



Tools of the Trade

Integrated Reporting and Metrics

Turning History Into ForesightSM





About Integrated Reporting & Metrics – Tools of the Trade

Integrated Reporting & Metrics is an excerpt for the DMEC's Tools of Trade, published in July 2009. Integrated Reporting and Metrics was written by OCI Executive Vice President, Dan Blaney, and OCI Analyst, Mark Peterson.

Tools of the Trade provides state-of-the-art integrated disability and absence management (IDAM) knowledge in one easy-to-use desk reference. It contains useful tools to help build the business case for programs and move projects forward. Included are numerous illustrations, charts, statistics, best practices, employer checklists, and references to credible industry sources.

TOOLS OF THE TRADE

DATA INTEGRATION AND WHY IT IS IMPORTANT

Data integration is the ability to unify data from multiple sources into one cohesive system from which complex and useful information can be gathered, analyzed and summarized to support and direct important decisions. Yet, too often, employers use computers for the same calculations that have not changed over the years. The use of information technology (IT) is commonly relegated to simple biomedical calculations such as total cost and number of claims. Evolving trends show more sophisticated measures such as specifically targeting employee-level data in aggregate in an effort to address productivity. The integrated, employee-specific model monitors both employee-level and provider-specific outcomes to better manage workers by assessing incentive response and changes in contractual relationships between the worker and the provider. As an example, when an employee has more than one benefit activated, such as a workers' compensation and a short term disability claim, the elimination period enforced by one vendor (as a form of employee cost-sharing) might be rendered useless if the second vendor provides payment during that time. An integrated model would be able to uncover such discrepancies.

Although employers prepare for employee absence by devising specific benefits plans to enable employees the ability to take time off from work without suffering serious financial detriments, the complexity and current increasing health and other absence-related costs necessitate an even more sophisticated model of analyzing and evaluating benefits plan designs and employee absence. Complicating factors driving the costs of absence includes the aging population of the workforce from the baby boomer generation, the variable levels of eligibility for different employee types (union, salaried, hourly), increased pressures of productivity in an effort to remain competitive in a global economy and a tumultuous economy which adds considerable physical and psychological stress and strain on employees as well as employers.

THE VALUE OF INTEGRATING DATA

In order to fully understand the big picture and address the complexity of integrated disability, absence and health management programs, data integration is necessary. Specifically, data integration can address issues such as:

- Identifying duplication
- Identifying employee migration from one benefit to another
- Limiting variation in the ways benefit plans are managed
- Detecting moral hazard responses
- Formalizing risk identification
- Assessing the effectiveness of a program
- Recognizing Pareto Groups
- Reviewing the cost of workers' compensation and disability claim overlap
- Coordinating return to work programs

Ultimately, the value is expressed through cost savings, increased efficiency, increased knowledge and better productivity throughout the organization.

Consider the following example. A large employer was concerned about the impact of absence on its organization's productivity. Additionally, management wanted to know whether their temporary return to

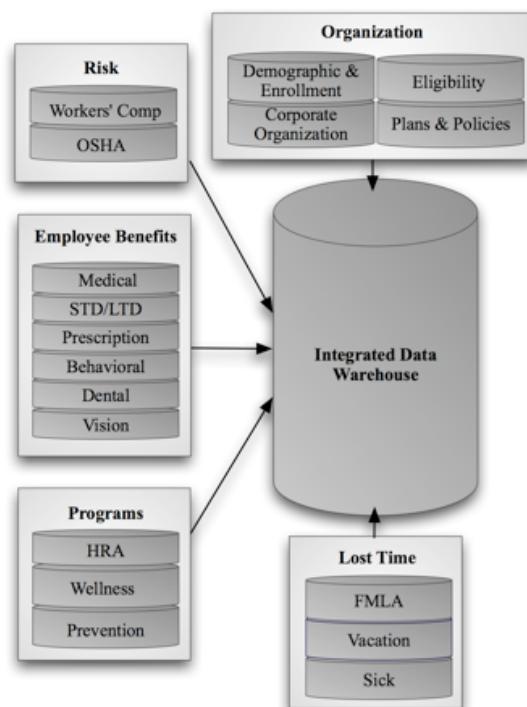
work programs were having any positive effect on absence and productivity. Following a 28-month study¹ of 507 workgroups that included disability data, sick leave data, workers' compensation data, temporary return to work results and productivity data, the firm was able to quantify the cost impact of absence on productivity - \$285 million per year. And the value of its temporary return to work programs? Nearly \$170 million per year in productivity savings. Neither of these findings—the cost of absence nor the effectiveness of absence programs—would have been possible without an integrated approach to their absence management program.

The study mentioned above demonstrates the power of the value integrated data can bring. But what types of data or metrics are required for this level of reporting? The concept of a Pareto Group states that 20% of claimants are responsible for 80% of costs. Identifying the Pareto Group across all benefit types requires integrated data. Without it, Pareto Groups can only be identified for each benefit type. Additionally, when claimants use more than one benefit type (such as using both short term disability and workers' compensation or disability and Family Medical Leave Act (FMLA) time), only through integrated data will one be able to accurately identify the group of claimants that are responsible for the most significant costs or usage.

In another example, a global energy company, Chevron, reduced short term disability claims by 15% and saved nearly \$9 million in program costs over a three-year period having implemented an information sharing and reporting system with UnumProvident Corporation based on an integrated database model². Specifically, they provided UnumProvident with FMLA leaves, payroll, absence eligibility, short term disability, long term disability and workers' compensation leave data. By integrating the payroll system and the absence data, they were able to identify employees that had leaves extending past five days and who were not in a case management program. In an effort to maintain equal treatment for all employees on leave, they were able to redirect resources to manage the employees who were out more than five days and did not have a support system in place.

The value of an integrated claims system is more than a financial consideration; it is a productivity and efficiency issue as well. L.L. Bean began to outsource their short term disability in 2001 and in 2005, outsourced their short term disability check processing and went to telephonic claim-filing in response to the level of difficulty in managing absences from numerous data sources³. Between 2002 and 2007, L.L. Bean experienced a 35% reduction in lost time claims.

A final study showed that an employer improved upon its decentralized management system through using a comprehensive, online absence management system that their managers could tap into at any given point of the day to receive updates and a list of activities that needed to be completed in order to manage each claim. The system not only contributed to improving manager productivity, but established a standard of uniformity and compliance with the company's best practices.⁴



OCI Integrated Database Components

¹ OCI Study of Absence and Productivity, 2002

² Business Insurance, Data fuels Chevron efforts to reduce disability costs, July 24, 2006

³ *Falling Leaves*, Employee Benefit News, November 2007

⁴ *Ibid*

GETTING STARTED

In order to begin, it is recommended that you start simple with what you can handle from a scope and cost perspective. It is critical that a baseline for your program is established, so start now. An iterative approach is highly recommended because your organization is unique and as such, your risks, productivity, plans, integrated reports, data and metrics will not match any other organization. In addition, you will learn many new things about your organization as you review it through the data looking glass and you need to be able to adapt to what you learn at each juncture and apply that to your metrics and reports. Although data integration can become very sophisticated and complex very quickly, the following premises will help you get started in a practical way.

Build an historical event timeline of changes in the organization, plans, vendors, and laws. This document is an invaluable tool when comparing historical data trends with current snapshots. Make sure that you keep this timeline current throughout the life of the database. If you can see coming changes in the timeline, they can be correlated to the historical events and you can adapt early.

Insist on integration collaboration from your vendors. After all, you're only asking them to send your data to you so that you can use it to measure performance. To keep the request manageable, take the initial data in their standard format. The data should be summarized at the claim level for closed claims only. It need only contain a claimant identifier that you can connect back to the demographic/organization data so that you can pair it with claims from the other sources.

Prepare to own the data repository to ease the inevitable competitive concerns amongst the data sources. This can be accomplished with internal resources or outsourced to an independent data management group.

Collect three years of history for each claims and absence source. Provide a matching three years of history from the demographic and organizational sources. Three years is a minimum number of years to establish trends and benchmarking; the more years of data that you have the better. Three or more years of data helps to avoid misleading trends influenced by an abnormal year. Again, claims data should be collected at the claim summary level for closed claims only. Open claims substantially increase the complexity of the metric calculations and have no impact on the baseline being established at this point. Without close dates for the open claims, it would not be possible to accurately determine duration without predictive modeling. The lost time data should match the same three-year time horizon as the claims sources. If there was a vendor change during the prior three years, you will need to collect data from all vendors to fill in the timeline and get a complete picture.

Data quality is an important concern when building any database, but absolutely critical when integrating data from disparate sources. The maximum data quality in your integrated database needs to be as high as the quality of the source data. Most data sources have quality issues of varying degrees, but that is not within the domain of the integrated reporting project to correct. The concern with data quality in the integrated database is maintaining the integrity of the source data as it moves to metrics and reports so that it matches the source data reporting. Each data source should be assessed for quality with any exceptions noted and reported back to the source system. Under no circumstances should the data in the integrated database be modified. If the source system corrects the data then it can be reloaded into the database. And, in all candor, if the data coming from the claims source is of such poor quality that one cannot report off of it reliably, then there a much larger risks to focus on.

Conduct a baseline analysis to determine areas of concern. A baseline analysis is a high-level summary of the current trends and characteristics of the state of your benefits plans. Benchmarks are established through calculating percentage growths and declines over a period of at least three years or could be based upon one single point in time. These metrics are typically based on financial performance (such as average claim cost per eligible employee, total cost per member per month) and lost days metrics like average duration per claim or average number of lost days per employee.

Monitor the data in the newly created data asset from the top down. Top-level metrics are easier to produce, digest, and adjust. Before investing in a full set of reporting tools and data mining tools, explore what metrics are valuable to your decision-making process and what tools are necessary to calculate the metrics. Given the vast number of analytical software packages that are on today's market and their varying level of cost and sophistication, your final choice in software necessitates thorough research and planning. Some software packages require years of experience to navigate and operate efficiently due to its proprietary coding language. The choice of software is not only dictated by budgetary concerns and its ability to provide the necessary calculations, but by the literal amount of data that will be analyzed.

Adapt as you Learn

Data integration, analysis, and reporting is a learning process; do not expect to know everything from the beginning. The more data added to the asset over time, either in history or from new sources, the more powerful the information. New data leads to the constant and conscious effort to evaluate the value of the existing reports and metrics in accurately describing the overall benefits picture. Add, improve, and remove the package of reports and metrics as necessary to provide maximum clarity of your overall data picture.

Enter into the effort with the expectation that you'll know more tomorrow than you do today, prepare to adapt based on this newly gained intelligence, and you'll find success over the long term with your integrated reporting and metrics solution.

INFORMATION DELIVERY METHODS

Once the data asset is operational, the focus turns toward information dissemination. The information must be relevant, actionable, accessible, and have an impact to the recipients in order to maximize the value of this newly discovered benefits intelligence. This section focuses on the accessibility of the information. Accessibility is the first hurdle to cross in disseminating information because the decision makers need the information in their hands when the decision points present themselves. Timing is nearly everything in this situation. It is highly advantageous to remain as flexible as possible with your information production and distribution toolset (tools, formats and vendors) to ensure that your benefits intelligence needs aren't moving faster than your support system can deliver nor that your data asset is the organization's best kept secret.

When selecting your delivery methods keep in mind that all information recipient needs are not created equal. With the potential information recipients ranging from individual employees to senior management within the organization and extending to claims managers, plan providers, health and wellness vendors, just to name a few outside the organization—the information needs are very diverse. Selecting the appropriate delivery method for each distinct recipient is accomplished by evaluating the appropriate scope of information and the delivery vehicle. If not carefully planned, both dimensions of report delivery can render the information useless. Getting too much (or too little) information to the recipient via the appropriate method is ineffective. For example, providing a corporate STD/WC claims overlap percentage metric to the operations managers that are most interested in their departments is just as ineffective as producing the correct information but never getting it into the right hands. In another example, there is no value in providing the same corporate STD/WC claims overlap percentage metric via an ad hoc data query tool that intimidates your senior managers because they aren't able to access or take the time to understand the tool.

One effective approach is to put basic information into the hands of each recipient, filling the immediate need, and then providing them with tools and proper instruction to dig deeper. This approach is simple to implement and will satisfy the needs of the majority of the audience while maintaining the capacity for the occasional deep dive into the supporting data.

Fortunately with the broad set of powerful, commercially available reporting tools on the market today, scoping the information to match the needs of the recipient is much simpler today than it was just a few years ago. Generally speaking, the tools allow mass customization by filtering the content on each report at the recipient level. The approach is very straightforward where the report/metric is created as a template. As the report/metric is generated, the security permissions for each user are applied to the data as it is selected from the database to produce the report. This method effectively right-sizes the data to fit the scope of the recipient. The application administrator need only manage the permissions for each user based on the organization structure and related information privileges to ensure that each recipient receives the appropriate level of information.

The next step is to provide a basic set of reports/metrics that have relevance to every user group and present those reports/metrics in a way that keeps the reporting tool out of the way of the information. Fortunately the reporting tools available today address the full spectrum of recipient distribution needs.

Some of these common distribution methods include:

- **Push reporting** – completed reports/metrics are delivered via e-mail to the recipients inbox
 - Pros – no user effort to generate report/metric, delivered through a standard business channel – e-mail, report creator controls content received by recipients, reports can be mass-produced in a batch cycle.
 - Cons – E-mail has limited data security, users don't have to read the report/metric, information is static or may or may not even be viewed
- **Pull reporting** – reports/metrics are delivered as requested, via an online interface
 - Pros – strong data security, real-time drill down into supporting data, content is controlled by the recipient
 - Cons – requires knowledge of the reporting toolset, user has to proactively come to get reports/metrics, mass production isn't possible
- **Ad Hoc reporting** – the recipient configures the report selection parameters, output template, and runtime parameters then runs the report
 - Pros – recipient isn't limited to data behind canned reports, supports open-ended "what-if?" query capability
 - Cons – requires mastery of the content as well as expertise with the query tool
- **Data Extract** – raw data produced by the reporting tool for use in another system and/or analytic tool.
 - Pros – allows the recipient to use the reporting tool of their choice
 - Cons – output is not user-friendly, bypasses all reporting application controls
- **Dashboard** – metrics are presented at a macro level with some graphic indicator of performance
 - Pros – graphic indicators provide interpretation of the metric, drilldown to supporting data, just the information the recipient needs, no extra filler
 - Cons – setup and use require a strong data knowledge, macro level metrics can mask underlying performance issues, impact of micro level adjustments are impossible to discern using just the macro dashboard metrics
- **Alerts** – notices sent to interested parties when preset thresholds are exceeded. The notice goes out via e-mail or text message. This method combines the other methods into one seamless solution where the recipient sets up alerts for the areas they have concerns and then lets the reporting solution tell them when those areas are in need of attention.
 - Pros – only alert information is sent (no confidential data), saves time reviewing uneventful reports/metrics

- Cons – requires the recipient to engage in digging into the cause of the alert; false alerts can create unresponsive recipients

So, which of these methods fits your integrated reporting and metrics implementation? Most likely some mix of all of them. The good news is that you don't have to settle on just one. Your recipients will help you define the most appropriate scope and distribution methods after you get them started using the information. So, get them started with a basic set of information, don't overwhelm them with the tool, and then ask them what they like, need, and want in the way of information. It is important to give them a basic set of information before asking this question so that you can control the conversation within the boundaries of what your integrated solution can support today.

With the information in the hands of the decision makers it's up to the business experts that built the integrated reporting and metrics solution to keep the information relevant and actionable. You'll find that the recipients will help with this evolution, but the original builders or implementers need to guide the groups' efforts over time. These business experts know the business best. This expertise combined with a sound, adaptive integrated reporting and metric solution make for a very powerful benefits management tool.

IMPORTANT INSIGHTS

Establish and Maintain the Business Case. The integration of information has to be financially viable in order to have longevity in the organization. Evaluate each new opportunity with an eye toward the expected return on investment (ROI) of having that information available at the fingertips of the decision makers. Reserve some of your report/metric development resources to calculate ROI on the integrated data investment.

Keep it Simple. It is easy to fall into the trap of presenting complex data still in its complex form or to get lost in the details. Thus it is suggested to keep the reports/metrics at a high level and concentrate on how the information can positively impact decisions and what value the information brings to the organization. The system should provide insight into *why, how, and from where* costs are moving and *why, how, and from where* benefit plans are performing without being overly complex. This allows management to focus on problem areas, address the root causes, and make changes to mitigate risks.

Garbage In = Garbage Out. Invest the appropriate amount of resources to establish sound data quality in the integrated database. The phrase "garbage in garbage out" refers to how inaccurate data leads to inaccurate results and eventually poor decisions. If data quality issues are uncovered during the procurement process take the time to work with the sources to address concerns before replicating the data problems in the integrated database. However, don't let the quality of a particular source stall the entire project. Continue to build the database with the clean sources while working with the troubled source to improve the quality. After the database is fully operational and receiving updates, make sure continue to monitor the quality of the data being added.

Socialize Early and Often. The reason for building an integrated database asset is to make better decisions. In order to provide the value of better decisions the asset has to be used. Communicate the project to the recipient community early, get them involved, and keep communicating with them.

In conclusion, integrated data opens up the doors to much more sophisticated and useful data analysis that can support and direct managerial decisions regarding plan design, health and productivity, cost containment, vendor selection, and other benefits-related components in a very focused approach. With proper data collection, insightful metrics and value-based conclusions, organizations stand to save a considerable amount of cost, decrease absence, increase productivity and promote a healthy and caring workplace.

EMPLOYER CHECKLISTS

The following table summarizes the data sources that can be included in the integrated database and the recommended variables to collect. All data sources need an employee identifier that is consistent across all sources in order to join all data into integrated reports and metrics. A minimum of three years of history is recommended for all sources in order to establish a reliable baseline. Three years of data provides enough data and measurement points to trend the data accurately as well as to assess the current state compared to historical levels. History is valuable for the payroll and demographic/organization sources in order to accurately categorize claims and lost time costs for trending purposes.

Data Source	Associated variables
Claim Sources	
Short Term Disability	Claim summary level; cost, lost days, injury date/type, location, pay percentage
Workers' Compensation	Claim summary level; cost, lost days, injury date/type, location
Long Term Disability	Claim summary level; claimant, cost, lost days, injury date/type, location, pay percentage
Group Health	Service detail level for employees and dependents; service date, cost, place of service, diagnosis, procedure codes, employer and employee paid amounts
Prescription Drug	Prescription detail level for employees and dependents; service date, drug name & code, dosage, days supplied, employer and employee paid amounts
Lost Time Sources	
Family Medical Leave	Lost days, reason, leave type, dates
Paid Time Off	Lost Days, reason, cost, dates
Integration/Grouping Sources	
Payroll	Compensation types/dates
Demographic/Organization	Hire date, termination date, birth date, organizational structure, work locations

Ideally, the following table summarizes a base set of metrics to consider producing from the integrated database. All of these metrics should include current measurement against a baseline value, trending, and period over period comparisons.

Metric	Explanation
Integrated	
Pareto Group	Analysis of top cost drivers. Sub population that is incurring the majority of claim cost.
Integrated Total Absence	Historical trend and/or predictive analysis for claim incidence, duration and cost
Overlap	Analysis of individuals utilizing multiple benefits in a timer period (i.e. incurring both STD and WC claims)
Risk Identification	Populations of claims that incur the most cost. Locations/populations that have higher than average costs.

Workers' Compensation	
Injury Type	Top 10 injuries (most frequent, most costly)
Repeater Claims	Multiple use of benefit during the measurement period
Reporting Lag	Gap between incurring the injury and reporting the claim; gaps in claim process
Average Cost	Cost per claim/employee
Average Lost Days	Lost days per claim/employee
Disability Benefits	
Top Conditions	Top 10 conditions based on diagnosis (most frequent, most costly)
Average Cost	Cost per claim/employee
Reporting lag	Time lags in the claim reporting and handling process
Average Lost Days	Lost days per claim/employee
FMLA Leave	
Type of Use	Tracking of personal versus family use
Concurrent Claims	Number of FMLA claims that are also disability or WC related
Average Time Used	Time used in days per claim/employee
Group Health/Prescription Drug	
Average Cost	Cost per employee/member
Cost Comparison	Place of service comparison (i.e. cost for inpatient vs. outpatient; or in network vs. out of network)
Top conditions	Top conditions based on diagnosis (most frequent, most costly)
Top Drug Therapy	Top drug therapies based on NDC code (most frequent, most costly)