subtracted from the dollar amount of the savings. Only after all this is done can the study validly claim that the program is cost-effective.

4. **Costs of the Program.** With today's computers, the costs of a program can be easily calculated. It is primarily a matter of receiving the data from benefits and insurance personnel, entering in the appropriate numbers of clients and controls per demographic category, and applying the appropriate mathematics to the data.
5. **Cost-Effectiveness and Its Relationship to Outcome.** The major concern in cost-effectiveness is reducing costs, not necessarily delivering quality service. The costs associated with a program may decrease over time, but the quality of service may suffer.
6. **Research.** Until the late 1980s, the literature showed a number of studies claiming EAPs were cost-effective. Some of the studies were popular examples often cited. However, most of the literature is "promotional, estimating savings based on projected macro cost percentages." (Scanlon)

As important as some of these early study findings were, there were two major limitations. The first is that the studies measured the costs of addiction and the subsequent savings. Since more EAP clients fall into the emotional, marital, and parent-child problem categories, these findings cannot be generalized. The second limitation is that there were no rigid control groups in the research design because rigid control groups require the refusal of treatment to clients. Since refusing treatment to clients is an ethical problem, such studies needed to go outside the client system and compare the usual cost variable of absence, accidents, and health insurance with a comparable employee group. This was not usually done in these studies.

The McDonnell Douglas study is often quoted as being a cost-effective study for EAPs. Although this is an excellent project, it did not study what has been claimed. It

studied employees who used the EAP for alcoholism treatment and compared them to employees who bypassed the EAP and went directly to their mental health benefit for alcoholism treatment. By studying the costs of these two approaches, it was determined that alcoholism treatment through EAP was most cost-effective. In fact, their return was found to be 3:1. This study proved the cost-effectiveness of using EAPs for substance abuse, but not in the broader sense of all type EAP cases. Generalizing data can invalidate the original results.

There then came a major evaluation which eliminated the two limitations as described above. This evaluation represented a turning point in the EAP evaluation field. The evaluation covered 150,000 employees in the U.S. Department of Health and Human Services (USDHHS). This model is applicable to other programs and has been used a number of times for studying the cost-effectiveness of other EAPs.

Case Example – *USDHHS Evaluation*

The Secretary of the USDHHS announced plans to create a model Employee Counseling Services (ECS) Program. These plans were in line with the United States Department of Health and Human Services' (USDHHS) legislative obligation (Public Law 91-616, 1970) to take a leadership role in the federal sector. The USDHHS Assistant Secretary for Personnel (ASPER) signed an agreement with the Office of Personnel Management (OPM) stating that the USDHHS would develop an evaluation system as part of the model program. Not only did ASPER mandate the program, but it made the evaluation system a top priority. The ASPER wanted to know what the true costs of the ECS were (i.e., after expenses were considered).

At that time, the author was appointed the Director of the model USDHHS/ECS program. She was given the task of developing a cost effective evaluation system, and she called upon a team of experts from the USDHHS to actually design the system. These experts included:

- 1) Dr. Laurence Green and Dr. Donald Iverson, two nationally known researchers on evaluation of health programs from the Office of the Assistant Secretary for Health;
- 2) Statistical and planning experts from the Office of Planning and Evaluation;
- 3) A computer programmer from the office of the ASPER;
- 4) Two attorneys from the Office of General Counsel; and
- 5) An Office of Personnel Management (OPM) expert.

This group met for one year, during which time it designed the evaluation procedures. As a result of this effort and after three major revisions, a final plan was developed, approved, and funds were granted. A Request for Proposal (RFP) was sent out and proposals were reviewed by a panel. Development Associates of Arlington, VA was awarded the 30-month contract. During a three-year period, Development Associates assumed responsibility for implementing the entire evaluation system.

The Stufflebeam CIPP model (Stufflebeam, 1971, as cited in Masi and Teems, 1983) was selected as the base for building the ECS evaluation. The components of the CIPP model are as follows:

Process Evaluation. The process evaluation provided program managers with the information needed for anticipating and overcoming procedural difficulties, making administrative program decisions, and interpreting program outcomes. The data used in this phase was obtained from quarterly reports produced by each USDHHS geographical

region. Supervisory training, employee orientation sessions, employer education, outreach activities, contract and agreement activities, budget information, as well as aggregate information on employees who used the program were provided in the report. The report reflected both administrative and counseling activities. In addition, staffing and budgeting information and Management-by-Objectives plans provided baseline data for this component of the evaluation. A periodic review of the data assured quality control of what was reported.

The evaluation system made provisions for the statistical and other scientific analyses of this data for the ECS Director. The contractor also revised and improved the reporting forms with input from the USDHHS geographical regions and attorneys.

The data for this aspect of the study was collected between May 1, 1983, and September 30, 1984. It included information on 2,442 ECS clients and provided baseline data for comparison among the ECS clients. It also allowed for comparisons between geographical regions.

Impact Evaluation. Impact evaluation was operationally defined for this plan as the changes in participating employees' personal problems as a result of the program and not due to other working conditions such as pay raise or transfer of a supervisor.

The impact of the ECS on job performance for those clients referred by supervisors was measured using a 5-point supervisory rating scale that was translated into monetary terms defined by the employee's salary. These forms were filled out at three separate points in time – at ECS intake, three months after intake, and nine months after intake.

Outcome Evaluation. ECS outcomes were measured for all employees using the program in terms of reductions in administrative costs. A list of 132 data bits were reviewed for feasibility. Eight were chosen for leave analysis:

Sick Leave Used	Annual Leave Balance
Sick Leave Balance	Annual Leave Advanced
Sick Leave Advanced	Leave Without Leave
Annual Leave Used	Absent Without Leave

The focus of the leave analysis was on those clients for whom a full year's worth of leave data was available (the quarter before intake, the quarter during intake, and two quarters after intake).

In order to calculate the dollar value of changes in leave usage, Development Associates compared the leave usage in the quarter before intake with the leave usage in the two quarters after intake. They excluded the quarter during which intake occurred because a number of factors confound leave usage in that quarter (i.e. crisis events, treatment time) and because part of the quarter is before intake and part after intake. They calculated an average difference in leave usage for ECS clients and adjusted this difference for time-related variation by comparing it with a random sample of USDHHS employees (USDHHS norm group). Such seasonable adjustment was necessary because leave usage varied somewhat for USDHHS employees across quarters. The adjusted mean in leave usage was then multiplied by the mean salary (as of the middle of the six month post-intake period) of the relevant employees to get the net benefit of the ECS program.

ECS staff were trained to use departmental computer terminals to retrieve personnel items on each employee. The computer system was designed to remove all identifying data from the obtained information. All procedures were examined to assure

that they complied with the confidentiality regulations of both the ECS and the computer system center. The sanitized computer copy was provided to the evaluation contractor on a quarterly bases for analysis. No one outside the ECS had access to client names, social security numbers, or code numbers which could be linked to any individuals.

Data Analysis

Cost benefit analysis (CBA) and cost-effectiveness analysis (CEA) were two methods used to evaluate the data collected. For the purpose of the study, the following definitions were decided upon:

CBA – Program costs are compared with the dollar value of program results (i.e., benefits) and a ratio of cost to benefit is computed (i.e., 1:2 means \$3 worth of increased productivity is gained for each \$1 spent on services).

CEA – Program costs are compared with some quantitative measure or program output and a cost per unit is calculated (cost per client, annual clients per full-time employee, penetration per capita dollar, cost per unit change in client status, etc.), one unit against another.

Due to the importance of CBAs in evaluating the USDHHS/ECS Program, it is imperative that further attention be given to the process of analyses. These analyses involved changes in leave usage by ECS clients and changes in supervisor ratings of client job performance. Because these two measures were assumed to be correlated to some extent, the two measures were analyzed separately, rather than being added together into a single benefit measure.

Five categories of leave usage were examined in the analyses. The categories were sick leave, advanced sick leave, leave without pay, absence without leave, and

administrative leave. These categories were assumed to be those most costly to the government and most used by ECS clients. Annual leave was excluded because almost all employees use all of their annual leave at one time or another. Court leave and military leave were also excluded because their use was not expected to be related to ECS problems. Advanced annual leave was excluded because its use was previously found to be practically nil. Changes in leave usage were calculated for all ECS clients for whom at least two quarters of information was available.

Results

The following illustrates the results of the cost-effective analysis and the cost-benefit analysis:

- In the most cost-effective ECS unit, there was a \$9 return for every \$1 spent on the program.
- One full-time counseling staff per 3,500 employees (with a range of one per 2,900 to 3,900) may be optimal to realize the maximum return on the dollars invested in an EAP.
- The average cost of producing an improvement of one point in total supervisor rating for a single client was \$219.
- The estimated dollar costs per client for the system as a whole was \$991.
- The estimated dollar benefits in only six months were \$1,274 per employee served.
- Assuming continued improvement, the program predicted five-year cost-benefit ratio estimate based on supervisory ratings was 1:7.0.

The program cost-benefit ratio estimate using leave data based on a projection discounted to zero benefit in five years was a positive, but modest, 1:2.24. Since other evaluations have found “sleeper” effects in leave related data, evaluation beyond the nine

month follow-up (e.g., 15 month follow-up) might yield a still more favorable cost benefit ratio.

Monetized Supervisor Ratings

Another type of cost-benefit analysis involved using monetized supervisor ratings. This can only be done for clients referred by a supervisor. The assumption of this analysis was that a higher-rated employee is more productive than a lower-rated employee and that productivity can be translated into dollar values. Employees were rated on a scale with a theoretical range from -16 to +16 (-16 = low productivity and +16 = high productivity), but for these analyses, their scores were divided by 32, producing an overall theoretical range of -.5 to +.5. Their scores at intake were then compared with the mean of their scores three months and nine months after intake to get a change score for the six-month period following intake. Change scores were then multiplied by salary levels for the six-month period to obtain a dollar benefit value resulting in a 13:1 figure.

The assumption underlying monetization of supervisor ratings for these analyses are quite conservative. In a sense, they assume that an employee receiving a -16 rating was really worth only one half of his/her salary, while an employee receiving a +16 rating is worth one and a half times his/her salary. Some would argue that an employee who is “below average” on all sixteen variables is largely unproductive, while an employee who is “above average” on all variables is worth double the salary. These more liberal assumptions would double the dollar benefit figures.

An evaluation instrument can be used by supervisors to judge an employee’s work performance. The instrument questions can be divided into two categories – desirable and undesirable work behaviors. The supervisor rates each question as: more than average,

average, or less than average. In the category of desirable work behaviors, questions should ask if the employee puts in a full day at work (arrives on time and departs at the appropriate time), is diligent and attends to duties while at work, completes work assignments in full and on time, exhibits good conduct on the job, has a positive work attitude, encourages others by his/her enthusiasm, and dresses appropriately for work.

In the category of undesirable work behaviors, questions should ask if the employee is absent from work other than for scheduled annual leave (whether approved later or not), is away from his/her work area for non-job related reasons, his/her work assignments have to be reassigned to a co-worker, is not adaptable, has difficulty taking on new assignments and avoids new responsibilities, is uncooperative with others, and is unreceptive to critical feedback on job performance.

Conclusion

Companies can save money by implementing and maintaining an EAP program. However, the respective fields are often challenged to prove their worth due to a lack of data to substantiate this claim. The research studies discussed that more “well-controlled longitudinal studies [are necessary] to investigate over time” (Masi/Teems, 1983). In addition, according to Gebhardt and Crump, the type and structure of programs should be evaluated for their success and impact on different populations of workers (older-younger, male-female, blue collar-white collar, racial or ethnic group, physically challenged)” (Ibid). If the systems are designed with forms to collect demographic data necessary for future evaluations of this kind, the future of these employee programs is assured, regardless of tempestuous economic climates.

As MASI Research, Inc., the author has been the principle investigator in a number of CEA studies. Through the replication of the USDHHS study, the author has proven time and again that the EAP has been able to save money for companies, yet most private companies are hesitant to publish the results to avoid exposing internal employee issues such as absenteeism, substance abuse, etc. Due to this hesitation, there is a false opinion of a lack of data supporting the benefits of cost-effective analysis.

Other Studies

Highley-Marchington, C. & Cooper, C.L. (1997), July/August). Painting a picture for future growth: An evaluation of EAPs in the United Kingdom. *EAPA Exchange*, 26-27.

This evaluation looked at counseling effects on the individual and organizational level by reviewing client questionnaires after the first and last session and three to six months after treatment. When compared with control groups, results showed that counseling improved mental and physical well-being and significantly reduced the number of incurred absences. Results did not, however, indicate increased job satisfaction or improve perception on sources of job stress. From these results, the authors conclude that counseling improves individual health, but does not seem to effect organization indicators (job satisfaction and job stress). The authors recommend that EPS “identify sources of stress within the organization and advise the organization on the appropriate resources to help deal with these sources of pressure.”

Keaton, B., & Yamatani, H. (1993). Benefits of mandatory EAP participation: a study of employees with last chance contracts. *Employee Assistance Quarterly*, 9 (1), 67-77.

Cost reduction information has rarely been investigated for mandatory EAP referrals. This study examined the benefits of mandatory EAP participation based on employees' post-treatment data. A stratified and systematic sampling technique was used to secure 177 Last Chance Contract (LCC) employees, half of whom were required to seek EAP services. Reduction in health cost and absenteeism for these employees was

investigated through the review of employee records from twelve months prior to placement of LCC, twelve months after the effective date of the contract, and thirteen to twenty-five months after the contract date. Results showed that there was not a statistically significant difference in absenteeism, sickness & accident (S&A) days, and S&A costs between LCC EAP and non-EAP participants twelve months before or after the contract. There were, however, significant differences found during the thirteen to twenty-five month time period after the contract date. During this time period EAP participants were absent 3.7 days as compared to the 28.5 days of the non-EAP participants. Furthermore, the EAP group received S&A benefits for 3.5 days in comparison to the non-EAP group's 28.2 days. These EAP results indicated a savings of \$846,400 in absenteeism and health benefit utilization. (It is unclear why such profound results were found after a longer period of time, but this study emphasizes that more longitudinal studies are required to obtain accurate results.)

Nadolski, J.N., & Sandonato, C.E. (1987). Evaluation of an employee assistance program. *Journal of Occupational Medicine*, 29 (1), 32-37.

This report measured the effectiveness of the Detroit Edison EAP in terms of lost-time, health insurance claims, discipline, accidents, and work productivity. The employee records of sixty-seven EAP clients were measured six months pre-program and six months post-program in the first four areas. Work performance supervisor rating scales for the thirty-one supervisor-referred employees were administered to supervisors at client intake and one year after services to assess work productivity. Results showed that EAP employees reduced their number of sick days by 29% subsequent to using the EAP. There was also a 26% reduction in health insurance claims and a 41% reduction in job related accidents. Evaluations of supervisory discipline after EAP use resulted in 13% fewer warnings, 40% few suspensions and 100% fewer demotions. Supervisors' subjective opinions of work productivity indicated a 14% improvement in quality of work, 7% increase in quantity of work, 7% improvement in peer relationships, 13% improvement in relationship with supervisors, and a 44% increase in supervisory functions. Overall, "the results demonstrate that employees who received help from the company's EAP substantially improved their work performance."

Stern, L. (1990, May). Why EAPs are worth the investment. *Business and Health* 14-19.

This article examined employees that received treatment for substance abuse, and reviews the report by a third-party evaluator (Alexander and Alexander Strategies Group) commissioned by McDonnell Douglas Corporation to do a cost benefit analysis on its EAP. The study findings reflect that the total cost off-set (EAP annual cost savings minus annual program operating expenses) for the years 1987 and 1988 was \$2.5 million and \$3.9 million, respectively. These figures represent a nearly 3:1 return on investment in 1987 and a 4:1 return on investment in 1988. The study projected a minimum savings of \$5.1 million as a result of employee and dependent use of the company EAP over a 3-year period.

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