

## **Cost Benefit Analysis Part 1 of 3 – The Collection of Data**

Liz Scott

### **Abstract**

It is important to measure then formulate a baseline of data, establish goals and objectives, measure the success of initiatives and communicate the outcomes. This systematic process of program design and evaluation will ensure company support for the program. In this three part series the process of performing a cost benefit analysis will be presented. Particular attention will be given to quantifying the positive impacts of disability management interventions and programs.

## Cost Benefit Analysis Part 1 of 3 – The Collection of Data

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Most occupational health nurses know their jobs add value to the company and the employees. Additionally, most employers would agree that disability lost time and lack of health and safety is costly and disruptive to the organization. Articulating the quantifiable cost benefit of programs assist in confirming the solid business case for disability management.

### Baseline Data

A baseline of information is a good starting point for overall cost benefit analysis.

Data can be collected from many sources in the organization. A number of departments may hold data and contribute information required for compiling baseline data. These include Occupational Health, Health & Safety, Human Resources, Finance, and Payroll. External agencies may also be a good sources of information including WSIB / WCB, insurance companies or external third party administrators / consultants.

In review, data that may contribute to the baseline, and ongoing measurement metrics include: Workers' Compensation (WCB / WSIB), sick leave / short-term disability, long-term disability, and any other absences.

- *WCB / WSIB data*  
Each Provincial Workers'

Compensation Board maintains employer data on cost, claims, and trends. When analyzing the Workers' Compensation costs, remember to take into consideration the base premiums plus any surcharge or adjustments. Costs are only one aspect of data and additional data on types of injuries, duration of injuries, department, shift, seniority of employees, may be extracted from company records.

### Articulating the quantifiable cost benefit of programs assist in confirming the solid business case for disability management.

- *Sick leave / short-term disability*  
Employers may have employee sick leave plans either funded by the company directly and managed in-house or through a third party administrator. Some employers may have a short-term disability insured plan. If the employer does not have sick leave or a short-term disability plan, employees that are ill may be able to apply for Employment Insurance – Disability benefits. Even though these are not company paid they should be counted from the lost time and the loss of productivity standpoint. The information on

these costs may be available from Payroll, Human Resources, Occupational Health or Finance in the organization. It is important to differentiate what is considered short term, when does this start and when does this end. "Most employers say short-term disability starts after 5 days of absence (Elswick, 2003)."

- *Long-term disability (LTD)*  
Some employers have long-term disability plans. There are many funding mechanisms for LTD benefits. Predominantly, LTD is an insured benefit and the premium is an easy value to obtain. The funding arrangements could vary the amount of impact interventions could have on this benefit. However, the premium cost is still an important consideration to include in the baseline data.
- *Other Absences*  
Employers may have other types of absences and allowances for employees such as family leave. It is worthwhile determining how many days are lost a year on these absences. Although employers may not be able to influence these lost days it can complete the absence picture at an organization.
- *Other data*  
Other program data that may be of interest is the EAP data, drug

plan data and extended health benefit data such as utilization of psychological, physiotherapy, and chiropractor, etc. services. This data would be available on aggregate basis from the insurer (NIDMAR, 2004).

The above will formulate the majority of your baseline cost equation. This data can be expressed in sheer actual cost point of view or it can be expressed in a manner that will create consistency even if the demographics – including the number of employees – changes. The Washington Business Group on Health has introduced key metrics for employers to consistently measure the impact of disability costs at an organization (WBGH, 2003). These metrics include:

- Cost per employee
- Cost per claim
- Cost as an average percentage of payroll
- Lost workday per employee
- Average claim duration
- Claim incidence

Once this raw data has been collected it can be further broken out to determine trends and methods to address them. These trends will form a component of the design of programs, prevention activities and disability management initiatives. As discussed in Johnson (2003), whether employers are dealing with long-term or short-term recurrent absences, early and effective intervention strategies are a central part of the solution. In designing the programs that can most likely effect change, the costs should be broken down at a minimum into the following categories:

- Reason for absence / type of disability

- Department
- Job category
- Supervisor
- Age
- Gender
- Years of service

This breakdown will allow you to direct the interventions to the areas that require the most assistance and where you can have the most impact. As discussed in Wetterman (2003), defined objectives will allow you to set up achievable goals and steps to take in order to meet them.

Additional costs that can be considered and captured include:

- Replacement cost
- Retraining costs
- Productivity costs
- Supervisor and Management costs

A lot of payroll systems collect the above information; it is just a matter of finding the best means to extract it from the system. If the data cannot be completely captured it will at least provide you with enough information to formulate a rough estimate. Some employers can also review the time and attendance modules within their HR information systems, while others could use timekeeping systems to detect absences associated with workers' compensation, sick time or unpaid leave.

### Replacement cost

In determining replacement costs, an assessment needs to be made as to whether the employee when absent will be replaced. An example for the health care sector is when a Registered Nurse is absent the shift must be covered. Often this average is at the

premium amount. This expense should be fully captured.

### Retraining costs

There is a high curve on retraining costs in jobs that require technical skills or getting accustomed to the speed of production. This cost should be captured from the Human Resources training department or the supervisor. One way to measure this is the average production rates versus replacement worker production rates.

### Productivity costs

Even in environments that do not replace the worker there is a decrease in production cost. The production team can assist in quantifying this cost.

### Supervisor and Management costs

It absorbs management time when a disability occurs. Whether it is managing the process for the employee that is off work or whether it is finding, retraining and supervising the replacement, it all costs employers money. This time should be tracked and measured.

In a DM program we must also collect data on the cost of running the program. For example, the departmental costs including:

- Salary and benefits of the Occupational Health staff
- Insurance / WSIB/ WCB premiums
- Hardware and Software
- Other equipment
- Supplies
- Communication costs (telephone and email)

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- Education information costs (developing information for supervisors, employees and service providers)
- Professional development (journals, updating)
- Infrastructure costs (cost involved in providing space, accounting, upper level management, and supervision, Human Resources assistance with recruitment, legal support, etc.)

A separate but important element of the cost of the program itself would include:

- Third party assessments – Functional Ability Evaluations, Independent Medical Examinations, Physiotherapy, other assessments.
- Medical services
- Miscellaneous services
- Assistive devices/technology
- Changes or renovations to the work environment or workstation
- On the job training
- Other training
- Other

It can be very difficult to capture all of the data if it is not being tracked, or if it is not on paper, or the systems cannot communicate with one another well enough to extract reliable data. Still, employers can take an incremental approach. *Start with what you have* and establish a baseline. It is important to document where the original data came from so as you build onto the integrity of the data it is easy to demonstrate the variance in the total numbers.

Once the costs have been captured and documented, and the program goals established, it is equally important to measure the impact of

the program on these same metrics. If interim adjustments are required, a cost benefit analysis may allow for these variances. The benefits of bringing a disabled worker back to work are considerable. As mentioned in Scardellelette (2003), your program may be succeeding but not in the areas with the greatest impact on costs. One explanation for this might be that you have failed to establish outcome metrics and/or are not tracking the right information.

It is important that baselines are established and equally important that tracking and measuring is done against the same metrics. When formulating the goals of the program it is also necessary to understand the business objectives of the corporation and align these to the elements that are most important to the corporation (Curtis & Scott, 2003). Doing so will show that Occupational Health / Disability Management is making a significant contribution to the corporation.

The next article in this series will deal with how to articulate the measures and ensure they are in line with the company objectives and goals. The final article in this series will be on how to quantify the benefits. Stay tuned and happy number hunting until next time.

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