Chestnut Global Partners

EAP ROI CALCULATOR©

Research Review

Contact:

Tom Shjerven, CEBS
Vice President of Sales
Chestnut Global Partners

Mobile: 309-824-0732
Phone: 253-737-5580
E-mail: tgshjerven@chestnut.org

www.chestnutglobalpartners.org/Services/EAP-ROI-Calculator

EAP ROI CALCULATOR©
Conceptual Approach and Default Data Inputs: Research Review Appendix

Prepared by

Mark Attridge, PhD, MA
Attridge Consulting, Inc.

Louis Servizio, MS
Chestnut Global Partners do Brasil
Disease Management Strategy Group, Inc.

David Sharar, PhD
Matt Mollenhauer, MS, LPC
Chestnut Global Partners

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Executive Summary

Introduction

Employee Assistance Programs (EAPs) are employer- or organization-sponsored programs provided to employees as a benefit, to assist them in dealing with emotional issues (e.g., stress, anxiety, depression, and substance abuse), family and relationship issues (e.g., marital, family, and child care) and personal legal/financial issues. EAPs are also often made available as a resource for covered dependents and family members of employees. Purchasers of EAP services often want to know what kind of financial value or return on investment (ROI) they are getting from their investment in the EAP.

A significant amount of original empirical research has been conducted over the past 40 years to establish that there is often a positive financial return to EAP services. However, there are a number of limitations in this body of research such as having few recent studies, ROI that is not specific and relevant to EAP services alone, and numerous methodological weaknesses. More importantly, employers or sponsors of EAP prefer ROI studies that are specific to their workforce, their program model, and their EAP service provider. Conducting longitudinal outcome studies is also not a routine practice among most providers of EAP services. The alternative to undertaking an evaluation study is to develop a model that calculates the ROI, utilizing various inputs derived from a combination of available industry research, cost data, and unique employer experience of EAP service utilization and related EAP user outcomes data.

This approach is often accomplished through the use of a mathematical tool that features a specific logic and calculation method, and options for entering various kinds of data inputs into the model, or using standard default data inputs developed for the tool.

The CGP EAP ROI Calculator© (the “Calculator”), developed by Disease Management Strategy Group, Inc., and offered through Chestnut Global Partners (CGP), is a decision

support tool that calculates the financial Return on Investment (ROI) for EAP. CGP has contributed considerable default data research incorporated in the Calculator.

Why is a ROI Calculator Needed in the Field of EAP?

There are no commonly used ROI Tools currently available in the EAP field. Most of the ROI Tools in use are exclusive to certain EAP vendors, and much of the logic and data is based on small sample studies and clinical guess-estimates and is not driven by the research literature.

EAP is also somewhat unique in the area of workplace services for mental health in having a brief, but acute problem clinical profile for most of the users of the service. Thus, most service delivery is started and concluded within a month or two. This is in stark contrast to other kinds of workplace health services that have a more preventative or chronic care role, and assume a 12-month period of effect. Many other EAP ROI Tools mistakenly assume a 12-month effective period for workplace-based outcomes.

Other EAP ROI Tools also over-emphasize the amount of avoided "savings" from the EAP in health care costs, but these kinds of savings are often limited to a small set of the more clinically severe cases within the EAP service caseload, and often take several years of appropriate treatment before these medical cost-offset savings even occur. Thus, a more realistic model is needed for the EAP field.

How is the EAP ROI CALCULATOR© Different than Other Approaches?

Work Performance Outcome Area Featured. The "Core Technology" of the EAP field emphasizes how EAP services are designed to help employees who are stressed and have personal problems, with the goal of restoring a high level of work function. The Calculator also emphasizes the primary role of outcomes from improvements in worker performance (both while on the job – called "**presenteeism**" and by not missing scheduled work time – called "**absenteeism**") that occur much sooner after use of the

EAP than if the employee had not used the EAP.

Realistic Episode for Workplace Outcomes. Based on data for amount of time needed to deliver the typical number of EAP counseling sessions, and the time period of follow-up to assess changes after treatment, we use a **3-month (90-day) period** for how much time that the typical employee with EAP relevant issues may experience a negative impact on the level of work performance.

Other Outcomes Also Included. Other kinds of outcomes are included in the Calculator but with less contribution to the total savings, compared to the savings from the work performance outcomes. Avoided instances of **turnover** and **accidents** among employee users of the EAP both are relatively infrequent outcomes that are only relevant to a small part of the EAP caseload and each outcome has multiple causal influences other than use of the EAP. Also relevant are the cost-offset savings in reduced medical comorbidity issues that are measured in **annual health care claims costs** – but these cost savings are only relevant to a small slice of EAP caseload (i.e., those users with more serious clinical problems – such as anxiety, depression or addictions), for which EAP only plays a minor role in the treatment, and ongoing case management over several years, needed to see the savings. These other outcomes all have a 12-month time frame, apply to a smaller set of EAP clinical users, and have a less direct causal path to considering the EAP as the primary cause of the improvement.

Workplace Outcome Suite (WOS). Dr. David Sharar and Dr. Richard Lennox of Chestnut Global Partners developed the WOS set of survey items in 2010. It is now utilized by over 400 EAP providers to measure the changes from before to after use of the EAP services in employee presenteeism and absenteeism (and three other outcomes of work engagement, work distress and life satisfaction). The Calculator includes default inputs based on the research database of responses to the single-item and five-item WOS Presenteeism and Absenteeism scales. Users who have collected their own WOS survey outcome data also can use their results in the Calculator, by

following some data conversion instructions that adjust the results to fit the mathematical requirements of the Calculator.

Research-based Default Data. The Calculator uses the most extensive and current research-based default input numbers for EAP specific outcomes. For example, the default inputs for workplace presenteeism and absenteeism losses, and their improvement after use of counseling, is based on the average findings from eight major studies from over 100,000 users of EAP counseling services from different vendors in the United States, Canada and Australia. Other outcomes and cost value data, used as defaults in the Calculator, are based on the best available research studies and current economic data.

Investment in EAP. The investment figure is the cost to provide the EAP service for one year to the entire covered employee population. Note that this investment figure should represent only the portion of the fee paid for the EAP that reflects the delivery of EAP counseling services, as the return from outcomes associated other kinds of EAP services are not included in the Calculator. As counseling sessions typically account for most of the EAP service activity, we suggest using 80% of the full EAP program cost to represent the counseling only part of the overall price.

Financial Return Metrics. The cost savings from the Calculator are presented in two economic metrics of IRR and NPV and the standard Benefit to Cost ratio. **Internal Rate of Return** (**IRR**) is a rate of return used in capital budgeting to measure and compare the profitability of all kinds of investments. The IRR is expressed as a percent (%). This metric can answer the question of what is the financial return to the employer. The **Net Present Value** (**NPV**) is the sum of the present values (value in today´s dollar) of incoming and outgoing cash flows from the EAP over a period of time. It is expressed in dollars. The **Benefit to Cost Ratio** is the simpler mathematical ratio that represents the total financial benefit (savings associated with use of the EAP) over the total cost for the EAP service. This measure is expressed as a ratio. It answers the question of how

many dollars in return does the company get back for every one dollar invested in the EAP.

Savings for Employees in Avoided Out of Pocket Treatment Provider Costs. The Calculator generates as output the total of the costs that employees would have needed to pay personally out of their own pocket to get the same kinds of professional services that were provided at no cost from the EAP. These include savings in the market rates for service fees from licensed mental health and marriage and family counselors, financial advisors and legal advisors. Only the employees with a successful clinical resolution of their case are included in this savings component.

Customization of Inputs and Outcomes. The user has many options to customize the inputs and cost values beyond the defaults. It is designed as a consultative approach, with the EAP and their customer organization both participating in the use of the Calculator. It also has the option to calculate the return on investment for each type of outcome separately or in different combinations of outcomes.

Break-Even "What If" Analysis Capability. Users may calculate the break-even level of investment needed for a 1:1 return given user inputs for the program price, the level of utilization or the level of program effectiveness for certain outcome areas (or changes to other factors). For example, the user can create different scenarios based on several different levels of utilization and see how changing the utilization rate changes the total return from the program.

Steps in Calculation Logic

At Step 1, the EAP Module calculates the total cost burden associated with each employee "at-risk" (who is relevant to future use of EAP services but has not used EAP services). At Step 2, for the employees who actually used the EAP for individual counseling (based on the utilization rate) the reductions in the cost burden for each outcome area are calculated. At Step 3, the calculator generates the net change or

savings in the two cost burden amounts for each employee user of the EAP (i.e., the average cost burden per employee Without EAP vs. the average cost burden per employee With use of the EAP). At Step 4, the three return metrics are calculated.

How to Use the EAP ROI Calculator With Customer Organizations

1. For Retaining Existing Customers of EAP. The Tool can be used with EAP customers that have a history of utilization data (one-year) and the budget or PEPM investment in EAP. The use data can be adapted for the needed Calculator inputs. The EAP should meet with the customer to determine the most accurate inputs for employer characteristics (wage, industry, etc.) and cost value of certain outcomes. Finally, for EAP outcomes, the EAP can use either the default research norms or use their own book of business results or customer specific data if the sample is large enough.

2. For Projected ROI for New Customers of EAP. The Calculator can be used with new EAP customers that do not yet have a history of utilization data but do have a known PEPM investment in EAP. The use data can be estimated from data from other similar customer organizations. The EAP should meet with the customer to determine the ROI inputs for employer characteristics and cost values for different outcomes. Finally, for the rates and size of the EAP outcomes, the EAP can use either the research norms that are defaults in the Calculator or use their own book of business results.

3. For Sales Prospects of EAP. The Calculator can be used with potential EAP customers. The EAP pricing and use level can be estimated for the goals of the prospect. The EAP can meet with the prospect to determine the parts of the ROI inputs for employer characteristics and outcome cost factors. The EAP outcomes can use either the research norms or use their own book of business results.

CGP also offers private coaching on this implementation process to clients who have purchased the EAP ROI Calculator Tool. Please contact CGP for more information and pricing of this additional coaching component.

Case Study Example: ROI for a Large Manufacturing Company

Company Information

- The employer's industry/sector = **Manufacturing**
- The employer's main geographic region = **East North Central in United States**
- The primary occupation = **Miscellaneous assemblers and fabricators**
- Count of all employees at the company with access to the EAP = **37,0000**
- Average employee monthly gross salary (not include $ value of paid benefits) = **$3,000**

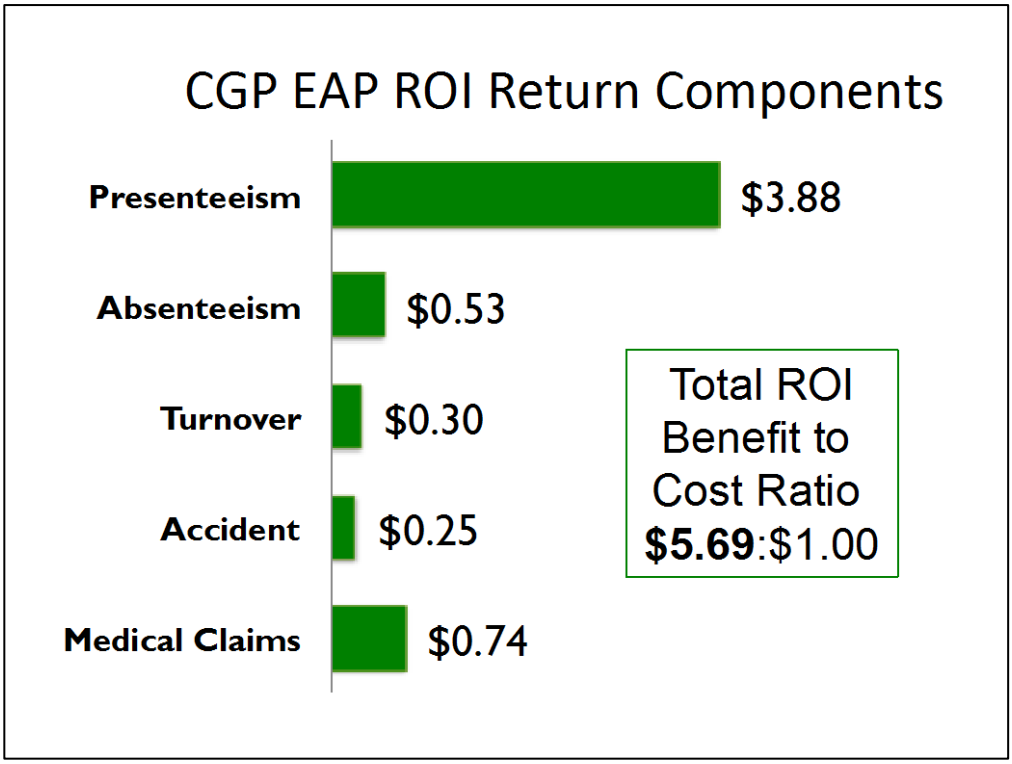
EAP Program Cost and Use

- Investment cost of counseling services portion of EAP services (PEPM) = **$2.10**
- EAP counseling case annual utilization rate for employee users = **6.20% (2,294 employees)**
- Total Program Cost = **$932,400**

Financial Results (ROI)

- Total EAP Program Reduced Costs = **$5,305,257** with Savings from Avoided Economic Workforce Costs (combination of Employee Presenteeism, Absenteeism, Turnover and Accidents) = **$4,617,057** and Savings from Avoided Medical Comorbidity Costs = **$688,200**
- The Internal Rate of Return (IRR) = **469%**
- Net Present Value (NPV) = **$4,267,300**
- Benefit/Cost Ratio = **$5.69**:$1.00

In this example, for every $1 invested in the program for counseling services, it returned a benefit to the company in reduced total costs in five outcome areas of $5.69.



ROI per Individual EAP User. These employer level results above can also be examined by focusing on a single user of the EAP counseling services. The average cost of EAP service delivery for each individual user was $406 (the total program budget divided by the 2,294 actual employee users of the program) and the average financial return per each individual user was $2,313. The cost savings per employee user for each outcome component are noted below:

- Avoided Further Presenteeism = $1,576 average per case (68.1% of the total savings)
- Avoided Further Absenteeism = $215 average per case (9.3%)
- Avoided Turnover = $122 average per case (5.3%)
- Avoided Accident = $100 average per case (4.3%)
- Avoided Medical Comorbidity Costs = $300 average per case (13.9%)
- TOTAL = $2,313

Additional Savings to Employees. Total savings in Avoided Employee Paid Provider Costs (out of pocket costs avoided by employees for use of providers similar to EAP if

had not used EAP services) is equal to **$568,178.** This figure is based on the $288 in savings per case for the 86% of the total cases with successfully resolved clinical issues after use of the EAP (and zero savings for each of the other 14% of cases that did not have their clinical issues resolved by the EAP).

EAP ROI Calculator©

PART 1

Conceptual Approach

Employee Assistance Programs (EAPs) are employer- or organization-sponsored programs that are provided to employees as a benefit, to assist them in dealing with emotional issues (e.g., stress, anxiety, depression, and substance abuse), family and relationship issues (e.g., marital, family, and childcare) and personal legal/financial issues. EAPs are also often made available as a resource for covered dependents and family members of employees.

The EAP ROI Calculator© (the "Calculator"), developed by Disease Management Strategy Group, Inc., is a decision support tool that calculates the financial Return on Investment (ROI) result for EAP. The Calculator is a component of a broader software, WELLCAST ROI©, that forecasts the ROI´s of disease prevention programs in general, but it not reviewed in this paper (see website for more information: http://www.dmsg360.com/wellcast-roi.html).

This paper also documents and validates the default values used in the Calculator. These defaults have been incorporated into a version of the Calculator available in the market under the name CGP EAP ROI Calculator. Chestnut Global Partners (CGP) (www.chestnutglobalpartners.org) is a wholly owned subsidiary of Chestnut Health Systems, Inc. and organized as a single member Limited Liability Company. Based in Bloomington, IL, CGP has been providing Employee Assistance Programs (EAP) and related workplace services since 1984 in over 140 countries. CGP is the sub-licensor of the EAP ROI Calculator, under a license agreement between CGP and DMSG.

Why is a ROI Calculator Needed in the Field of EAP?

There are no commonly used ROI Tools currently available to the EAP field. Most of the ROI Tools in use now are exclusive to certain EAP vendors and used for

their client reporting. Much of the logic and data in these Tools is based on small sample studies and clinical guess-estimates and are not driven by the research literature. The two major industry associations in the field of employee assistance - EAPA and EASNA - do offer regular trainings on ROI topics, but there is no standard logic or tool for the industry to use that is endorsed, or widely accepted, to compare the use and outcomes of different clients or different EAP vendors. Furthermore, the major health and benefits consulting companies (Mercer, Aon-Hewitt, Towers Watson, etc.) lack a ROI Calculator specific to EAP services.

EAP is unique in the area of workplace services and mental health in having a brief, but acute problem clinical profile for most of the users of the service. Thus, most service delivery is started and concluded within a month or two, as the average EAP clinical case takes from 2 to 3 sessions. This is in stark contrast to other kinds of workplace health services that have a more preventative or chronic care role, and assume a 12-month period of effect. Many other EAP ROI Tools mistakenly assume a 12-month effective period for outcomes.

Many EAP ROI Tools also emphasize “savings” from the EAP in health care costs when these are often limited to a small set of the more clinically severe cases within the EAP service caseload, and often take several years of appropriate treatment before these medical cost-offset savings even occur.

The area of workplace performance outcomes (from avoided further lost productivity while at work and from work absence) is the major source of business value for most EAPs. This is because improvements in work performance are routinely found for a majority of EAP cases. Yet many EAPs underestimate this area of value by not including them altogether in the ROI Tools, using only absence outcomes, not including presenteeism (which is typically about 70% of the total workplace outcome savings), or counting only the wages as the value of work productivity, and thus not taking the appropriate full economic value for the workplace outcomes (compensation per hour X a productivity multiplier factor).

The research shows a range of different kinds of outcomes, and that some ROI Tools use only a limited number of the many outcomes (rather than a complete set of outcomes) that come from use of EAP services.

How is the EAP ROI CALCULATOR© Different than Other Approaches?

Population Level Cost-Burden Analysis. The Calculator incorporates a detailed financial cost burden analysis for the portion of the workforce estimated to be "at-risk" for EAP relevant mental health, addiction, stress, and work problems. The total cost of these issues is then compared to the same analysis conducted when also taking into account the savings in these costs from the subset of the "at-risk" group who actually used the EAP service during the year.

Research-based Default Data Used for Calculator Inputs. The Calculator uses the most extensive and current research-based default input numbers and costs for EAP specific outcomes across many studies (not just data from one vendor's past year experience).

Work Performance Outcome Area Featured. The Calculator emphasizes the primary role of outcomes from improvements in worker performance (both while on the job and by not missing scheduled work time) that occur much sooner than if the employee had not used the EAP. This is key because initial deficits in work performance are routinely found when employees first seek help from the EAP, and then significant improvements (restored work performance) often follows as a result from use of EAP counseling. These changes in workplace performance outcomes also occur in a short period of time (see below). Furthermore, this area of outcomes are central to the "Core Technology" of the EAP field, which is to help employees who are stressed and have personal problems, with the inevitable goal of also restoring a high level of work function.

Realistic Episode of Time for Workplace Outcomes. Based on data for amount of time needed to deliver the two to four EAP counseling sessions, and the follow-up to assess changes after treatment, we use a 3-month (90-day) default period for how long a period of time that the typical employee with EAP relevant issues may experience a negative impact on the level of work performance. Other ROI marketing tools usually assume a 12-month period of time for estimating the total avoided further work losses if

the EAP had not been used. We think this time frame is not realistic given the data on how EAP services are delivered and of research on the typical levels of work performance burden from EAP-related issues.

Other Outcomes Also Included. All of the other kinds of outcomes included in the Calculator have a 12-month time frame, apply to a smaller set of EAP clinical users, and have a less direct causal path to considering the EAP as primary cause of the improvement. For example, the cost-offset savings in reduced medical comorbidity issues that are measured in annual claims costs are only relevant to a small slice of EAP caseload with more serious clinical problems, for which EAP only plays a minor role in the treatment and ongoing case management over the several years needed to see the savings. Also, avoided instances of turnover and accidents among employee EAP users both are relatively infrequent outcomes, that are only relevant to a small part of the EAP caseload, and each outcome has multiple causal influences other than use of the EAP. Thus, these kinds of outcomes are included in the Calculator, but with less contribution to the total savings compared to the savings from the work performance outcomes.

Integration with the Workplace Outcomes Suite (WOS). Dr. David Sharar and Dr. Richard Lennox of Chestnut Global Partners developed the WOS set of survey items in 2010. It is now utilized by over 400 EAP providers to measure the changes from before to after use of the EAP services in employee presenteeism and absenteeism (and three other outcomes of work engagement, work distress and life satisfaction). The Calculator uses the WOS absenteeism and presenteeism summary score data as inputs to the Calculator.

Customization of Inputs. The user has many options to customize the inputs beyond the defaults. It is designed as a consultative approach, with the EAP and their customer organization both participating in the use of the Calculator. Customization is available for these factors.

Financial Return Metrics. In addition to the simple ROI (benefit/cost) metric, the Calculator features two of the most widely used metrics in general business management for measuring financial returns. The cost savings from the Calculator are presented in two financial metrics of NPV and IRR (described below in further detail) as well as the standard benefit cost ratio.

Avoided Out of Pocket Cost Savings for Employees. The Calculator generates as output the total of the costs that employees would have needed to pay personally out of their own pocket to get the same kinds of professional services that were provided at no cost from the EAP. These include savings in the market rates for service fees from licensed mental health and marriage and family counselors, financial advisors and legal advisors. Note that this variable may also be turned off in calculating the ROI from an employer´s viewpoint (i.e., set the dollar value per case to zero).

Break-Even "What If" Analysis Capability. Users may calculate the break-even level of investment needed for a 1:1 return given user inputs for the program price, the level of utilization or the level of program effectiveness for certain outcome areas (or changes to other factors). For example, the user can create different scenarios based on several different levels of utilization and see how changing the use rate changes the total return from the program (see the case study math examples later in this report).

Adjusted Price for the Investment in EAP

The investment in the EAP is the cost to provide the EAP service for one year to the entire covered employee population. This rate is entered as a dollar figure per employee per month (PEPM). Note that this investment figure should represent only the portion of the fee paid for the EAP that reflects the counseling services, as the return from outcomes associated other kinds of EAP services are not included in the Calculator. Thus, the Calculator generates returns derived from users of EAP counseling services for clinical cases involving assistance for emotional/mental health, addictions, work stress and other types of individual or family issues.

The Calculator excludes the smaller part of the overall EAP use activity for other non-counseling EAP services, such as worksite trainings, management consultations, coaching services, crisis event prevention and CISM response, work-life cases, and so on (although adaptations can be made to the inputs to calculate the ROI from these other types of EAP-related services). Thus, the cost of the EAP should be reduced slightly to reflect only the core clinical service delivery. We suggest taking 20% of the full EAP contract price. For example, a PEPM rate of $2.50 would be entered as $2.00 assuming these other services are provided within the scope of the EAP's offerings to an employer. This reduction will not apply to all EAPs.

Types of Return or "Savings"

There are two primary types of savings that are considered in the Calculator:

- Type 1 = Savings to Employers. These savings include reduced workplace economic costs and reduced health care medical/premium costs:
    - Workplace Economic Cost Savings:
        - Reduced productivity losses associated with improvements in employee **presenteeism** (lower than normal productivity while at work);
        - Reduced productivity losses associated with improvements in employee **absenteeism** (missing or late/leave early from scheduled work);
        - Reduced costs for employee **turnover** (replacement, relocation, retraining and associated disability wage replacement costs for those employees who leave the company or are let go due to performance issues); and
        - Reduced costs for employee work-related **accidents** (due to distractions associated with personal and EAP-related issues)
    - Employee Health Care Treatment Costs Paid by Employer

  - For self-insured employers, reduced medical costs of long-term treatment for co-morbidities associated with EAP types of behavioral health issues.
  - For employers that are not self-insured, reduced premium rates for health care in the next year.
- Type 2 = Savings to Employees. These savings include the averted out of pocket costs from not having to pay for visits to providers (e.g., psychologists, social workers, attorneys, and financial advisors) for visits covered under the plan that were provided instead by the EAP.

Note that any of the savings components can be excluded by the user in the calculation of ROI.

Financial Metrics for ROI

There are three types of ROI savings metrics produced from the Calculator:

- The **Internal Rate of Return** (**IRR**) is a rate of return used in capital budgeting to measure and compare the profitability of investments. One can compare the attractiveness of various preventive care programs (such as the EAP service compared to exercise or smoking cessation programs), or compare one EAP provider against another (based on differences in price, utilization, and effectiveness rates), or compare preventive care programs against non-healthcare programs (such as using the same investment funds for expansion of a factory). The IRR is expressed as a percent (%). This metric can answer the question of what is the financial total return to the company after subtracting the amount invested. A "break-even" investment will have an IRR equal to the cost of capital and a NPV (net present value) of "zero".

- The **Net Present Value** (**NPV**) is the sum of the present values (value in today´s dollar) of incoming and outgoing cash flows from the EAP over a period of time. The time value of money means that time has an impact on the value of cash flows (a dollar today buys more today than it can tomorrow because of the effect of inflation). The NPV is expressed in dollars. This kind of financial metric is more useful when

considering investments that yield results over a long period of time (depending on the value of money and inflation).

- The **Benefit to Cost Ratio** is the simpler mathematical ratio that represents the total financial return or benefit (savings associated with use of the EAP) over the total cost or investment in the EAP service. The ROI is expressed as a ratio. This metric can answer the question of how many dollars in return does the company get for every one dollar invested in the EAP.

Steps in Calculation Logic

Although the Calculator performs many different specific calculations, a high-level understanding of the basic calculation steps can help to understand the logic of the general conceptual approach used in the Calculator.

At Step 1, the EAP Module calculates the total cost burden associated with all of the employees "at-risk" (or relevant to EAP services) but have not used EAP services. This cost is Cost Burden Total Without Use of the EAP. This can be expressed as a total cost burden from EAP-relevant problems for the entire workforce when an EAP program is not available. This is typically a very large amount of money, and this figure can be used to alert senior management at a company of the general need for sponsoring an EAP with the objective of then reducing this cost burden to the employer.

At Step 2, those employees who then actually use the EAP for individual counseling are calculated (based on the utilization rate), and then the reductions in the cost burden for each outcome are calculated and totaled.

At Step 3, among those employees who used the EAP for individual counseling, the Calculator generates the net change or savings in the two cost burden amounts (the average cost burden per employee Without EAP vs. the average cost burden per employee With use of the EAP).

Finally, at Step 4, the return calculations are performed. This includes determining the total savings discounted to the present value (for a one-year period), followed by a calculation of the Internal Rate of Return (IRR), the Net Present Value (NPV) of the program after deducting the cost of providing the EAP services, and also the Benefit to Cost Ratio.

The EAP Calculator has the option to calculate the return on investment for each type of outcome separately or in different combinations of outcomes. This flexibility can be done by having the user focus only on work productivity savings (or only choose the medical health care claims cost saving) and exclude other outcome areas by setting their effectiveness change rates to zero.

PART 2
Inputs to the Calculator

The Calculator is a web-based tool (i.e., available via the Internet). Once logged in to the tool, a series of three webpages require some data to be entered by the user of the tool. These are called "inputs" to the Calculator. After the various inputs are entered (or the default data is used), the Calculator will produce a Summary Results page. This page can be printed and saved as a summary of the analysis.

Company Information

- Group number (the name of the company or group of employees with access to the EAP)
- The employer´s industry/sector (used in calculating productivity losses)
- The employer's main geographic region (used in calculating productivity losses)
- The primary occupation of the employee population (used in calculating productivity losses)
- Count of all employees at the company with access to the EAP
- Average employee monthly gross salary (do not include $ value of paid benefits). This input variable should not be confused with productivity losses, which is determined automatically within the logic of the Calculator (discussed below).

Assumptions

<u>General Financial Market Indices (not specific to the employer)</u>

- Financial discount rate (opportunity cost of money)
- Medical cost inflation rate

<u>Defining the Number of At-Risk Employees – Without Use of EAP</u>

- The percent of employees in the total employee population that are distressed to some degree by issues relevant to EAP services. – The "at-risk" group (% of all employees).

<u>Determining the Burden Among At-Risk Employees – Without Use of EAP</u>

- Time period that an untreated EAP-relevant issue adversely affects employee work performance.
- Presenteeism rate. The percent of time that EAP-related issues reduce employee work productivity while at work. This percentage of total scheduled work hours is adjusted to account for loss beyond normal amount of health-related presenteeism for the typical employee. This percentage is used to determine the equivalent number of workdays lost to presenteeism during the distress period.
- Absenteeism days. The number of days that EAP-related issues reduce employee work productivity by missing work (or being late or leaving early). This number of work absence days is adjusted to account for loss beyond normal amount of health-related absenteeism for the typical employee.
- Turnover rate. The percentage of at-risk employees that leave their job.
- Accident rate. The percentage of at-risk employees that have an on-the-job accident.
- Medical comorbidity costs. Average per employee annual total health care and medical costs for treating co-morbidities associated with EAP-related problem issues when the person does not use the EAP or other appropriate mental health and addiction specialty care. Alternatively, for companies that are not self-insured, users my input the amount in increase in the health care plan premium attributable to treatment of EAP related issues.

<u>Cost Burden Inputs for At-Risk Employees During Period of Distress – Without Use of EAP</u>

The inputs in the above section are used to figure out how many employees are at-risk and how much that distress affects different outcomes. However, each of these outcomes also needs to have a dollar value assigned. What is the cost value to the employer for each kind of outcome area?

- The Calculator accesses a large, sophisticated database of productivity losses by region, industry, and occupation (that is updated when there are changes to the US economy). These productivity losses are used to determine the financial value of one full day of productive work for the employer – given the industry, region, and occupation of the employees in the company. The same dollar per day value is

applied to each day of missed work associated with employee presenteeism and absenteeism.

- For turnover cases – a cost per turnover cases is determined from a complex process that considers both how often these different cost components are needed across all turnover cases and the average cost of each component. These cost factors include:
    1. Replacement
    2. Relocation
    3. Retraining
    4. Premium (if any) on replacement cost for new labor hired in response to turnover cases
    5. Employer paid disability claim wage replacement for turnover cases
- Average cost per accident
- Average per employee annual medical cost of treating co-morbidities associated with EAP-related problem issues (self-insured employers) without benefit of EAP treatment. This cost burden is typically only relevant to the small portion of the EAP clinical caseload with more serious chronic disorders (i.e., depression, anxiety, alcohol, other addictions and trauma) and also is often experienced over a long period of time (i.e., 3-5 years). However, for simplicity, these costs created by only the high severity cases (often called the "pareto group" cases) are averaged down substantially to be applicable to all of the employees in the at-risk group with EAP-relevant kinds of problems. Furthermore, the costs over multiple year longitudinal effect periods are adjusted to reflect only one year. For employers with commercial insurance plans, this cost burden/area of EAP savings is the average increase in annual per employee health care premiums paid by the employer.
- Employee out of pocket costs for use of providers for counseling, legal, financial and other services related to what the EAP provides at no cost to the employee.

EAP Program Information

<u>EAP Program Inputs</u>

- Investment cost of providing the counseling services portion of EAP services (Per Employee Per Month-PEPM)
- EAP counseling case annual utilization rate for employees (count of all EAP counselor cases in a year who were employees / total count of employees). Generally, users should exclude dependents (or non-employees) from the use rate (typically about 10% to 20% of all EAP cases who are spouses or other dependents), as these individuals do not generate economic savings for an employer (note that users can run separate simulations that consider just the medical or premium savings for these individuals).

Reductions in Cost Burden: EAP Program Outcomes and Clinical Effectiveness

The default inputs for the reduction in cost burden areas comes from the average findings taken from a review of follow-up research studies comparing the outcomes for users of EAP counseling services.

- Overall effectiveness rate for resolving the clinical issues among EAP users
- Reduction in Presenteeism burden (unproductive work time) among EAP users
- Reduction in Absenteeism burden (days absent from work) among EAP users
- Change in Turnover rate among EAP users
- Change in Accident rate among EAP users
- Change in Health care medical treatment costs for comorbidities among EAP users (or premium reductions).

PART 3
Output from the Calculator

The output from the Calculator includes:

Summary of Input Data

The first section of the Summary Report provides a summary of all the general data that the user entered in the Calculator, in addition to two other numbers:

- Default Daily Productivity Loss (dollar amount for a full day of productive performance level for average employee) based on econometric modeling.
- Default Monthly Compensation (dollar amount for employee paid wages) based on econometric modeling.

Summary of Program Assumptions

The second section of the Summary Report provides a summary of program inputs, including the EAP program price (PEPM), utilization rate (discussed above), and reduction/effectiveness rates for each cost burden/outcome area. The results also include a new number:

- Total Program Cost (dollar amount for PEPM X 12 X employee population count)

Summary of Program Results

The third section of the Summary Report includes a summary of the results, including:

- Incidence Pre Program: Number of employees estimated to be "at-risk" with EAP-relevant problems at start of the year. This group is relevant to experience various cost burdens associated with experiencing EAP-relevant problems.
- Incidence Post Program: Number of employees still at-risk with EAP-relevant problems at end of year – after deducting the number who did receive treatment from the EAP service and who had a successful resolution to their clinical issue (see number below).
- Cases Successfully Addressed by the EAP: Number of employees who used the EAP service who had a successful resolution of their original problem that prompted

use of the EAP service. (Note that the actual full count of EAP users is higher than this output number. The full EAP case count is calculated from the annual utilization rate % X the count of the total employee population.)

Financial Results (ROI), including:

- Total EAP program "savings" among the group of employees who used the EAP. The dollar amount is determined from the difference between the estimated cost burden if the EAP had not been used, compared to the estimated reduced cost burden with the benefit of EAP treatment. This total is based on all of the different outcome areas included by the user in the analysis.
    - Reduced Costs - Total savings from all areas noted below
    - Medical Savings from health care comorbidity cost-offsets or premium savings
    - Economic Savings, which includes a combination of Economic Workforce Costs savings (employee presenteeism, absenteeism, turnover and accidents)
    - Employee Savings, which includes out-of-pocket costs avoided by employees (savings) in the use of providers if they had not used the provider from the EAP.
- The Internal Rate of Return (IRR), Net Present Value (NPV) and Benefit/Cost Ratio.

PART 4

Description of Default Data Used for Inputs to the Calculator

This part of the paper describes the sources of each default input variable. The specific research literature that informs each of these inputs is presented in the Appendix at the end of this paper.

PREVALENCE RATE

INPUT: Prevalence Rate of Employees with Distress from EAP-Relevant Issues In General Employee Population

Default Rate = 25% of entire employee population

Among the total employee population with access to the EAP, a rate of 25% (1 in every 4 employees) is estimated as being at some level of distress and thus relevant as potential users of EAP services. This estimate is based on a total of different specific diagnostic risk components commonly found among reasons why people seek help from the EAP. This 25% rate is comprised of: mental health/emotional disorders (7% of the 25%), substance abuse/other addiction disorders (3%), high stress (4%), personal relationship problems (marital, romantic, family) (4%), personal or family financial/legal issues (4%) and work difficulties (3%). This total takes into account the assumed comorbidity or overlap among this set of issues when a person has more than one issue, and that roughly only 1 in 3 people who are at risk typically take any action to seek help. This conclusion is reached from consideration of the different multiple sources of research data presented in the Appendix 1.

OUTCOME OF EMPLOYEE WORK PERFORMANCE

INPUT: Length of Time That EAP-Relevant Issues Affect Work Outcomes

Default: 90 days calendar time.

Source Data: There is not much research that examines the period before use of EAP that is longer than a month. Most the relevant work on prevalence of conditions is from general health risk assessment studies or about more serious psychiatric or addiction disorders that are assessed for a 12-month period – but these types of cases typically comprise less than a fourth of the total EAP caseloads. One conservative way to answer this question is to use the typical period of time that it takes after EAP starts until it is over. Most EAPs cases only last between two and three sessions with a counselor (according to the NBC survey of many different external vendors (Attridge et al., 2013). Some EAPs may have more sessions on average for certain customer organizations. However, activity of only two or three sessions is likely to be completed within one month as sessions are often conducted one per week. If someone had not used the EAP for professional assistance, it is unlikely that the issue would be improved to the same level within the same time frame as when treatment was provided. Thus, we can assume it would take a somewhat longer than the typical one month of time for EAP treatment. To be conservative, this additional untreated period is assumed to be at least one additional month beyond the normal EAP treatment period.

It is also relevant to consider that much of the data collected on clinical and work outcomes and satisfaction is done at one month after the last EAP session is completed rather than at the actual close of the case. Thus, most of the outcome data on pre to post changes in EAP client experiences has at least a two-month time-period between case open date and the date of the follow-up assessment, and some may have a longer total time frame of 3 to 6 months. For example, use of the WOS at post EAP use is recommended to be administered at 90-days after case close. Therefore, considering this operational practice data on the typical length of treatment and period of follow-up after treatment, the default period here for the negative effects of EAP related issues on employee work performance (the episode for the cost burden) is assumed to be three months or 90 days.

However, the user can choose to use a 30-day or 60-day periods as well, if that is a better fit to their typical time frame for delivery of EAP counseling services:

- Note that for 90-days of calendar time there are only 60 days of full-time work scheduled. Thus the research-based results presented below are adjusted to reflect the 90-day period used in the calculator math.

- Note that for 60-days of calendar time there are only 40 days of full-time work scheduled. Thus the research-based results presented below are adjusted to reflect the 60-day period used in the calculator math.
- Note that for 30-days of calendar time there are only 20 days of full-time work scheduled. Thus the research-based results presented below are adjusted to reflect the 30-day period used in the calculator math.

EMPLOYEE WORK PERFORMANCE PART 1: PRESENTEEISM

INPUT: Presenteeism Rate (%) Without EAP

Default: Pre EAP percent unproductive work time due to EAP-relevant personal problems. Source: Avg. of 8 major research studies of 144,617 EAP counseling cases. Accounts for 7.7% of normal presenteeism due to health issues. Use 21.0% for 30-day episode, 15.8% for 60-day episode and **12.3% for 90-day episode**.

Normal level of work presenteeism for average employee = 7.7% of scheduled work time.

Source Data: See Appendix 1. Based on four national studies in the US, the average result = 7.7% level of unproductive time. Thus for a 1 month period = 12.3 hours of lost time while at work for typical employee who works full-time.

Presenteeism Burden for At-Risk Employees

These rates for presenteeism and absenteeism burden are derived from research that mostly has measured the extent of adverse impact of the EAP issues on work performance in the past 30 days just before EAP use. Given that we assume a 90-day period of distress for the at-risk employee who does not use the EAP, we adjust the

research based outcome rates to reflect different levels of decreasing intensity for 30-, 60- or a 90-day period.

Source Data: 39.3% of productive time (7.86 workdays) lost due to presenteeism while on the job during workdays for a 30-day period before EAP was used - based on the average results from 8 major research studies of 144,617 EAP counseling cases. See Table 7 in Appendix.

30-day Episode: RESEARCH NORM DATA

- Month Before EAP Level of Work Presenteeism = 39.3% of Total Scheduled Hours
- Adjust the 39.3% total work loss to remove "normal" work loss of 7.7% = 31.6%
- 30-day Episode = 31.6% of 20 work days = **6.32 work days of presenteeism**
- INPUT = **21.0%** (31.6% X .666) adjusted for 30 calendar days

60-day Episode: ESTIMATED

- Month 1 in Episode = 6.32 days of presenteeism
- Month 2 in Episode = assume at half of above 3.16 days of presenteeism
- Combined 60-day Episode = 6.32 + 3.16 = **9.48 work days of presenteeism**
- Net Effect = 23.7% (9.48 / 40 = 23.7%) for 40 work days in period
- INPUT = **15.8%** (23.7% X .666) adjusted for 60 calendar days

90-day Episode: ESTIMATED

- Month 1 in Episode = 6.32 days of presenteeism
- Month 2 in Episode = assume at half of above 3.16 days of presenteeism
- Month 3 in Episode = assume at half of above 1.58 days of presenteeism
- Combined 90-day Episode = 6.32+ 3.16 + 1.58 = **11.06 days work days of presenteeism**
- Net Effect = 18.4% (11.06 / 60 = 18.4%) for 60 work days in period
- INPUT = **12.3%** (18.4% X .666) adjusted for 90 calendar days

INPUT: Change in Presenteeism Rate (%) With EAP Use

Default: Post EAP percent reduction in unproductive time: **39.7%.** Source: Avg. of 8 major research studies with follow-up outcome data from 144,617 EAP counseling cases. Use same reduction rate for 30/60/90-day episode.

Source Data: 39.3% reduction in lost productivity time while on the job during normally scheduled workdays for a 30-day period after EAP was used - based on the average results from 8 major research studies of 144,617 EAP counseling cases. See Table 7 in Appendix 1.

30-day Episode: RESEARCH NORM DATA

- 39.7% reduction in Before EAP burden of 6.32 days of presenteeism
- **2.51 fewer days** of lost productivity for After Use of EAP – for 20 work days

60-day Episode: ESTIMATED

- 39.7% reduction in Before EAP burden of 9.48 days of presenteeism
- **3.76 fewer days** of lost productivity for After Use of EAP – for 40 work days

90-day Episode: ESTIMATED

- 39.7% reduction in Before EAP burden of 11.06 days of presenteeism
- **4.39 fewer days** of lost productivity for After Use of EAP – for 60 work days

EMPLOYEE WORK PERFORMANCE PART 2: ABSENTEEISM

INPUT: Absenteeism Days Without EAP

Default: Pre EAP days of missed work due to EAP-relevant personal problems. Source: Avg. of 8 major research studies of 133,263 EAP counseling cases. Accounts for 0.4 days per month of normal absence due to health issues. Use 0.9 days for 30-day episode, 1.3 days for 60-day episode, and **1.5 days for 90-day episode.**

Normal level of work absenteeism for average employee = 1.9% of scheduled work time.

Based on three national studies in the US, the normal level of work absenteeism for average employee = 1.9% of scheduled work time. Thus for a 1 month period = 3.0 hours of lost time while at work for typical employee who works full-time. See Appendix

1.

Absenteeism Burden for At-Risk Employees

Source Data: 8.3% of productive time (1.67 workdays) lost due to absenteeism during workdays for a 30-day period before EAP was used - based on the average results from 8 major research studies of 133,263 EAP counseling cases. See Table 8 in Appendix 1.

30-day Episode: RESEARCH NORM DATA

- Month Before EAP = 1.67 days of absence (13.36 hours)
- Adjust this work loss to remove "normal" work loss of 3.0 hours
- Adjusted 10.36 hours = 1.30 days of absenteeism from 20 total scheduled days = 6.5% productivity loss
- INPUT = **0.9 days** (1.3 days X .666) adjusted for 30 calendar days

60-day Episode: ESTIMATED

- Month 1 in Episode = 1.30 net days of absenteeism
- Month 2 in Episode = assume half of above = 0.65 days
- Combined 60-day Episode = 1.30 + 0.65 = 1.95 days of net absenteeism
- 1.95 days of absenteeism from 40 total scheduled days = 4.9% productivity loss
- INPUT = **1.3 days** (1.95 days X .666) adjusted for 60 calendar days

90-day Episode: ESTIMATED

- Month 1 in Episode = 1.30 net days of absenteeism
- Month 2 in Episode = assume half of above = 0.65 days
- Month 3 in Episode = assume half of above = 0.32 days
- Combined 90-day Episode = 1.30 + 0.65 + 0.32 = 2.27 days of net absenteeism
- 2.27 days of absenteeism from 60 total scheduled days = 3.8% productivity loss
- INPUT = **1.5 days** (2.27 days X .666) adjusted for 90 calendar days

NOTE: For comparison, a study of absence company records data from 1995 (Druss et al., 2000), found that employees being treated for clinical depression had an average 9.9 sick days for 12 months, which was higher than the typical employee average of 3.3

days per 12 months. Thus, this effect was for 6.6 days per 12-month period higher than normal level of absence. When converted to a 90-day period, this data suggests an additional absenteeism burden of 1.65 days per 90-days for depressed employees. Our estimate for all employees at-risk with EAP-related issues is very similar at 1.5 days of additional absence per 90-day episode period.

Druss, B. G., Rosenheck, R. A., & Sledge, W. H. (2000). Health and disability costs of depressive illness in a major US corporation. *American Journal of Psychiatry, 157*, 1274-1278.

INPUT: Change in Absenteeism Rate (%) With EAP

Default: Post EAP percent reduction in absence days: **44.3%.** Source: Avg. of 8 major research studies with follow-up outcome data from 133,263 EAP counseling cases. Use same reduction rate for 30/60/90-day episode.

Source Data: 44.3% reduction in lost productivity time due to absenteeism during normally scheduled workdays for a 30-day period after EAP was used - based on the average results from 8 major research studies of 133,263 EAP counseling cases. See Table 8 in Appendix 1.

30-day Episode: RESEARCH NORM DATA

- 44.3% reduction in Before EAP burden of 0.9 days of absenteeism
- **0.40 fewer days** of lost productivity for After Use of EAP

60-day Episode: ESTIMATED

- 44.3% reduction in Before EAP burden of 1.3 days of absenteeism
- **0.57 fewer days** of lost productivity for After Use of EAP

90-day Episode: ESTIMATED

- 44.3% reduction in Before EAP burden of 1.5 days of absenteeism
- **0.66 fewer days** of lost productivity for After Use of EAP

EMPLOYEE WORK PERFORMANCE PART 3: COMBINED EFFECTS

Combined Outcome for Workplace Presenteeism and Absenteeism: Number of Fewer

Total Days of Lost Productivity

30-day Episode: RESEARCH NORM DATA

- **2.51 fewer days** of lost productivity from presenteeism
- **0.40 fewer days** of lost productivity from absenteeism
- **2.91 fewer days total**

60-day Episode: ESTIMATED

- **3.76 fewer days** of lost productivity from presenteeism
- **0.57 fewer days** of lost productivity from absenteeism
- **4.33 fewer days total**

90-day Episode: ESTIMATED

- **4.39 fewer days** of lost productivity from presenteeism
- **0.66 fewer days** of lost productivity from absenteeism
- **5.05 fewer days total**

DOLLAR VALUE OF EMPLOYEE WORK PERFORMANCE

Productivity Loss Assumptions for Assigning Dollar Value to Lost Work

Average work productivity losses by industry, region, and function are automatically defaulted by the Calculator. These productivity losses are imbedded in the Calculator. These data are derived from proprietary copyrighted formulas that use Economic Productivity Theory applied to US economic databases (GNP, industry output, Census Data, etc.) and are updated annually (a separate Conceptual Approach is available). In terms of the calculation of work performance losses, total work productivity loss is equal to the productivity loss associated with employee presenteeism plus the productivity loss associated with employee absenteeism:

PRESENTEEISM BURDEN MATH FORMULA: The productivity dollar loss associated with presenteeism is equal to the total employee population count (N) X the incidence rate of EAP-relevant issues among the general employee population (%) X the number of days per distress episode (N) X the presenteeism rate for the distress period (%) X the productivity loss dollar value per day for the employee function ($).

- Example: The total productivity loss to the employer associated with presenteeism is equal to the total employee population size (1,000) X incidence of issues among the population (25%) X days in the distress episode X the presenteeism rate for episode (12.5% for 90-days = 11.25 days) X the productivity loss per day for the employee function ($350) = $984,375.

ABSENTEEISM BURDEN MATH FORMULA: The total productivity dollar loss to the employer associated with absenteeism is equal to the total employee population count X the incidence rate of EAP-relevant issues among the population X the number of days absent per distress episode X the productivity loss dollar value per day for the employee function ($ minus the productivity gains of replacement personnel). Note that some of the absence-related productivity losses are credited back to the client for those employees that are replaced, but sometimes clients may have to incur higher charges for external labor replacing employees who are out of work.

- Example: The total productivity loss to the employer associated with absenteeism is equal to the total employee population size (1,000) X the incidence of issues among the population (25%) X the number of days absent during the distress episode (1.5 days for 90-days) X the productivity loss per day for the employee function (minus the productivity gains of replacement personnel: $350-$50 = $300) = $157,500.

Note that presenteeism burden costs usually contributes close to 80% of the total work productivity loss compared to absenteeism burden costs. In this example: Presenteeism burden = $984,375 (86%) vs. Absenteeism burden = $157,500 (14%) of the total of $1,141,875. This difference of a much greater cost burden for employee presenteeism than for absenteeism due to health related issues is a common finding in the empirical research on workplace health services in the US. In a 2010 literature review article, Johns states: “There is considerable agreement across studies that presenteeism accounts for more aggregate productivity loss than absenteeism” (p. 530).

Johns, G. (2010). Presenteeism in the workplace: A review and research agenda. *Journal of Organizational Behavior, 31*, 519-542.

OUTCOME OF EMPLOYEE TURNOVER

Note that there are two turnover rates in the Calculator and each is treated differently. The all-employee turnover rate is the general employer turnover rate for the total employee population (default of 10%), which is used to reduce the IRR and NPV. The turnover rate for the at-risk group of employees is a direct cost that may be reduced by an EAP.

INPUT: Turnover Rate (%) for All Employees At Company

Default: 0%

Source Data: The rate of turnover among all employees is set to zero in the calculator as this contribution to the turnover rate is already figured into the rate used as the Input % for the at-risk employee at Before Use of EAP (see below).

INPUT: Turnover Rate (%) for At-Risk Employees Before Use of EAP

Default: 10% rate of turnover for employees in the At-Risk Group.

Source Data: There are some studies in the literature that suggest employees with mental health, addictions and high stress have slightly higher rates of turnover (depending on the clinical severity of the issues). The input figure of 10% is an educated guess based on a variety of studies as most of the literature has examined the outcome of turnover in the context of many other outcomes and work contextual factors. See Appendix 1 for some of these studies and review papers.

INPUT: Change in Turnover Rate (%) for At-Risk Employees After Use of EAP

Default: 10% fewer turnover cases among EAP counseling users compared to projected number of turnover cases without EAP.

Source Data: See Appendix 1 for several studies of EAP programs with evidence of positive impact on reducing the rate of employee turnover for more serious clinical cases (EAP cases with psychiatric and addiction problems).

OUTCOME OF EMPLOYEE ACCIDENTS

INPUT: Accident Rate (%) for At-Risk Employees Before Use of EAP

Default: 10% rate of accidents among the employees in the At-Risk Group.

Source Data: See Appendix 1. There are some studies in the literature that suggest employees with mental health, addictions and high stress have slightly higher rates of workplace accidents (depending on the clinical severity of the issues). The input figure of 10% is an educated guess based on a variety of studies as most of the literature has examined accidents along with other outcomes and work contextual factors.

INPUT: Change in Accident Rate (%) for At-Risk Employees After Use of EAP

Default: 10% fewer accidents among EAP counseling users.

Source Data: See Appendix 1. There is little reliable data for the change in rate of accidents for this group. There are five studies that address how EAPs have helped control workers compensation claim costs.

OUTCOME OF EMPLOYEE MEDCIAL CLAIMS COST-OFFSET

INPUT: Cost Value of Medical Treatment Claims Cost of Co-Morbidities For At-Risk Cases Lacking Proper Treatment from Mental Health and Addiction Specialists

Default: $3,000

Source Data: See Appendix 1. People with a mental health condition typically cost more than those without mental health conditions in terms of total direct costs

attributable to the use of general healthcare services. Employees with mental health conditions often use more inpatient and outpatient healthcare services in health plans for medical (non-psychiatric) conditions. Depressed employees in particular, tend to have higher overall healthcare claims costs and the majority share of these costs is usually for conditions other than depression. Based on this evidence, we use a default of $3,000 per person at-risk for the amount of additional cost burden. Note that this figure has been adjusted to account for the range of clinical severity among employees in the at-risk group (i.e., the larger cost burden from the more severe cases has been averaged across all of the employees for a lower overall figure).

INPUT: Reduction Rate Co-Morbidities Post EAP

Default: 10%

Source Data: See Appendix 1. The annual total burden in health care medical claims for the typical employee at-risk with EAP-relevant issues is $3,000. The average amount of net savings on medical claims costs for the typical employees who use the EAP for counseling is estimated at $263. Note that this figure has been adjusted to account for the range of clinical severity among employees in the at-risk group (i.e., the larger cost burden from the more severe cases has been averaged across all of the employees for a lower overall figure). The reduction in this cost burden is therefore about 8.8% ($263/$3,000). However, given that several other EAP research studies have found larger size cost reductions, we use a reduction rate of **10.0%** for the ROI Calculator.

RATE OF EAP CASES WITH CLINICAL RESOLUTION

INPUT: Success Rate in Resolving Presenting Issues (Post EAP)

Default: 86%

Source Data: A rate of 86% is used to indicate how many EAP counseling cases report general improvement in their main issue that they sought assistance for from the EAP =

average result from surveys conducted at 45 external vendors in NBC study on over 128,000 individual EAP users in year 2010 book of business data.

Attridge, M., Cahill, T., Granberry, S.G., & & Herlihy, P. (2013). The National Behavioral Consortium Industry Profile of External EAP Vendors. *Journal of Workplace Behavioral Health, 28*(4), 251-324.

PART 5

Summary of Default for Inputs to the Calculator

The Calculator includes many default data points (based on EAP studies and other workplace health research), which may be overwritten by users based on their own experience with EAP.

TABLE 1 **Input Variable Summary Table with Default Values** **(note: users can change any value with exception of productivity loss per day)**
Group Name INPUT = an arbitrary name of the company for which analysis is being performed
Region INPUT = select geographic area for most of the employees at the company
Sector INPUT = select from menu of industries for the company
Occupation INPUT = select from menu of occupation type for most of the employees at the company
Total Employees INPUT = enter number of employees who work at the company (that have access to EAP)
Compensation Average INPUT = the monthly salary or wages paid to the average employee at the company (dollar total excluding benefits)
Medical Inflation Rate in General Economy INPUT = 2.61%
Discount Rate for General Economy Annual Financial Return on Investment INPUT = 2.03%
Prevalence = Rate of Employees with Distress from EAP-Relevant Issues in General Employee Population

INPUT = 25%

Episode (in Days) = Length of Time that EAP-Relevant Issues Adversely Affect Work Performance When Left Untreated

INPUT = 90 We assume a 90-Day Calendar Time Episode

Presenteeism = % of unproductive time during total of all scheduled work time

EFFECT RATE WITHOUT EAP: INPUT = 12.3.0%
100% of at-risk employees have 12.3% per 90-day episode beyond normal health-related work loss.
12.3% of 90 day period = 11.2 additional workdays lost.

COST VALUE: INPUT = None. The cost value per day of work productivity is derived from an internal database of productivity losses.

BURDEN REDUCED WITH EAP USE: INPUT = 39.7%
A 39.7% reduction in presenteeism burden during the distress episode for average EAP user.
(39.7% of the 11.2 days without EAP = 4.4 fewer days lost per 90-day episode with EAP use).

Absenteeism = number of days of unproductive time during total of all scheduled work time

EFFECT RATE WITHOUT EAP: INPUT = 1.5 days
100% of at-risk employees have 1.5 days of additional missed work per 90-day episode beyond normal work health-related absence.

COST VALUE: INPUT = None. The cost value per day of work productivity is derived from an internal database of productivity losses (same as for Presenteeism Value).

BURDEN REDUCED WITH EAP USE: INPUT = 44.3%
A 44.3% reduction in absenteeism burden among average EAP user.
(44.3% X 1.5 days without EAP = 0.7 fewer days lost per 90-day episode with EAP use)

Turnover

EFFECT RATE WITHOUT EAP: INPUT = 10%
Assumes that 1 in 10 at-risk employees without treatment from EAP turnover (voluntarily or are fired)

COST VALUE: Cost value per turnover event determined by the calculator using proprietary formula and combination of other inputs about the company: 10 total INPUTS =

- 10% of turnover cases have replacement costs with average replacement cost amount of $3,000.
- 5% of turnover cases have relocation costs with average relocation cost amount of $1,000.
- 50% of turnover cases have retraining costs with average retraining cost amount of $2,000.

- 5% of turnover cases have disability claim costs with average disability cost amount of $3,000 in employer-paid wage replacement (generally equal to one month salary).
- Premium cost factor applied to average salary paid for replacement workers = 1.0%.

BURDEN REDUCED WITH EAP USE: INPUT = 10%
A 10% lower turnover rate among average EAP user

Accidents

EFFECT RATE WITHOUT EAP: INPUT = 10% of at-risk employees have an accident.

COST VALUE: INPUT = $10,000 cost per accident.

REDUCTION IN BURDEN WITH EAP USE: INPUT = 10% lower accident rate among EAP users.

Medical Claims Comorbidity Cost

EFFECT RATE WITHOUT EAP: INPUT = None. 100% of at-risk employees have this added annual cost.

COST VALUE: INPUT = $3,000
A total of $3,000 is assumed for additional health care claims costs associated with psychosocial comorbidities per at-risk employee per year.

BURDEN REDUCED WITH EAP USE: INPUT = 10%
A 10% lower cost burden among average EAP user.

Employee Paid Provider Costs

EFFECT RATE WITHOUT EAP: INPUT = None. Estimated from utilization rate of EAP service.

COST VALUE: INPUT = $288 [based on average of 2.5 sessions with a mental health counselor at $100 per session ($250) and 0.25 session with a legal or financial advisor at $150 an hour ($38)]

EAP Clinical Effectiveness = successfully resolving the problem of the employees who use the EAP.

RATE: INPUT = 86%

PART 6

Case Study Example

ROI for a Large Manufacturing Company

Company Information

- Name of company being analyzed = **Company X**
- The employer´s industry/sector = **Manufacturing**
- The employer's main geographic region = **East North Central in United States**
- The primary occupation = **Miscellaneous assemblers and fabricators**
- Count of all employees at company with access to the EAP = **37,0000**
- Average employee monthly gross salary (do not include $ value of paid benefits) = **$3,000**
- Financial discount rate (opportunity cost of money) = **2.03%**
- Medical cost inflation rate = **2.61%**

Defining the Number of At-Risk Employees – Without Use of EAP

- How many employees in the total employee population are distressed to some degree by issues relevant to EAP services? – The "at-risk" group (% of all employees) = **25%**

Prevalence of Burden among At-Risk Employees – Without Use of EAP

- How long do untreated EAP-relevant issues adversely affect employee work performance? = **90 calendar day period**
- How much do EAP-related issues reduce work productivity while at work (presenteeism) per each at-risk employee during the distress period? = **12.3%**
- How much do EAP-related issues reduce work productivity by missing work per each employee at-risk employee during the distress period? = **1.5 days**
- What is the default Daily Productivity Loss (dollar amount for a full day of productive performance level for average employee)? = **$358.63**
- What percentage of at-risk employees turnover and leave their job? = **10%**
- What percentage of at-risk employees have an on-the-job accident? = **10%**

- How much do at-risk employees cost the employer in additional medical and health care treatment costs? = **$3,000**

Cost of Burden among At-Risk Employees – Without Use of EAP

- Average per employee annual medical cost of treating co-morbidities associated with EAP-related problem issues (self-insured employers) without benefit of EAP treatment = **$3,000**
- For turnover cases – Cost factors include:
    - Replacement = **10% of turnover cases at $3,000 per case**
    - Relocation = **5% of turnover cases at $1,000 per case**
    - Retraining = **50% of turnover cases at $2,000 per case**
    - Premium on replacement cost for new labor hired in response to turnover cases = **1%**
    - Employer paid disability claim wage replacement for turnover cases = **5% of turnover cases at $3,000 per case**
- Average cost per accident = **$10,000**
- Employee out of pocket costs for use of providers for counseling, legal, financial and other services related to what the EAP provides at no cost to the employee = **$288**

EAP Program Cost and Use

- Investment cost of counseling services portion of EAP services (PEPM) = **$2.10**
- EAP counseling case annual utilization rate for employees = **6.20%**
- Total Program Cost (PEPM = $2.10 X 12 months X 37,000 employee population count) = **$932,400**

EAP Program Reduction Rates

- Overall effectiveness rate for resolving the clinical issues among EAP users = **86%**
- Reduction in Presenteeism burden (unproductive work time) among EAP users = **39.7%**
- Reduction in Absenteeism burden (days absent from work) among EAP users = **44.3%**
- Change in Turnover rate among EAP users = **10%**

- Change in Accident rate among EAP users = **10%**
- Change in Health care medical treatment costs for comorbidities among EAP users = **10%**

Program Results

- Incidence Pre Program: Number of employees estimated to be "at-risk" with EAP-relevant problems at start of the year = **9,250** (25% of the 37,000 employees)
- Incidence Post Program: Number of employees who remain still at-risk with EAP-relevant problems at end of year = **7,277**
- Cases Successfully Addressed by the EAP: = **1,973** (2,294 total users X 86% clinical resolution rate for counseling cases)
- Note: The number of full EAP cases is not presented in the output - but it can be manually calculated from the annual utilization rate X the count of the total employee population (6.2% X 37,000 = 2,294).

Financial Results (ROI)

- Total EAP Program Reduced Costs = **$5,305,257**
    - Savings from Avoided Medical Comorbidity Costs = **$688,200**
    - Savings from Avoided Economic Workforce Costs (Combination of Employee Presenteeism, Absenteeism, Turnover and Accidents) = **$4,617,057**
- The Internal Rate of Return (IRR) = **469%**
- Net Present Value (NPV) = **$4,267,300**
- Benefit/Cost Ratio = **$5.69**:$1.00

Thus, in this example, the cost of the EAP program for counseling services provided to employees was $932,400. This investment yielded a NPV of almost $4.3 million and an IRR of 469%. The Benefit to Cost Ratio shows that for every $1 invested in the program, it returned a benefit to the company in reduced costs of $5.69.

ROI Per Individual EAP User. These employer level results can also be examined by focusing on a single user of the EAP counseling services. The average cost of EAP service delivery for each individual user was $406 (the total program budget divided by the 2,294 program users) and the average financial return per each individual user was

$2,315 (combination of medical claims cost-offset = $300 and workplace economic avoided costs = $2,015).

Additional Savings to Employees. Total savings in area of Avoided Employee Paid Provider Costs (out of pocket costs avoided by employees for use of providers similar to EAP if had not used EAP services) = **$568,178.** This figure is based on the $288 in savings per case for the 86% of the total cases with successfully resolved clinical issues after use of the EAP (and zero dollar savings for each of the other 14% of cases that did not have their clinical issues resolved by the EAP).

ROI Differences by Episode Length

The ROI model emphasizes the impact of restoring lost work performance from presenteeism and absenteeism issues among employees. Our default assumption is that a 90-day period is most reasonable for how long an EAP-related issue negatively affects work performance before the person gets assistance from the EAP counselor. This defines how much of a financial loss is experienced that can then be reduced once EAP services are used and this financial loss does not continue at the same rate.

The user of the Calculator, however, can be more conservative than our default period of 90 days/3 months and decides to use a shorter period of time for the episode of work distress. We have presented research-based estimates for 90-, 60- and 30-day periods, with the most acute phase of distress in the month just preceding EAP use, and then half as much impact in the period two months preceding use and even less impact for the third month out before EAP use. Our logic is that the month just before EAP use had the most distress because it this distress that in part prompts the action to seek help from the counselor.

The results for each of these three time periods are displayed in the table below. All other data inputs are the same, with the exception of time period and the corresponding two cost burden factors (presenteeism rate and absenteeism rate) during the period before use of the EAP. These results show a Cost Benefit Ratio of $5.69 for the 90-Day, $5.06 for the 60-Day and $3.81 for the 30-Day. Although, the longest episode has the highest total ROI, the return per month in each episode is, by design,

greatest for the 30-day period ($3.81) compared to the other two longer episodes (60-Day = $2.53 and 90-Day = $1.90).

It is instructive to consider that some EAP vendors and past research has assumed that the workplace distress period would have continued for a full year (12 months) if the employee had not used the EAP. This assumption would then yield a Benefit to Cost Ratio of $22.76 (4 x the 90-Day episode figure of $5.69). This is a very high ROI figure, which is sure to raise concerns from the customer about the credibility of the model assumptions. This desire to produce a credible ROI is one reason that we prefer a more realistic much shorter period of time for the distress episode, and including multiple kinds of outcome components in the total savings. Using this approach also allows us to be more conservative with each element in the model.

TABLE 2

ROI Differences by Episode Length

	Before EAP Workplace Burden Factors: **Per Each EAP User**		N = 37,000 Employee Population PEPM = $2.10 Use Rate = 6.20% Investment in EAP = $932,400				
Time Period of Workplace Burden from EAP-related Issues	Presenteeism Rate = # of EAP-related Additional Work Loss Days	# of EAP-related Additional Work Absence Days	Net Present Value	Internal Rate of Return	Benefit to Cost Ratio	Workplace Economic Savings Total	Reduced Costs TOTAL
			$	%	$:$1.00	$	$
90-Day Episode	12.3% = 11.06 days	1.5 days	4,267,300	469	5.69	4,617,057	5,305,257
60-Day Episode	15.8% = 9.48 days	1.3 days	3,693,400	406	5.06	4,031,506	4,719,706
30-Day Episode	21.0% = 6.32 days	0.9 days	2,545,600	281	3.81	2,860,405	3,548,605

Note: Medical Cost Savings is the Same in Each Condition = $688,200

PART 7

What-If Scenario Analysis

The simulations assume the same default parameters as in the Case Study, above, but exclude the savings for Employees in avoided cost out-of-pocket provider costs (and focus only on all the other savings or return that goes to the Employer).

What-If I: Given a Certain Price (PEPM), What Level of Program Utilization is needed to achieve a Break-Even ROI? In our employer case example with a normative program price of PEPM $2.10, a 1.11% level of employee utilization of the EAP is needed to produce a break-even on price using the Benefit Cost Ratio (reminder: breakeven is achieved when the NPV is as close as possible to "0", and the IRR is as close as possible to the opportunity cost of capital "2.03%").

TABLE 3

ROI Differences by Utilization Level

	N = 37,000 Employee Population PEPM = $2.10 and Investment in EAP = $932,400					
Employee Users of EAP Counseling as % of All Employees	Net Present Value	Internal Rate of Return	Benefit to Cost Ratio	Medical Savings Total	Workplace Economic Savings Total	Reduced Costs TOTAL
Utilization Level	$	%	$:$1.00	$	$	$
6.20%	4,267,300	469	5.69	688,200	4,617,057	5,305,257
1.11%	1,485	2.0	**1.02**	123,210	826,602	949,812

What-If II: Given a Certain Level of Program Use (Utilization Rate), What Level of Price (PEPM) for the EAP Program is Needed to Achieve a Break-Even ROI? In our employer case example, with a normative level of EAP use at 6.20%, the price for

the EAP could be raised considerably to $11.71 (5 times higher) and still break-even on total savings back to the employer sponsor.

TABLE 4

ROI Differences by Program Price

	N = 37,000 Employee Population Utilization Rate = 6.20%					
PEPM Rate for EAP Program Cost	Net Present Value	Internal Rate of Return	Benefit to Cost Ratio	Medical Savings Total	Workplace Economic Savings Total	Reduced Costs TOTAL
Investment Level	$	%	$:$1.00	$	$	$
$11.71	463	2.5	**1.02**	688,200	4,617,057	5,305,257
$2.10	4,267,300	469	5.69	688,200	4,617,057	5,305,257

What-If III: Given a Certain Program Price and Use, What Level of Program Outcomes is Needed to Achieve a Break-Even ROI? Assume Annual Utilization Rate = 6.20% and Price of $2.10 PEPM. This Table shows the different levels of employee outcomes for three conditions:

- Outcomes at Default Levels = $5.75 Benefit to Cost Ratio
- Outcomes at 10% Better than Default Levels = $6.26 Benefit to Cost Ratio
- Outcomes at 10% Worse than Default Levels = $5.12 Benefit to Cost Ratio

This analysis shows that there is more than a million dollars of total savings difference between EAPs that have a 10% higher compared to 10% lower level of outcomes from the use of the program ($5.8M vs. $4.8M). Thus, although program use rate and program price are certainly key factors in the ROI for the program, the level of outcomes delivered by the program is also a significant contributing factor to overall program value.

TABLE 5

ROI Differences by Outcome Effectiveness

	N = 37,000 Employee Population PEPM = $2.10 Use Rate = 6.20% Investment in EAP = $932,400					
Outcomes from EAP Counseling Use	Net Present Value	Internal Rate of Return	Benefit to Cost Ratio	Medical Savings Total	Workplace Economic Savings Total	Reduced Costs TOTAL
	$	%	$:$1.00	$	$	$
10% higher	4,787,270	526	6.26	757,020	5,078,763	5,835,783
Default Level	4,267,300	469	5.69	688,200	4,617,057	5,305,257
10% lower	3,747,330	412	5.12	619,380	4,155,351	4,774,731

TABLE 6

Data Used for ROI Differences by Outcome Effectiveness

Kind of Outcome from EAP Counseling Service	**Default**	**10% Better than Default**	**10% Worse than Default**
Reduction in Presenteeism After Use of EAP	39.70%	43.67%	35.73%
Reduction in Absenteeism After Use of EAP	44.30%	48.73%	39.87%
Reduction in Medical Claim Costs After Use of EAP	10%	11%	9%
Reduction in Turnover Replacement Costs After Use of EAP	10%	11%	9%
Reduction in Turnover Relocation Costs After Use of EAP	10%	11%	9%
Reduction in Turnover Retraining Costs After Use of EAP	10%	11%	9%
Reduction in Turnover Disability Costs After Use of EAP	10%	11%	9%
Reduction in Accident Costs After Use of EAP	10%	11%	9%

APPENDIX 1

Research Source Data for EAP ROI Calculator Default Inputs

INPUT: Prevalence Rate of Employees with Distress from EAP-Relevant Issues In General Employee Population

Default Rate = 25%

- Prevalence of EAP Related Issues. National random sample survey of 1,028 working adults in 1998 by Optum EAP for the development of the *LifeScale20* survey of concerns in the areas of mind, body, work and health. 20 items were rated on a 1-5 scale, with 5 = extremely concerned about the issue. Below are listed the percentage of the sample with the highest rating of extremely concerned:

PERSONAL LIFE – 15% at risk
18% - money and financial issues
8% - legal issues
11% - childcare concerns
16% - relationships with family
7% - relationships with friends
10% - relationships with romantic partners
WORK – 13% at high risk
19% - work performance
9% - work relationships
12% - balancing work and personal life
MIND – 9% at risk
13% - stress and anxiety
6% - feelings of sadness (depression)
7% - alcohol or drug abuse (self, family member or friend)
11% - 1 or more visits to a psychologists or psychiatrist in past year
BODY
7% - fair or poor general health status
25% - physical health concerns
90% - 1 or more visits to medical doctor or clinic in past year
19% - 1 or more visits to urgent care facility in past year
21% - 1 or more visits to emergency room in past year
26% - 1 or more visits to hospital in past year

Attridge, M. (2000, June). *Measuring mind, body, work, and life concerns: Development of the LifeScale20 survey*. Poster presented at the meeting of the American Psychological Society, Miami, FL. Also other unpublished detailed data from Optum Research Department internal reports.

- General Population Prevalence of Mental Health and Substance Abuse Disorders. According to national epidemiological studies in 2009 and 2010, 20% of adults in the United States had any kind of mental illness. About 1 in 4 of this group also had a substance abuse problem. However, 5% of the general total population had the most serious kind of mental illness. Given that many of these people with serious mental illness cannot work, this means that about 15% of the adult population had a moderate to mild form of mental

illness. Additionally, about 6.1% of all adults have a substance abuse problem. These prevalence rates are higher for younger people (age 20s and 30s) and for women. Other data shows that 9.5% of full-time employed workers in US have a substance abuse disorder.

> Substance Abuse and Mental Health Services Administration. (2012). *Results from the 2010 National Survey on Drug Use and Health: Mental Health Findings, NSDUH Series H-42, HHS Publication No. (SMA)* 11-4667. Rockville, MD: Substance Abuse and Mental Health Services Administration.
>
> National Surveys on Drug Use and Health (NSDUH), 2008 to 2010 (revised March 2012) and 2011 to 2012. NSDUH is an annual survey sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their places of residence.

However, less than half of the people who meet criteria for having a mental health and substance disorders actually seek any professional treatment. Thus, the help-seeking group relevant to potential EAP use is much lower. This fact is also evident in the research that shows that nationally, according to claims data and surveys about 10% to 12% of the working populations in the US use mental health outpatient benefits or seek help from an independent psychological counselor or therapist.

- Prevalence of Stress. Add to this general rate for mental health and/or addiction, a host of other issues like work stress, family conflicts, personal legal and financial problems and it is a higher percentage of the workforce that experience issues relevant to potential use from EAPs. Note that health risk appraisal (HRA) risk data have roughly same prevalence levels as more sophisticated interview data from large-scale national epidemiological research methods. Longitudinal study of StayWell health risk appraisal (HRA) surveys and health care claims data from over 21,000 employees from multiple employers in US. See below:
    - 13.5% of working employees at high risk for “stress” (Almost always felt troubled by stress and self-reported did not handle stress well).
    - 21.0% of working employees at moderate to high risk for “depression” (Some indication of current depression (i.e., over past 2 weeks) but did not report chronic depression (i.e., feeling depressed most of the time).
    - 10.0% of working employees with moderate to high risk for “alcohol misuse.”

      Study: Nyce, S., Grossmeier, J., Anderson, D.R., Terry, P.E., & Kelley, B. (2012). Association between changes in health risk status and changes in future health care costs. *Journal of Occupational and Environmental Medicine, 54*(11), 1364-1374.

INPUT: Length of Time That EAP-Relevant Issues Affect Work Outcomes

Default: 90 days calendar time.

There is not much research that examines the period before use of EAP that is longer than a month. Research Data: The session length itself is variable across EAPs and types of access modalities. Average number of sessions per clinical case is low – ranging from 1.2 to 4.7 in the NBC vendor study with data from 45 external EAP vendors – average 2.4 sessions per case.

Therefore, the "course of treatment" for EAPs is brief in nature – often only a month or two is typical. This suggests that EAP counselor services are used mostly for help with acute issues among otherwise healthy people in working populations. Most of the outcome data on pre to post changes in EAP client experiences has at least a two-month time-period between case open date and the date of the follow-up assessment and some may legitimately have a longer total time frame of 3 or more months. The default period here for the negative effects of EAP related issues on employee work performance is assumed to be 90 days when the employee has not used the EAP for assistance.

Attridge, M., Cahill, T., Granberry, S., & Herlihy, P. (2013). The National Behavioral Consortium industry profile of external EAP vendors. *Journal of Workplace Behavioral Health, 28*(4), 251-324.

INPUT: Work Performance Burden Before EAP and Outcomes After EAP Use

Users of EAP services can show a substantial deficit in their level of work productivity during the period just before the use of the EAP. A diminished ability to be as productive as normal may indeed be one of the predisposing reasons that drive the use of the EAP.

NORMAL LEVEL of HEALTH-RELATED LOST PRODUCTIVITY AND ABSENCE

But just what is the level of work productivity and of absence to due to health and personal issues for the average employee? How much below this normal level of presenteeism and absenteeism is the typical EAP user? The data from several large-scale research studies from employers in the US can help to answer this question. See below.

Normal presenteeism for average employee (non-user of EAP) = 7.7% of scheduled work time.

- StayWell Normal Impairment Factor Study – N = 770,000+ US employees. Result: The "typical employee" had 8.0% of time in past 12 months was unproductive (Riedel et al., 2009).

  Riedel, J., Grossmeier, J., Haglund-Howieson, L., Buraglio, C., Anderson, D.R., & Terry, P.E., & (2009). Use of a Normal Impairment Factor in quantifying avoidable productivity loss because of poor health. *Journal of Occupational and Environmental Medicine, 51*(3), 283-295.

- American Productivity Audit Study – N = 28,902 US employees. Result: The "typical employee" had 5.0% of work time in past 14 days that was unproductive due to health reasons (personal and/or family) (Stewart et al., 2003).

  Stewart, W.F., Ricci, J.A., Chee, E., & Morganstein, D. (2003). Lost productive work time costs from health conditions in the United States: Results from the American Productivity Audit. *Journal of Occupational and Environmental Medicine, 45*, 1234-1246.

- Unidentified Employer Case Study – N = 2,264 US employees. Result: The "typical employee" had 6.6% of work time in past 7 days that was unproductive (Boles & Lynch, 2004).

  Boles, M., Pelletier, B., & Lynch, W. (2004). The relationship between health risks and work productivity. *Journal of Occupational and Environmental Medicine, 46*, 737-745.

- Optum EAP Study – N = 397 random sample from US national employees. Result: The "typical employee" had 11.0% of work time in past 4 weeks that was unproductive (Attridge, 2004).

  Attridge, M. (2004, November). *Measuring employee productivity, presenteeism and absenteeism: Implications for EAP outcomes research*. Presented at the meeting of the Employee Assistance Professionals Association, San Francisco, CA.

- Average result = 7.7% level of unproductive time
- Thus for a 1 month period = 160 hour schedule X 7.7% = 12.3 hours of lost time while at work for typical employee who works full-time

Normal absenteeism for average employee = 1.9% of scheduled work time.

- American Productivity Audit Study – N = 28,902 US employees. Result: The "typical employee" had 1.7% of work time in past 14 days (1.34 hours) absent due to health reasons (personal and/or family).

  Stewart, W.F., Ricci, J.A., Chee, E., & Morganstein, D. (2003). Lost productive work time costs from health conditions in the United States: Results from the American Productivity Audit. *Journal of Occupational and Environmental Medicine, 45*, 1234-1246.

- Unidentified Employer Case Study – N = 2,264 US employees. Result: The "typical employee" had 1.7% of work time in past 7 days (0.7 hours) absent due to health reasons.

  Boles, M., Pelletier, B., & Lynch, W. (2004). The relationship between health risks and work productivity. *Journal of Occupational and Environmental Medicine, 46*, 737-745.

- Optum EAP Study – N = 397 random sample from US national employees. Result: The "typical employee" non-user of EAP services had 2.2% of work time in past 4 weeks (3.5 hours) absent due to health reasons. (Attridge, 2004).

  Attridge, M. (2004, November). *Measuring employee productivity, presenteeism and absenteeism: Implications for EAP outcomes research*. Presented at the meeting of the Employee Assistance Professionals Association, San Francisco, CA.

- Average result = 1.9% level of absence per time frame.
- Thus for a 1 month period = 160 work hour schedule X 1.9% = 3.0 hours of lost time while at work for typical employee who works full-time

SOURCE STUDIES ON EAP OUTCOMES

A total of 8 research studies are reviewed for use in creating the evidence-based input default data figures. Each of these studies is described below. Each study has data on work outcomes among EAP users for either presenteeism or absenteeism or both. Not all of the studies have relevant data on both the level of burden before use of EAP and the change or level of improvement in work outcomes after use of the EAP. When the study findings are available for only the subset of EAP users with positive outcomes, the figures are adjusted here to represent 100% of the EAP users. See Summary Table 7 for Presenteeism and Summary Table 8 for Absenteeism.

Table 7
Summary of EAP Vendor Research on Change in Presenteeism

Research Studies for Level of Presenteeism (Reduced Productivity While at Work) Among Users of EAP Counseling Services for One Month Period Before Use of EAP and for Most Recent One Month After Use of EAP Assessed at Follow-up – Per Case of One Average Employee User of EAP Counseling Services (Not Just Those Cases With Initial Problems with Productivity or Absence)

Study	EAP Vendor & Author	Sample Size of EAP Cases in Study	Presenteeism Rate Month BEFORE Use of EAP (0-100% scale)	Presenteeism Burden Month BEFORE Use of EAP*	Presenteeism Burden Month AFTER Use of EAP*	Net Fewer Days of Lost Work Productivity AFTER Use of EAP	% Change in Presenteeism Burden Days
1	Optum (Attridge)	26,822	39%	7.9 days	2.9 days	5.0 days	63.3%
2	FOH (Selvick)	59,685	43%	8.6 days	4.4 days	4.2 days	48.8%
3	Optum (Baker)	3,518	20%	4.1 days	2.3 days	1.8 days	44.4%
4 5 6	Davidson Trahaire Corpsych	1,015 4,459 4,707	40% 40% 40%	7.9 days 8.0 days 8.0 days	5.1 days 5.1 days 5.8 days	2.8 days 2.9 days 2.2 days	35.4% 36.3% 27.5%
7	Morneau Shepell	34,063	28%	5.6 days	3.7 days	1.9 days	34.0%
8	WOS 5-item WOS 1-item	1,292 9,056	46% 58%	9.2 days 11.6 days	6.2 days 7.0 days	3.0 days 4.6 days	32.6% 39.7%
	SUMMARY	**144,617 Total**	**39.3% AVG**	**7.86 days AVG**	**4.74 days AVG**	**3.12 days AVG**	**39.7% AVG**

FOH = Federal Occupational Health
*days of unproductive time / 20 day per month period

Table 8
Summary of EAP Vendor Research on Change in Absenteeism

Research Studies for Level of Absenteeism (Reduced Productivity from Missing Scheduled Work Time) Among Users of EAP Counseling Services for One Month Period Before Use of EAP and for Most Recent One Month After Use of EAP Assessed at Follow-up – Per Case of One Average Employee User of EAP Counseling Services (Not Just Those Cases With Initial Problems with Productivity or Absence)

Study	EAP Vendor & Author	Sample Size of EAP Cases in Study	Absenteeism Rate Month BEFORE Use of EAP (0-100% scale)	Absenteeism Burden Month BEFORE Use of EAP	Absenteeism Burden Month AFTER Use of EAP	Net Fewer Absence Days AFTER Use of EAP	% Change in Absenteeism Days (Burden) After Use of EAP
1	Optum (Attridge)	26,822	NA	NA	NA	1.0 days	NA
2	FOH (Selvick)	59,685	11.9%	2.4 days	0.9 days	1.5 days	61.6%
3	Optum (Baker)	3,518	10.9%	2.2 days	1.5 days	0.6 days	29.0%
4 5 6	Davidson Trahaire Corpsych	1,015 4,459 4,689	8.3% 6.3% 7.4%	1.7 days 1.3 days 1.5 days	1.1 days 1.0 days 1.0 days	0.6 days 0.3 days 0.5 days	35.9% 26.2% 32.0%
7	Morneau Shepell	28,741	11.0%	2.2 days	NA	NA	NA
8	WOS 5-item WOS 1-item	4.266 4,330	7.5% 3.3%	1.5 days 0.7 days	0.8 days 0.3 days	0.7 days 0.4 days	46.7% 57.6%
	SUMMARY	**133,263 Total**	**8.33% AVG**	**1.67 days AVG**	**0.93 days AVG**	**0.74 days AVG**	**44.3% AVG**

EAP Outcome Study 1 = 2004 USA

Source: Attridge, M. (2004, November). *Measuring employee productivity, presenteeism and absenteeism: Implications for EAP outcomes research*. Presented at the meeting of the Employee Assistance Professionals Association, San Francisco, CA.

Date from EAP US vendor study Optum of 26,822 clients from 9-year period.

Presenteeism Rate Before EAP: 39%. Results found that among the 70% of employee users who reported an improvement in work productivity after user of the EAP, the rating of current productivity at first use of the EAP was 4.81 on a 1-10 scale. When converted to 100% scale = 48.1%. Presenteeism is the inverse = 100% - 48.1% = 52.9%. When adjusted to reflect all of EAP users (including the other 30% of users with no improvement = 7.7% normal level of presenteeism), the total sample presenteeism rate is 39.3%. Of 20 workdays in month, this equates to a loss of 7.9 lost workdays per average EAP user.

Presenteeism Rate After EAP: 15%. Among the 70% of employee users who reported an improvement in work productivity after user of the EAP, the rating of productivity on a 1-10 scale for after the EAP was 8.25 for after use of the EAP. When converted to 100% scale = 82.5%. Presenteeism is the inverse = 100% - 82.5% = 17.5%. When adjusted to reflect all of EAP users (including the other 30% of users with no improvement = 7.7% normal level of presenteeism), the total sample presenteeism rate is 14.6%. Of 20 workdays in month, this equates to a loss of 2.9 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 51% reduction. Change from 7.9 days at Before EAP to 2.9 days at After EAP = net change of 5.0 fewer lost work days due to presenteeism per average EAP user. Change = 5.0 days fewer / 7.9 days at Before EAP = 63.3% reduction.

Absenteeism Days Before EAP: N/A

Absenteeism Days After EAP: N/A

Reduction in Absenteeism Burden: % unknown. This study only used a single item collected at the follow-up about one month after the last EAP session. The item asked for how many hours of work absence had been avoided because of using the EAP. Thus only a change metric was measured and not the baseline amount of absence before use of the EAP. Results found that among the 48% of employee users who reported a decrease in work absence, the average number of avoided hours was 14.11 per person. When adjusted to 100% of EAP cases (including the other 52% of users with no improvement = 3.0 hour normal level of absence), this is 8.33 hours or 1.04 days. The level of change of improvement from before to after EAP cannot be calculated.

EAP Outcome Study 2 = 2004 USA

Source: Selvik, R., Stephenson, D., Plaza, C., & Sugden, B. (2004). EAP impact on work, relationship, and health outcomes. *Journal of Employee Assistance, 34*(2), 18-22.

Data from the US federal government EAP study of 59,685 clients from 3 years time frame. The majority of clients met with counselors in face-to-face sessions, although a small percentage received telephone counseling. EAP counselors were responsible for collecting outcomes data

from clients. The typical time period between case opening and closing was 45 to 60 days.

Item: "During the past four weeks, to what extent have you accomplished less than you would like in your work or other daily activities as a result of emotional problems (such as feeling depressed or anxious)?"

Level of Difficulty to Be Productive at Work Due to Emotional Problems N = 59,684	Estimated Level of Productivity on 0-100% scale	Percentage of EAP Cases at Before Use of EAP	Percentage of EAP Cases at After Use of EAP
Extremely Difficult	0%	5%	1%
Quite a Bit of Difficulty	25%	25%	7%
Moderately Difficult	50%	25%	13%
Slightly Difficult	75%	26%	37%
None at All	100%	19%	42%
Total		100%	100%
Average Level of Productivity		57.25%	78.00%
Average Level of Presenteeism		**42.75%**	**22.00%**

Presenteeism Rate Before EAP: 43%. The average EAP user had a productivity level of 57.25% out of 100%. Presenteeism is the inverse = 100% - 57% = 43%. Of 20 workdays in month, this equates to a loss of 8.6 lost workdays per average EAP user.

Presenteeism Rate After EAP: 22%. The average EAP user had a productivity level of 78% out of 100%. Presenteeism is the inverse = 100% - 78% = 22%. Of 20 workdays in month, this equates to a loss of 4.4 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 49% reduction. Change from 8.6 days at Before to 4.4 days at After EAP = net change of 4.2 fewer lost workdays due to presenteeism per average EAP user. Change = 4.2 days fewer / 8.6 days at Before EAP = 48.8% reduction.

Absenteeism Days Before EAP: 2.37 days. The average for all EAP clients at case opening was that they had been unexpectedly absent or tardy an average of 2.37 days absent in the past 30 days.

Absenteeism Days After EAP: 0.91 days. At case closing, the average for all clients was that they had been unexpectedly absent or tardy an average of 0.91 days absent in the past 30 days.

Reduction in Absenteeism Burden: 62% reduction. Change from 2.37 days at Before to 0.91 days at After EAP = net change of 1.46 fewer lost workdays due to absenteeism per average EAP user. Change = 1.46 days fewer / 2.37 days at Before EAP = 61.6% reduction.

EAP Outcome Study 3 = 2007 USA

Source: Baker, E. (2007, October). *Measuring the impact of EAP on absenteeism and presenteeism*. Presented at the Employee Assistance Professionals Association Annual

Conference, San Diego, CA.
Optum US vendor survey follow-up study of 3,518 clients from year 2005-2007.

Presenteeism Rate Before EAP: 20%. Data of 8.0 days of work "cutback" at month of Pre EAP for the 39.3% of all cases with at least 0.5 days of diminished work productivity. 8 days from 20 work days in month = 40% level of presenteeism for the effect group of 39.4% of all EAP users. When the level of adjusted to 100% of EAP cases (40% level of presenteeism among the 39.3% of users with the effect + normative presenteeism level of 7.7% among the other 60.7% of users without the burden), the average EAP user had a productivity level of 79.6% out of 100%. Thus, the level of presenteeism at the start of case was 20.4%. Of 20 workdays in month, this equates to a loss of 4.1 lost workdays per average EAP user.

Presenteeism Rate After EAP: 11%. Data of 3.4 days of work "cutback" at month of Pre EAP for the 39.3% of all cases with at least 0.5 days of diminished work productivity. 3.4 days from 20 work days in month = 17% level of presenteeism for the effect group of EAP users. When the level of adjusted to 100% of EAP cases (17% level of presenteeism among the 39.3% of users with the effect + normative level of 7.7% presenteeism among the other 60.7% of users without the burden), the average EAP user had a productivity level of 11.4% out of 100%. Of 20 workdays in month, this equates to a loss of 2.28 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 44% reduction. Change from 4.1 days at Before EAP to 2.3 days at After EAP = net change of 1.8 fewer lost work days due to presenteeism per average EAP user. Change = 1.8 days fewer / 4.1 days at Before EAP = 44.4% reduction.

Absenteeism Days Before EAP: 2.17 days absent in 30 days before EAP. Based on average of 7.2 days absent for the 26.3% of cases with at least half day of absence from work during 30 days before EAP in the EAP. When adjusted to 100% of EAP cases (including the other 73.7% of users with no improvement = 0.4 days normal level of absence), this is 2.17 days on average for any EAP user.

Absenteeism Days After EAP: 1.54 days absent in 30 days before EAP. Based on average of 4.8 days absent for the 26.3% of cases with at least half day of absence from work during 30 days before EAP in the EAP. When adjusted to 100% of EAP cases (including the other 73.7% of users with no improvement = 0.4 days normal level of absence), this is 1.54 days on average for any EAP user.

Reduction in Absenteeism Burden: 29% reduction. Change from 1.89 days at Before EAP to 1.26 days at After EAP = net change of 0.63 fewer lost workdays due to absenteeism per average EAP user. Change = 0.63 days fewer / 2.17 days at Before EAP = 29.0% reduction.

EAP Outcome Study 4 = 2009 Australia

Source: Flannary, P. J., & Ots, J. (2009). *EAP Counselling: Outcomes, impact & return on investment.* White paper. Australia: Davidson Trahaire Corpsych.

Australian national EAP vendor study of 1,015 clients from year 2009. Productivity was rated on a 0-100% scale. EAP clients were invited to complete the assessment on-line before EAP. Those clients who did so were then also asked to complete a post-EAP counselling questionnaire after the conclusion of their EAP sessions. Productivity was rated on a 0-100% scale. EAP client respondents were also asked to report of their sick/ personal leave absence

from work in the 6 weeks prior to contacting the EAP and in the 6 weeks after commencing EAP counselling.

Presenteeism Rate Before EAP: 39.5%. The productivity level during six-week period before EAP was 60.5% out of 100%. Presenteeism is the inverse = 100% - 60.5% = 39.5%. Of 20 workdays in month, this equates to a loss of 7.9 lost workdays per average EAP user.

Presenteeism Rate After EAP: 25.5%. The productivity level during the six-week period after EAP was 74.5% out of 100%. Presenteeism is the inverse = 100% - 74.5% = 25.5%. Of 20 workdays in month, this equates to a loss of 5.1 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 35.4% reduction. Change from 7.9 days at Before EAP to 5.1 days at After EAP = net change of 2.8 fewer lost work days due to presenteeism per average EAP user. Change = 2.8 days fewer / 7.9 days at Before EAP = 35% reduction.

Absenteeism Days Before EAP: 1.67 days absent in 30 days before EAP. Based on average of 2.5 days absent from work during six weeks before EAP for all cases. When adjust from 6-week to 4-week period (multiply by 66%) = 1.67 days absent at after EAP.

Absenteeism Days After EAP: 1.07 days absent in 30 days after EAP. Based on average of 1.6 days absent from work during six weeks before EAP for all cases. When adjust from 6-week to 4-week period (multiply by 66%) = 1.07 days absent at after EAP.

Reduction in Absenteeism Burden: 35.9% reduction. Change from 1.67 days at Before EAP to 1.07 days at After EAP = net change of 0.59 fewer lost workdays due to absenteeism per average EAP user. Change = 0.60 days fewer / 1.67 days at Before EAP = 35.9% reduction.

EAP Outcome Study 5 = 2011 Australia

Source: Davidson Trahaire Corpsych. (2011). *EAP return on investment: Summary 2011.* White paper. Australia: Author.

Australian national EAP vendor study of 4,459 clients from year 2011. Productivity was rated on a 0-100% scale. EAP clients were invited to complete the assessment on-line before EAP. Those clients who did so were then also asked to complete a post-EAP counselling questionnaire after the conclusion of their EAP sessions. Productivity was rated on a 0-100% scale. EAP client respondents were also asked to report of their sick/ personal leave absence from work in the 8 weeks prior to contacting the EAP and in the 8 weeks after commencing EAP counselling.

Presenteeism Rate Before EAP: 39.9%. The productivity level during unspecified period before EAP was 60.14% out of 100%. Presenteeism is the inverse = 100% - 60.14% = 39.9%. Of 20 workdays in month, this equates to a loss of 8.0 lost workdays per average EAP user.

Presenteeism Rate After EAP: 25.5%. The productivity level during the unspecified period after EAP was 74.5% out of 100%. Presenteeism is the inverse = 100% - 74.5% = 25.5%. Of 20 workdays in month, this equates to a loss of 5.1 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 36.3% reduction. Change from 8.0 days at Before EAP to 5.1 days at After EAP = net change of 2.9 fewer lost work days due to presenteeism per average EAP user. Change = 2.9 days fewer / 8.0 days at Before EAP = 36.3% reduction.

Absenteeism Days Before EAP: 1.26 days absent in 30 days before EAP. Based on average of 2.52 days absent from work during eight weeks before EAP for all cases. When adjust from 8-week to 4-week period (multiply by 50%) = 1.26 days absent at after EAP.

Absenteeism Days After EAP: 0.93 days absent in 30 days after EAP. Based on average of 1.86 days absent from work during eight weeks before EAP for all cases. When adjust from 8-week to 4-week period (multiply by 50%) = 0.93 days absent at after EAP.

Reduction in Absenteeism Burden: 26.2% reduction. Change from 1.26 days at Before EAP to 0.93 days at After EAP = net change of 0.33 fewer lost workdays due to absenteeism per average EAP user. Change = 0.33 days fewer / 1.26 days at Before EAP = 26.2% reduction.

EAP Outcome Study 6 = 2012 Australia

Source: Grow, M., & Ots, J. (2012). *EAP return on investment: Summary 2013.* White paper. Australia: Davidson Trahaire Corpsych.

Australian national EAP vendor study of 4,707 clients for presenteeism and 4,689 for absenteeism from year 2012. Productivity was rated on a 0-100% scale. EAP clients were invited to complete the assessment on-line before EAP. Those clients who did so were then also asked to complete a post-EAP counselling questionnaire after the conclusion of their EAP sessions. Productivity was rated on a 0-100% scale. EAP client respondents were also asked to report of their sick/personal leave absence from work in the 8 weeks prior to contacting the EAP and in the 8 weeks after commencing EAP counselling.

Presenteeism Rate Before EAP: 39.8%. The productivity level during unspecified period before EAP was 61.24% out of 100%. Presenteeism is the inverse = 100% - 61.24% = 39.8%. Of 20 workdays in month, this equates to a loss of 8.0 lost workdays per average EAP user.

Presenteeism Rate After EAP: 29.2%. The productivity level during the unspecified period after EAP was 70.77% out of 100%. Presenteeism is the inverse = 100% - 70.77% = 29.2%. Of 20 workdays in month, this equates to a loss of 5.8 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 27.5% reduction. Change from 8.0 days at Before EAP to 5.8 days at After EAP = net change of 2.2 fewer lost work days due to presenteeism per average EAP user. Change = 2.2 days fewer / 8.0 days at Before EAP = 27.5% reduction.

Absenteeism Days Before EAP: 1.47 days absent in 30 days before EAP. Based on average of 2.94 days absent from work during eight weeks before EAP for all cases. When adjust from 8-week to 4-week period (multiply by 50%) = 1.47 days absent at after EAP.

Absenteeism Days After EAP: 1.00 days absent in 30 days after EAP. Based on average of 2.01 days absent from work during eight weeks before EAP for all cases. When adjust from 8-week to 4-week period (multiply by 50%) = 1.0 days absent at after EAP.

Reduction in Absenteeism Burden: 32.0% reduction. Change from 1.47 days at Before EAP to 1.00 days at After EAP = net change of 0.47 fewer lost workdays due to absenteeism per average EAP user. Change = 0.47 days fewer / 1.47 days at Before EAP = 32.0% reduction.

EAP Outcome Study 7 = 2011 Canada

Source: Seward, K., & Allen, P. (2011, June). *EAP improves health status and productivity, and demonstrates a positive ROI.* White Paper. Toronto, ON, Canada: Morneau Shepell.

Canadian national EAP vendor study of 53,224 counseling clients from year 2010. The data is made up of self-reported measures, which were collected at the point the case was opened and again following case closure. These measures were collected through a paper survey.

The productivity item asked "Please indicate in the past four weeks that the problem that brought you to an EAP interfered with your ability to do your job." The response options were: (0) None at all, (1) Slightly, (2) Moderately, (3) Quite a bit and (4) Extremely. An average productivity score was established, with responses to the productivity question (ranging from 0 to 4) converted into a percent of associated productivity loss, where each score of 1 represents an associated 25% loss of self-reported productivity: (0) None at all = 0% productivity loss; (1) Slightly, = 25% loss; (2) Moderately = 50% loss; (3) Quite a bit = 75% loss; and (4) Extremely = 100% loss. A total of 64% of the total sample answered the presenteeism items for sample size of 34,063.

Other data was collected on changes in absence days but the findings were considered unreliable and therefore were not included in this analysis. The absence item asked: **"**During the past four weeks, how many working hours have you been absent, late, or left early, not including vacation?", to which participants indicated the number of days absent. A total of 54% of the total sample answered the absenteeism items for sample size of 28,741.

Presenteeism Rate Before EAP: 27.9%. The productivity level during month period before EAP was 61.24% out of 100%. Presenteeism is the inverse = 100% - 61.24% = 27.9%. Of 20 workdays in month, this equates to a loss of 5.58 lost workdays per average EAP user.

Presenteeism Rate After EAP: 18.3%. The productivity level during the month period after EAP was 81.7% out of 100%. Presenteeism is the inverse = 100% - 81.7 = 18.3%. Of 20 workdays in month, this equates to a loss of 3.66 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 34.0% reduction. Change from 5.58 days at Before EAP to 3.66 days at After EAP = net change of 1.92 fewer lost work days due to presenteeism per average EAP user. Change = 1.92 days fewer / 5.58 days at Before EAP = 34.0% reduction.

Absenteeism Days Before EAP: 2.2 days absent in 30 days before EAP. The report presented an estimated total of 26.4 days for 12 months before EAP use. For one month, this is 2.2 days of absence.

Absenteeism Days After EAP: NA. The study data showed little change in absence from before to after EAP. Study authors, however, were skeptical of this data and wanted to study it more given most other EAP research does show a small reduction in work absence after EAP use.

Reduction in Absenteeism Burden: NA

Study 8 = 2015 USA

Source: Chestnut Global Partners. (2015, March). *Results for Workplace Outcome Suite pre and post test scores pooled across versions*: Table 4. Unpublished data. Author. [Prepared by M. Attridge with data assistance from R. Funk]

Based on Workplace Outcome Suite norm data from 20+ EAP programs and vendors from several year period. The Before EAP data is collected at the start of the case and the After EAP data is collected after an unknown follow-up time period (but recommended at 90-day follow-up after the last clinical session was completed). Both Presenteeism and Absenteeism results are presented for the data separately from the 5-item and single item versions. As the normal analysis method for Presenteeism of calculating mean scores for the Before and After EAP use periods no direct link to actual work productivity on the 0-100% scale needed, the Presenteeism ratings were re-scored to better represent work productivity as follows below:

Agreement with Presenteeism Questions on WOS	Estimated Level of Unproductivity on 0-100% Scale (Presenteeism)
5 - Agree Strongly	100%
4 - Agree Somewhat	75%
3 - Neutral	50%
2 - Disagree Somewhat	25%
1 - Disagree Strongly	0%

Presenteeism WOS 5-item scale from N = 1,292 EAP cases.

Presenteeism Rate Before EAP: 46%. The estimated presenteeism level during month period before EAP was 46% out of 100%. Of 20 workdays in month, this equates to a loss of 9.2 lost workdays per average EAP user.

Presenteeism Rate After EAP: 31%. The estimated presenteeism level during month period before EAP was 31% out of 100%. Of 20 workdays in month, this equates to a loss of 6.2 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 32.6% reduction. Change from 9.2 days at Before EAP to 6.2 days at After EAP = net change of 3.0 fewer lost work days due to presenteeism per average EAP user. Change = 3.0 days fewer / 9.2 days at Before EAP = 32.6% reduction.

Change Groups: When the estimated presenteeism levels on the 0-100% scale were compared at Before and After use of EAP periods within each person, three groups were created: 1) those who improved over time with a reduction in presenteeism; 2) those with no change; and 3) those who got worse with an increase over time in presenteeism. The results of this analysis in this sample based on the 5-item Presenteeism Scale = *62% improved in presenteeism*; 15% no change and 23% got worse.

Presenteeism WOS single item from N = 9,056 EAP cases.

Presenteeism Rate Before EAP: 58%. The estimated presenteeism level during month period before EAP was 58% out of 100%. Of 20 workdays in month, this equates to a loss of 11.6 lost workdays per average EAP user.

Presenteeism Rate After EAP: 35%. The estimated presenteeism level during month period before EAP was 35% out of 100%. Of 20 workdays in month, this equates to a

loss of 7.0 lost workdays per average EAP user.

Reduction in Presenteeism Burden: 39.7% reduction. Change from 11.6 days at Before EAP to 7.0 days at After EAP = net change of 4.6 fewer lost work days due to presenteeism per average EAP user. Change = 4.6 days fewer / 11.6 days at Before EAP = 39.7% reduction.

Change Groups: When the estimated presenteeism levels on the 0-100% scale were compared at Before and After use of EAP periods within each person, three groups were created: 1) those who improved over time with a reduction in presenteeism; 2) those with no change; and 3) those who got worse with an increase over time in presenteeism. The results of this analysis in this sample based on the single item Presenteeism measure = *58% improved in presenteeism*; 32% no change and 12% got worse.

Absenteeism WOS 5-item scale from N = 4,266 EAP cases.

Absenteeism Days Before EAP: 1.50 days absent in 30 days before use of EAP services. Based on Workplace Outcome Suite 9-item total and 25-item total versions that included the 5-item absenteeism scale = average of 11.97 hours of absence. 11.97 hours / 8.0 hour day = 1.50 days.

Absenteeism Days After EAP: 0.80 days absent in 30 days after EAP. Based on average of 6.42 hours absent from work during past month at the follow-up. 6.42 hours / 8.0 hour day = 0.80 days.

Reduction in Absenteeism Burden: 47% reduction. Change from 1.50 days at Before EAP to 0.80 days at After EAP = net change of 0.70 fewer lost workdays due to absenteeism per average EAP user. Change = 0.70 days fewer / 1.50 days at Before EAP = 46.7% reduction.

Change Groups: When the absence hours were compared at Before and After use of EAP periods within each person, three groups were created: 1) those who improved over time with a reduction in absenteeism; 2) those with no change; and 3) those who got worse with an increase over time in absenteeism. The results of this analysis in this sample based on the 5-item Absenteeism Scale = *46% improved in absenteeism*; 40% no change and 14% got worse.

Absenteeism WOS single-item from N = 4,330 EAP cases.

Absenteeism Days Before EAP: 0.66 days absent in 30 days before use of EAP services. Based on Workplace Outcome Suite 5-item total version that included the single item absenteeism measure = average of 5.29 hours of absence. 5.29 hours / 8.0 hour day = 0.66 days.

Absenteeism Days After EAP: 0.28 days absent in 30 days after EAP. Based on average of 2.21 hours absent from work during past month at the follow-up. 2.21 hours / 8.0 hour day = 0.28 days.

Reduction in Absenteeism Burden: 58% reduction. Change from 0.66 days at Before EAP to 0.28 days at After EAP = net change of 0.38 fewer lost workdays due to absenteeism per average EAP user. Change = 0.38 days fewer / 0.66 days at Before

EAP = 57.6% reduction.

Change Groups: When the absence hours were compared at Before and After use of EAP periods within each person, three groups were created: 1) those who improved over time with a reduction in absenteeism; 2) those with no change; and 3) those who got worse with an increase over time in absenteeism. The results of this analysis in this sample based on the single item Absenteeism measure = *39% improved in absenteeism*; 53% no change and 8% got worse.

Productivity Loss Assumptions for Assigning Dollar Value to Lost Work

Average work productivity losses by industry, region, and function are automatically defaulted by the Calculator. However, other research has examined the true cost of productivity loss from absence and presenteeism while at work (Johns, 2010). The key finding is that the cost is far more than just the amount of the wages paid to employees. A simple approach is to use a "productivity multiplier factor" applied to the average wage to yield a rough approximation of the dollar value of work productivity to the organization. For example, in an opinion study of managers, Nicholson and colleagues (2006) found a multiplier factor of 1.61 X wages for a short-term absence (3 days) and a multiplier of 1.44 for a longer-term absence (2 weeks). Other research specific to EAP has used a productivity loss multiplier factor in the range of 1.50 to 2.00 (Attridge, 2009, 2010, 2013).

Attridge, M. (2009). Employee assistance programs: A research-based primer. In J. C. Quick, C. Cooper, & M. Schbracq (Eds.), *The handbook of work and health psychology, 3rd Edn.* (pp. 383-407). New York: Wiley.

Attridge, M. (2010). 20 years of EAP cost-benefit research: Taking the productivity path to ROI. Part 3 of 3. *Journal of Employee Assistance, 40(*4), 8-11.

Attridge, M. (2013, October). *The business value of employee assistance: A review of the art and science of ROI*. Keynote address at the meeting of the Employee Assistance Professionals Association, Phoenix, AZ.

Johns, G. (2010). Presenteeism in the workplace: A review and research agenda. *Journal of Organizational Behavior, 31*, 519-542.

Nicholson, S., Pauly, M. V., Polsky, D., Sharda, C. Szrek, H., & Berger, M. L. (2006). Measuring the effects of work loss on productivity with team production. *Health Economics, 15,* 111–123.

INPUT: Replacement Rate (%) for At-Risk Employees Before Use of EAP

Default: 10% rate of turnover for employees in the At-Risk Group.

There are some studies in the literature that indicate employees with mental health, addictions and high stress have slightly higher rates of turnover (depending on the clinical severity of the issues). The input figure of 10% is an educated guess based on a variety of studies as most of the literature has examined the 39.1outcome of turnover in the context of many other outcomes and work contextual factors.

Bureau of National Affairs. (1987). *Employee assistance programs: Benefits, problems and prospects*. Washington, DC: Author. [Review of 11 studies of occupational alcoholism programs from Hazelden Foundation treatment center. These studies show initial deficits and then improvement in outcomes of work performance, accidents, grievances, medical care visits and workers' compensation.

INPUT: Turnover Rate Without EAP

Default: 10% of at-risk cases have employee turnover. This is based on estimate from several EAP outcome studies.

Classsic review repirt with general summary of many different reviews in the field of EAP with data on turnover.

> Kurtz, N.R., Googins, B., & Howard, W.C. (1984). Measuring the success of occupational alcholism programs. *Journal of Studies on Alcohol, 45*(1), 393-404.

Describes a cross-sectional data-collection method to evaluate Employee Assistance Programs (EAPs). Variables (e.g., absenteeism, utilization of health benefits, accidents, overtime, sick leave, grievances) were examined in 6 organizations under contract for EAPs. The model provides answers to questions concerning cost-savings resulting from reduction of absenteeism; dollars returned to the company, in terms of savings, for every dollar invested in EAPs; and comparative savings to company if, instead of firing the employee, the company refers the employee to an EAP.

> Decker, J.T., Starrett, R., & Redhorse, J. (1986). Evaluating the cost-effectiveness of employee assistance programs. *Social Work, 31*(5), 391-393.

The researchers in Australia completed a comprehensive, independent and controlled evaluation of an employee assistance program (EAP). The cost-benefit ratio used the total economic benefits (decrease in absenteeism, turnover and worker's compensation), which would be, theoretically, produced by the EAP, by the total program cost (program fees, administrative costs, facilities, materials).

> Blaze-Temple, D. & Howat, P. (1997). Cost Benefit of an Australian EAP. *Employee Assistance Quarterly, 12 (3),* 1-24

INPUT: Change in Turnover Rate After Use of EAP

Default: 10% fewer cases of employee turnover. This is based on estimate from several EAP outcome studies.

Classsic review repirt with general summary of many different reviews in the field of EAP with data on turnover.

Blum, T.C. & Roman, P.M. (1995). *Cost-Effectiveness and Preventive Implications of Employee Assistance Programs*. Rockville, MD: U.S. Department of Health and Human Services. Based on data from a five-year period at University of Michigan to a comparison group in same organization matched on demographic factors: 38% actual turnover in EAP group compared to 49% predicted for EAP group from historical experience in the comparison group). Key Finding = 11% fewer turnover cases among EAP clinical counseling users.

> Bruhnsen, K. (1994). Michigan case study shows EAP clients use less sick leave, stay longer. *EAPA Exchange*, August, 11-12.

Focus on supervisory referral cases for drug and alcohol cases at EAP. Chevron had from 37% to 46% fewer terminations and at a savings rate of $50,000 per case for avoided turnover (in

1992 dollars). HOWEVER, given that supervisory referral cases are only small part of EAP clinical caseload, this effect must be adjusted down to apply to all counselor cases. Assume supervisory referrals are 10% of caseload = 10% x 41.5% average fewer turnover (37% + 46% / 2) = 4% of all cases have less turnover.

> Collins, K.R. (1998). Cost/Benefit analysis shows EAPs value to employer. *EAPA Exchange, 28*(6), 16-20.

Comparison of EAP referred cases for alcohol, tobacco and drug dependency and psychiatric conditions with a control group of employees utilizing health services without first using the EAP. Employee turnover over 4 years was lower for EAP than non-EAP users (7.5% vs. 40% alcohol non-EAP and 60% for psychiatric non-EAP). However, given that supervisory referral cases are only small part of EAP clinical caseload, this effect must be adjusted down to apply to all counselor cases. In this study, the psychiatric and substance abuse cases were only 10% of total caseload = 10% x 50% average fewer turnover (40% + 60% / 2) = 5% of all cases have less turnover.

> Stern, L. (1990). Why EAPs are worth the investment. *Business and Health,* 14-19. Washington DC. Data from the McDonnell-Douglas Study.

There is not much usable research data on EAP effect on accident rates. But, certainly this effect of EAP treatment on prevention of accidents is more than zero. There are some studies in the literature that suggest a positive impact of EAP program use in some contexts for reducing accidents and workers compensation claim costs related to workplace accidents

> Kurtz, N.R., Googins, B., & Howard, W.C. (1984). Measuring the success of occupational alcholism programs. *Journal of Studies on Alcohol, 45*(1), 393-404.

INPUT: Accident Rate (%) for At-Risk Employees Before Use of EAP

Default: 10% rate of accidents among the employees in the At-Risk Group.

There are some studies in the literature that suggest employees with mental health, addictions and high stress have slightly higher rates of workplace accidents (depending on the clinical severity of the issues). The input figure of 10% is an educated guess based on a variety of studies as most of the literature has examined accidents along with other outcomes and work contextual factors.

> Alleyene, B., Stuart, P., & Copes, R. (1991). Alcohol and other drug use in occupational fatalities. *Journal of Occupational and Environmental Medicine, 33(4),*
>
> Nadolski, J.N. & Sandonato. C.E. (1987). Evaluation of an employee assistance program. *Journal of Occupational and Environmental Medicine, 29(1), 32-43.*

The evaluation examined the health and attitudes of employees, absenteeism and productivity, cost effectiveness, and reduction of grievances using employee questionnaires. Analysis of questionnaires completed by 67 employees indicated significant approval of the program by employees. Absentee rates, accidents, and grievances were found to be reduced over a 3-yr period.

> Chandler, R.G., Kroeker, B.J., Fynn, M., & MacDonald, D.A. (1998). Establishing and evaluating an industrial social work programme: The Seagram, Amherstburg experience. *Employee Assistance*

Quarterly, 3(3-4), 243-253.

INPUT: Reduction Rate (%) Accidents Post EAP

Default: 10% fewer

There is not much usable research data on EAP effect on accident rates. But, certainly this effect of EAP treatment on prevention of accidents is more than zero. There are some studies in the literature that suggest a positive impact of EAP program use in some contexts for reducing accidents and workers compensation claim costs related to workplace accidents.

Blum, T.C. & Roman, P.M. (1995). *Cost-Effectiveness and Preventive Implications of Employee Assistance Programs.* Rockville, MD: U.S. Department of Health and Human Services.

Chandler, R.G., Kroeker, B.J., Fynn, M., & MacDonald, D.A. (1998). Establishing and evaluating an industrial social work programme: The Seagram, Amherstburg experience. *Employee Assistance Quarterly, 3*(3-4), 243-253.

Haslam C, Atkinson S, Brown S, Haslam RA. (2005). Perceptions of the impact of depression and anxiety and the medication for these conditions on safety in the workplace. *Journal of Occupational and Environmental Medicine, 62*, 538 –545.

Jardine, E.L., & Liebermann, R. (1993). The role of EAPs in occupational stress claim risk management. *Behavioral Healthcare Tomorrow*, July/August, 30-35. Claims based study finds lower rates of stress-related workers compensation claims after introduction of EAP.

Smith, G.B., & Rooney, T. (1999). EAP intervention with workers' compensation and disability management. In J. Oher (Ed)., *The Employee assistance handbook* (pp. 337-360). NY: Wiley.

Turner, S. (1993). Safety, workers' compensation and EAP. *EAPA Exchange,* Oct., 2.

Yandrick, R.M. (1993). Workers' compensation: Beating the blame game. *EAPA Exchange,* Oct., 6-8.

International Foundation of Employee Benefit Plans – Survey Results May 2000: Substance abuse services for multiemployer fund participants. Survey sample of 185 benefit plan administrators. (See page 10). Result: 41% of plan administrators = yes for EAP reduced workers compensation costs.

INPUT: Cost of Medical Co-Morbidities in Health Care Claims Before EAP

People with a mental health condition typically cost more than those without mental health conditions for total direct costs of the use of general healthcare services. Employees with mental health conditions often use more inpatient and outpatient healthcare services in health plans for medical (non-psychiatric) conditions. Depressed employees in particular, tend to have higher overall healthcare claims costs and the majority share of these costs is usually for conditions other than depression. See the research studies below on this topic.

HERO Study. A major study conducted by the Health Enhancement Research Organization asked the question: What is the additional medical expense generated by employees who exhibit any one of 10 common modifiable health risk factors (smoking, sedentary lifestyle, high cholesterol, hypertension, poor diet, being overweight, excessive alcohol consumption, high blood glucose, high stress and depression)? Results showed that depression was the risk

factor associated with the largest medical cost increase. Controlling for demographics and other risk factors, employees who reported being depressed were 70% more expensive in terms of their medical costs when compared to their non-depressed counterparts. Those who reported being highly stressed—and incapable of managing that stress—were 46% more costly than non-stressed employees. And employees who experienced both depression and high stress were 147% more expensive.

> Goetzel, R. Z., Anderson, D. R., Whitmer, R. W., Ozminkowski, R. J., Dunn, R. L., & Wasserman, J. (1998). The relationship between modifiable health risks and health care expenditures: An analysis of the multi-employer HERO health risk and cost database. *Journal of Occupational and Environmental Medicine, 40*(10), 843-854.

State of Minnesota Study. A study of the employees of the State of Minnesota (Birkland & Birkland, 2004) found that psychosocial conditions (i.e., depression, anxiety disorders, substance abuse and/or dependence, and psychosis) were among the top three highest cost disease states. Furthermore, employees with behavioral health diagnoses cost more than twice as much as an average employee in annual health care claims costs.

> Birkland, S.P., &. Birkland, A.S. (2004). Integrating employee assistance services with organization development and health risk management: The state government of Minnesota. *Journal of Workplace Behavioral Health, 20*(3-4), 3245-350.

Employer Study. Another study found of employees with depression worked for a large corporation found that the psychiatric treatment for depression accounted for only about one-fourth of the total healthcare expenditures (28%), with the rest of the money (72%) spent on treating other physical ailments (Birnbuam et al., 1999).

> Birnbaum, H. G., Greenberg, P. E., Barton, M., et al. (1999). Workplace burden of depression: A case study in social functioning using employer claims data. *Drug Benefit Trends, 11,* 6-12.

The literature above clearly documents that employees with mental health disorders tend to cost more than the average employee and thus have an additional burden in health care claims data. The question we need to answer for the ROI Calculator is how much of an additional medical cost burden? We use one feature study to produce an answer to this question (see below).

Manufacturer Study. A study of employees at one national manufacturing company who were being treated for depression. This group of 412 employees represented about 3% of the entire 15,000+ employee population. After adjusting for confounders, employees with depressive illness incurred $4,373 in annual health care costs (in 1995 dollars). These costs were significantly higher than the annual costs of $949 for the average employee. Within the total health care costs, the mean mental health cost per enrollee associated with depression was $1,341 and the cost of non-mental-health care for depressed patients during that time period was $3,032. [This ratio of costs is similar to above study by Birnbaum etal.] When these patients also had another health condition (diabetes, heart disease, hypertension, or back problems), the annual total health care costs were much higher - $7,407. Thus, the added comorbidity costs were substantially higher by about $3,034.

> Druss, B. G., Rosenheck, R. A., & Sledge, W. H. (2000). Health and disability costs of depressive illness in a major US corporation. *American Journal of Psychiatry, 157*, 1274-1278.

When the results of this study are adjusted for 20 years later to present day costs using the consumer price index from the US Bureau of Labor Statistics (1995 to 2015 = 1.53:1), the

average annual paid claims cost for the typical employee without depression is $1,452 and the cost per employee with depression care in 2015 is $6,691. The additional cost for *comorbidity costs* among depressed employees with other chronic medical conditions is approximately $4,642 in 2015 dollars – when added to the base cost for depression cases is $11,333. Considering that in the source study, only 1 in 4 of the depressed cases had these other chronic conditions, the average cost for the employee being treated for depression is a mix of 75% x the $6,691 for only depression and 25% X the $11,333 for depression with other conditions), which equals $7,851. This is about 8 times the cost of the average employee.

SUMMARY: To apply this cost burden figure derived from the depressed patients ($7,851) to all of the roughly 25% of all employees considered "at-risk" with EAP-related issues is not appropriate, however, as one cannot assume that the cost for a person treated with depression is the same as those with many other more milder kinds of psychological distress and personal/family/work stress issues. In most employer data sets, the percentage of all people being actively treated for depression, other mental health issues or addictions is about 10%. Thus, of all employees at-risk, these kinds of cases are about 40% (10% of the total population compared to 25% of all employees in total at-risk group). So, 40% of the mental health medical cost burden is estimated to be: **$3,126** ($7,851X 40%).

INPUT: Reduction Rate Co-Morbidities Post EAP

Typical dollar findings for average annual health care claims savings in mental health care treatment offset research studies range from $200 to $500 per patient. According to the American Psychological Association in 2012 (http://www.apa.org/about/policy/resolution-psychotherapy.aspx): large multisite studies as well as meta-analyses have demonstrated that courses of psychotherapy reduce overall medical utilization and expense (Chiles, Lambert, & Hatch, 1999; 2002; Pallak, Cummings, Dorken, & Henke, 1995).

Chiles, J.A., Lambert, M.J., & Hatch, A.L. (2002). Medical cost offset: A review of the impact of psychological interventions on medical utilization over the past three decades. In N. A. Cummings, W.T. O' Donohue, & K.E. Ferguson (Eds.), *The impact of medical cost offset on practice and research*. Reno, NV: Context Press.

Pallak, M.S., Cummings, N.A., Dörken, H., & Henke, C.J. (1995). Effect of mental health treatment on medical costs. *Mind/Body Medicine, 1*, 7-12.

See summary of one review below by Chiles et al, 1999: "The impact of psychological interventions on the use of medical services was evaluated by examining the outcome of 91 studies published between 1967 and 1997 using meta-analytic techniques and percentage estimates. Results provided evidence for a medical cost-offset effect, specifically in the domain of behavioral medicine. Average savings resulting from implementing psychological interventions was estimated to be about 20%. About one third of the articles demonstrated that dollar savings continued to be substantial even when the cost of providing the psychological intervention was subtracted from the savings."

Chiles, J.A., Lambert, M.J., & Hatch, A.L. (1999). The Impact of Psychological Interventions on Medical Cost Offset: A Meta-analytic Review. *Clinical Psychology: Science and Practice, 6*(2), 204-220.

The above research was not examining EAP treatment studies. However, several longitudinal

research studies offer evidence of the long-term cost-offset savings when EAPs can assist in finding and case-managing employees with psychiatric and addiction problems.

Virginia Power EAP Study. Virginia Power's internal EAP in 1991 examined medical claim records for four years before and four years after use of the EAP and treatment (1985-1989). EAP referred clients were 23% lower in total medical costs than a comparison group of employee users of behavioral health services who had not used the EAP.

> Every, D.K., & Leong, D.M. (1994). Exploring EAP cost-effectiveness: Profile of a nuclear power plant's internal EAP. *Employee Assistance Quarterly*, *10*(1), 1-12.

Campbell Soup EAP Study. All EAP cases at internal EAP partner with behavioral managed care provider. Reductions over 1 year post EAP in mental health care costs (28% less). The per employee per year average mental costs reduced from $261 to $188 (cost data from 1988-1990). Also had a reduction in workers compensation reportable accidents.

> Yandrick, R.M. (1992). Taking inventory. *EAPA Exchange,* July, 22-29.

Southern California Edison EAP Study. Longitudinal claims data study of EAP substance abuse clients (n = 30) and matched comparison group of employees (n = 29) with claims experience in the same areas of substance abuse and mental health. Analysis of 12 months of baseline (before use of EAP) and 30 months of follow-up data, show that total medical costs were $18,120 per case for the comparison group and $11,222 for the EAP referral group. This difference of $6,898 between the two groups is 38% lower for the EAP over 2.5 years post use. The EAP group experienced most of its savings in the area of physical health costs ($4,117 vs. $10,210) and mental health costs ($575 vs. $3,637) with the costs for substance abuse treatment being higher ($6,530 vs. $4,273). These are 1991 dollars. The data suggests that the EAP was successful in referral of employees to the most appropriate provider to deliver treatment for substance abuse issues.

> Conlin, P., Amaral, T.M. & Harlow, K. (1996). The value of EAP case management. *EAPA Exchange*, May/June, 12-15.

Orange County, Florida, Public Schools EAP Study. Study of 6 years of medical claims data compared for EAP users (type unspecified) and non-user of EAP matched on demographic and insurance coverage factors. EAP user medical costs higher than control for baseline year and first year after use, then decline each year for next four years. ROI of 3:1 over 5 years.

> Yandrick, R.M. (1992). Taking inventory. *EAPA Exchange*, July, 22-29.

<u>The Best Two EAP Studies Are Used for ROI Default Purposes:</u>

McDonnell-Douglas EAP Study. Comparison of overall medical costs for EAP referred cases for alcohol, tobacco and drug dependency and psychiatric conditions (about 10% of all EAP cases) with a control group of employees utilizing health services without first using the EAP. Medical claims over 4 years of follow-up were lower (in 1988 dollars) for EAP than non-EAP users. More specifically, $7,370 lower for alcohol EAP cases and $2,400 lower for psychiatric cases (but these were only 15% of all EAP cases). The average savings per EAP case is $4,885. In 2015 dollars, the average net cost offset savings = $9,651 over the four years. Which is average of $2,413 for one year in 2015 dollars. When adjusted to represent savings for each one of the 100% of EAP cases (including the other 85% with less severe issues), the one-year cost offset savings are $362.

Smith, D. C., & Mahoney, J. J. (1989, October). *McDonnell Douglas Corporation Employee Assistance Program Financial offset study: 1985-1988.* Presented at the annual meeting of the Employee Assistance Professionals Association, Baltimore, MD.

Abbott Labs EAP Study. Claims-based study finds lower net overall medical costs than non-EAP users of psychiatric services, but higher mental health treatment costs. Data from 2,205 people over years 1994-1996 found that total health care costs were approximately $1,100 lower for employees who were EAP users than for matched comparison group of non-EAP users. This is after accounting for an increase of $750 in annual treatment costs for mental health services beyond the EAP. Even larger cost-offsets were also found for the spouses and children of the employees who used the EAP. The $1,100 in net cost-offset savings for employees in 1996 dollars is equivalent to $1,638 in 2015 dollars when adjusted for inflation. When adjusted to represent savings for each one of the 100% of EAP cases (including the other 90% with less severe issues), the one-year cost offset savings are $164.

Dainas, C. & Marks, D. (2000). Evidence of an EAP cost offset. *Behavioral Health Management*, July/August, 34-41.

Cost Offset Results in Two Classic EAP Claims Data Longitudinal Studies	Original Study Findings for Amount of Cost-Offset Savings from EAP	Inflation Adjusted for 2015 Dollars	Study Cases as % of all EAP Cases	Adjusted for Average EAP Counseling Case
McDonnell-Douglas EAP Study.	$1,295 for EAP Case in 1988	$2,413	15%	$362
Abbott Labs EAP Study	$1,100 per EAP Case in 1996	$1,638	10%	$164
Average		$2,026		**$263**

The annual total burden in health care medical claims for the typical employee at-risk with EAP-relevant issues is $3,126 (see above section). The average amount of net savings on medical claims costs for the typical employees who use the EAP for counseling is estimated at $263. The reduction in this cost burden is therefore about 7.5% (263/3,126). But, given several other EAP research studies have found larger size cost reductions, we use a reduction rate of **10.0%** for the ROI Calculator.

APPENDIX 2

Chestnut Global Partners - Workplace Outcome Suite - WOS

WOS Data Conversion Tool for EAP ROI Calculator

Dr. David Sharar and Dr. Richard Lennox of Chestnut Global Partners developed the WOS set of survey items in 2010. It is now utilized by over 400 EAP providers to measure the changes from before to after use of the EAP services in employee presenteeism and absenteeism (and three other outcomes of work engagement, work distress and life satisfaction). The Calculator uses the WOS absenteeism and presenteeism summary score data as inputs to the Calculator.

A mathematical conversion tool is available in Excel format. The users of the EAP ROI Calculator who have their own WOS data for Absenteeism and Presenteeism can use this tool.

Absenteeism hours mean scores for Before and After use of the EAP can be entered directly into the conversion tool. Normative data from WOS users on the 5-item Scale and single item WOS measures are provided in the conversion tool –which can also be used as default as they are based on very large samples of users.

However Presenteeism 1-5 rating data cannot be directly used in the EAP ROI Tool. As the normal analysis method for Presenteeism of calculating mean scores for the level of agreement ratings on the 1-5 scale at Before and After EAP have no direct link to level of work productivity on the 0-100% scale needed for the calculator, the Presenteeism ratings need to be re-scored in the raw data for each survey to better represent work productivity as follows – See below:

Agreement with Presenteeism Questions on WOS	Estimated Level of Unproductivity on 0-100% Scale (Presenteeism)
5 - Agree Strongly	100%
4 - Agree Somewhat	75%
3 - Neutral	50%
2 - Disagree Somewhat	25%
1 - Disagree Strongly	0%

If this raw data re-scoring is not an option for the user with their own WOS data, then the normative data from WOS users on the 5-item Scale and single item WOS measures for Presenteeism after re-coding to a 0-100% format is provided in the

conversion tool. Our recommendation is to use this as a default as they are based on very large samples of users.

Please contact Chestnut Global Partners to request the *WOS Data Conversion Tool for EAP ROI Calculator.*