Data Strategies for Managing Health and Productivity

LESSONS FROM THREE EMPLOYERS:
AMERICAN EXPRESS | O'NEAL INDUSTRIES | BARRETTE OUTDOOR LIVING

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Contents

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Background

In response to shifting economic, market, political and demographic forces, employers are broadening their strategies in managing workforce health to encompass dimensions beyond just the cost of health care. As a result, they are not only focused on a new set of "business-relevant" health outcomes—such as absence, disability, health-related employee performance and their productivity consequences—but they are recognizing the need to manage workforce health at the population level to achieve broader business goals. At the same time, employer benefits managers, human resources (HR) directors and risk managers are often being called upon by senior management to demonstrate the "business value" of their programs and to report key metrics in business-relevant terms to show changes over time and to guide need for program refinement and investment.

Since 1995, IBI has undertaken research, developed case studies and built measurement and modeling tools to help businesses integrate health, absence and disability benefits as an investment in a productive workforce. In April 2012, IBI co-authored an article published in the journal *Population Health Management* that identified a pragmatic set of 10 key population health–level dimensions and a set of metrics for employers to manage population health and productivity.[1] These 10 dimensions of population health are organized as follows:

Leading indicators: health risks, biometric screenings, chronic condition prevalence

Care indicators: preventive care, program participation, employee engagement, health care use

Lagging indicators: expenditures, lost time from work, lost productivity

We use this framework, and the associated summary metrics to measure each dimension, to illuminate how three different types of employers have journeyed down the path of using data to manage health and productivity. We include a discussion of the challenges they faced and the solutions they adopted to help guide other employers embarking on the same journey.

[1] Parry T and Sherman B. A pragmatic approach for employers to improve measurement in workforce health and productivity." *Population Health Management*. 2012;15(2):61-64. Contact Thomas Parry, PhD, for a copy of this paper <tparry@ibiweb.org>.

The Case Study Employers

We selected the following three employers for this study. Each currently measures and tracks most of the metrics identified on the previous page to understand the full cost of poor health, and all are planning to capture all metrics going forward. Each employer has shared its challenges as well as its successes, and all three provide practical examples of how to overcome measurement barriers in managing workforce health and productivity.

American Express

Company overview: American Express (AMEX) is a global company headquartered in New York City providing financial services. Established in 1850 as a U.S. express delivery service business, it is now a global leader in payments, expense management and travel solutions for consumers, small businesses and mid-sized to large companies. AMEX is a Fortune 100 company with 91 million cardholders whose cards are accepted worldwide in 200 countries and territories.

Number of employees: 60,000 (27,000 based in the U.S.)

Percentage of full-time employees: 95%

Average age of workforce: 42

Gender makeup: 64% female

Enrollment: 90% of workers are enrolled in a self-insured health plan. Short-term disability, FMLA leave and workers' compensation are provided through a single vendor. Long-term disability is provided by a separate vendor that integrates closely with the short-term disability vendor.

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O'Neal Industries

Company overview: O'Neal Industries is a family of closely related companies (called affiliates), all engaged in the metals service business. The company provides products and services, ranging from steel beams and plates to specialty alloys and complex manufactured components, to customers across a wide variety of industries worldwide. Together, the O'Neal Industries companies represent the largest family-owned metals service center in the United States. The company is family-owned, dating back to its creation in 1921.

Number of employees: 3,721 (3,048 based in the U.S.)

Average age of workforce: 45

Gender makeup: 81% male

Enrollment: 90% of full-time workers are enrolled in a self-insured plan. Short-term disability and FMLA leave are administered through a benefits consulting group. Long-term disability is administered by a national insurance carrier. Workers' compensation is self-insured and administered by a national insurer.

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Barrette Outdoor Living

Company overview: Barrette Outdoor Living is a leading PVC, wood and aluminum manufacturer that distributes fencing, railing, garden accents and sheds across North America. The company also provides products to large home-improvement retailers and specialty fencing dealers. Barrette Outdoor Living is a private, Canadian-owned company that evolved from US Fence Inc., founded in Parma, Ohio, in 1977.

Number of employees: 725

Average age of workforce: 43

Gender makeup: 70% female

Enrollment: 73% of employees are enrolled in a fully insured health plan. Short-term disability, FMLA leave and long-term disability are provided through the same vendor as the health plan. Workers' compensation is self-insured and administered by a national insurer.

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Questions Addressed

For each of the cases included in this research, we addressed the following questions:

1. What concerns prompted each employer to adopt a broad strategy to manage population health?
2. How does a defined set of metrics contribute to each company's understanding and management of population health?
3. How has each employer integrated its various sources of data?
4. How have employers used the metrics to guide their population health management approaches?
5. What are the essential outcomes that have resulted from the use of this broad measurement approach?
6. What kinds of external partners are assisting in this endeavor, and how are efforts coordinated across partners?
7. What are the key challenges, opportunities and solutions for actionable data and metrics?

We present our findings within the context of each of these questions.

Key Findings

1. A limited set of population health metrics can be used to effectively highlight the leading indicators of health, indicators of care and treatment, and lagging health indicators. Those metrics can also be used to communicate health strategies and business-relevant outcomes to senior management, benefits program administrators and business operations leaders.

2. Senior management buy-in is key to adopting a comprehensive approach to population health and productivity management.

3. Integrating data at the employee level supports tailored health interventions and can be undertaken while protecting employee confidentiality.

4. External benefits partners with expertise in data warehousing and data analysis are important to successful program implementation and evaluation.

5. Benefits supplier partners need to work together to provide data to the employer at a level of aggregation supporting population health management.

6. Even smaller employers can successfully pursue a data aggregation and population health management strategy.

QUESTION #1

What prompted each employer to adopt a broad strategy to manage population health?

One factor is consistent with all three employers: the need to understand the *full costs* of workers' health. What prompted that need is a unique story for each—but the value proposition that a healthy workforce is more productive and therefore more competitive is fully embraced by all of these companies.

American Express

The business of American Express is strongly oriented to service-based call centers. The performance of call center personnel and the impact on customer satisfaction are critical to the company's business success. According to a recent *Fortune* article (April 30, 2012), when AMEX customer care professionals create positive impressions, the company experiences a fourfold increase in customer retention. Understanding that employee health was part of this equation, AMEX reached out to Wayne Burton, MD, to guide the effort. Burton is a leading researcher of the business impact of health on worker productivity, particularly in call center environments.

AMEX senior leaders understand the importance of a healthy workforce. Their challenge for Burton: Determine the total cost of our employees' health. As in all of Burton's work, using an evidence-based approach was essential. Burton convinced AMEX leadership that its focus on the total cost of poor workforce health and subsequent strategies for improvement would require a broad and highly integrated set of metrics. As Burton phrased it, "I had the big book of published findings from the University of Michigan. And the evidence is compelling. It wasn't difficult to make the business case for a total population health management strategy."

O'Neal Industries

Prior to 2011, O'Neal had provided employees with a few wellness programs, health fairs and occasional health risk appraisals (HRAs). However, it didn't take the company long to realize that the organization was offering a small solution to a big problem. The "spot programs" and "off-the-shelf" solutions weren't targeting the broad issues affecting employee health. And there were no company-wide outcomes measures to guide the firm's efforts.

Executive management started looking at strategies of companies similar to O'Neal. The company's trade associations provided a perspective on how innovative companies were implementing wellness programs and the results that they were achieving. This led O'Neal to focus on a comprehensive, company-centric, sustainable solution. Donna Cornwell, Human Resources Manager, was challenged by senior leaders to create the programs and the evaluation metrics to show medical cost savings and improvements in workers' compensation (WC) and short-term disability (STD). The metrics are critical to Cornwell: "O'Neal can't manage what we don't measure. Key metrics will drive our overarching health strategy and align with business operations to allow continued review, conversation and planning as part of our integrated health strategy."

To help develop the O'Neal solution, Cornwell identified an expert, Rebecca Kelly, PhD, assistant professor and Director of Health Promotion and Wellness at the University of Alabama and president of Element Health, Inc. Kelly's expertise in worksite wellness and program design, delivery and evaluation offered the consulting and the insight that O'Neal needed.

Barrette Outdoor Living

Barrette Outdoor Living is a fully insured employer for group health benefits, STD and long-term disability (LTD); the company is self-insured for workers' compensation. The company purchases health coverage from a health insurer and pays a premium based on claim experience. STD and LTD are administered by Barrette's health insurer, while workers' compensation is administered by a different company.

Barrette's health plan provided a very basic set of wellness resources to company employees, including a health risk appraisal and several educational programs. When in 2008 Barrette was faced with a premium increase of 57%, the company decided it was time to do something different. The premium increases triggered Rick Fior, Director of Human Resources, to begin researching how employee health risks influence medical costs. He understood that smoking increased health care costs and absence, but what other risks could the company address to improve the health of the workforce?

Barrette joined HC21, an employer business coalition focused on health and related issues headquartered in Tennessee, to further the company's understanding of factors affecting total health costs, including absence and productivity. Senior leaders supported this approach because of steep health care cost increases and their interest in finding alternatives to the undesirable options of either passing the additional costs on to employees or reducing employee benefits.

A big advantage to Barrette of joining HC21 was access to the Data Integrator, a data warehouse that could provide insight into how well Barrette was doing from a total health-cost perspective. Often, fully insured smaller employers are quite limited in the amount of data their health plans will provide to them. HC21 removes that limitation by requiring any health plan that wants endorsement to provide detailed client claims data to the Data Integrator. The relationship with HC21 was the tipping point that allowed Barrette to engage in comprehensive population health management.

Lessons for Employers

Three important factors have led these employers in establishing the need for population health management:

1. Senior management at each company understands the business value of a healthy workforce.
2. Each company appreciates the importance of having a comprehensive set of metrics to provide the insights essential to a successful population health management strategy.
3. Each company works with an external data manager to provide the data management function. AMEX uses the University of Michigan. O'Neal Industries works with a local health consulting firm. And Barrette relies on HC21. Regardless of their size, employers have a wide range of data management organizations they can turn to for help.

QUESTION #2

How does a defined set of metrics contribute to each company's understanding and management of population health?

While all 10 metrics are considered valuable, not all are currently captured. The table below shows that AMEX is not yet tracking employee engagement. And neither O'Neal Industries nor Barrette Outdoor Living is measuring lost work time, lost productivity monetized and employee engagement.

METRICS TRACKED

The metrics	AMEX	O'Neal	Barrette
FINANCIAL EXPENDITURES	✔	✔	✔
PROGRAM PARTICIPATION	✔	✔	✔
BIOMETRIC SCREENINGS	✔	✔	✔
HEALTH RISK FACTORS	✔	✔	✔
UTILIZATION OF MEDICAL CARE	✔	✔	✔
PREVENTIVE CARE/SCREENINGS	✔	✔	✔
CHRONIC CONDITIONS PREVALENCE	✔	✔	✔
LOST WORK TIME/ LOST WORKDAY EQUIVALENTS	✔		
LOST PRODUCTIVITY/ MONETIZED	✔		
EMPLOYEE ENGAGEMENT			

The metrics not currently collected are under review and consideration by all three companies. AMEX has recently added three "employee health engagement" questions to its health risk appraisal. O'Neal Industries plans to incorporate absence and at-work performance measures in the fall of this year. In addition, O'Neal is piloting the Patient Activation Measure as a method for measuring engagement. Barrette is working with HC21 to track presenteeism and absence measures, which ties in with information already included in Knowledge You Need (KYN), HC21's health risk appraisal.

The devil, of course, is always in the details. Getting the granularity of data needed and rolling those elements up to create the overarching metrics for the 10 health dimensions is complicated. O'Neal Industries created a matrix of detailed indicators organized as leading indicators, care indicators and lagging indicators, much like the approach that IBI laid out in the population health article cited earlier.

This matrix used by O'Neal, detailed in the Appendix, identifies these indicators and, more importantly, describes the level of data granularity needed to create the 10 high-level metrics. That each of these case study employers is using an external data manager is testament to the complexity of the task.

What insight can we derive from O'Neal's matrix? First, we can't understate the importance of defining the components of each summary metric, the unit of measure used to create each metric, the data source for each unit of measure and the data collection frequency. This exercise informs O'Neal's entire integrated data strategy. Second, attention to this level of detail on the front end will ensure that critical data and important relationships will meet the needs for strategic planning, program planning, program evaluation, vendor evaluation and, ultimately, assessment of the value the program delivers.

Lessons for Employers

1. Obtain clarity on the metrics of greatest importance to your company. Use a matrix like that developed by O'Neal (see Appendix) to compare and contrast the metrics possibilities against the value they provide and the availability of data.
2. Going through the overarching questions this section addresses is a key step in formulating the approach to measuring the full costs of employee health.
3. Define selected metrics in specific units of measurement. For instance, health risk assessment (HRA) completion rate is measured as the number of assessments completed divided by the total number of employees eligible.
4. Have a method for measurement and a data source. For example, an annual HRA provides the health risk information. Lost days resulting from STD leaves should be available from the disability carrier.
5. Have a data collection methodology and reporting frequency. If your company conducts an annual HRA, the reporting frequency on this metric cannot be more frequent than annually.

QUESTION #3

How has each employer integrated its various sources of data?

Having access to these 10 population health metrics is an important step forward in population health management. One might argue that population health can't be fully managed without a broad set of metrics such as these. In addition, tying data sources together and being able to track individual employees—while maintaining proper confidentiality protections—releases the full value of the information.

We asked each employer how the company integrated the data function of the various internal departments that have a stake in population health management and the data that each has available. These departments include (but are not limited to) human resources, benefits, medical, occupational health and safety, operations, and marketing and communications.

Full integration of data and administration is the most effective approach to total population health management. "Full integration" means that all relevant data and metrics are under the purview of a single senior manager. If this approach is not possible (as is the case with many companies), bringing together data and/or results from various departments' initiatives into a common framework that is shared across functions is an effective solution.

AMEX data are fully integrated with all appropriate departments reporting to a single senior manager. O'Neal and Barrette use a cross-functional, coordinated approach, both as to data and to department management. This approach requires that appropriate departments communicate regularly on issues of importance, including sharing relevant data.

American Express

All nine metrics currently measured are available from data sources under the control of Burton's department. This is an ideal approach for AMEX because it takes away any interdepartmental data boundary issues. Financial expenditures are integrated across programs so that benefits relative to costs can be addressed. Health risks can be linked to utilization or lost productivity to help allocate appropriate wellness assets. HRA data are correlated to preventive screenings to help create communications campaigns aimed at getting underused screenings to acceptable levels.

AMEX's approach is to ensure that data (group health, STD, WC, health risk appraisal) are sent to the AMEX data warehouse, managed by a third-party vendor, where they are cleaned and de-identified to ensure anonymity of employees. The linked data files are then sent to the University of Michigan Health Management Research Center. The university's Integrated Health Management System provides the data warehouse that evaluates the health and the economic impact of AMEX's health management programs. The information system includes five major data components:

- Health risk appraisal
- Personnel data
- Wellness program participation records
- Medical/pharmacy claims
- Productivity records

The system contains one record per person. Family data are included, if possible, so that the company can understand the impact that family members have on health, health costs and utilization. University researchers then evaluate the relationships among health risks, costs and utilization. In addition to evaluating AMEX's workforce health and productivity, researchers can analyze the impact of individuals, tracking lifestyle, behavior and history. AMEX tracks population health trends using this individual-level data.

O'Neal Industries

O'Neal manages its data in a cross-functional way. Many of the data sources are held within the human resources department, including health, pharmacy and disability. Workers' compensation information and financial data are housed in other departments. This data management approach works because senior leadership is fully invested in wellness. In other words, all departments cooperate in sharing data. The challenge for HR Manager Cornwell is consolidating these data sources into a single integrated system.

At the present time, data integration occurs in the wellness database and combines personnel data, wellness program participation records, medical and pharmacy costs, and productivity records. O'Neal continues to explore various data management strategies going forward, including expanding the data fields and contracting with an external data warehouse. Senior managers at O'Neal are interested in this approach because they believe that it will provide the opportunity to forecast ROI of the O'Neal LiveSmart Go Platinum! (LiveSmart) health management program.

The graphic above highlights the metrics plan for the LiveSmart program. The company is integrating employee engagement, behavior change, clinical improvements, health-cost trend and utilization changes with the employee assistance program (EAP), disability, workers' compensation, safety, absence and presenteeism.

O'NEAL INDUSTRIES WELLNESS GOALS AND METRICS

YEAR 1	YEAR 2	YEAR 3
Engagement ■ Awareness and understanding of program ■ Participation in health risk appraisal > 78% in first year ■ Enrollment in programs (risk modification and disease management) ■ Participation satisfaction > 94% rated the value of LiveSmart as *good* or *excellent*	**Behavior changes, such as:** ■ Increased exercise rates ■ Decreased smoking rates ■ Increased medication compliance ■ Increased preventive care **Clinical improvements, such as:** ■ Reduction in risk factors ■ Reduced blood pressure for patients with hypertension ■ Reduced blood glucose for patients with diabetes	**Health-cost trends, such as:** ■ Total cost below employer norms ■ Positive ROI on programs **Utilization changes, such as:** ■ Emergency department (ED) and hospital use ■ Physician visits

Barrette Outdoor Living

Barrette also uses a cross-functional approach. Relevant health and productivity data are housed in several departments, including finance, HR, payroll and operations. Internal data from finance (health care expenditures), human resources (program participation, biometrics, health risk factors and preventive screenings) and payroll (compensation and benefits data) are uploaded to HR Connection, Barrette's in-house data system. Medical utilization data (inpatient hospitalizations, emergency department (ED) use, primary care visits, specialist visits and pharmacy adherence) are held by Anthem, Barrette's health plan. Because Barrette buys a fully insured product from Anthem, detailed claims and utilization data typically are not readily available. However, HC21 requires its certified health plan members to provide detailed utilization data for employer members participating in the data warehouse, even for fully insured clients. Access to data was a key factor in Barrette's decision to shift its coverage to Anthem.

Integration of Barrette's data is provided by HC21's Data Cooperative. The Data Cooperative was created as a means to allow employers of all sizes to have the analytical capability to address population health management in its broadest terms. HC21's Data Integrator is the analytic tool used to integrate data and calculate key metrics. The Data Cooperative generates both a quarterly and an annual comprehensive report for each employer client. In addition,

HC21 provides reports on desired topics to employer participants on a requested basis. The graphic on the right is taken from the 2012 annual report highlighting the data that are currently captured. The report includes data on risk assessment, interventions, employee engagement, program evaluation, pharmacy management and chronic illness prevalence.

Tracking individuals. The capability to track individual employee experience while protecting employee confidentiality is an important function of any population health management strategy, and all three employers are able to do so. Aggregate data provide a broad perspective on the health and the health care practices of a workforce. However, improving the health of employees requires individualized targeting of interventions and engagement strategies, and tracking results over time. Providing appropriate referrals to relevant resources germane to an individual's risk profile is much more effective than simply providing a wide-ranging menu of programs.

AMEX wants to know the impact of programs on employees' health risks and results. Health risk appraisals are provided by a third-party vendor that also offers health-coaching services. Based on the health risk responses, employees and their family members are offered a range of coaching services at no cost. Coaches make outbound calls to employees' homes, offering them this voluntary benefit. Of course, confidentiality is an issue for employees. The company addresses this concern in three ways: (1) communicating

BARRETTE OUTDOOR LIVING DATA INTEGRATION TIME FRAME

- Objective: Member-level data that can be linked to other datasets
- Claims history is maturing
  - > Medical from 2009
  - > Pharmacy from 2009
- Biometric history (KYN)
  - > 2010–2011
  - > 2011–2012
- Coaching-encounter data
  - > 2010–2011
  - > 2011–2012

Current

- Claims
- Biometric data through HC21 KYN

Year 1

- Continue KYN
- Focus on adding attendance data for TN (not available in MI or OH)
- Request case management/disease management participation and lab information from Anthem

Year 2 and Beyond

- Focus on adding workers' compensation and short-term disability data

frequently to employees how the data are being used and how this benefits the employee; (2) reminding employees that all data are held by the University of Michigan, which has stringent requirements about protecting employee information; and (3) using a technology specialist whose primary role is ensuring that all data are secure.

Of importance to O'Neal Industries is ensuring that employees get appropriate referrals to behavioral health and disability programs. The health plan provides quarterly reporting of engagement levels in disease management and tobacco cessation programs. As Cornwell notes, "Personal health-coaching staff have established a direct referral process with our health and EAP/mental health providers. Participants give permission to health coaches to complete a referral form for the EAP, disease management or tobacco cessation services. This personalized level of intervention helps us understand how to engage employees successfully. We also learn whether we're providing the appropriate tools for employees to make lifestyle changes."

Barrette also tracks individuals within programs so that HC21 can connect employees with appropriate clinical coaches to address specific health issues. Any employee with three or more risks gets a referral to a health coach. Upon agreement by an employee, health coaches receive information about the risks and the conditions of employee clients to help guide the coaching process.

Of course, confidentiality is an important issue with Barrette as well. HC21 works with Barrette to ensure that employees are aware of and comfortable with the maintenance of information confidentiality. Regular and frequent communications are the key. Fior frequently communicates to employees that their health information is confidential, that it resides with HC21 and that Barrette has no access to individual-level data.

Barriers. Each employer studied had to overcome data collection, analysis and reporting barriers to generate the metrics needed to manage employee health and productivity. We explored a range of barriers, including:

- Lack of senior management support
- Disparate sources of data
- Data residing in different parts of the organization
- Lack of resources
- Lack of expertise
- Lack of funding
- Difficulty working with external vendors
- Benefits management structure not conducive

Surprisingly, the three employers mentioned few significant barriers. AMEX indicated that none of these barriers stymied the company's efforts. According to Burton, "This is due to senior management buy-in to a total health management strategy." External vendors know and accept that they must provide data feeds to populate the data warehouse. Each vendor enters into a contractual agreement with AMEX, laying out the data transmission process and ensuring confidentiality.

At Barrette, Fior indicated that lack of funding is a moderate barrier, while disparate sources of data, lack of resources, lack of expertise and benefits management structure are minor barriers. According to Fior, "There are really no issues in terms of actually getting the data." Lack of funding is a moderate barrier but one that they were able to resolve using a unique solution. "It costs money to do wellness and data acquisition. We were able to stay revenue-neutral by negotiating significant rate reductions with Anthem. It costs us $40,000 to $50,000 to provide our wellness programs. We carved out wellness from our Anthem benefit and got premium credits that paid for our in-house wellness programs."

With the support of HC21 and its benefits broker, Barrette was able to address two key barriers. By certifying member health plans, HC21 paved the way for getting detailed claims data from Anthem. Barrette's benefits broker was instrumental in getting the wellness carve-out from Anthem and using that money to develop in-house programs.

O'Neal Industries indicated that siloed data and the company's benefits management structure were major barriers, while disparate sources of data was only a minor issue. Three of the company's 10 affiliates do not participate in the predominant health plan administered by Blue Cross/Blue Shield of Alabama; they have health plans that are administered locally with fully insured health plan products. For these affiliates, detailed information about health status of their workforce is unavailable.

Understanding how to develop and integrate appropriate reporting from the company's WC, STD and Family and Medical Leave Act (FMLA) administrators and developing a tool that integrates health plan data with these data sources are still works in progress. To get the cooperation required for a solution, Cornwell knows that key individuals within the organization need to be involved so that they understand and support the ultimate goal of sharing data and results.

Lessons for Employers

Several lessons are learned from these employers regarding data acquisition and reporting:

1. Buy-in by senior managers is essential. Start there and build the case if you don't already have their support.
2. Get creative. Barrette was able to deal with the funding barrier by getting a cost offset from its health plan.
3. Work with a data warehouse vendor if you can. There are many of them, and they are tailoring their services to appeal to a wide range of employers. Make clear with your vendor the "rules of engagement" in getting the analysis and reporting that you need.
4. Find knowledgeable external resources that can help you understand and navigate managing the health and productivity of the populations of employees. O'Neal Industries has moved forward with the help of experts at a local university. Barrette used its broker consultant to help problem-solve with the health plan. AMEX has internal expertise in addition to support from the University of Michigan.

QUESTION #4

How have employers used the metrics to guide their population health management approaches?

All three employers are using their metrics for:

- ***Strategic planning:*** Creating a desired future and translating it into broadly defined population health goals
- ***Program planning:*** Formulating approaches to accomplishing specific outcomes such as improving employee well-being through health coaching
- ***Program evaluation:*** Systematically collecting and analyzing information to understand a program's impact

AMEX and Barrette also conduct cost/benefit analyses and vendor assessments.

American Express

Strategic planning. The population of employees at each AMEX location is unique in terms of age, ethnicity and health risks. The company uses a data-driven approach, individually tailored for locations with more than 2,000 employees. A standard report from the University of Michigan is provided annually for each major location. Together with the benefits department, Burton meets with leaders at each location annually to present, discuss and develop an action plan using these findings. Leaders at each location value these presentations as part of business practices. According to Burton, "They are investing a lot of money in these programs, and they want to know how well they're doing."

Ethnicity is an important factor for AMEX. Given the wide range of ethnic backgrounds among its employees, the company sees value in linking personal ethnicity data with HRA data to highlight change opportunities. The table below shows changes in health risks according to ethnic background. (Ethnicity has been masked and is represented as *A*, *B*, *C* and *D*.) This "hot spot" graphic shows improvements in risk (time 1 to time 2) in blue, modest improvements in yellow and reductions in orange.

CHANGES IN HEALTH RISKS BY ETHNICITY IS AN IMPORTANT METRIC FOR AMERICAN EXPRESS

	*Ethnicity**			
	A	**B**	**C**	**D**
Alcohol	-1.8%	+0.5%	-0.9%	-0.8%
Blood pressure	-0.2%	-3.3%	-1.1%	-1.0%
Body mass index	+0.2%	-1.5%	-2.9%	-2.2%
Cholesterol	+0.5%	-0.6%	+0.1%	+1.7%
Life dissatisfaction	-0.5%	+1.3%	+2.5%	+1.4%
Overall health	-8.0%	-11.6%	-8.8%	-8.1%
Exercise	-1.4%	-3.9%	-7.3%	+0.2%
Seat belt use	-0.6%	-6.4%	-1.1%	-1.0%
Smoking	-1.7%	-1.2%	-0.4%	-1.3%
Stress	-5.8%	-4.7%	-2.2%	-2.2%

***Note:** Categories of ethnic background have been masked and replaced with variables *A*, *B*, *C* and *D*.

Improvements *Modest improvements* *Reductions*

Program planning. The first graph at the right shows the link between call center customer service scores that employees receive from clients and their HRA scores. As the graphic demonstrates, employees in good health (low health risk group) receive higher customer service scores than those in poor health (high health risk group). This association of employee wellness and customer service supports the investment in wellness programming, which continues the positive cycle of maintaining and improving health and wellness.

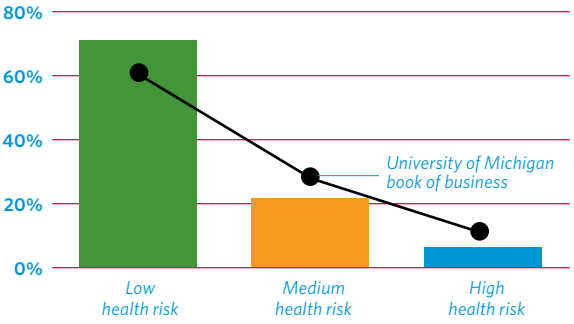
Program evaluation. Like other companies, AMEX is interested in understanding the relationship between the wellness programs and health care cost trends. The company tracks medication adherence to determine the success of its "free" preventive drug program in reducing health risks. It also examines the success of the wellness programs in reducing health risk, improving productivity and reducing short-term disability trends.

The second graph shows how AMEX employees compare with the University of Michigan book of business that represents a large slice of corporate America. This is an especially important finding for Burton, who strongly advocates the strategy of keeping healthy employees healthy. More than 70% of his workforce is in the low-risk category.

Keeping senior management in the loop. As Burton puts it, "We have an annual, roll-up-your-shirt-sleeves meeting with senior management." His supervisor, the global head of compensation and benefits, brings together key staff for a 90-minute presentation on results. At that meeting, they discuss trends in the metrics and also are keenly interested in how AMEX employees are affected.

IMPROVEMENTS IN CUSTOMER SERVICE AT AMERICAN EXPRESS ARE RELATED TO WORKFORCE HEALTH RISK

AMERICAN EXPRESS'S HEALTH RISK REDUCTION RESULTS EXCEED UNIVERSITY OF MICHIGAN BOOK OF BUSINESS



O'Neal Industries

O'Neal is in the early planning of an overall wellness program. According to Cornwell, the company needed appropriate metrics to create a strategic plan and to determine appropriate programs. Evaluation was important but would come a bit later once it had initial results.

The chairman of O'Neal Industries is an avid supporter of health and wellness. To maintain his support, Cornwell needed the right strategy and the right programs. She also knew that senior management soon would be asking about how the programs were performing, what level of participation they were getting and, ultimately, the return the company was getting from its investment in the programs. In the long run, management expected that the company's wellness approach would show claims cost savings and reductions in workers' compensation and short-term disability costs.

O'Neal has implemented its measurement strategy. The indicators the company uses to judge program performance are shown in the graphic on the following page. Leading indicators are evaluated within a few months of program initiation, whereas care indicators are reviewed 12 months after program initiation. Lagging indicators are currently being reviewed, and

results are expected by the end of 2012.

Strategic planning. O'Neal's metrics drive the overarching health strategy by aligning employee health measures with business operations to ensure that health is part of the company's business strategy. The average age of the O'Neal workforce is 45, and tobacco use is prevalent, with the highest use in the southeastern states. Diabetes and obesity also are prevalent in the company's workforce. O'Neal understands that these health issues have a major impact on business outcomes. Cornwell indicates that the company's strategy is consistent with what other companies are doing: find the programs that appeal, then engage and motivate employees. The result can be increased productivity, reduction in health care costs and a reputation as an employer of choice.

Program planning. Program planning is an ongoing process at O'Neal. Cornwell, with the guidance of her wellness health management team, regularly reviews the range of metrics, adds to or updates targets for each and then designs targeted programs. Based on results, O'Neal determines opportunities for improvement, identifies programs that need to be delivered on location or by alternate means, and pinpoints the partners who need to be involved in the implementation process.

Program evaluation. The focus on metrics, though still in the early stage of development, is already paying off. O'Neal is evaluating the LiveSmart program using a range of measures. Data for year 1 and year 2 goals have been collected. The company has found improvements in engagement, care-based metrics, behavior change and clinical outcomes. Results for utilization of medical services and cost trends are expected within two years.

O'NEAL INDUSTRIES' MEASUREMENT STRATEGY TO EVALUATE PROGRAM PERFORMANCE

LEADING INDICATORS	CARE INDICATORS	LAGGING INDICATORS
■ Program participation ■ Participant satisfaction and experience	■ Population health and health risk profile ■ Clinical outcomes ■ Health care services use (preventive care, hospitalizations, emergency department visits) ■ Employee engagement	■ Health care costs ■ Absence and at-work performance (presenteeism) ■ Employee retention

Impact of the high-deductible health plan. Data from the August 2012 medical enrollment report highlight membership in the two basic benefits plans: a high-deductible health plan (HDHP) and a preferred provider organization (PPO). About one-third of O'Neal employees are members of the HDHP, and those members appear to be taking a more active role in wellness activities than are employees in the PPO plan. For instance, 53% of the HDHP members participate in two wellness activities, 35% are participating in one activity and only 12% are not participating at all. Of PPO members, 31% are participating in two wellness activities, 20% are participating in one activity and 49% are not participating at all.

It's too early to confirm whether the HDHP overall is having a positive influence on wellness participation, however. The conclusion here is that the integrated reporting system will provide O'Neal with the data to undertake the analysis necessary to determine the factors related to the difference between the HDHP and PPO plans.

The goal of integrated metrics for O'Neal is to create a system that has the right measures and effective analysis tools to identify a solid return for planning, implementation and measurement purposes. Working with her wellness team, Cornwell continues to explore data warehouse solutions. From her perspective, "A data warehouse needs to be much more than simply a repository of data. It must have the analytic power to help O'Neal understand the value of investments in workforce health and human capital on overall business results." O'Neal is looking for a data warehouse that will expand its focus from medical and pharmacy claims to a wide range of areas, including health risk profile, wellness program participation, disease and case management, safety, disability, absence, employee performance, engagement and business performance measures.

Barrette Outdoor Living

The HC21 Data Cooperative serves as the integrator for all of Barrette's data and metrics, including financial expenditures, program participation, biometric screenings, health risk factors, health care utilization,

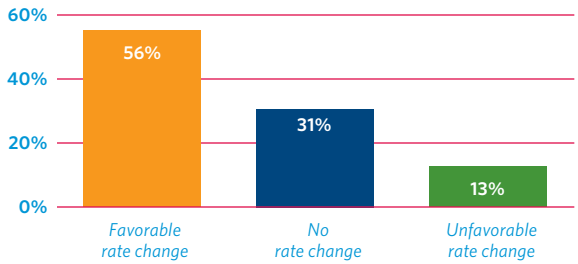
preventive care and chronic conditions. Claims information, health care utilization and chronic conditions data are provided by Anthem. Information on financial expenditures is internally generated. Because the company uses HC21's HRA and coaching programs, data on participation rates, health risks and biometrics are provided by HC21.

Strategic planning. Management was aware that there was a problem with the health of the company's workforce. The symptom of that problem was unacceptable increases in medical insurance costs. In 2010, Barrette implemented an HRA as a means of understanding the issues behind the problem. Data analysis revealed escalating trends in body mass index (BMI), blood pressure and cholesterol. Lifestyle risk factors included high rates of inactivity and tobacco use.

HC21 translated these trends into the language of productivity. The costs associated with obesity, including absenteeism and reduced productivity, were estimated to be as much as $147,412 per year.

Fior received senior management support for his wellness strategy using the following process: (1) present to senior management information on the workforce's health risk profile; (2) show the connection between those health risks, high claims experience and lost productivity; (3) show how a comprehensive wellness program could bring down those costs; (4) emphasize that costs initially might increase as employees were encouraged to visit their doctor and identified additional risk factors; and (5) set the expectation of a three-year time horizon before the company would experience positive results.

BARRETTE OUTDOOR LIVING'S INCREASED COACHING PARTICIPATION RATE POSITIVELY AFFECTED BMI



Program planning. From the group of employees completing the HRA, 531 were targeted for health risk coaching (HRC). Participants were stratified based on the number and the severity of biometric and lifestyle risk factors. The risk-stratified list was then evaluated by HC21 clinical staff to determine the final list of employees for outreach based on risks, life satisfaction, perception of health and chronic condition co-morbidities.

The first year of the program ended with only a 2.6% employee participation rate. However, as of the end of the seventh quarter of the program, the Barrette HRC participation rate had grown to 27%. This growth was due to the influence of the reporting system, resulting in the implementation of mandatory health risk coaching for the high-risk population and the offer of an HRC premium discount to participants. As the graph above shows, the increased HRC participation rate had a positive effect on BMI.

Program evaluation. In 2012, HC21 Solutions evaluated the Barrette Knowledge You Need program for year 2 and risk-factor trending for both year 1 and year 2 cohorts. Biometric and lifestyle risk factors were measured for the total population and segmented by age, gender and location. Results for the HRC participant subset of the KYN population were also evaluated. Claims evaluation for HRC participants will be completed after two full years of the coaching program.

One of the most important uses of the data collected and the metrics calculated is tied to negotiation of premium rates with the company's health plan. As the graphic on the following page shows, Barrette was able to demonstrate significant improvements in several risk factors that resulted in favorable renewal rates with Anthem.

BARRETTE OUTDOOR LIVING'S DEMONSTRATED RISK FACTOR IMPROVEMENTS REDUCED HEALTH PLAN RENEWAL RATES

- 22% qualified for health risk coaching
- Coaching participants showed improved risk factors:
  - > 20% quit tobacco
  - > 56% showed improvement in BMI
  - > 91% moved into an action stage in readiness to change trending
  - > 34% met personal health goals
- Very favorable renewal rate due to decreased claims

Lessons for Employers

A set of high-level metrics are the building blocks for a comprehensive population health management approach that includes strategic planning, program planning, program evaluation, vendor evaluation and cost/benefit analysis (including ROI where appropriate). Each employer understands:

1. Remove any of the 10 metrics, and the capability to understand the full cost of employee health is compromised.
2. This breadth of metrics allows for testing of unique and useful associations. For instance, AMEX ties workforce health to customer service ratings.
3. This basic set of metrics allows for reporting on factors that are most valued by various groups within the organization: senior management, the CFO, frontline supervisors and employees.

QUESTION #5

What are the essential outcomes that have resulted from the use of this broad measurement approach?

American Express

A comprehensive data management system is a central pillar of health management at AMEX, yet it has evolved far beyond the narrow management of employee health. Senior management is increasingly aware of the powerful influence of a healthy workforce on business success.

AMEX's Healthy Living program is data driven. Each major worksite is unique, and programs are tailored based on such factors as workforce age, ethnicity, health risks, condition prevalence and co-morbidities. The company's ability to analyze the link between ethnicity and health risks provides valuable insight for crafting programs that meet the cultural differences of the diverse workforce.

AMEX has also tied workforce health to customer service scores developed by the analytics team. In a customer service–oriented industry, customer satisfaction is the bedrock of corporate success. The strong correlation between personal health and high customer ratings guarantees senior-level advocacy for wellness programs and helps ensure continued and enhanced asset allocation.

Turnover is costly, in terms of both seeking out new talent and reduced customer satisfaction. A comprehensive set of wellness resources and benefits helps set AMEX apart as a desirable place to work. According to Burton, "This approach has resulted in a turnover rate far below the industry standard."

O'Neal Industries

According to Cornwell, "Traditionally, changes in the company's health management strategies have focused on health care costs and absence. Our near-term plan is to expand our ability to identify and act upon opportunities that specifically focus on our strategic interventions. We recognize that many opportunities exist to improve health management, but the key is to ensure that we prioritize our approach to yield the greatest value for our efforts."

Cornwell identified three essential aspects of the expanded metrics approach: (1) the capability to track individuals ensures that employees will get appropriate referrals to useful resources; (2) enhanced reporting capability allows the company to be more targeted and creative regarding health benefits design (the company's HDHP plan, described earlier, is a good example of the impact of the enhanced reporting capability); and (3) integrated metrics provide relevant information to assess the effectiveness of the company's vendors.

Barrette Outdoor Living

Barrette's integrated metrics approach helped convince upper management that an unhealthy workforce was contributing to high health costs. These health costs could be attributed to employee claims experience, which was being driven by employees' health risks. In future years, Barrette and HC21 will be focusing on attendance and lost productivity data. By looking at data from other categories such as STD, LTD and FMLA, the company can focus on issues of productivity.

The claims data that Barrette was able to acquire from its health plan have resulted in favorable premium increases, falling from the 30% to 50% range to single-digit increases over the past three years. The claims data are also providing a foundation for Barrette's potential move to self-insurance for all health and disability benefits, which in turn allows the company to be more creative with its benefits design. Expanded metrics have helped drive appropriate financial incentives for employees, which in turn has increased employee use of wellness services. For 2013, Barrette will be tracking absence and loss of productivity tied to health and wellness issues.

Lessons for Employers

Tying population health metrics to business priorities shines a laser light on the value of a healthy workforce to business success. Several results are important to employers:

1. Expand your use of metrics to address unique health risk profiles and differences in workforce ethnicity.
2. Create the capability of tracking individuals so that employees get appropriate referrals to the most useful resources.
3. Deepen evaluation options of program vendors beyond simple participation or completion statistics.
4. Analyze the relationship of personal health with various benefits design options to be more creative in setting up consumer-directed health plans and value-based designs.
5. Track the impact of financial incentives on a range of factors, including health care utilization, absence and on-the-job performance.
6. Understand the relationship between employee health and key business results. For instance, tie health measures to customer service scores or rates of employee turnover.

QUESTION #6

What kinds of external partners are assisting in this endeavor, and how are efforts coordinated across partners?

Getting vendors to share data in a format that supports assessment of population health is a critical challenge for employers. Vendors generally aren't averse to the concept, but providing data in the format an employer (or data warehouse) needs requires additional time and effort. For instance, the HC21 Data Cooperative has 105 required data fields. Because vendors have many employer clients requesting their own unique data needs, how do employers address this issue?

American Express

Because of its size and market leverage, AMEX has an advantage: Vendors that do business with AMEX are very supportive of providing data to the data warehouse. AMEX uses the following data transfer process:

1. The University of Michigan Health Management Research Center serves as the integrated report generator and analyzer.
2. A third-party vendor serves as repository and "scrubber" of all nine sources of data highlighted earlier in this report and passes on clean data to the University of Michigan.
3. Group health and pharmacy data come from the AMEX third-party administrator to the third-party data integration vendor.
4. STD, FMLA and WC data come from a single-sourced vendor to the third-party data integration vendor.
5. LTD is provided by a single-sourced vendor to the third-party data integration vendor.
6. Wellness program vendors provide HRA metrics and information about participation to the third-party data integration vendor.

O'Neal Industries

O'Neal is working with the company's health and productivity management providers as well as the wellness health management team and consultants in further developing the overall strategic plan, program and data analysis, as well as continuing to explore data warehouse options. To date, the data are retained with the wellness program vendor.

Barrette Outdoor Living

Barrette joined HC21, in part to gain access to HC21's Data Cooperative. The HC21 Data Cooperative is a group of employers that have come together to collect, store, normalize, analyze and act on results to improve the value of the health care benefits provided for employees and dependents.

The Data Integrator has helped Barrette track health claims data from Anthem and benchmark against data from the company's previous health plan. Now, Barrette is working with Anthem to get STD, LTD and FMLA data into the Data Integrator. The company's goals going forward include: (1) evaluate the effectiveness of the health care programs, including determining a return on the investment; (2) support the vendors and the staff charged with managing Barrette's workforce health risk; (3) hold vendors and staff accountable for program execution; and (4) develop the ability to apply data to support interventions.

Lessons for Employers

1. The skills and the resources necessary for consolidating disparate sources of data and their integration typically are not available in-house, even for the largest employers.
2. There are a growing number of data warehouse integrators that provide a range of service options.
3. Confidentiality requirements can be challenging. Data warehouses typically are proficient in setting up systems that can ensure confidentiality.
4. Increasingly, employers want to provide targeted solutions for individual employees based on specific risks, medical utilization and performance profiles. Data warehouses are becoming proficient at providing individual targeting options.
5. Data warehouses can often provide the added benefit of benchmarking against book-of-business results to give clients an opportunity to identify the strengths and weaknesses of their approach.
6. Barrette is expanding the data collection into this broad set of metrics to address absence and presenteeism, which often require a unique set of targeted interventions. Without a data warehouse to manage the data, these important population metrics couldn't be identified or tracked.

QUESTION #7

What are the key challenges, opportunities and solutions for actionable data and metrics?

The case studies presented here highlight several challenges that limit employers' capacity to measure, track and, most importantly, effectively use actionable data. These challenges focus on such issues as organizational structure, accountability and lack of adequate data analytic resources. Yet none of the challenges discussed below are perceived by the three employers as major limitations, as integrated metrics are already paying off. We enumerate the challenges and the opportunities below.

Challenges

1. Responsibility for population health management, including the essential 10 metrics discussed in this report, is often distributed throughout the employer organization. Conflicting objectives among departments or a low priority for data analytics and reporting by a key group may stall an integrated metrics approach.
2. Employers often lack critical internal resources necessary for managing the analytical component of a population health management strategy. In fact, this is a challenge for even the largest employers.
3. Companies often have difficulty accessing data from disparate or siloed sources and aggregating data in a meaningful way. Often this is due to the complicated transmission protocols needed to incorporate datasets into a common platform.
4. Missing data are typical and challenging. Employers often don't have all of the necessary data required to inform all 10 overarching metrics. Yet the employers studied here are moving aggressively to generate all 10.
5. Finding the right data analytics or data warehouse partner can be challenging. Cost for data warehousing and analytical services is always an issue for employers. In addition, some data warehouses don't provide the essential functions required for a broad-based population health management effort. For instance, a growing imperative for employers is the need to tie personalized interventions to individual employees.
6. Developing an appropriate reporting scheme to satisfy various needs within the employer organization is also a challenge. The metrics of interest to a frontline supervisor are very different from those of the CFO. Frontline supervisors are interested in information that can help them understand and manage the health issues of employees in their group without violating confidentiality standards; a CFO typically wants to know the cost-related factors associated with population health management initiatives and the impacts on the company's bottom line from health-related investments.

Opportunities

1. The value of an integrated population health management approach is gaining traction among employers of all sizes. Even small employers such as Barrette Outdoor Living are benefitting from the power of a central data repository. For example, Barrette was able to negotiate lower premiums for its fully insured health benefit by showing the positive impact of lowering personal health risks within its employee population.
2. The correlation of improved health risk and medical cost trend reduction and productivity improvements lead to an awareness of the impact of employee health on business outcomes. AMEX has been able to tie the health risks of its customer care professionals to customer service scores that show a direct and positive relationship.
3. In addition, population health management has broad potential for:
   a. Influencing individual behavior change
   b. Improving lost time and team-based productivity
   c. Impacting health quality and workplace safety
   d. Understanding and improving a corporate culture of health
   e. Assessing the influence of corporate health policy on workforce health
4. An integrated data and analysis function means that employers can track a wide range of strategies, including disease prevention, chronic illness management, value-based design and patient-centered care approaches. For instance, O'Neal has been able to show that employees in its high-deductible health plan are more likely to be involved in wellness.
5. Population health–based metrics provide opportunity to identify valuable and previously unknown relationships within the workforce and in the workplace.

Lessons for Employers

The case study employers have used a variety of approaches to resolve barriers that limit the potential of broad-based population health strategies. These include:

1. Convince senior leadership that population health management is part of business success by referencing evidence-based research. This approach was particularly successful at AMEX.
2. Access the services of a data warehouse. AMEX and Barrette Outdoor Living have benefited significantly from contracts with the University of Michigan and HC21.
3. Show a range of results at both the employee and the business levels. Being able to tie individual results to specific, targeted interventions is a powerful tool. AMEX and Barrette are experiencing success from this individualized and tailored approach. The challenge, of course, is to accomplish this while protecting the confidentiality of individual employees.
4. Getting value for the investment in workforce health is important (especially for senior management), but showing the value of health results at the personal level is also important. Senior management at AMEX has great interest in the cost/benefit correlation of population health management programs. The company is equally interested in how the programs are improving the lives of individual employees.
5. Use publicly available cost estimators and other modeling tools to make the case. IBI and other organizations provide these tools.
6. Shift from a one-size-fits-all mentality to targeting individuals with specific solutions based on unique health needs. All three employers are moving in this direction.
7. Win together by requiring vendors to be partners. IBI has created a DVD with Chris McSwain, Vice President of Benefits for Walmart, on how to implement this approach using the Whirlpool Corporation experience as a model.
8. Tie metrics to key business measures. AMEX is able to show a positive relationship between the health status of customer service staff and customer service scores.
9. Benchmark against similar companies. Most data warehouses are able to provide benchmarking of health and productivity factors at least across their book of business.
10. Use metrics in asset allocation in unique ways. For instance, primary medical visits might be encouraged as a means of improving personal health and ultimately reducing the need for unnecessary visits and improving overall lost time.

Actionable Recommendations

The following actionable recommendations flow from the three case studies.

1. A comprehensive, integrated data system may be a "nice to have" today but is quickly becoming a "need to have," even for small businesses. An integrated data system must be able to provide analysis at both the individual employee level and the population level.
2. The 10 metrics highlighted in these case studies all are perceived as valuable or essential to a successful population health management strategy by the employers studied.
3. These case study employers are obtaining significant value from their population health management strategies. The awareness of this value is directly tied to their integrated metrics approach.
4. These employers are not expanding their internal expertise to manage the needed data analytics. External data warehouses and other organizations are becoming essential partners.
5. The ability to benchmark findings across a range of industries is a significant value of data warehouses.
6. Senior management buy-in is critical to adopting a population health management strategy.
7. The barriers to establishing a comprehensive set of metrics are falling.
8. A robust set of metrics allows for experimentation with different intervention strategies and connects health measures to business performance outcomes.
9. These 10 metrics provide the breadth and the depth of information required by all corporate segments: executive leadership, program planners, program administrators, benefits administrators, program evaluators, disability and workers' compensation departments, and frontline supervisors.
10. Cost and value estimators are a good way to begin this discussion of creating value for population health investments, but they have a short life. They don't provide the granular, company-specific data essential for strategic planning and program evaluation.
11. The value of health investment is important to senior management, particularly the CFO. Senior management is also interested in how population health management is helping employees lead healthier and more-productive lives.
12. Regulations of the Health Insurance Portability and Accountability Act (HIPAA) and the Americans with Disabilities Act (ADA) are a concern of these employers, but they have worked within the requirements without giving up the power of individualized data.

APPENDIX

*O'Neal Industries Metrics for Health Management**

LEADING INDICATORS

	Metric/unit of measure	*Data source*	*Data collection and reporting frequency*
Wellness/health promotion *Health risk assessment and coaching*			
Assessment completion rate	Number of assessments completed/ total number eligible	Health assessment records	Annually
Coaching participation rate	Number of coaching participants/ total number eligible	Health coaching records	Annually
Satisfaction scores	Average evaluation rating	Health coaching records	Annually
Biometric screenings			
Program participation rate	Number of screenings completed/ total number eligible	Biometric screening records	Annually
Satisfaction scores	Average evaluation rating	Vendor-specific sources	Quarterly, if high volume; annually, if otherwise

CARE INDICATORS

Population health and health risk profile			
Prevalence of chronic conditions and trend	Number of individuals with major chronic conditions/ total number eligible	Health assessment records	Annually, with yearly trending
Health risk prevalence and trend	Number of individuals with health risks/ total number eligible	Biometric screening records	Annually, with yearly trending
Biometric screening results and trend	Number of individuals with biometric health risks/ total number	Biometric screening records	Annually, with yearly trending
Health-related benefits *Health plan*			
Admission rate per 1,000 covered lives	Number of hospital admissions/(total eligible lives/1,000/year); evaluate separately by employees, spouses and dependents	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Average number of hospital days per 1,000 covered lives	Number of inpatient days/ (total eligible lives/1,000/ year); evaluate separately by employees, spouses and dependents	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)

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CARE INDICATORS *continued*

	Metric/unit of measure	*Data source*	*Data collection and reporting frequency*
Emergency department (ED) utilization rate	Number of ED visits/(total eligible lives/1,000/year); evaluate separately by employees, spouses and dependents	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Preventive care utilization rate	Number of preventive care tests performed/number of eligible individuals/year, based on age, gender-specific recommendations	Health plan data	Annually, with trending for prior time periods (running two years at minimum)
Medication adherence rates for chronic conditions	Medication possession ratio for patients with each common chronic disease	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Workers' compensation medical care			
OSHA recordable case rate per 100 employees	Number of OSHA recordable cases/(number of employees/100/year)	Safety	Quarterly, with trending for prior time periods (running two years preferred)
Admission rate per 100 employees	Number of hospital admissions/(number of employees/100/year)	WC carrier	Quarterly, with trending for prior time periods (running two years preferred)
ED utilization rate per 100 employees	Number of ED visits/ (number of employees/ 100/year)	WC carrier	Quarterly, with trending for prior time periods (running two years preferred)

LAGGING INDICATORS

Health-related costs *Health plan*			
Average health care cost per member per year and per employee per year	Paid medical/pharmacy costs/eligible individual and/eligible employee	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Average prescription cost per member per year and per employee per year	Paid prescription costs/ eligible individual and/ eligible employee	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Average behavioral health cost per member per year and per employee per year	Paid behavioral health costs/ eligible individual and/ eligible employee	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Percentage of high-cost individual cases	Number of individuals with annual claims over $25,000/ total number eligible	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Average STD costs per employee	Paid STD health care costs/ eligible employee	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)
Average LTD costs per employee	Paid LTD health costs/ eligible employee	Health plan data	Quarterly, with trending for prior time periods (running two years preferred)

LAGGING INDICATORS *continued*

	Metric/unit of measure	*Data source*	*Data collection and reporting frequency*
Workers' compensation medical care			
Average cost per case	Paid WC claims costs/ total number OSHA recordable WC cases	WC carrier	Quarterly, with trending for prior time periods (running two years preferred)
Average cost per employee (PEPY)	Paid WC claims costs/ total number employees/year	WC carrier	Quarterly, with trending for prior time periods (running two years preferred)
Percentage of claims over $10,000	Number of individuals with annual claims over $10,000/ total number employees	WC carrier	Annually, with trending for prior time period
Absence and disability			
Lost days resulting from STD program	STD lost days/ 100 employees/year	Disability management carrier	Quarterly, with trending for prior time periods (running two years preferred); annual aggregate report
Lost days resulting from FMLA program	FML lost days/ 100 employees/year	FMLA management program	Quarterly, with trending for prior time periods (running two years preferred); annual aggregate report
Lost days resulting from WC program	WC lost days/ 100 employees/year	WC carrier	Quarterly, with trending for prior time periods (running two years preferred); annual aggregate report
Employee retention			
Employee retention	Voluntary turnover rate/ total number of employees	Human resources data, as available	Annually, with trending

Riedel & Associates Consultants, Inc. (RACI) designs, develops and implements unique resources for managing the health and productivity of an organization's primary asset: its employees. Since its inception in 1996, RACI has evolved to become a leader in measuring and managing the productivity outcomes of wellness and disease prevention initiatives. RACI provides market research, product positioning and evaluation design to a range of clients, including health plans, hospitals, provider groups, professional associations, pharmaceutical companies and demand management vendors.

For more information about RACI, go to **RIEDELANDASSOCIATES.COM**.

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health + productivity at work

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