WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

Industry Agenda

The Workplace Wellness Alliance

Making the Right Investment: Employee Health and the Power of Metrics

In Collaboration with FTI Consulting

January 2013

REF250213

Contents

Preface

Klaus Schwab
Founder and Executive Chairman
World Economic Forum

In today's environment of economic uncertainty, individuals, institutions and countries are striving for greater adaptability and resilience against setbacks while continuing towards improving competitiveness in an ever-changing world. We unite these concepts within the theme of this year's World Economic Forum Annual Meeting 2013 in Davos-Klosters – Resilient Dynamism.

In this context, organizations, in their role as employers, have an even greater responsibility to nurture employee resilience; there is strong evidence that a healthy workforce is vital to a country's competitiveness, productivity and well-being. Over 50% of the working population spend the majority of their time at work, so the workplace provides a unique opportunity to raise awareness, as well as guide and incentivize individuals to develop healthier behaviours. This has proven to have a multiplier effect, as employees integrate health and well-being into their families and communities.

The Forum's Workplace Wellness Alliance, as evidenced in this report, is one example of an initiative that has grown to support and demonstrate the power of these concepts. The Workplace Wellness Alliance was founded in 2009, inspired by a CEO-led Call to Action at our Annual Meeting in Davos the year before. Today, the Alliance has over 150 member organizations, totalling over 5 million direct employees. The work developed over the last few years – driven by a knowledge-sharing platform and an inaugural global baseline of employee health metrics – has positioned the Alliance as a strong coalition of employers, working together to deliver powerful insights and tangible impact. To make engagement in workplace wellness compelling, sustainable and measurable, the Alliance has established the underlying business rationale for investing in employee health and well-being and has provided a "toolkit" to quantify the link between interventions using metrics that track their results and their return on investment.

In the current economic climate, it is extremely encouraging to see how many companies have started to address the human capital challenge and are ready to further invest in their employees through workplace wellness programmes.

After its successful establishment over the past three years, the Alliance is now ready for its next phase of development – to further grow and improve health and well-being across sectors, geographies and industries. For this reason, we are pleased to be transferring the lead for this important initiative at the forthcoming Annual Meeting 2013 to the Institute of Health and Productivity Management (IHPM). I am confident that under their leadership, and with the support of the Alliance board, the Workplace Wellness Alliance will continue to advance the vision and mission forward globally.

We are grateful to the Alliance Leadership Board for their constant engagement and strategic direction; to Michael McCallister, now Chairman of the Board of Humana, for serving as the Alliance Champion during these critical first three years; and to FTI Consulting for their support this year, which allowed us to bring the Alliance to the next level and prepare for a smooth transition towards the future.

Message from the Leadership Board

Against the challenging and evolving economic landscape, keeping workers healthy continues to be vital, especially with the burden of non-communicable diseases (NCDs) growing, including cardiovascular disease, cancer, diabetes and mental ill-health. These diseases are no longer confined to developed countries but increasingly pervade emerging economies. This evolution reinforces the need to advance wellness in the workplace, to improve global health and productivity. Employers are being asked to play a role in promoting and creating an enabling environment for healthier behaviours through workplace wellness programmes, to help preserve and enhance the health and engagement of workers and as a mechanism to attract and retain talent while reducing the impact of NCDs and enhancing productivity. All of this makes the efforts of the World Economic Forum Workplace Wellness Alliance (the Alliance) – a coalition of companies championing workplace wellness – increasingly relevant and pressing. As a result of the changing landscape, the Alliance has grown since its launch in 2009, evolving in its membership to over 150 companies worldwide across nine industry sectors.

The Alliance seeks to assist organizations in accessing existing successful practices as well as harnessing the power of employee and programme metrics to strengthen workforce health and productivity. Over the last year, Alliance members have worked together to collect a global baseline of workplace wellness metrics and understand the return on investment (ROI) of specific interventions, all presented in this report. One of the challenges encountered in this effort was not merely to identify relevant global metrics and collect data, but to turn raw data into the type of information companies increasingly need to understand how they are performing and how they can improve.

This report, developed for the World Economic Forum Annual Meeting 2013 in Davos-Klosters, brings together the latest thinking on workplace wellness and metrics, based on Alliance member initiatives and enhanced by broad-based literature reviews. With the support of FTI Consulting, which also led the collection and analyses of data, the reported metrics represent data from a number of Alliance members, covering almost two million employees from 25 companies across 125 countries. By measuring the data and setting out complementary case studies that showcase different ways in which companies calculate an ROI for their workplace wellness programmes, this report provides a means to better understand the importance of measurement and potential impact of such programmes. It reviews the challenges facing workplace wellness today, develops usable and clear benchmark standards that permit companies to determine how they are performing in relation to their peers at a both regional and global level and, hopefully, will help global leaders and executives understand workplace wellness in a broader context.

To continue to meet the increasing challenges of this global context, it has been clear since 2011 that the Alliance would need to evolve further to reach its next level of development and best serve its members and their employees. Over the last year, with the support of the World Economic Forum, the Leadership Board has identified key success factors to find a new home for the Alliance for it to reach its potential in a sustainable manner. A landscaping exercise helped recognize key players at regional, national and international levels; a competitive process identified the organizations that could host the Alliance. Some of the criteria used included dedicated experts/resources, global reach, business know-how, understanding of health and workplace wellness, and reputation in the workplace health and well-being sector. The Institute for Health and Productivity Management (IHPM) was chosen as the organization to take the Alliance forward.

In its next phase, the Alliance will continue to deliver compelling insights, tools and metrics and help members improve the well-being of their employees. It will strengthen collaboration with key partners such as the World Health Organization and the International Labour Organization, and will foster solutions to the human capital challenges employers are facing today.

We firmly believe the Alliance has the potential to become an even more powerful and influential contributor in this arena. For this reason, we are committed to support IHPM and further progress the Alliance's momentum during the transition phase and beyond, increasing its relevance and establishing quantifiable, usable and sustainable best practices to carve out a path to closer integration and impact in the workplace wellness space.

The Workplace Wellness Alliance
Leadership Board[1a]

[1a] Accretive Health, Aetna, APCO Worldwide, Barclays, BCG, BT, Discovery Health, Duke University Medical Center and Health System, GE HealthCare, General Mills, Humana, J&J, Jubilant, Kraft Food, Life Technologies, Nestlé, Novartis, Novo Nordisk, PepsiCo, Proteus Biomedical, Saudi Aramco, SAS, Sealed Air, Tamer Group, Tata Consultancy Services, Technogym, The Coca Cola Company, Tupperware, Unilever.

Executive Summary

There is a lack of standardization of workplace wellness metrics and methods to calculate ROI. The case for investing in workplace wellness programmes and employee well-being is one most people can agree with intrinsically. However, the topic is broad and the sector so fragmented that a lack of standardization makes establishing clear numbers to make this case scientifically still challenging. Data from workplace wellness programmes tend to be most widely available from the United States; and there are myriad ways to calculate the return on investment (ROI). These issues bring about the question of how applicable ROI values are worldwide – especially in contexts where healthcare costs are not the direct responsibility of the employer.

The Workplace Wellness Alliance launched the collection of a global baseline of employee metrics covering over 2 million employees. The global coalition of 150 companies championing workplace wellness launched the development of a global baseline of employee health metrics, beginning with identifying global key performance indicators (KPIs) in 2011 and proceeding to a more extensive data collection in 2012. This latest effort yielded responses on employee demographics and workforce health indicators, including body mass index (BMI) distributions, eating and exercise habits, smoking rates and alcohol consumption. Participating companies also provided information on the programmes they offer and how they measure success. Outcome measures, such as absenteeism and presenteeism rates, which are important for analysing programme efficacy and moving toward ROI calculations, were the most challenging for participants to collect and report. Data collected through the Alliance provides general trends of employee health and programme implementation among participating companies, and provides companies with blind benchmarking against both the Alliance average as well as reference statistics from the WHO.

The ROI of workplace wellness programmes goes beyond mere dollars saved. Some Alliance members shared their experience of workplace wellness initiatives in the form of deep-dive case studies on different types of return experienced from specific programmes.The nine such case studies presented in this report showcase a range of ROIs on specific aspects of workplace wellness programmes, reflective of the stage of development of the programme and granularity of the data available. For example, investment in smoking cessation programmes and incentivization can result in increased productivity, nutrition and exercise programmes can reduce the cost of employee healthcare and centralized programme design can lead to increased employee engagement which can in turn lead to reduced turnover. Other initiatives, such as those designed to reduce stress, also benefit employees. This helps to create a blueprint for implementing effective programmes and measuring outcomes.

In 2013, the Alliance will transition to its new home, the Institute of Health and Productivity Management. Looking ahead, the vision of the Alliance as it transitions to IHPM is to continue catalysing collaboration across industries, sectors and geographies with the private sector leading by example, and aiming to further expand workplace wellness programme benefits to families, communities and the public sector. This will position workplace wellness even more robustly as contributing to health for all of society, feeding into greater corporate and national productivity, sustainability and competitiveness.

Introduction

The Power of Metrics

There is a wealth of evidence that **assessment and analysis of metrics lead to positive change for organizations and their employees in many areas worldwide**. For example, marketers use metrics to refine their campaigns, demonstrate their contribution and prove the value of marketing to the organization by assessing perceptions, tracking the number of website visitors, downloads and attendees at events. Marketers use a top-down approach to develop metrics and key performance indicators (KPIs) and, through data mining, determine what the company must implement to obtain the desired result. Metrics in marketing throw light on potential relationships between factors, allowing for targeted actions aimed at specific outcomes. Without metrics, marketing would be based on little more than intuition, making it much more challenging to stay on the cutting edge in a fast-paced, ever-evolving and competitive world.

Similarly, **although there may be a strong intuition that workplace wellness**[1b] **is likely to be beneficial to companies and "the right thing to do" there is no consistent or global measurement of programmes, health status and results**. Shifting demographics and evolving rules and regulations only compound measurement challenges. The recent difficult and uncertain economic climate has increased pressure on organizations to justify developing and maintaining workplace wellness programmes from a financial perspective. The World Health Organization (WHO), the International Labour Organization (ILO) and the Mexico Workplace Wellness Council are interested in further developing measurements around employee health and the impact of workplace wellness programmes. Many academics and companies, such as Buck Consultants, have been reviewing best practices, assessing metrics and working on health strategies that tackle these challenges and that could enhance productivity (Buck Consultants 2008 and 2009). Nonetheless, gaps remain globally because there is as of yet no benchmark standard allowing companies to compare their own data and results to their peers' or in a broader global context. To assist in this quest for global information and metrics, the Workplace Wellness Alliance launched by the World Economic Forum (see Box 1) – and this report in particular – seek to address those challenges. This report brings together the latest thinking on workplace wellness from Alliance members' perspectives based on their actual programmes as well as some of their data. Through the development and sharing of metrics data, knowledge and experience, we also aim to understand how initiatives that focus on the health and productivity of employees can address the human capital challenges of today and to help companies of all sizes and in all industries and sectors seize the opportunity to enhance their performance across cultures and geographies.

The Case for Workplace Wellness

Nearly 66% of companies with effective health and productivity programmes believe they perform better than their competitors (Towers Watson 2011). Healthy and effective employees have become an important global currency in a competitive and highly connected world. Workplace wellness programme outcomes can be assessed via competitive advantage and financial performance – health and productivity programme effectiveness measures include improvement in human capital and workforce productivity, reduction in staff turnover, lost days due to unplanned absences, health risks and healthcare costs and financial results (Baicker 2008; Towers Watson 2011).

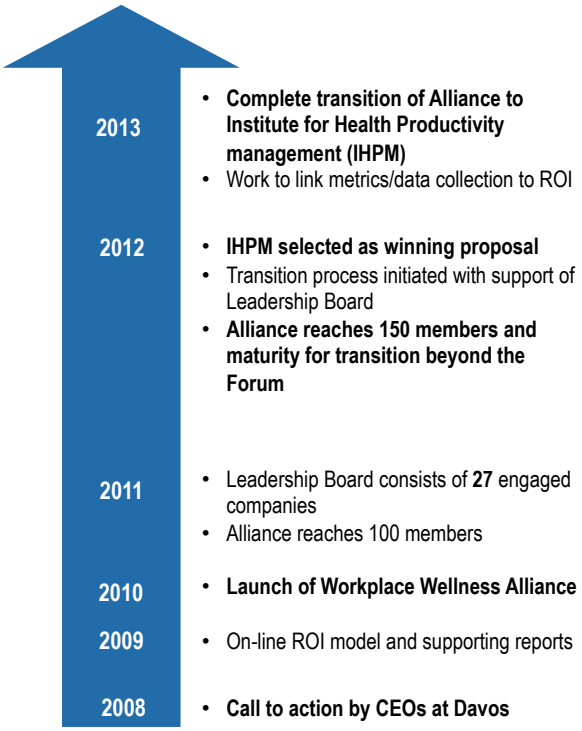
Box 1: The Workplace Wellness Alliance

The Workplace Wellness Alliance (the Alliance) is a consortium of over 150 companies and organizations committed to advancing wellness in the workplace, fostering knowledge of both the economics of workplace wellness and how to calculate a return on investment (ROI).

Created to address a major gap globally in the area of workplace wellness, in its first three years the Alliance focused on knowledge-sharing as well as developing and promoting the use of standardized metrics with the goal of achieving a global standard of wellness to enhance population health and workforce productivity.

For more information, visit http://alliance.weforum.org. The list of members is available in Annex I.

A Brief History of the Alliance



[1b] Workplace wellness is defined as "an organized, employer-sponsored programme that is designed to support employees (and, sometimes, their families as they adopt and sustain behaviours that reduce health risks, improve quality of life, enhance personal effectiveness and benefit the organization's bottom line." (Berry et al 2010).

The most common strategic objective for workplace wellness initiatives worldwide is to promote employees' health and support employee engagement, while at the same time benefiting from the secondary outcomes of improved productivity (e.g. reduced absenteeism) and reduced presenteeism, which is when employees are at work but not fully productive, often due to health or other personal issues (Schultz *et al* 2007). **Stress is cited as the top health risk and drives workplace wellness programmes in most areas of the world (Buck Consultants 2009).** Different studies reveal diverse rationales for workplace wellness programmes worldwide: for example a survey in 2009 revealed that, amongst employers in the United States the top objective for implementing workplace wellness programmes was reducing healthcare costs, while in Asia the top priority was improving workforce morale and engagement (Buck Consultants 2009). More broadly, improved health and productivity and direct reduction in healthcare costs remain key reasons for investment in initiatives (Baicker *et al* 2010).

Because both qualitative and quantitative evidence supports the case for workplace wellness programmes, ever larger numbers of companies are implementing health and well-being strategies to reduce workplace injuries, employee healthcare costs and long-term disability expenses. US-based studies, for example, show that preventable illnesses make up approximately 70% of the burden of illnesses and associated costs (Fries *et al* 1993). Employers are beginning to realize they can make use of these statistics and target efforts to provide services to reduce the impacts of preventable diseases. The availability of healthcare cost data and the broad development of programmes targeted at specific measurable changes have resulted in a large body of data and literature in the area of workplace wellness based on US experience, which also constitutes a substantial share of empirical studies on programme effects. The published literature shows that **a material percentage of deaths are associated primarily with modifiable, lifestyle-related behaviours**. In the United States, for example, more than one third of total mortality is attributed to three predominant factors: tobacco use, poor diet and low physical activity, and alcohol consumption (Partnership for Prevention and US Chamber of Commerce 2009). Similar factors account for more than half of cardiovascular deaths worldwide; high blood pressure, high blood glucose, tobacco use, obesity and low physical activity accounted for material increases in the risks of NCDs across the globe across all income groups and continents (WHO 2009). NCDs are equally impairing economies of developed and developing countries; for example in 2008 approximately 63% of deaths worldwide were attributable to NCDs, 80% of which were in low and middle income countries (WHO 2012). Half of those who die of chronic NCDs are in the prime of their productive years, endangering competitiveness. **Over the next two decades, NCDs will cost more than US$ 30 trillion, representing 48% of global GDP in 2010, which will dramatically impact productivity (Bloom et al 2011).** In the United States alone, annual healthcare spending is projected to reach US$ 4 trillion by 2015 (Partnership for Prevention and US Chamber of Commerce 2009). With additional benefits such as reduced absenteeism, higher productivity, reduced use of healthcare benefits and increased morale and loyalty, more and more employers are choosing to implement workplace wellness programmes within their companies.

There is growing recognition of the role employers can play as agents in addressing major public health concerns, often with the private sector leading the way with their expertise and innovation in implementing workplace health. The continued role for the private sector in workplace wellness was explicitly called for in the UN Declaration on NCDs (UN 2011). The majority of studies to date show positive health and financial impacts from worksite health promotion; many studies reference data that encourages companies to implement and maintain workplace wellness programmes (Baicker *et al* 2010, Naydeck *et al* 2008; Osilla *et al* 2012; Serxner *et al* 2012; Rickards *et al* 2012). However, there is still a need to generate rigorous economic evaluations within the business setting, which is not always easy to do, especially when trying to compare results across geographies and cultures. Evaluation is complicated by the need to identify the specific intervention or programme and to isolate its effect on participants, which may be difficult where good comparison or control groups are not readily available (Baicker *et al* 2010). There is an expanding literature focused on results from studies that overcome some of these limitations and that examine the effects of programmes, for example on nutrition and diet-related issues (Jensen 2011), on a variety of programme types (Baicker *et al* 2010), that link programmes and effects on absenteeism and presenteeism (Williden *et al* 2012) or that examine the efficacy of incentives to achieve greater results in weight loss programmes (Lahiri *et al* 2012; Cawley *et al* 2012).

Current studies that look beyond the data and examine the scope of programmes reveal that the most effective workplace wellness interventions tend to be more comprehensive and take a holistic approach while at the same time offering flexible solutions tailored to a company's specific workforce, often location-specific. Data shows that **employing multiple engagement tools is preferable because one size does not necessarily fit all when dealing with a diverse workforce globally** (Aston 2011). Implementing comprehensive and diverse portfolios of programmes requires considerable resources both in terms of supporting manpower and financial investment. In today's economic environment, such an investment will require evidence-based support to demonstrate a tangible ROI and obtain senior management buy-in to ensure successful adoption. However, with empirical studies of efficacy still in early stages and without clearly established benchmarks for ROI, **corporate advocates of workplace wellness sometimes struggle to build a business case that senior management deems reliable**. With data available but not always turned into information, employers – from both the public and private sectors – should harness the power of metrics to enhance workplace wellness across the globe through knowledge, understanding and programmatic improvement.

Turning Data into Actionable Information and Where it is Crucial to do so

When talking about measuring workplace wellness programme outcomes, three essential questions need to be addressed: what to measure, how to measure it and why.

In the early stages of development of their workplace wellness programmes, before they can even determine the employee health and well-being baseline or begin assessing programme impact over time, companies need to define *what needs to be measured*. Tools such as Health Risk Assessments (HRAs) each suggest a variation of the answer but one of the major challenges is that there is no established global standard. In addition, conditions differ in terms of how workplace wellness programmes and the evaluation of their impact can be implemented, with differences in legal framework and in terms of what is culturally acceptable for employers to measure through the workplace.

The next issue becomes *how* to measure the identified elements. This requires internal resources being allocated to workplace wellness so as to carry out regular HRAs, surveys covering topics such as employee engagement and coordinating with human resources to combine the results with demographic and labour practice statistics to ensure the data is as comprehensive as possible.

Over time, the data can be compared to the first set or baseline of employee health and well-being metrics collected. Analysing trends and identifying which interventions had the most positive results provides the organization with information necessary to decide which programmes to pursue and which to adjust for more targeted outcomes. Managed proactively, workplace wellness programmes can often lead to increased employee engagement and more broadly, to organization-wide improvements in overall well-being, productivity, turnover and resilience. Moreover, giving visibility to such results can generate external recognition ranging from the organization being more competitive in recruiting the right talent, the publication of results and a higher position on rankings such as Fortune Magazine's Best Place to Work[2].

One of the challenges faced by organizations is that they need to have information to justify resource allocation to workplace wellness programmes – but without resources, obtaining data and information is difficult at best. The Alliance can partially address this by providing information on overall results, giving companies information based on what their peers are doing which can become a tenet of the internal case for workplace wellness programmes.

The Alliance metrics workstream set off with the vision of addressing the lack of a global standard in workplace wellness metrics by developing a global baseline of employee health metrics. After identifying globally relevant KPIs in collaboration with Leadership Board members and through ad hoc consultations with the WHO as well as select experts, we did a pilot data collection exercise in 2011 and a more extensive data collection in 2012. This generated dual outputs: confidential customized reports for each participating company, providing them with their results benchmarked against the Alliance average and regional reference statistics when available, as well as a general analysis. A number of companies also volunteered additional data to develop deep dive case studies around various types of ROIs experienced through specific aspects of their workplace wellness programmes around the world.

This report presents Alliance metrics data and case studies on programmes involving obesity management, diet and exercise, stress reduction and mental resilience, smoking cessation, reduction in absenteeism and presenteeism, the innovative use of technology and methods of employee engagement and incentivization, all of which have been implemented by organizations around the world with the intention of enhancing productivity and improving health. For each topic, we have brought together a literature review component with Alliance results and lessons learned.

The case studies are intended to expand the ROI discussion beyond a hard "X dollars back for Y dollars spent" approach, highlighting a range of ROIs on specific aspects of workplace wellness programmes that are reflective of the stage of development of the programme and granularity of the data available. The takeaway message is that, regardless of whether programmes have been running for one year or ten there are ways of making the return into a concrete contribution to the case for further investment in workplace wellness.

The structure of the report looks at three categories where information is critical for assessment and comparison: burden and demographics, programme implementation and ROI. Along with the case studies, the report provides a review of the Alliance metrics based on the data collected from participants; and even where the data were more limited (e.g. measures of absenteeism), the report attempts to provide insights into how future data collection and analyses could advance measures and metrics in the data collection process to develop consistent global benchmarks and comparisons.

Burden and Demographics: What is the burden of NCDs and other conditions affecting workforce health and well-being? How are NCDs and other conditions spread demographically?

Programme Implementation: What do we know about the workplace wellness programmes that are being implemented, the challenges involved and how they are being evaluated?

Return on Investment (ROI): What are the benefits for organizations from the programmes they are implementing? What is the impact from the gaps in their offering? What are some examples of the ROI of their interventions?

[2] For 2012 results, see: http://money.cnn.com/magazines/fortune/best-companies/2012/full_list/

Methodology

Overview

After raising awareness around the potential return of workplace wellness programmes through an online economic model (see Box 2), the Alliance commenced a metrics collection workstream aimed at creating a global baseline of employee health metrics. The first phase began in early 2011 with an online survey that could be completed by individual employees working at participating Alliance member companies was designed to capture information similar to what would be provided in an employee HRA. Companies that had already implemented HRAs were able to submit the data collected in those efforts in aggregate form. This initial metrics programme collected data from 13 companies representing just under one million employees and covering fewer than 30 locations.

The data collection effort was expanded in 2012 to include data and information on programmes, outcomes and other measures vetted as relevant and collectable worldwide. In order to develop a standardized baseline, the Alliance set out to refine the set of metrics to reflect data kept by employers that could be compared both across companies and to regional or global benchmarks, which linked back to return on investment calculations and addressing public health indicators (see Image 1). In this process, the Alliance sought input on:

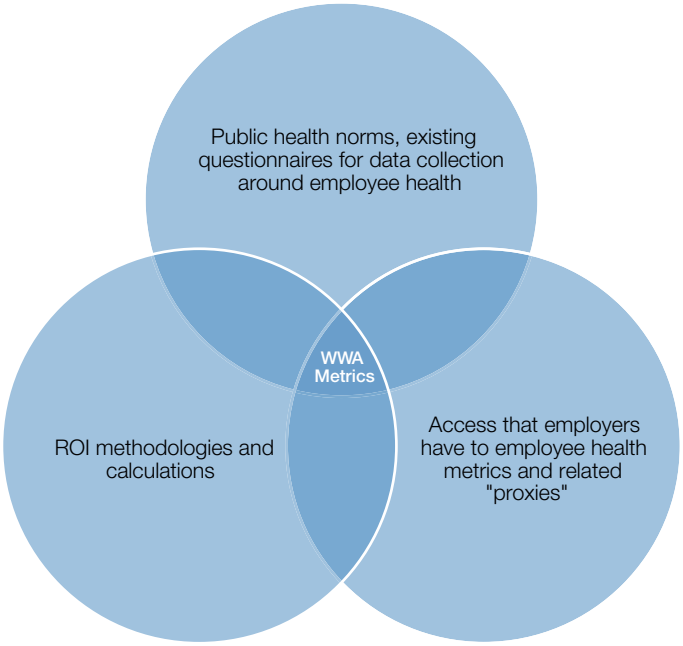
- The types of data its membership collected in the normal course of business
- The measures that would be most sensitive to cultural and legal limitations in various areas
- The kind of information that would be most helpful in evaluating employee health risks
- The data points relevant to public health concerns surrounding non-communicable diseases (NCDs)
- The best way to query participants on the programmes they had implemented across a number of key wellness areas

Some of this input came from Alliance members themselves as they discussed their vision for the metrics programme and the impact it could have on their health and wellness initiatives. They also provided insight as to which kinds of information would be difficult to gather globally given data reporting challenges and cultural concerns. The type of data published by international bodies such as the WHO gave further guidance, because it represents information that could be used as benchmarks and could help align the Alliance's work with the broader body of health and wellness research. Additionally, academic literature was reviewed to see which metrics could provide the most robust analysis opportunities and key experts were consulted for further insight around particularly challenging areas such as presenteeism and employee engagement.

The result of this research and discussion was a set of metrics intended to provide a global baseline and a means to better understand and inform employee wellness and programme implementation. (See Annex II for a chart describing the categories of data selected by the Alliance and collected by the 2012 survey and the details on the specific demographic, health, programme and practice data collected.)

Metrics Data Collection

Image 1: Visual of the key performance indicators identified by the Alliance



Box 2: Workplace Wellness Alliance Tools

Discussion starter: on-line ROI model
In 2009 the World Economic Forum launched The Wellness App, a user-friendly online ROI simulation model (http://wellness.weforum.org) to allow Alliance members to estimate the potential impact of their workplace wellness initiatives. Based on a company's demographic profile and related potential risk factors, the Wellness App estimates the costs of current ill-health. It then offers a choice of possible interventions and estimates the savings to be gained by the interventions chosen. This tool was designed as a discussion starter at the CEO level to demonstrate the impact that workplace wellness initiatives can have and to engage the key decision-makers in their organization.

Data collection tool
For the 2012 data collection the Alliance, in collaboration with FTI Consulting, developed an interactive Excel-based tool designed to collect data by location from each company participating in the metrics collection so it could readily be aggregated. Both a user guide and multiple webinars were offered to ensure an enhanced standardization of the methodology used to report data, leading to the most global and extensive data collection to date.

Results and the Power of Metrics

Investing in Workplace Wellness: Trends from the Literature[3] and Insights from the Alliance

Evidence shows the burden of NCDs has a huge impact on socioeconomic structure (WHO 2005, Bloom *et al* 2011). WHO estimates that the loss of national income of many countries due to the burden of NCDs will be dramatic and is largely controllable; for example, it estimates that China would lose approximately US$ 558 billion between 2005 and 2015 (WHO 2005). The global cost of mental health conditions alone was estimated at US$ 2.5 trillion in 2010 and is expected to increase to a cumulative US$ 16 trillion by 2030. About two-thirds of this cost comes from indirect costs, the invisible costs associated with lost productivity and income owing to disability or death (Bloom *et al* 2011). A high percentage of the most common NCDs – according to WHO estimates, approximately 80% of heart disease, stroke and type-2 diabetes and approximately 40% of cancers – can be prevented through cost-effective interventions which address the primary risk factors (WHO 2005). It is increasingly recognised that it is possible to influence the health behaviours of a high and significant percentage of the population by introducing multiple level interventions through the workplace.

Workplace wellness programmes are often viewed as a nice-to-have human resources project rather than a strategic business imperative. However, tax incentives and available grants alone can be enough to make implementation profitable (Berry *et al* 2010). Healthy employees cost less and many examples illustrate the point, including the fact that workplace health and well-being programmes reduce the burden on health schemes as well as employee attrition rates. For example, one study of a random sample of workers and their spouses involving an exercise programme showed that every dollar invested in the programme yielded US$ 6 in healthcare savings (Berry *et al* 2010). The Harvard Business Review (HBR) reviewed 10 programmes and interviewed 300 people, looking at what works, what does not work and the impact of programmes (Berry *et al* 2010). They identified six pillars of success (not size dependent):

1. **Multilevel leadership**: Use a top-down and bottom-up approach with dedicated programme managers and champions
2. **Alignment**: Maintain the momentum
3. **Scope, relevance and quality**: Take a holistic and individualized approach which goes beyond diet and exercise
4. **Accessibility**: Make use of low or no cost services a priority (e.g. onsite gyms) as convenience does matter
5. **Partnerships**: Actively collaborate with internal and external partners and vendors
6. **Communications**: Wellness is not just a mission, it is a vital message which must be delivered in a creative and diverse manner tailored to the audience concerned

The outcomes include fiscal results – there are savings on increased employee productivity and morale and decreased healthcare costs (for example, SAS Institute saved US$ 1.41/pp., which equated to a total of US$ 6.6 million in 2009 alone) (Berry *et al* 2010).

Data shows that most savings via workplace wellness programmes come from avoided medical costs, increased productivity and decreased absenteeism (Baicker *et al* 2010). Generally, employers are willing to invest in initiatives that address these three challenges. Initiatives that have been tested by employers and evaluated in the literature include introducing healthy food and opportunities for physical activity to the workplace, making the workplace smoke-free, promoting behaviours that reduce stress and encourage mental resilience, incentivization of healthier behaviours, and innovative use of technology to reach as many employees as possible, amongst others (Buck Consultants 2008).

An Overview of the Survey Data

Although over 150 companies are members of the Alliance, the organizations come in a variety of shapes and sizes and are at different stages of their workplace wellness programme development. Of the Alliance companies invited to participate in the metrics collection, 25 were able collectively to provide sufficient data to provide a meaningful sample to measure programmes (see Box 3 and 4 for sample programme responses and metrics used by companies) and effects. In 2012 the Alliance collected data from these 25 companies[4], covering nearly 2 million employees in 125 countries around the world.

In general, demographic data on employees was readily available, which contrasts with the occasionally greater challenge of obtaining information on employee health status – e.g. biometrics such as body mass index (BMI) and on behaviours such as consumption of healthy foods and levels of physical activity. Some of this is a result of legal and cultural factors in the areas where participating companies operate under differing privacy laws, varying degrees of concern around data management and the fact that sources of data range from claims' data to self-reported surveys. Where employers themselves pay a larger portion of healthcare costs, for example in the United States and South Africa, data tends to be somewhat more accessible.
Data and information on the range of programme types used by participants were robust and suggested a wide array of different programme offerings.

Overall, baseline programmes that have already experienced success both generally and among the respondents, such as tobacco-free workplaces, are revealed to have been in place longer and are generally aligned with social sentiment about the targeted behaviour (see Graph 1).

While mature in their implementation, the data collection and review process showed that evaluation of even these programmes could still benefit from better collection of data about their effectiveness. There is also a move toward more sophisticated programmes that involve initiatives such as incentives for healthy behaviours or biometric screening and monitoring – including everything from monitoring basic cholesterol and blood sugar levels to using heart rate and blood pressure measures to track when employees are experiencing stress and targeting key metrics like physical activity levels, BMI and healthier nutrition for improved results.

Summary of Responses by Region

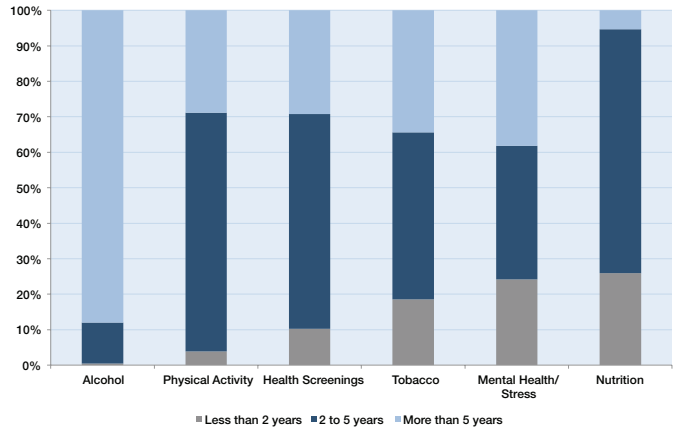
Countries were aggregated by continent to perform regional-level analyses. This allowed us to better compare the responses from the Alliance data collection with WHO and other data sources and to consider patterns more broadly. As a result, the Middle East was included in Asia and the Caribbean and Central America were grouped into North America[5].

[3] The workplace health and well-being literature discussed refers to published material that is not only found in peer reviewed scientific journals, but may also stem from project reports and publications of models of best practice.

[4] The companies which participated in the 2012 Data Collection included: Accretive Health, Aetna, APCO Worldwide, Barclays, BT Group, Discovery Health, General Electric, General Mills Inc., Humana Inc, Johnson & Johnson, Kraft Foods, Life Technologies, Medtronic, Nestlé, Novartis AG, Novo Nordisk, PepsiCo, Proteus Digital Health, Saudi Aramco, Tamer Group, Tata Consultancy Services,The Boston Consulting Group, The Coca Cola Company, Tupperware Brands, Unilever Plc.

[5] These definitions follow standard conventions grouping the world's countries into seven continents. The data to match countries to continents can be found at http://www.worldatlas.com/cntycont.htm.

Graph 1: Trends in Programme Implementation
All Respondents and All Locations



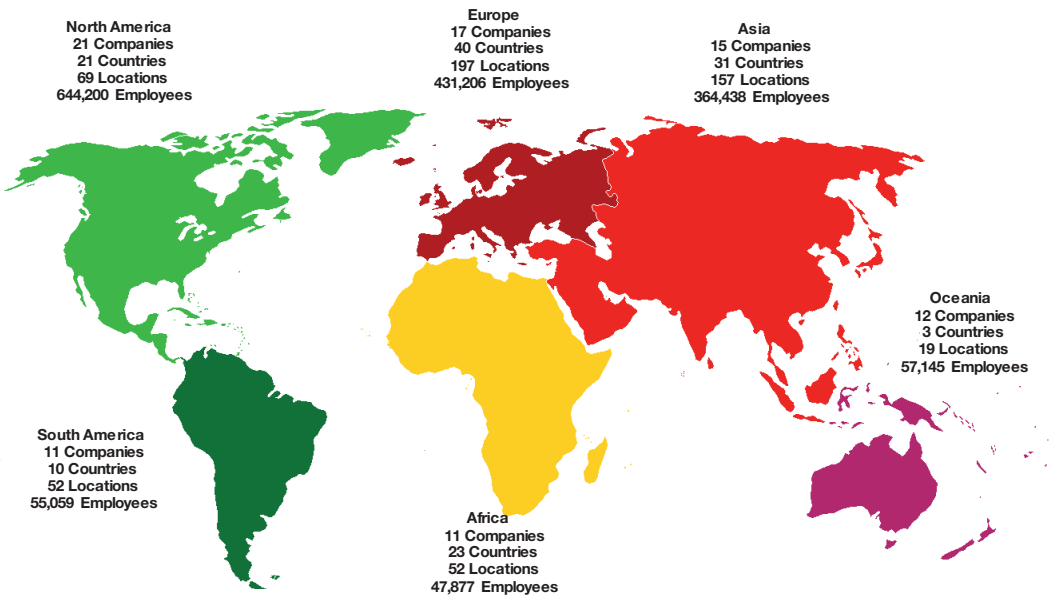
Box 3: Sample Programme Measurement Methodologies and Metrics Used by Alliance Survey Respondents:

- Tobacco use: Number of employees in cessation programmes who quit smoking; number of tobacco cessation products used; reduction in overall smoking rate; lost time productivity due to employee smoke breaks
- Alcohol use: Alcohol-free workplace; alcohol education
- Physical activity: Measurement of BMI, body-fat percentage, weight loss; increased physical activity (trends over time); initial and on-going programme participation levels; number of hours spent in the gym; number of kilometres walked/jogged; number of workouts recorded; leadership participation
- Nutrition: Nutrition programme participation and behaviour change; participation satisfaction; reduction in waist circumference, weight, or BMI; increased fruit and vegetable consumption; increased hydration; total weight lost; percentage of employees achieving goal of 7% body-weight loss
- Mental health and general well-being: Optimum stress levels and proper stress management skills; biometrics including heart rate and blood pressure; reduction in reported stress, absenteeism; stress management class participation

Box 4: Sample Responses Obtained from the Alliance Survey on Types of Programmes Implemented:

- Tobacco use: 100% tobacco-free worksites; code of conduct and action in case of breach is clearly detailed; training and conferences on quitting; medication coverage; local helplines, counselling; incentive programmes
- Alcohol use: 100% alcohol-free worksites; wine and beer in company restaurant only; alcohol information, advice and offered through Employee Assistance Programmes (EAP)
- Physical activity: Access to free, subsidized or reduced gym costs; onsite activity programmes and healthy worksites; global day of health engagement and awareness activity targeted at all employees worldwide; individual and group activity tracking via web based programmes; fitness assessments; annual campaigns; online and onsite 10,000 steps per day programme
- Nutrition: Nutritious options in on-site cafeterias; counselling; nutritional education available for all employees; onsite Weight Watchers programme; onsite dietician; online tools and resources on diet options made available through health insurance provider
- Mental health and well-being: Yoga sessions; trained counsellors at various locations; time out zone in intranet for stress busters; mental health programmes offered through EAP; site certification requires that leaders are trained in modelling good stress management practices and creating a positive work environment; relaxation room for pregnant women; home teleworking

Image 3: Global Distribution of Workplace Wellness Alliance 2012 Data Collection Results



The Power of Metrics in Action

1. Burden and Demographics

When considering workplace wellness initiatives it is important to begin by looking at what exactly is affecting the health, well-being and productivity of the target population. The diseases and conditions that impose the highest costs on organizations will differ from country to country and among organizations, depending on a variety of factors such as location or type of business amongst others. Understanding the burden and demographics of diseases and conditions will allow companies to tailor their programmes to their employees' needs and enhance productivity and ROI accordingly.
This section presents an overview of the literature by topic followed by results from the Alliance 2012 data collection, derived insights and, when relevant, a reference to the case studies summarized in Table 1 on p. 17 and presented in Annex III pp. 24-31.

(a) Obesity management through diet and exercise

Diseases related to dietary behaviour, which lead to conditions such as obesity and type-2 diabetes, currently dominate the area of workplace wellness. According to the WHO, worldwide obesity has more than doubled since 1980. In 2008 more than 1.4 billion adults were overweight and of these over 200 million men and nearly 300 million women were obese, meaning that more than one in 10 of the world's adult population was obese. In 2010 more than 40 million children under the age of five were overweight. More than 2.8 million adults die each year as a result of being overweight or obese, making these conditions the fifth leading cause of death globally. In addition, 44% of the diabetes burden, 23% of the ischaemic heart disease burden and 7 - 41% of certain cancer burdens are attributable to the preconditions of overweight and obesity. Sixty-five percent of the world's population live in countries where overweight and obesity kill more people than being underweight. Furthermore, obesity can no longer be considered a problem unique to high-income countries, because it is now on the rise in low- and middle-income countries as well, particularly in urban settings. Nearly 8 million overweight children live in developed countries and 35 million in developing countries (WHO 2012). This trend continues to worsen in the United States in particular, where approximately 17% of children and adolescents aged 2-19 years (12.5 million in total) are obese (CDC 2012).

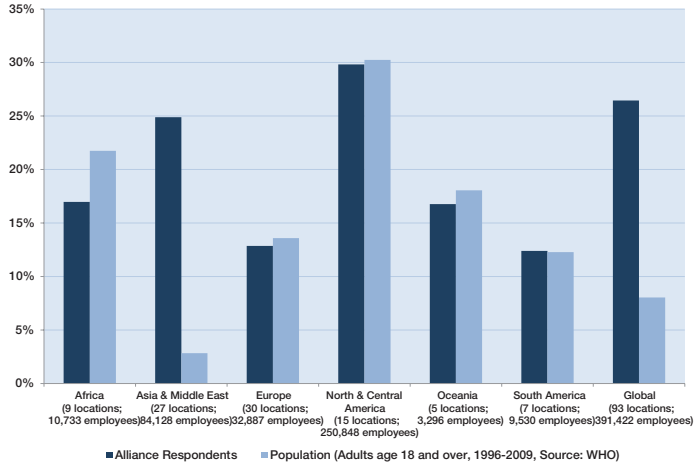
Obesity has an estimated annual financial impact of US$ 117 billion in the United States (Partnership for Prevention and US Chamber of Commerce 2009). It is associated with reduced productivity and increased absenteeism (Gabel *et al* 2009), as well as greater utilization of medical care and medical costs, which are estimated to be up to a third higher for obese employees than for healthy weight employees (Baker *et al* 2008). However, as obesity is preventable, treatable and classified as a modifiable, lifestyle-related behaviour, the workplace is an environment where related habits can be influenced. Studies have found that healthy weight is about lifestyle and habits rather than an isolated or temporary diet or a programme (AHIP 2010) and there is a correlation between eating a balanced diet and being more productive at work (Kumar *et al* 2009). Initial data from published literature and case studies suggest that dietary interventions such as the introduction of fruit and vegetables at the workplace are effective, as are programmes that encourage physical activity (Quintiliani *et al* 2010). In addition, helping individuals develop healthier habits in the workplace can have a positive effect on families and communities as people bring home healthier attitudes to food and nutrition. Targeted programmes were found potentially to improve labour productivity by 1% - 2% across a broad range of countries, with a generally high payoff in the form of reduced healthcare expenditures or improved productivity (Jensen 2011).

With regards to the Alliance survey, results for obesity were calculated through the data defined as "very high" BMI. This is a measure that relates a person's height and weight to establish ranges of health weights; and by WHO standards "very high" BMI or a BMI above 30 is the equivalent of obese. A comparison across regions suggests that the workforce represented by the Alliance data collection has an average of individuals with "very high BMI" lower than the population average in five of seven regions (see Graph 2 below) whereas the results are higher than the population average in Asia. Further analyses also highlight that even in the regions with lower obesity rates for Alliance members still almost 10% of the workforce has very high BMIs, revealing that approximately one in ten employees are at serious health risk on account of their weight. The comparison data in this case is from the WHO and includes everyone over the age of 18. It is important to note that this includes people outside the working population and older individuals, which could cause some of the differences observed in the averages. The data shows a high potential for insight and further individual studies on causalities – which cannot be established with such aggregate results – would be valuable to explore possible correlations between BMI results and other variables such as programme types (e.g. physical activity and/or nutrition) and time of implementation.

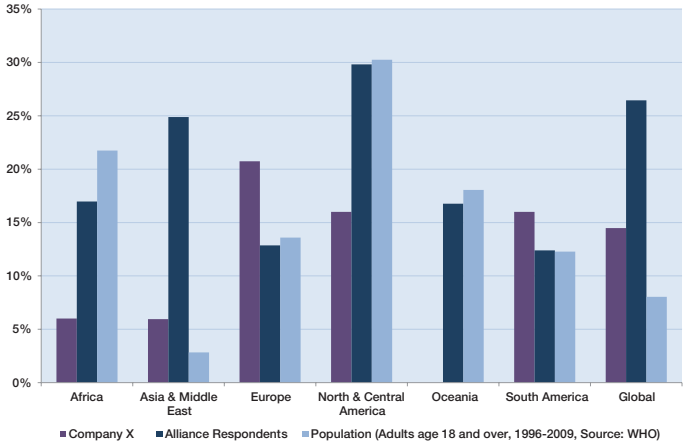
Legend: Graph 2 shows the general analyses for very high BMI results with sample sizes whereas Graph 3 provides a de-identified example of the confidential benchmark data shared with Alliance members participating in the data collection.

Generally, workplace wellness programmes use many ways of directly targeting the problem of overweight and obesity. It can be approached by considering individual components such as nutrition and physical activity. Weight loss programmes include counselling, weight-loss challenges where employees compete to get down to healthy weights and third-party programmes, of

Graph 2: Percent of Employees with Very High BMI/Obese (>30.0)



Graph 3: Company X
Percent of Employees with Very High BMI/Obese (>30.0)



which there are many types commercially available. While the nutritional aspect is difficult to measure, the Alliance data collection focused on the number of fruits and vegetables consumed in a day as the standard measure. The intake of "healthy" foods versus "unhealthy" foods could also be considered (i.e. complementing self-reported data on fruit and vegetable consumption with data on how many unhealthy meals or snacks are consumed per day), but these concepts are difficult to define in a way that makes surveying straightforward and robust, especially across different cultures. A number of Alliance member companies who participated in the data collection have begun to offer healthy food options at their locations, such as healthier alternatives in the company cafeteria, or removing soda and snack food vending machines. Some provide incentives for purchasing healthier alternatives at the cafeteria (such as lower prices or free pieces of fruit). This focus on a shift in the type of foods consumed, while potentially helpful, does not target the holistic nutritional aspect of weight loss. To this end, calorie consumption is challenging to measure but could also be a key to metrics-based analysis of weight-loss programmes. As the majority of nutrition and weight management related programmes are relatively young in nature, it is important to monitor results over time to identify trends and initiatives resulting in sustainable change.

Physical activity and exercise are another important aspect in the problem of healthy weight management both at work and at home. From the data collected, programmes offered by Alliance member companies include on-site exercise facilities, subsidies for joining third-party gyms or fitness clubs, pedometers with daily step count goals and group physical activity sessions at the workplace. Physical activity is measured by outcome metrics (e.g. weight, body fat percentage, resting heart rate) or directly through the logging of hours spent at the gym, distance walked or jogged, or participation in on-site programmes. Given the growing proportion of the workforce categorized as "white collar"[6] , the challenge of maintaining healthy levels of physical activity on a daily basis should not be underestimated. Of the 25 Alliance respondents, 22 have some kind of physical activity programme in place in at least one of their locations. Seventy-five member locations have had such a programme in place for more than five years and an additional 175 have had programmes in place for two to five years. Box 4 contains details on the types of programmes reported, which include access to free or reduced gym costs, on-site gyms or activity programmes fitness assessments and activity tracking programmes.

The ROI case study provided by Humana (p. 30) emphasizes some of the concrete benefits that can be garnered from healthy weight management and physical activity interventions in the workplace.

(b) **Mental health**

Another major health issue in the wellness literature is mental health[7]. Mental ill-health can lead to a variety of conditions such as stress, anxiety and depression. According to WHO, mental ill-health is common and affects men and women across all age groups, geographies and incomes. It is responsible for 14% of the global burden of disease and most of the people affected do not have access to diagnosis or treatment (WHO 2012)[8].

The Global Economic Burden of NCDs shows that while mental ill-health is usually left off the list of the main NCDs, it accounts for over US$ 16 trillion, or one-third of the overall US$ 47 trillion anticipated spend on NCDs by 2030 (Bloom *et al* 2011). Within the difficult economic environment, the growing epidemic of workplace stress has an impact on direct and hidden medical costs associated with absenteeism, presenteeism[9], overtime and replacement staff. Although evidence suggests stress is the top health risk driving workplace wellness programmes (Buck Consultants 2009), the metrics around mental health and stress are still opaque, with no sufficiently well-known simple standardized measurement that can be translated into homogenous data collection. Consequently, proxies are often being used instead. Furthermore, published data shows that mental health is an area in which companies are experiencing the most challenges, which may in part relate to the broad definition and range of issues that fall into the "mental health" category. Results of interventions targeting mental health have been limited; for example a Towers Watson survey carried out in the United States and Canada showed that the challenge of reducing the impact of workforce stress has experienced relatively low levels of measurable success, with fewer than 10% of companies reporting that their actions have had significant impact (Towers Watson 2011). Nevertheless, there are interventions recognized as effective, so the challenge often lies more in the availability and accessibility of information and programme evaluations rather than in programme effectiveness per se (Jané-Llopis & Cooper, 2013).

In the Alliance survey, the section addressing mental health was used as a landscaping exercise to gain insight into how organizations are monitoring it, to determine how best to gather this data over time. The responses obtained for mental well-being metrics were among the least robust in this year's data collection, highlighting the challenge of measuring these areas when no established metric or benchmark exists. Only 12.3% of company locations were able to give a percentage of employees reporting that they experience stress. Furthermore, the ways of measuring stress differed among participating companies, making comparisons and analyses difficult.

The Unilever case study (p. 26) highlights the promise of one example programme that has developed mental resilience in Brazil.

2. Programme Implementation: Challenges and Evaluation

While there is an increasing array of literature on the benefits of programmes and interventions, there is less in the way of comprehensive understanding about the criteria for effective programme *implementation* in workplace wellness. This may be in part due to the requirements of scientific evaluations needing control groups which for ethical reasons and/or technicalities in avoiding contamination of the control group, are harder to manage in a workplace setting. As a result, what is evaluated with traditional methods and by academia, for instance, can be quite different from what is actually being done in companies where cutting edge initiatives may be implemented or being piloted, but results not necessarily made available through conventional methods (Jané-Llopis & Cooper, 2013).

(a) **Smoking cessation**

Arguably the greatest progress in programme implementation has been made in the area of smoking cessation, with some programmes entering their 20th year. Smoking is a modifiable, lifestyle-related behaviour. There is an increasing amount of published supporting data, including a strong body of evidence whereby a combination of pharmacological therapy and counselling is most effective. However, although great strides have been made in reducing tobacco use, it still continues to be the leading preventable cause of death in the United States and throughout the world (AHIP 2010; the WHO 2008). Globally, tobacco use causes 5.4 million deaths – one out of every ten – each year (the WHO 2008). Tobacco use has an annual financial impact of US$ 157 billion in the United States (Partnership

[6] White collar worker: one who performs professional, managerial or administrative work. Blue-collar worker: one whose job involves manual labour.
[7] Mental health is defined by the World Health Organization (WHO) as "a state of complete physical, mental and social well-being, and not merely the absence of disease".
[8] From the WHO website "Mental Health: WHO Mental Health Gap Action Programme (mhGAP)": http://www.who.int/mental_health/mhgap/en/
[9] The term presenteeism refers to when employees are at work but not fully productive, often due to health or other personal issues. (Schultz et al 2007).

for Prevention and Chamber of Commerce 2009) and there is an estimated cost of over US$ 92 billion/year in lost productivity and US$ 75 billion/year in medical expenditures (AHIP 2010). It is estimated that if all US workplaces were smoke-free there would be a saving of US$ 60 million in medical costs in the first year and over US$ 280 million in the first seven years (Ong *et al* 2004). Successful, long-term smoking cessation programmes are typically implemented in phases. As more employees quit smoking, the ROI evolves. Smoking cessation programmes are among the more mature programme types among Alliance members. Of the companies that do have a programme, almost half take a centralized approach delivering the same intervention throughout their offices, 35% delegate programme design and implementation to local or regional offices and 17% use a mix of centralized and decentralized programmes. More than a third of member locations have had programmes in place for more than five years and an additional 47.4 % have had programmes in place for two to five years. In Asia, reported smoking rates among responding Alliance members seem higher than the regional averages, whereas in Europe, North America, Oceania and South America, employees in Alliance companies smoke less than the regional averages (see Graph 4 below). The regional averages are calculated using WHO data that includes all those over 18 years of age. Because this is different than the working population, some differences between Alliance responses and regional averages could be a result of differences in the population sample. This is another area where a closer look through further studies could shed some light on causality and nuances in sub-populations.

Employees at company locations where programmes have been implemented for more than five years have lower smoking rates than those at company locations with shorter programmes, emphasizing the importance of longer-term and sustained commitment to smoking cessation related objectives (see Box 5 for useful resources on going smoke-free). The most successful programmes also benefit from social and legal pressures against smoking. Countries with relatively high taxes on cigarettes and other tobacco products and strict legislation on where citizens can smoke in public have seen marked decreases in smoking. Employers who are able to implement their own programmes in such an environment appear to be more successful in getting employees to quit (Fichtenberg *et al* 2002).

The Johnson & Johnson case study (p. 25-26) highlights phases of a smoke-free and smoking cessation programme and complements traditional smoking cessation ROI calculations with a productivity related ROI for its sites in Japan.

Legend: the Graph 4 shows the general analyses on smoking rates with sample sizes and Graph 5 provides a de-identified example of the confidential benchmark data shared with Alliance members participating in the data collection.

(b) **Technology**

As technology advances, it presents real opportunities in the area of workplace wellness, with a growing interest in solutions which enable integration and collaboration. Online platforms that offer employees a fully customized health and wellness resource and allow self-tracking as well as e-coaching are one way to maximize workforce engagement. Other initiatives include social media, gaming software and smart phone apps. These tools allow segmentation of the target population based on demographic and adherence profiles where necessary, which is shown to improve impact and adherence (AHIP 2010). They also make it convenient to pilot initiatives with a sub-group of the employee population and may make it more practical to scale up and expand the offering across population types, locations and potentially even to families and the community at large.

Box 5: Going Smoke-free – Useful Resources

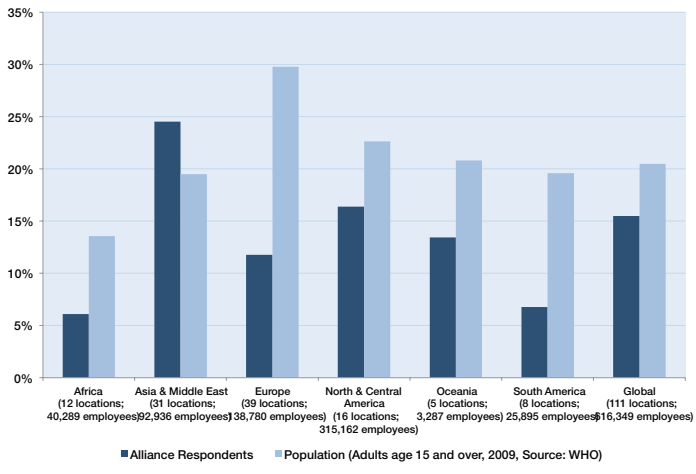
A science-based initiative hosted by the Mayo Clinic, **Global Bridges** is creating and mobilizing healthcare providers and organizations dedicated to advancing effective tobacco dependence treatment and advocating for effective tobacco control policies. Its objectives are to: build connections and create opportunities; share treatment and advocacy expertise among network members within and across regions; provide state-of-the-art, evidence-based training in treatment and advocacy to network members; facilitate the implementation of Article 14 of the WHO's Framework Convention on Tobacco Control (FCTC) in every nation and ensure the long-term financial sustainability of the initiative.

http://www.globalbridges.org/

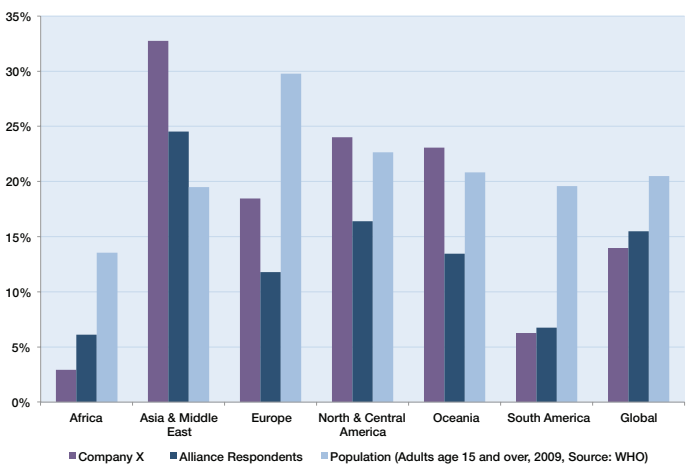
The **Global Smokefree Partnership (GSP)** is a global partnership dedicated to promoting effective smoke-free air policies worldwide. It brings together civil society and non-governmental organizations (NGOs), universities, intergovernmental organizations, ministries of health, corporations and individuals active in international smoke-free air policy. The Partnership works by helping practitioners and advocates of smoke-free policies to access the **evidence** for smoke-free policies, request **assistance** from a network of experts and take **action** in support of smoke-free policies. The Partnership provides a list of free resources as well as materials called "Smokefree-in-a-Box", a guide available in six languages for companies going smoke-free.

http://www.globalsmokefreepartnership.org/

Graph 4: Percent of Employees that Smoke



Graph 5: Company X
Percent of Employees that Smoke



In the context of limited resources, virtual options could provide a solid base from which to reach more participants or engage more deeply with others. US Preventive Medicine (USPM) brings us a case study (p. 27-28) demonstrating that electronic interaction and e-coaching can be a cost-effective means of reaching employees with the potential to leverage increased use of social media and other online forms of communication to further increase programme efficacy.

Solutions that make use of technology also have advantages that can be useful to employees: they can aggregate all of an employee's participation records into a single interface, provide more immediate feedback and allow users to closely track progress over time. In addition, resources can be accessed more flexibly (evenings, weekends and at other times when personal coaching is less available); it is an "on demand" solution.

3. Return on Investment (ROI)

Evidence and Evaluation

Companies want to evaluate and examine what they are or are not implementing, but also what they are getting out of their initiatives. The value of a workplace wellness programme can be measured by different types of ROI, which may not always be fiscal and could involve parameters such as programme use, risk reduction, biometric data, adherence and employee satisfaction. The challenge is to go from the "perceived value" (the first return, even if it is not scientifically measured yet) to a measured impact that will eventually link to monetary or fiscal return. Part of the difficulty is that data can come from different departments within an organization and from external providers; therefore not everyone involved in bringing together all of the various necessary elements will be aware of the ROI concept or involved in preparing the results to present to top management. The evidence base demonstrates why action is necessary for workforce health and that robust proof is also essential for senior management buy-in. It demonstrates the impact of investment not only on long-term health, but also on shorter- and medium-term issues such as absenteeism and presenteeism, productivity and performance. Numerous ROI methodologies exist, making some managers sceptical about their validity and making it difficult to produce an objective ROI value consistently and effectively. Moreover, these ROI methodologies may have substantially different data requirements. In addition, published data shows that ROI values range from US$ 1:1 to US$ 20:1 (Alliance for Wellness ROI, Inc. 2008). As the standardization of technology and methodology expands and the empirical literature examines ROI across a broader population of programmes, the credibility of financial ROI measurement will be more widely accepted, encouraging senior managers to view programmes as a true investment of company capital and a strategy for health and healthcare cost management (Alliance for Wellness ROI, Inc. 2008). ROI models that econometrically control for various factors could also be used to provide sounder or clearer directions and business justification. Limitations include the fact that many employers do not invest the resources required to conduct rigorous evaluations, especially in small companies.

The ROI case studies presented in this report leverage the additional data and information provided voluntarily by companies that recognized the importance of broadening the ROI discussion beyond fiscal and monetary measures. Their goal is to help readers understand different levels and types of calculations that can be integrated into a discussion around the return of a workplace wellness programme even when an extensive, more traditional ROI calculation is not yet achievable or in contexts where the data available does not lend itself to such an approach yet due to cultural constraints. Overall, the metrics that were readily achievable and those that remain aspirational in terms of measurement or response rate also inform further the areas for continued action to develop a richer data repository and analyses.

Evaluating the Cost-Effectiveness of Interventions

In addition to knowing that an intervention is likely to be effective in improving health and/or productivity (see Box 6) and the return it may generate, employers also want to have some idea of the cost-effectiveness of the intervention. For this reason, many employers also ask for a cost-effectiveness analysis before implementing an intervention, or require ROI data which can go beyond optimal allocation of resources as the return is not always immediate or directly related to financials (e.g. prevention of chronic illness in the younger workforce may not benefit their current employer as their health care spending may be reduced for the next employer)[10]. The literature includes a number of accounts of ROI calculations for health protection and promotion of interventions. Inferences from more robust studies of specific issues (e.g. dietary programmes) may be informative, but it is difficult to know whether benefits can be replicated in a specific context.

Box 6: The Importance of Evaluation

Company Level
Evaluations of workplace wellness initiatives are vital to identify whether the initiatives are suited to employees and lead to ROI. GE Healthcare's *"Health Ahead"* programme, which began in 2010, uses Site Certification to drive and measure progress and success. To be certified, sites must pass a rigorous site audit including more than 50 requirements grouped under nine elements, a process run by auditors who are volunteers from previously certified locations. This allows for a dual approach combining centralized guidelines and local implementation, while maintaining demonstrable standards. See case study p. 28-30 for more details.

Country Level
"Britain's Healthiest Company" was developed as a joint initiative between PruHealth, Discovery Vitality, the University of the Witwatersrand, the University of Cape Town and Professor Ron Goetzel of Emory University and Thomson Reuters. It aims to assess the drivers and impact of chronic diseases on productivity at a national level and to identify how companies can take action to reverse the trend. The initiative has run successfully in South Africa as the *"Discovery Healthy Company Index"* for two years and is collecting data needed to understand the impact of health on employers across the country. Britain's Healthiest Company will provide similar data and insight into the health and wellness issues of employers in the United Kingdom. The bank of knowledge about employee health and workplace wellness programmes is growing and becoming available to industry to guide decisions about how best to approach such programmes.

Global Rankings
It is also worth noting the increasing attention paid to global rankings for "best places to work", including FORTUNE's *"100 Best Companies to Work for"* and Glass Door's *"Best Places to Work – Employees' Choice Awards"*, which encourage organizations to invest in programmes which are likely to enhance the health and well-being of their workforce and are used as references for company competitiveness in the severe global competition for talent.

[10] ROI is the rate of revenue received for every dollar invested in an intervention while cost effectiveness is productivity relative to the cost.

(a) Absenteeism and presenteeism

A number of workplace wellness programmes have some focus on reducing absenteeism and presenteeism, both of which reduce productivity and can affect ROI. Gallup Healthways Well-Being Index is based on telephone interviews with a random sample of 271,000 people, 110,000 of whom were employed full time. Data generated was used to calculate the annual economic cost of "unhealthy" days. Full time workers who are overweight or obese and have other chronic health conditions miss an estimated 450 million additional work days compared to their healthy counterparts, costing more than US$ 153 billion/year in lost productivity in the US. This is four times as many work days missed than in the United Kingdom – approximately 14% of full-time workers in the US are of a normal weight and have no chronic illnesses versus 20% in the United Kingdom. The US$ 153 billion/year in lost productivity would increase if it included presenteeism (Witters *et al* 2011). A New Zealand study examined the relationships between health factors and increased absenteeism, including evaluation of psychological distress on productivity (Williden *et al* 2012); much of the empirical literature on workplace wellness programmes uses productivity and absenteeism as measures of success or costs (Baicker *et al* 2010; Jensen 2011).

The Alliance's collection of data on presenteeism and to some extent even absenteeism has made progress but still requires further development. Only 24% of the participating companies had data for absenteeism, the rate of absences and the amount of time lost to sick leave, and only 16% were able to report metrics for presenteeism. This is a key area for improved data collection and measurement. One challenge is that many companies do not distinguish between days absent from work for personal health reasons versus those for other reasons (e.g. vacation, health of a child or other family member). By calculating more specific absence rates, i.e. by specific reason for absence, companies could better align their programmes designed to target absenteeism and presenteeism and measure the impact of such initiatives. A harder problem both to measure and to improve through particular programmes is lost productivity. Surveys are one means to ascertain this data but responses may be biased depending on how comfortable employees are that the data will not be used to single out those who report more days of lower productivity.

(b) Engagement and incentivization

In most workplaces there will be a self-selected sub-population of healthy individuals or individuals at particularly high risk who are intrinsically motivated to become or stay healthy; the greatest challenge lies in going a step further and engaging the rest of the employee population. To this end, engagement and incentivization methods are being used to activate the workforce through coordinated and tailored communications and motivational strategies. To optimize the ROI case for senior management, the adoption and long-term engagement of employees in workplace wellness programmes is vital, which makes the role of engagement and incentivization evermore critical. Although incentives are a relatively new idea in this area, the literature indicates that a number of strategies are available to companies. For example, peer-to-peer interactions with workplace "Health Champions" or other incentives can encourage adoption of and continued participation in workplace wellness programmes. Incentives are shown to improve health outcomes, such as weight loss success (Lahiri *et al* 2012). It is important to offer a variety of programmes to appeal to a diverse workforce and to offer complementary initiatives throughout the years so as to ensure that programmes are culturally adapted. Strategies that have had a positive impact range from group events to individual coaching, providing confidential health advice, addressing specific needs and inter-company competitiveness (Human Resource Management International Digest 2012). Leadership support, including financial and moral support, and workplace wellness teams and materials have all been shown to help. Employees are often inspired by sharing testimonials and annual celebrations (Hunnicut *et al* 2012). Communication is essential to engagement, so the use of technology and customized communication programmes with personalized messages is fundamental to ensuring success.

Consensus is growing that successful efforts to stem rising healthcare costs will require a focus on consumers and their health behaviours. Factors consequential for long-term healthcare costs are both under the individual's control and dependent on the environment, so it is vital to foster contexts which encourage healthier behaviour as well as engage individuals to help them to better manage their health. Messages that encourage particular behaviours are the most effective when the information is clear about what to do and why. Delivering the same message through multiple sources can also be much more effective (AHIP 2010). Additionally, tailoring these messages can be a strong adjunct to healthy environments as they are more effective in influencing knowledge, attitudes and behaviour. Engagement and incentivization are imperative but must be tailored to the audience and help employees understand it goes beyond saving money (Buck Consultants 2008). In short, employers need to foster a health-conscious corporate culture. Programmes fail when employees are not receptive or they believe that the plan is not a sustained programme.

Companies can use both financial and non-financial methods to encourage employee engagement in workplace wellness programmes and to motivate lifestyle-related behaviour changes. Until recently a US phenomenon, incentive rewards such as the programme offered by Discovery Health (see case study on p. 27) are increasingly offered by employers in different parts of the world. The trends show a significant increase of broader incentive-based programmes projected over the next few years. Financial incentives range from minimal amounts to more than US$ 2,000 per employee per year, often offered as premium discounts rather than cash handouts. In the United States, incentives average US$ 163 per employee with a median value of approximately US$ 50 (Buck Consultants 2009). Survey data from the United States and Canada suggest financial incentives work but have clear limits – sustainable behavioural change requires more than money (Towers Watson 2011). Encouraging individuals to change behaviours can start with financial incentives but for long-term change calls for the environment to be conducive to healthier behaviours for lifestyle habits to become healthy.

Saudi Aramco launched the *"Saudi Aramco Wellness Programme"* (*"SAWP"*) in 2005, which promotes a culture of health throughout the company infrastructure, connected through a "champion" network, to help make wellness part of everyday work practice. Results demonstrate that the corporate wellness champion structure enhanced employee health improvements from the SAWP and resulted in increases in employee participation. The champions programme was also associated with employees increasingly taking wellness information home to their families. For more information, see the case study p. 31.

Jubilant (see case study p. 30-31) was able to reduce costs through a holistic approach to wellness and found that both economic and biometric indicators improved significantly, which they attribute to the combination of the measurement process raising awareness as well as the workplace health and well-being interventions themselves.

Table 1: Summary of ROI Case Studies

Topic	Company	Countries	Key Findings	ROI Metric
Tobacco policies and smoking cessation	Johnson & Johnson (J&J)	Japan	J&J identified important programme design aspects such as transparency about programme goals, lead time allowing employees to adjust to new policies and resources to help employees quit smoking	Dollars saved as employees quit smoking and stop taking cigarette breaks, improving productivity
Incentivizing healthy behaviours and outcomes	Discovery Health	South Africa, United States	Participation in the Vitality programme is incentivized in a number of ways, including financial incentives such as airline discounts and subsidies for purchases of healthy foods at the grocery store; such incentives can be demonstrated to motivate healthy behaviours and lead employees to lower levels of health risk	Dollars saved as employees reduce health risk from higher, more costly levels to lower, less costly levels
E-Coaching and feedback	US Preventive Medicine (USPM)	United States	While software- and web-based electronic coaching is not as effective as personal coaching, it still shows substantial benefits over a control group with no coaching and is a valid alternative when programmes are designed	Comparison of programme costs between personal coaching and e-coaching alone
Leadership roles and wellness culture	Saudi Aramco	Saudi Arabia	Employee leadership can amplify impact of existing corporate wellness policies; such programmes leverage the social structure within an organization to further the impact of existing programmes by motivating participation	Estimated impact of programme implementation compared with cost
Mental well-being and resilience	Unilever	Egypt, Brazil	Programmes designed to reduce stress and increase mental resilience can be effective across geographies and at various levels of a company. The main case study is from Brazil with mention of a pilot which took place in Egypt	Improvements in a number of mental health metrics
Nutrition, exercise and healthcare costs	Humana	United States	Nutrition and exercise programmes can reduce the cost of employee healthcare, particularly in countries like the US where employers pay much of the direct costs	Reduced cost of employee healthcare
Centralized programme design	General Electric (GE) Healthcare	Global	Value can be found in a cross-location, institution-wide approach to wellness policies; top-down approach also allows for the specific details of programmes to be implemented at the local level	Increased employee engagement, external recognition
Biometrics	Jubilant	United States, Canada	The holistic workplace wellness programme, leveraging incentives in the form of premium discounts, has led to an improvement in biometric indicators	Improved biometric and economic indicators
Employee engagement for reduced turnover	Novartis	Singapore	Increased employee engagement in workplace health and well-being programmes has increased participation and significantly reduced turnover rates	Reduced turnover, improved morale and engagement

Bringing it all together

A robust metrics programme requires commitment at all levels of an organization. Management needs to plan and enact workplace wellness programmes and design ways of measuring impact. Employees need to participate in the programmes (clear incentives appear to be very important) and provide individual-level data on their health status and behaviours both before and after programme implementation.

The best data include data gathered at the individual level so that behaviours and outcomes can be tracked as participants enter into new programmes and are given new incentives. Where possible, this can also generate a baseline of information to provide for control groups. For purely evaluating outcomes, randomizing which employees participate leads to more statistically robust results – that is, it makes it easier to control for factors other than programmes that could affect outcomes (PricewaterhouseCoopers 2011). Examples include macro trends in healthy behaviour generally and government health programmes. A clear understanding of the costs of implementing a programme is also important to assess how effective programmes are on a dollar-for-dollar basis. However, outcomes and costs do not necessarily need to be measured in dollar terms to understand their impact. As a first step, understanding other measures of cost and impact can lend insight into programme efficacy. Within the Alliance work around data collection, we have observed a progression from more qualitative measures to more quantitative ones, so companies are starting to think in terms of measurement. Whichever form that measurement takes it can lead to more advanced, robust metrics.

Table 1 presents a summary of the case studies presented in Annex III of this report, showcasing how Alliance member companies from different sectors and geographies measured return on workplace wellness programmes in a variety of ways, each contributing to the business case of investing in employee health and well-being.

Although progress is being made, challenges remain:

- *Burden and demographics*: Data on the workforce profile are necessary to ensure a workplace wellness programme offering tailored to the risks and needs of the target population. In addition, without a clear ROI, it is difficult to make the case to management that programmes are worth the implementation costs and metrics are worth the effort of collecting detailed data. However, without the effort of collecting detailed data, it is difficult to calculate a clear ROI, leading to a particular challenge of what should come first.
- *Programme implementation*: Several types of programmes, such as smoking cessation and alcohol-free policies, are mature, but the cutting-edge of workplace wellness is still being developed. Implementing new technologies such as monitoring of biometrics through mobile devices, designing new incentives and leveraging social media present both challenges as new programmes are designed and substantial opportunities to expand.
- *ROI*: As seen from the literature review throughout this report and featured case studies, calculating specific types of return on workplace wellness programmes requires cultural adaptability; it can evolve over time as the availability and reliability of the data develops and it requires resources to collect data and process it as needed. In addition, one of the greatest challenges lies in topics such as mental health and presenteeism, where the difficulty lies in making the intangible tangible.

Further challenges to empirical analyses remain in the vast number of differences which need to be taken into consideration: differences within a company (management versus blue collar); between companies (multinational organizations versus small- and medium-sized enterprises (SMEs)); between locations (e.g. the US versus India); within a sector and between industries.

It is vital to embrace these challenges to truly harness the power of metrics, which will help organizations to realize the benefit of workplace wellness programmes for the health, well-being and productivity of their employees and in turn for their own growth and success. We need to encourage commitment to measurement of programme costs and outcome impacts, either in dollar terms or otherwise. Initially, companies may have to commit to this without first knowing what the ROI will be. However, through continued sharing of knowledge, data and best practice, we will gradually be able to establish a global benchmark standard which is meaningful to companies operating in one country or across several markets, of all sizes and across all industries and sectors right across the world. It will be necessary to overcome the challenges associated with standardization and cultural differences and to arrive at the best practical standardized measures for key metrics. These challenges will require focused attention in areas such as absenteeism, where not all companies differentiate between planned and unplanned absences or what absences relate to (an injury, an illness, or something related to mental health or stress). The legal framework on a national level can also vary widely – companies in Switzerland do not require a medical note until the employee is absent for more than 3 days, while the United States frequently uses “personal days” whereby illness or vacation are not differentiated at all. The Alliance, in its work moving forward with the Institute for Health and Productivity Management (IHPM)(see Box 7), intends to address these challenges to move toward its goal of establishing the global benchmark standard and supporting data collection and reporting that are imperative for advancement in the workplace wellness arena.

Vision for the Future

Where are the Gaps and Opportunities? What is the Way Forward?

In the most successful companies, leaders at all levels recognize the inextricable link between employee health and overall productivity. The trend towards further globalization of workplace wellness programmes continues, as does a greater emphasis on improving workforce productivity through health promotion. Reducing health risks due to poor nutrition, low levels of physical exercise, harmful use of alcohol, tobacco use and low use of clinical preventative services[11] is essential. In addition, there is more workplace stress in the current economic climate which impacts both direct and hidden medical and other costs associated with absenteeism, presenteeism, overtime and replacement staff.

Workplace wellness programmes should clearly define their vision, objectives, value proposition and how they are going to evaluate their success (AHIP 2010). Any company about to embark on a workplace wellness programme should collect information, whether through an employee survey or other means, to gauge what risk factors exist and to establish a baseline for later comparison (Kumar *et al* 2009). Then, through thoughtful and careful design, a workplace wellness programme can meet the unique needs of a given employer’s population across roles, geographies and cultures. Programmes might start with a HRA and/or employee health biometric screenings, which are among the most popular health promotion resources, followed by initiatives in disease prevention and risk reduction. Carrying out structural changes, such as the creation of a new team to support sustained good health and well-being for large community groups will help in the short term as well as the long term (AHIP 2010). As each employer’s population is unique, one size does not fit all and will not provide the desired outcome. A programme can be designed for organizations of all sizes and cultures across

[11] There is scientific evidence that certain clinical preventative health services contribute to a reduced risk of serious illness. Programmes vary from preventative health annual reminders, breast cancer screening, colorectal cancer screening, oral health integration programmes, genetic screening and risk reduction programmes, as well as online genetic counselling.

the world and can be developed and operated internally or with external assistance – the return it provides to the organization can be quantified throughout its evolution.

Highly effective companies lead the way to healthy productive workforces as they commit to the importance of health and its impact on business by establishing leaders as role models, developing a comprehensive strategy, building strong partnerships with vendors, engaging employees and making employee communications interactive and personal. Internal culture may affect how fruitful schemes are and if success can be maintained in the long term, as well as how well they are adopted.

The next steps for organizations are to incorporate technology and tactics such as workplace wellness coaching and preventive exams, as well as to extend the reach of their programmes beyond the employee to offer holistic health and well-being that transcends through work life and home life. Healthcare is a monumental issue for employers and too much is at stake for them to be reactive. It is now time for all companies to be proactive and lead the way.

The Role of the Alliance and the Institute for Health and Productivity Management (IHPM)

The Alliance is taking the opportunity to start creating a global standard or benchmark to encourage consistency in workplace wellness globally. Putting into place such a standard and measures around workplace wellness programmes is a big step forward, which requires strong commitment and sustained effort from organizations to recognize and reward efforts to boost health and wellness promotion. It will also demand continued effort and creativity to expand. We can learn from existing efforts involving cooperation and reinforcement from healthcare industry professionals and organizations, which ultimately recognise the value of these services and those who benefit from them. Fiscal justification is required, which can be done by bridging knowledge sharing and metrics through ROI focused case studies.

The Alliance is taking a collaborative approach to encouraging workforce health and well-being, and firmly believes that a global coalition that works together to share knowledge, experience and best practices will make workplace wellness part of the solution to the human capital challenges employers across the world are facing in today's economic climate. The baseline with this report, which contributes substantially to the Alliance's data repository with its more robust data collection and development of sounder metrics with global reach and a breadth of deep-dive case studies, reveals both the commitment of members to this collaborative approach and the promise that further collaboration can achieve a global standard and benchmark.

With the objective of continuing to expand its scale and impact, the Alliance has outgrown the catalyst role of the World Economic Forum in such an initiative. This is why it will transition to IHPM as of January 2013, thereby continuing to develop as a powerful contributor in the area of workplace wellness, helping organizations to harness the power of metrics, establishing a global standard for comparison across companies, and encouraging investment in workplace wellness as a means of improving ROI and the overall growth and success of the company and its employees. It is now necessary to rally and coordinate interested parties from all sectors and geographies to drive the global agenda of workplace wellness.

Box 7: The Institute for Health and Productivity Management (IHPM)

IHPM was created in 1997 to make employee health an investment in human capital and business competitiveness through enhanced performance in the workplace. It grew out of work done previously under the "Two Pens" Project on Health Care Value, carried out jointly by the National Business Coalition on Health and the National Association of Managed Care Physicians. It is now a global enterprise and a leader in advancing health and productivity internationally through its research, education and consulting activities.

For further information, visit http://www.ihpm.org/

Bibliography

Alliance for Wellness ROI, Inc. (2008). *Fourth Annual Survey of Corporate Wellness Programs: Survey Summary* (Available at: http://www.roiwellness.org/documents/Executive_Summary_of_4th_Annual_Survey.pdf, accessed December 2012).

America's Health Insurance Plans (AHIP). (2010). *Innovations in Prevention, Wellness and Risk Reduction* (Available at: http://www.ahip.org/Innovations-in-Prevention-Wellness-and-Risk-Reduction, accessed December 2012).

Aston L. (2011). *Elevating the Agenda for Employee Wellness and Engagement*. Strategic HR Review, 10(4).

Baicker K, Cutler D, Song Z. (2010). *Workplace Wellness Programs Can Generate Savings*. Health Affairs, 29(2):304-311 (Available at: http://www.workplacewellness.com/images/Workplace_Wellness_Programs_can_generate_savings.pdf, accessed December 2012).

Baker KM, Goetzel RZ, Pei X, Weiss AJ, Bowen J, Tabrizi MJ, Nelson CF, Metz RD, Pelletier KR, Thompson E. (2008). *Using a Predictive ROI Model Using to Evaluate Outcomes from an Obesity Management Worksite Health Promotion Program*. JOEM, 50(9):981-990.

Berry LL, Mirabito AM, Baun WB. (2010). *What's the Hard Return on Employee Wellness Programs?* Harvard Business Review, December 2010 1-9.

Bloom DE, Cafiero ET, Jané-Llopis E, Abrahams-Gessel S, Bloom LR, Fathima S, Feigl AB, Gaziano T, Mowafi M, Pandya A, Prettner K, Rosenberg L, Seligman B, Stein AZ, Weinstein C. (2011). *The Global Economic Burden of Non-communicable Diseases*. Geneva: World Economic Forum (Available at: http://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf, accessed December 2012).

Buck Consultants. (2008). *Worksite Wellness Programs: Just What the Doctor – And Senior Management, Employees and Shareholders — Ordered*. Insight Out by Curran P and Shelton C (Available at: http://www.buckconsultants.com/portals/0/thriving/it-worksite-wellness.pdf, accessed December 2012).

Buck Consultants. (2009). *Working Well: A Global Survey of Health Promotion and Workplace Wellness Strategies*. Global Wellness Survey 2009.

Cawley J, Price JA. (2012). *Financial Incentives for Weight Loss: Results from a Workplace Wellness Program* (Available at: http://www.socsci.uci.edu/files/economics/docs/micro/s12/cawley.pdf, accessed December 2012).

Centers for Disease Control and Prevention. (2012). *Overweight and Obesity* (Available at: http://www.cdc.gov/obesity/data/childhood.html, accessed December 2012).

Fitchtenberg CM, Glantz SA. (2002) *Effect of Smoke-free Workplaces on Smoking Behaviour Review*. BMJ, 325:188-191.

Fidelity Investments. (2010). *Improving Health Outcomes in 2010, Results from the Joint National Business Group on Health/Fidelity Investments Survey*. Fidelity Perspective, Winter 2010 (Available at: http://worldcongress.com/events/HR10000/pdf/thoughtleadership/FINAL%20NBGH_Fidelity_Brief%20Feb%202010.pdf, accessed October 2012).

Fries JF, Koop CE, Beadle CE, Cooper PP, England MJ, Greaves RF, Sokolov JJ, Wright D, the Health Project Consortium. (1993). *Reducing Health Care Costs by Reducing the Need and Demand for Medical Services.* New England Journal of Medicine, 329:321 325.

Gabel JR, Whitmore H, Pickreign J, Ferguson CC, Jain A, Shova KC, Scherer H. (2009). *Obesity and the Workplace: Current Programs and Attitudes among Employers and Employees*. Health Affairs, 28(1):46-56 (Available at: http://content.healthaffairs.org/content/28/1/46.full.pdf+html, accessed December 2012).

Global Bridges. (2012). *Building a Global Network to Advance Evidence-Based Treatment and Policy* (Available at: http://www.globalbridges.org/content/download/13279/102076/file/Global%20Bridges-2012-fact-sheet-English.pdf, accessed December 2012).

Global Smokefree Partnership. (2008). *Smokefree-in-a-Box*. (Available at: www.globalsmokefreepartnership.org/ficheiro/SFIB.pdf, accessed December 2012).

Harvard School of Public Health. (2012). *Economic Costs*. The Obesity Prevention Source (Available at: http://www.hsph.harvard.edu/obesity-prevention-source/obesity-consequences/economic/, accessed October 2012).

Human Resource Management International Digest. (2012). *Ante up for Wellness (Promoting Healthy Lifestyles)*. Human Resource Management International Digest, 20(5).

Hunnicut D, O'Neil T, Jahn M, Stohl B. (2012). *A WELCOA Case Study: Meredith*. WELCOA (Available at: http://absoluteadvantage.org/uploads/files/welcoa_case_study_meredith.pdf, accessed December 2012).

Jané-Llopis E & Cooper, C. (2013). Mental health and wellbeing at the workplace. In: Knifton & Quinn (Eds) Public Mental Health: Global Perspectives. McGraw Hill, Open University Press.

Jensen J. (2011). *Can Worksite Nutritional Interventions Improve Productivity and Firm Profitability? A Literature Review*. Perspectives in Public Health, 131(4):184-192.

Kumar S, McCalla M, Lybeck E. (2009). *Operational Impact of Employee Wellness Programs, a Business Case Study*. International Journal of Productivity and Performance Management, 58(6):581-597.

Lahiri S, Faghri PD. (2012). *Cost-Effectiveness of a Workplace-Based Incentivized Weight Loss Program*. Journal of Occupational and Environmental Medicine, 54(3):371-377.

Naydeck BL, Pearson JA, Ozminkowski RJ, Day BT, Goetzel RZ. (2008). *The Impact of the Highmark Employee Wellness Programs on 4-Year Healthcare Costs*. JOEM, 50(2):146-156 (Available at: http://astphnd.org/resource_files/185/185_resource_file1.pdf, accessed December 2012).

Organisation for Economic Co-operation and Development (OECD). (2011). *Health: spending continues to outpace economic growth in most OECD countries* (Available at: http://www.oecd.org/els/healthpoliciesanddata/healthspendingcontinuestooutpaceeconomicgrowthinmostoecdcountries.htm, accessed October 2012).

Organisation for Economic Co-operation and Development (OECD). (2012). *OECD Health Data 2012* (Available at: http://www.oecd.org/health/healthdata, accessed October 2012).

Ong MK, Glantz SA. (2004). *Cardiovascular Health and Economic Effects of Smoke-Free Workplaces*. American Journal of Medicine 117(1):32-38 (Available at: http://tobaccoscam.ucsf.edu/sites/default/files/pdf/Ong-CV-Disease.pdf, accessed December 2012).

Osilla KC, Van Busum K, Schnyer C, Larkin JW, Eibner C, Mattke S. (2012). *Systematic Review of the Impact of Worksite Wellness Programs*. The American Journal of Managed Care, 18(2):e68-e81.

Partnership for Prevention and US Chamber of Commerce. (2009). *Healthy Workforce: 2010 and Beyond* (Available at: www.prevent.org/downloadStart.aspx?id=18, accessed December 2012).

PricewaterhouseCoopers. (2011). *Health and Well-BeingTouchstone Survey Results* (Available at: www.pwc.com/en_US/us/hr-management/assets/PwC_2011_Health_and_Wellbeing_Touchstone_Survey_Results.pdf, accessed October 2012).

Quintiliani L, Poulsen S, Sorensen G. (2010). *Healthy Eating Strategies in the Workplace*. International Journal of Workplace Health Management, 3(3).

Rickards J, Putnam C. (2012). *A Pre-intervention Benefit-cost Methodology to Justify Investments in Workplace Health.* International Journal of Workplace Health Management, 5(3):210-219.

Schultz AB, Edington DW. (2007). *Employee Health and Presenteeism: A Systematic Review*. Journal of Occupational Rehabilitation, 17(3):547-579.

Serxner S, Alberti A, Weinberger S. (2012). *Medical Cost Savings for Participants and Nonparticipants in Health Risk Assessments, Lifestyle Management, Disease Management, Depression Management, and Nurseline in a Large Financial Services Corporation*. American Journal of Health Promotion, 26(4).

Towers Watson. (2011). *Pathway to Health and Productivity: 2011/2012 Staying@Work™ Survey Report* Available at: http://www.towerswatson.com/assets/pdf/6031/Towers-Watson-Staying-at-Work-Report.pdf, accessed December 2012).

United Nations. (2011). *2011 High Level Meeting on Prevention and Control of Non-communicable Diseases*. New York: United Nations (Available at: http://www.un.org/en/ga/ncdmeeting2011/, accessed December 2012).
Witters D, Agrawal S. (2011). *Unhealthy U.S. Workers' Absenteeism Costs $153 Billion*. Gallup® Wellbeing (Available at: http://www.gallup.com/poll/150026/unhealthy-workers-absenteeism-costs-153-billion.aspx, accessed December 2012).

Williden M*, Schofield G, Duncan S*. (2012). *Establishing Links Between Health and Productivity in the New Zealand Workforce*. Journal of Occupational and Environmental Medicine. 54(5):545-550.

World Economic Forum. (2010). *The New Discipline of Workplace Wellness: Enhancing Corporate Performance by Tackling Chronic Disease*. Geneva: World Economic Forum (Available at: http://www3.weforum.org/docs/WEF_HE_TacklingChronicDisease_Report_2010.pdf, accessed December 2012).

World Economic Forum. (2010). *The Wellness Imperative: Creating More Effective Organizations*. Geneva: World Economic Forum (Available at: http://www3.weforum.org/docs/WEF_HE_WellnessImperativeCreatingMoreEffectiveOrganizations_Report_2010.pdf, accessed December 2012).

World Health Organization. (2005). *Preventing Chronic Diseases: A Vital Investment*. Geneva: World Health Organization (Available at: http://www.who.int/chp/chronic_disease_report/en/, accessed December 2012).

World Health Organization. (2008). *WHO Report on the Global Tobacco Epidemic, 2008*. Geneva: World Health Organization (Available at: http://www.who.int/tobacco/mpower/mpower_report_full_2008.pdf, accessed December 2012).

World Health Organization. (2009). *Global Health Risks: Mortality and Burden of Disease attributable to selected major risks.* Geneva:

World Health Organization (Available at: http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf, accessed December 2012).

World Health Organization. (2012). *Deaths from NCDs* (Available at: http://www.who.int/gho/ncd/mortality_morbidity/ncd_total/en/index.html, accessed December 2012).

World Health Organization. (2012). *Mental Health: WHO Mental Health Gap Action Programme (mhGAP)* (Available at: http://www.who.int/mental_health/mhgap/en/, accessed October 2012).

World Health Organization. (2012). *Obesity and Overweight: Fact Sheet N°311 May 2012* (Available at: http://www.who.int/mediacentre/factsheets/fs311/en/, accessed October 2012).

World Health Organization. (2012). *World Health Statistics 2012* (Available at: http://www.who.int/healthinfo/EN_WHS2012_Full.pdf, accessed October 2012).

World Health Organization and World Economic Forum. (2008). *Preventing Non-communicable Diseases in the Workplace through Diet and Physical Activity*. Geneva: World Health Organization/World Economic Forum (Available at: https://members.weforum.org/pdf/Wellness/WHOWEF_report.pdf, accessed December 2012).

Annex I: Workplace Wellness Alliance Member Companies

Workplace Wellness Alliance Member Companies

Last updated: December 2012

1. Accenture
2. Accretive Health*
3. Aetna*
4. Amer Sports
5. American Express
6. American Management Association
7. American School Foundation
8. AON-Hewitt Mexico
9. APCO Worldwide*
10. Arogya World
11. Astrazeneca
12. Aura Biosciences
13. Avaya
14. Avon Cosmetics
15. Bank of America Merrill Lynch
16. Barclays*
17. Baxter
18. Bayer
19. BCG*
20. Beckton Dickinson
21. Bienestar Total / Clínica Mayo
22. Body Systems Corporate Wellness
23. BP
24. BP México
25. Bridgestone
26. BSC Bienestar y Salud Corporativa
27. BT*
28. Cargill
29. Carrot Estrategia Deportiva
30. Chuecas & Asociados
31. Cleveland Clinic
32. Coca Cola*
33. Colgate-Palmolive México
34. Compartamos Banco
35. Corporate Development Group
36. Costco de México
37. Covidien
38. Crossboarder Coaching
39. Devlyn
40. Diageo
41. Discovery Holdings*
42. Duke University Medical*
43. DuPont
44. Eaton Corporation
45. Edenred México
46. Empresa Saludable
47. Equilibria
48. Familia de companias de Johnson & Johnson México
49. FIS
50. Fortis Healthcare
51. frog design
52. Fundación Mexicana del Riñón, A. C.
53. GE
54. GE Healthcare*
55. General Mills*
56. General Motors de México
57. GNP Seguros
58. GPC Financial Planners
59. Great Place To Work
60. Grupo Albenture
61. Grupo Educare
62. Health & Benefits / H-B
63. Healthy Style
64. Heineken
65. Herbalife
66. Hill & Knowlton México
67. Hola Doctor
68. Home Access Health
69. Hospital ABC
70. Humana*
71. IBIS Advisors México
72. IBM
73. Idhea Coaching
74. Ingenia Nutrición
75. Interesse
76. J&J*
77. J&J Mexico
78. Jubilant*
79. Kaiser Permanente
80. Kansas City Southern de México
81. KPMG
82. Kraft Foods Inc*
83. Kraft Foods Mexico
84. La Class Technique
85. Libra Salud
86. Life Tech Corp*
87. Lockton México
88. Lohera y Asociados
89. Management Center de México, A.C.
90. Materials Distribution Agency (MDA)
91. Maypo
92. Mc Bride Sustainability
93. Médica Móvil /GNP
94. Medikrama
95. Medtronic
96. Mercer
97. MetLife
98. Microsoft
99. MidMark Corporation
100. Nestlé*
101. Nextel de México
102. Nissan Mexicana
103. Novartis*
104. Novo Nordisk*
105. Novo Nordisk Mexico
106. Nutri & Clinic
107. OLAB Diagnósticos Médicos
108. OpenTec
109. Parfumerie Versailles
110. PepsiCo*
111. PepsiCo Mexico
112. Pfizer
113. Pfizer México
114. Point Plus
115. Previta
116. Procter & Gamble de México
117. Progénika
118. Proteus Biomedical Inc*
119. PwC
120. Qiagen
121. Ralph Wilson
122. Right Management
123. SAB Miller
124. Salomon
125. Salud 360°
126. Salud Global
127. Sánchez DeVanny
128. Sandvik de Mexico
129. Sanofi Mexico
130. SAS*
131. Saudi Aramco*
132. Scotiabank
133. Sealed Air*
134. Shaklee Corporation
135. Singapore Health Promotion Board
136. Sodexo (AMECAA)
137. Sodexo Motivation Solutions Mexico
138. Stendhal
139. Tamer Group*
140. Tata Consultancy Services*
141. Technogym*
142. Ternium México
143. The American School Foundation, A.C.
144. The Energy Project
145. Tiffany & Co. Mexico
146. Transitions Outplacement
147. Tupperware*
148. Uhma Salud
149. Unilever*
150. UnitedHealth
151. Universidad Panamericana
152. US Preventive Medicine
153. Vector
154. Velago Fitness
155. Wellness Corporate Solutions
156. Wilson
157. Xerox Mexico

http://alliance.weforum.org

Note: * Denotes Workplace Wellness Alliance Leadership Board Members

Annex II: Key Performance Indicators

Survey Tool	Workforce Demographics	General Demographics	Employees
			Age
			Gender
		Health Indicators	Smoking
			Alcohol
			Exercise
			Nutrition
			Stress
			BMI
	Corporate Practices & Outcomes	General Practices	Global Framework
			Employee Assistance Programmeme
			Job Satisfaction
			Engagement Survey
			Employee Health Survey
			Health FTEs
			Occupational Health Safety
		Support Services: Health & Well-Being	Tobacco Free Programme
			Alcohol Free Programme
			Principle and Up to Two Additional Programmes*
			Programme Type*
			Programme Length*
			Programme Eligibility*
			Programme Enrollment*
			Programme Unit of Measure*
			Programme Result*
		Labour Practices	Flexible Arrangements
			Absenteeism
			Lost Time
			Sick Leave
			Turnover
			Presenteeism
			Complaints
			Accident Rate

Alcohol
Health Screening
Mental Health
Nutrition
Physical Activity
Tobacco

* Data field was obtained for each of the above programme areas

Annex III: Full ROI Case Studies

1. Smoking Cessation: Johnson & Johnson (J&J)

Johnson & Johnson is a US-based multinational company that manufactures and markets consumer health goods, pharmaceuticals and medical and diagnostic devices. It has operations in more than 60 countries worldwide, employing approximately 118,000 people and its products are sold globally. The company conducts business in virtually all countries of the world with their primary products directly linked to human health and well-being, operating on a "decentralized" model that is comprised of a "family of companies" that function according to their unique product mix as well as regional, cultural and diverse variables.

In spite of this management model, the company has instituted a number of global employee health and well-being programmes. Programme expectations set at a corporate level allow for a tailored and flexible implementation at the local level.

As a healthcare company, fighting cancer has always been a top priority for Johnson & Johnson. Therefore, a particular focus of the company's efforts in this area has been in developing and implementing effective smoking cessation programmes. Because tobacco use is a directly modifiable behaviour linking to cancer incidence, Johnson & Johnson joined forces with external, similarly-minded organizations like the CEO Roundtable on Cancer, the WHO and others with the goal of "leading by example", thereby becoming a completely tobacco-free organization. Additional efforts included a global Tobacco-Free Policy that bans tobacco use on company property (including company grounds), supports smoking cessation education and subsidizes efforts to quit.

Because programmes are set at a corporate level but initiated and implemented at the local level, special attention is paid to cultural norms utilizing local staff members who fully understand the specific issues involved – and regional consultation and support is always available from a Wellness expert if needed.

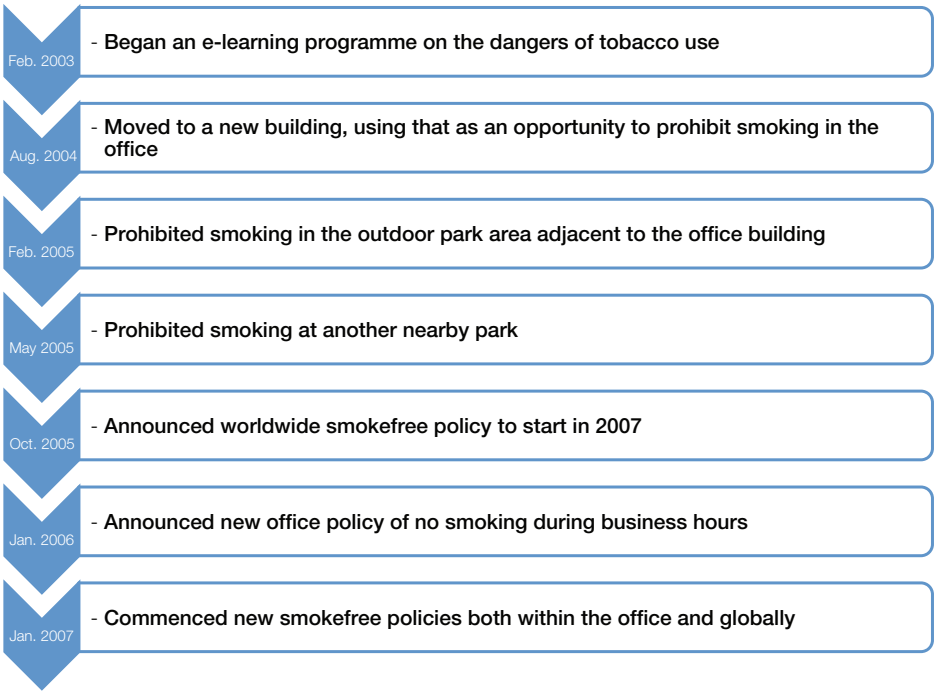
In Japan, Johnson & Johnson first approached the problem of cigarette use among employees in the 1990s. It began by designating separate smoking areas within its buildings and removing second-hand smoke from the immediate vicinity of non-smokers. However, in the beginning of the 2000s, smoking was still permitted in some company locations. Ongoing efforts worked toward the elimination of all smoking areas and began a gradual process toward a completely smoke-free workplace with the ultimate goal of smoke-free employees. The chart below (Graph 6) shows the gradual timeline toward this goal.

A ROI for this programme in Japan was calculated based on the time employees previously spent on smoking breaks before the implementation of the tobacco free programme. Derived from 300 smokers who took four 15-minute smoking breaks per day, the increase in productivity time after full programme implementation equated to about US$ 3.9 million per year. This could be further extended by estimating the impact that quitting smoking has on long-term health levels of employees and how that influences health-care costs, productivity and absenteeism.

By 2007 the tobacco-free workplace policy was fully implemented, so in 2008, the programme emphasis turned to smoking cessation efforts. A rigorous campaign was conducted so as to align with the worldwide No Tobacco Day, with part of this campaign including offering Nicorette at no cost to employees. To date, 560 employees have participated in the quit smoking campaign and the percentage of smokers has declined approximately 2% each year.

Through a renewed effort to further improve these numbers, a three-year plan was developed that focused on healthy lifestyle, stress care and non-smoking. Efforts also turned to establishing a non-smoking culture within the company. Employee surveys were conducted to evaluate the mindset of smokers/non-smokers about the current non-smoking environment, smoking policy and measures to quit smoking. The survey showed that almost all employees were aware of the Tobacco Free Policy, that 70% of smokers supported it, that 80% of these smokers wanted to quit smoking and that 20% wanted to quit right away.

Graph 6: Timeline of Smoke-free Initiative at Johnson & Johnson



With this knowledge, ongoing measures to support employees in smoking cessation efforts now include an e-learning tool to encourage non-smoking, counselling by Employee Assistance or internal healthcare staff, group seminars and financial aid for Nicorette. Also under consideration is an in-house "non-smoking website" where, among other things, individuals can share success stories and be informed of a variety of activities that support non-smoking efforts.

In conclusion, making the location tobacco-free is a key element. Since 2008, when data on the Johnson & Johnson Health & Wellness programmes was first measured on a global basis, 100% of world-wide locations had officially implemented the Tobacco-Free Policy (excluding those exempt due to local regulations). However, the full complement of "successful" programme implementation has shown incremental increases year to year – from 2008 having 69% "successfully completed" to 77% in 2011 for example.

By identifying and selecting global areas of focus for wellness programmes and by supporting local teams with programme implementation aids such as centrally-provided toolkits, guidelines and expertise, organizations can ensure a consistent roll-out of global wellness, even across a decentralized network of programme owners in multiple countries. Resources are highly scalable, incorporate best practices, allow for continuous improvement and include programming that would be difficult or time consuming for local teams to implement on their own. Shaping the external landscape through various partnerships also continues to be a critical element in this strategy. For example, in 2011, Johnson & Johnson shared the stage at the Clinton Global Initiative with the US Department of Health and Human Services, the Mayo Clinic, the American Cancer Society, the Campaign for Tobacco-Free Kids and the Global Business Group on Health in announcing a Global Smoke-Free Worksite Challenge. This partnership strives to advance healthier lifestyles and outcomes via smoke-free policies and leadership at the worksites, supply chain locations and communities in which we work.

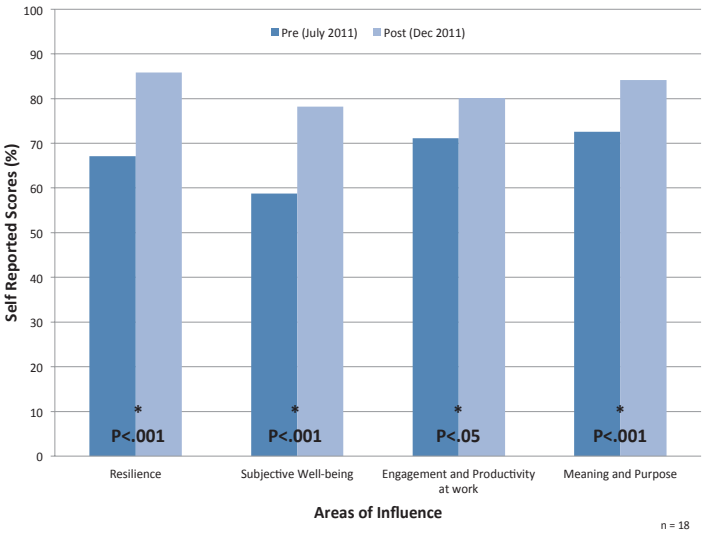
2. Mental Resilience: Unilever

Unilever is a multinational consumer-products company headquartered in London and Rotterdam. Measured by revenues, it is the third-largest such company in the world and produces and markets goods around the globe. In its efforts to maintain a healthy workforce, Unilever has increasingly emphasized areas of mental health, in additional to the more traditional focus of physical well-being. It has implemented stress management and mental resilience programmes around the world, including production lines, manufacturing centres, executive offices and corporate administrative workforces.

The company instituted a mental well-being programme in Brazil. The on-site team of doctors and nurses noted that mental health issues relating to work and lifestyle had been increasing. This phenomenon led to lower levels of productivity, increased absenteeism, and created problems at the workplace. Each case was investigated individually by a medical professional, and it was discovered that stress due to family and social situations in addition to work-related strains was a root cause.

To counter this situation, Unilever offered support to both employees and their families through its employee assistance programme (EAP). The cost of this programme is US$ 2 per employee per month. It is provided in conjunction with a third-party supplier of EAP services, and Unilever's medical staff received additional training to better detect problems and refer employees and families to the adequate resources. With 1040 instances of engagement in the EAP programme in 2011-12 related to psychological complaints, a subset of 704 cases were linked to mental ill-health. With 658 cases resolved, and an estimated savings of US$ 1,850 for each of these instances[12], the overall reduction in medical costs and productivity losses was projected at US$ 1,217,300.

Graph 7: Results of the Mental Resilience Pilot in Egypt



Additionally, the firm piloted a programme that incorporated biofeedback and computer software that help employees understand their reactions to stressful situations.

In the past year, of the 53 participants in this pilot, 100% reported reduced stress symptoms and did not need assistance treatment (psychologist and/or psychiatrist visits) and Unilever has seen a reduction in the number of complaints about mental health and stress-related issues to medical staff. This decrease comes at the same time as increasing utilization of health-care professionals. It indicates that mental health issues are declining while employees are making more use of the resources available and savings per person in medical costs were estimated at US$ 1,200.

Based on benefits data, total costs per year (including mental illness related ones) are approximately US$ 1,230,000, which will be monitored over the next few years to see if the downward trend continues.

The firm also recently piloted a new programme in Egypt, testing it with 18 senior leaders of Unilever's Mashreq division. This location was chosen because of the stress caused by the political turbulence associated with Egypt's recent popular overthrow of the government and the cohort was identified because Unilever believed that by targeting leadership with its efforts, it could drive a shift in culture and performance within the organization more broadly. The result was an improvement across the board in self-reported resilience measures and in both biometric and behaviour outcomes.

Both in Egypt and Brazil, tailored programmes using self-reported indicators were combined with objective biometric measures to help employees better manage stress and improve mental resilience. While it may be too early to calculate an exact dollar return, it is clear to Unilever that the higher engagement and productivity will reflect positively on proxy measures such as turnover and grievance rates, contributing to talent management and increasing its competitiveness as an employer. The next step for such research would be to estimate the financial impact that this programme has had, based on increased productivity and decreased absence rates. By comparing those numbers with the cost of the programme, Unilever could make a stronger business case for the expansion of such programmes.

[12] Research conducted by Ricardo De Marchi (Delboni, 1997), indicates that the spending amounted to $ 412 per year per employee in 1985, with a projected increase to U.S. $ 1,850 in 2000. (http://www.biblioteca.sebrae.com.br/bds/bds.nsf/7601D62A13F8478A03256FC10063CDB4/$File/NT000A501A.pdf - page 2)

3. Incentivizing Healthier Behaviours: Vitality

Paying people to be healthy is a novel idea and is an attractive motivator for individuals. Receiving a substantial discount on gym membership fees, up to 25% off healthy food purchases, being eligible for flight and hotel discounts and money reimbursed for purchases at a number of stores for books, toys, music, clothes, sports equipment and pharmacy supplies as well as cinema discounts would for most be a welcome reward for making healthier choices. Originating in South Africa, this benefit has been available to many South Africans through the Vitality programme since 1997. This programme was originally developed by South Africa's largest health insurance business, Discovery Health, to enhance and protect the lives of its members and reduce risk for disease. Vitality has since developed into an international business represented now in South Africa, the United Kingdom, the US and China. It is a credible science-based wellness programme that harnesses the power of incentives to change behaviour. The programme has shown positive impact on healthcare costs.

Alcon, a global medical company that focuses on the production and marketing of eye-care products, engaged The Vitality Group programme at US locations. Employees were given a range of incentives for their participation at various levels of the programme and initial engagement required employees to complete a HRA as well as select a health goal. They were also asked to choose five activities in which to participate, including different types of exercise (made easier to access through discounted gym access), completing smoking cessation and weight loss courses (for which they received rebates on premiums), getting health screenings and taking online health and wellness assessments. Upon completion of these activities, employees receive a US$ 100 premium discount (US$ 200 for employee and spouse). Further participation was incentivized by giving employees access to discounted hotel stays and by allowing employees to earn Vitality Bucks for engaging with the programme. Employees were then able to use their Vitality Bucks on an online shopping mall to get free merchandise.

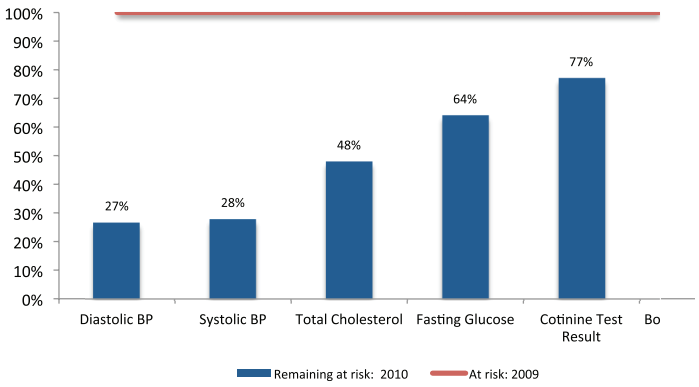
Data was available for all employees, spouses and children who participated in the programme from May 2008 through the end of 2010.[13] It was used to analyse engagement, determine how the programme influenced the health states of participants through changes in risk factors and establish ROI of the programme as a whole.[14, 15] To compute the ROI associated with the implementation of the programme at Alcon, Vitality calculated the total expenditures on the incentives and other benefits. Those figures were then compared with the medical costs of participants at a low or moderate engagement level versus those who were highly engaged. Indirect workplace savings, including productivity, short-term disability and workers' compensation were calculated by taking the work days lost and converting to savings using salary metrics. For productivity, productive work days lost was calculated using the WHO Health and Work Performance Questionnaire (HPQ) responses. Actual claims data from 2009 to 2010 was used when looking at short-term disability and workers' compensation.

Table 2 and Graph 8 illustrate the programme costs and the different areas where Alcon was able to save money or increase productivity in 2010 and also presents results from other firms implementing similar programmes. The return on each dollar of investment for the Alcon programme was calculated to be US$ 1.48 in 2010 and other firms show similar results. This type of granular data collection and statistically-robust calculation of changes in the state of employee health provides a particularly clear ROI calculation and represents a well-developed methodology for measuring programme effectiveness. Alcon received the C Everett Koop Award for their wellness interventions.

Table 2: Estimated ROI for Vitality Programme Participants

	Alcon	Company 2
Programme costs	$2,991,892	$171,241
Direct Savings	$1,450,000	$157,537
Indirect Savings	$2,978,000	$174,517
ROI	1,48	1,94

Graph 8: Transition of high-risk members (2009 to 2010, verified data)



4. E-Coaching: USPM

US Preventive Medicine (USPM) is a company focused on preventing disease, managing existing conditions and controlling the cost of healthcare for individuals. It has created a web-based health management platform, The Prevention Plan, which leverages technology with social cognitive efficacy-building and self-regulatory mechanisms like goal setting and self-monitoring of a "Prevention Score" to reduce health risks. It has been implemented in both the US and the United Kingdom.

The web-based programme allows users to complete an HRA and with biometric reporting and lab testing which is processed through an integrated system, a personalized Prevention Plan is developed. This plan provides users with knowledge of their health risks as well as tools to reduce those risks. In addition, users are provided a suite of resources, trackers, activities and information that allows them to act on recommendations. Users are able to participate in virtual coaching, live coaching, or fitness challenge activities with co-workers to reduce their risks.

Studies have shown that health costs follow health risks – with cost savings of US$ 215 in medical costs and US$ 950 of productivity costs saved per health risk reduced per person per year as well as up to a six to one ROI from comprehensive wellness programmes.[1,2,3] USPM has also previously published research showing compelling health risk reductions in programme participants.

A total of 92,186 members have now registered with The Prevention Plan. Of those registered members, 11,689 have participated for at least two years, submitting at least three annual HRAs. In addition, 7,804 members completed lab testing or reported lab values. We analysed the population health risk transitions as compared to the expected transitions as defined by the flow models from our prior published studies.[4, 5] The population health risk reductions in those 7,804 individuals that participated

[13] Children's activity is excluded from Discovery Health's data analysis. The results of several programmes, such as Weight Watchers, are excluded because of difficulties in data collection.

[14] Discovery classifies participants into low, medium and high engagement with the programme.

[15] Healthcare costs include inpatient hospital stays, outpatient treatment, doctors' visits, pharmaceuticals and other expenditures reimbursable through Alcon's health insurance provider.

[16] The p-value associated with this state change was calculated to be 0.0001.

in their Prevention Plans for two years showed that 22.80% of that population significantly reduced their health risks.[16] Of those who started in a High Risk Category at baseline, 45.57% moved down to Medium Risk and 18.54% moved down to Low Risk Category.

To study the relationship between engagement level and risk reduction, USPM grouped engagement types based on how a user interacted with the Prevention Plan. Stage I was informational in nature and included the completion of a HRA and laboratory testing. Stage I engagement was further categorized into three sub categories defined by the number of times a user logged on to their personalized Prevention Plan website.

Stage II engagement was defined as virtual and/or social engagement and was comprised of completing one or more virtual coaching action programmes and/or social challenges. Virtual coaching was accomplished through completion of self-directed activities, automated messaging and targeted reminders included as part of a risk-based action programme. Social engagement was through the use of group challenges aimed at physical activity or healthy eating to track their progress and provide online comments of support to their teammates as well as observe their ranking compared to other teams.

Engagement at Stage III included live coaching interactions. We differentiated between live coaching alone and live coaching plus virtual and/or social engagement through the use of sub categories. Stage III(a) was live coaching without virtual and/or social engagement, while Stage III(b) included virtual and/or social engagement as well as live coaching interaction.

This analysis revealed that increased engagement resulted in greater health risk reductions statistically significant ($p<.0001$) level compared to the flow that would be expected without the intervention for all Stages except Stage I(a).

Even though Stage III engagement with live coaching yielded the greatest risk reduction, Stage I engagement demonstrated a dose response in improved risk reduction based on the number of times people logged in to their Prevention Plan and Stage II engagement with virtual coaching/social engagement was also associated with dramatically significant ($p < .0001$) health risk transitions exceeding expected Natural Flow.

Therefore, these results support the concept that leveraging technology with a web-based health management programme with virtual coaching and social engagement are effective risk reducing alternatives to live coaching interaction.

To further enhance engagement, in addition to the web-based platform of the Prevention Plan, USPM in collaboration with Qualcomm Life (a wholly owned subsidiary of Qualcomm, Inc.) has launched a mobile health app called Macaw. Macaw is a full-feature wireless technology app for smart phones that assesses an individual's health risks and serves as a personal health monitor hub to track health metrics and activity, and to integrate information from other health and fitness apps and wireless devices – including pedometers, glucose meters, activity armbands, weight scales, labs, sleep managers, mobile weight loss apps and blood pressure cuffs. By syncing Macaw with a growing list of apps and devices, users are able to track their physical activity, nutrition and health knowledge while engaging in games that unlock prizes.

USPM's health tracking and coaching programmes have shown that there are several ways to encourage behaviour changes and improve health status among participants. It has found that more traditional coaching methods with one-on-one personal interactions are still the most effective in terms of absolute results, but e-coaching programmes that replace human coaching with electronic interaction can also cause statistically significant changes in health levels. Electronic interaction can be a more cost-effective means of reaching employee populations and also has the potential to leverage increased use of social media and other online forms of communication to further increase its efficacy in the future.

Table 3: Population Health Risk Reduction by Stage of Engagement

Stage (Intervention Level)	% Reduced*
Natural Flow (No intervention)	15.77%
Stage I (a)	18.11% (NS)
Stage I (b)	21.97% (p<0001)
Stage I (c)	23.75% (p<0001)
Stage II	20.74% (p<0001)
Stage III (a)	25.63% (p<0001)
Stage III (b)	30.05% (p<0001)

1 Edington, D. *Zero Trends: Health as a Serious Economic Strategy*. Health Mgmt Research Ctr. 2009
2 Burton, W. et. al. The Association of Health Risk Change and Presenteeism Change. JOEM. Volume 48, Number 3, March 2006, pp 252-263.
3 Baicker K, Cutler D, Song Z. Workplace wellness programs can generate savings. *Health Affairs*. 2010;29:304-11.
4 Loeppke, R; Edington, D; et al. "Two Year Outcomes Show Effectiveness of the Prevention Program in Lowering Health Risks and Costs." Letter to the Editor. *Popul Health Manage*. 2011 14 (5): 265.
5 Loeppke R, Edington D, Beg S. Impact of The Prevention Plan on employee health risk reduction. *Popul Health Manage*. 2010;13(5):275-84.

5. Site Certification: General Electric (GE) Healthcare

Health system re-design can start with major organizations as they engage thousands of employees in understanding the value of health and wellness. Such momentum is likely to be a competitive advantage as employers recognize how engaging employees in their health can result in long-term economic and competitive impact on healthcare costs, while providing employees a strong foundation for life-long health.

HealthAhead, GE Healthcare's global employee health and wellness programme covering its more than 300,000 employees, is part of the company's commitment to tackling global healthcare challenges through a strategy called *healthymagination*.

GE Healthcare's focus on supporting sustainable health through innovative technology and services addresses itself to three critical areas: increasing quality, access and affordability in healthcare and collaboratively addressing industry issues from end to end, with an emphasis on prevention and early detection. GE Healthcare believes that employers can have a significant, positive impact on employee health. By partnering with GE Healthcare employees and their families worldwide, the company aspires for them to live and work in the healthiest way possible, decrease health-related absences and ultimately limit the growing cost of healthcare.

HealthAhead began formally in 2010. Progress and success are driven and measured through the cornerstone process of Site Certification, a key enabler for the implementation of the programme across GE Healthcare's major business locations around the world. The model outlines a framework for workplace health and wellness that strives to make it as easy as possible for employees to make healthy choices.

To be certified, sites must pass a rigorous onsite audit and meet more than 50 requirements grouped under nine elements (see Visual 4); and comprehensive audits include remote reviews of programmes and results plus onsite visits, interviews with site employees and executives, and direct observation of HealthAhead programmes and culture.

Visual 4: Nine Dimensions of the HealthAhead programme

While the programme provides targets and requirements across a number of dimensions, individual sites are given flexibility in the details of design and implementation of plans to achieve those goals. This flexibility is immensely important given GE Healthcare's global scale and the diversity of its workforce, which includes a variety of roles ranging from distributed sales teams to manufacturing and production employees. HealthAhead employee advisory teams are volunteer-based and work directly with site management to localize HealthAhead programmes. It typically takes 12 to 18 months for a site to achieve certification. Trained auditors, recruited from previously certified locations, report back level of satisfaction with their experience; these metrics track in the 90% favourable range.

Early results of HealthAhead are encouraging, with the effects of HealthAhead certification clear: 200,000 GE Healthcare employees currently have access to free or reduced-cost fitness centres, approximately 30,000 are participating in GE-provided lifestyle programmes and approximately US$ 50 million is spent on health and wellness programmes each year (see Visual 5 below). Additionally, GE Healthcare campuses globally have been tobacco-free since November 2011.To support this effort, GE Healthcare expanded resources to help employees quit using tobacco in the US and introduced nicotine-replacement therapy to global employees at either free or reduced cost.

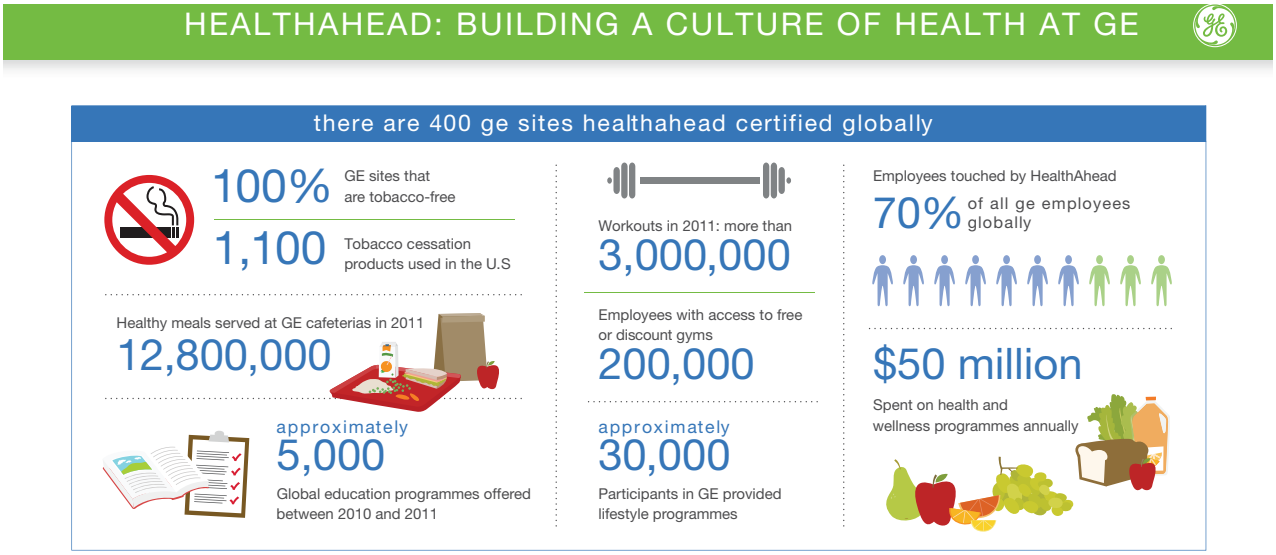
Almost two years into the programme, at the end of 2011, 350 of GE Healthcare's largest sites were HealthAhead certified. All GE Healthcare sites with 100 or more employees are now being required to meet these standards, with new sites being added as they grow or are integrated into GE Healthcare post acquisition. Perhaps most impressive is the employee engagement resulting from HealthAhead certification. Among the hundreds of examples of the personal impact HealthAhead has on GE employees:

- A GE Healthcare employee forum initiated a weight loss challenge that exceeded 3,000 pounds (1,360 kilograms)
- A "small changes" campaign generated 9,400 commitments to simple health improvements from employees in 56 countries
- Several GE Healthcare businesses have worked with local healthcare providers to launch diabetes prevention programmes providing screening, educational resources and preventive coaching to employees, spouses and eligible dependents
- GE Healthcare celebrates HealthAhead Day annually as a way to mark progress and give employees the opportunity to celebrate their own health accomplishments or learn something new about health and wellness. HealthAhead Day 2012 engaged sites in 52 countries, with more than 2,000 events, reaching over 132,000 employees. HealthAhead Day's signature 2012 programme, "Go for the Gold" reached its target of 1 million kilometres of activity with 50,000 workouts recorded and 10% of those workouts were recorded by family members of GE Healthcare employees.

Continuous improvement is integral to HealthAhead. GE Healthcare notes that there are particular challenges that come with instituting a company-wide, global approach to health and wellness programmes. Nutrition requirements are one of the most difficult areas of compliance, with some locations having to redesign menus and snack options as well as remove vending machines entirely. Going tobacco-free requires attention to cultural variations in prevalence and attitudes toward smoking. Extending the reach of the programme to family members is also critical. A HealthAhead website provides a one-stop-shop for employees anywhere in the world. Health-related content has been localized for 12 countries, reaching 65% of GE Healthcare employees. Page views exceed 1.6 million, with visitors from 116 countries.

The HealthAhead programme continues to expand as a model for workforce health. A voluntary site programme more suited to smaller sites, those with between 50 and 99 employees, was deployed in 2012. So far GE Healthcare has reached approximately two-thirds of its global employees. The next stage is to extend the reach of HealthAhead to the remaining third, and more extensively to employees' families.

Visual 5: HealthAhead Impact



Through HealthAhead, GE Healthcare approaches workforce health holistically. It is driving a cultural transformation toward long-term health within the company by incorporating health as a senior leadership objective and educating and encouraging employees to take an active role in planning and managing their health and healthcare while demanding value (quality, transparency, cost-effective care) from providers and health plans when accessed. Tools and support for engaging in healthy living behaviours complete this integrated foundation.

Since 2008, GE Healthcare has managed US healthcare costs to less than 3% average growth per year. Other related evidence of impact is seen in GE Healthcare's proactive, integrated approach to managing US health-related absence for more than 15 years. By providing comprehensive, cost effective disability services to employees, the company continues to see decreases in lost work days year over year and in 2010 and 2011, US health-related absences decreased by an additional 1% and 2%, respectively. Based on similar successes in other regions of the world, GE Healthcare is operationalizing health-related absence programmes in a dozen countries.

6. Leveraging Nutrition/Exercise to Manage Costs: Humana

Humana is an American healthcare company headquartered in Louisville, Kentucky. It covers more than 11 million people with its health insurance products, primarily through Medicare Advantage for seniors, and employs over 40,000 associates living and working in the US and Puerto Rico.

Healthcare company Humana is not immune from the pressures of increased healthcare costs faced by US companies. In the mid-2000s Humana began implementing various initiatives to maintain coverage for its employees while keeping its costs competitive. The guiding principle of these initiatives was to engage and empower associates to understand and manage their own health so as to align incentives across the firm and associates. By helping associates understand their health and requiring that associates have a vested interest in spending their own healthcare dollars, Humana hoped that associates would be more motivated to engage in healthy behaviours to keep costs down for themselves as well as for Humana. The company recognized that if these types of initiatives work for associates, they may also be effective in controlling costs for insured members.

Crucial to Humana's strategy was a holistic understanding of health. The first step to this was to administer an associate-wide health risk assessment (HRA) which was matched to information on associates' health and pharmacy claims. By doing this, Humana was better able to understand through data the relationships between various behaviours and health expenditures. Humana also undertook a three-year study of consumer behaviour in healthcare by looking at insured individuals with and without discretionary control over insurance costs.

Weight loss and healthy weight management were key areas of focus Humana targeted early in its programme development in 2010. The company saw this as an important issue to include in its pilot programmes because the data collected from the health risk assessment showed that unhealthy weight was not only a widespread issue internally, but also a major contributor to healthcare costs. Lack of physical activity was correlated with having one or more chronic conditions; associates who did not meet physical activity recommendations had an average of US$ 1,089 more per year in total medical costs than associates meeting physical activity recommendations. Among associates over 60, those who did not meet physical activity recommendations had an average of US$ 3,609more per year in total medical costs. Humana's model for identifying which initiatives work best to achieve certain outcomes among associates is to run small-scale associate pilots and learn from the results. One of the first of these pilots on weight loss was the Biggest Loser Club (BLC), initiated in June 2010 and based on the popular US weight-loss reality television show. The programme was designed to harness social relationships to help encourage weight loss. In total, 1,004 associates enrolled in the BLC. Participants tracked their progress over time using online applications and were encouraged to support each other to attain weight loss goals. Nearly 90% of the participants regularly used the BLC website to log in and report their weight loss. As of December 2010, participating associates had lost 3,383lbs with the average participant having lost 1.7% body weight to that point. Since the pilot ended, the BLC programme has been offered to Humana associates at a discounted rate through Humana's Great Deals platform.

Another initiative Humana created to spur associates to achieve a healthy weight was the "Win, Place, Show Me the Money" pilot. This pilot, however, used financial incentives to induce behaviour changes. By committing to get active and eat right to reach or maintain a healthy weight over the course of a year, associates had a chance to win one of eight US$ 10,000 prizes. Over 4,000 associates, which equated to about 16% of the Humana workforce at that time, enrolled in the programme; of these, 3,248 were identified as needing to lose weight. That group as a whole lost a total of 8,815lbs, or 2.7lbs each, within the first six months of the programme. Associates who remained active through the first quarter lost an average of 6.8lbs each; those who remained active throughout the second quarter lost an additional 5.9lbs each that quarter. Humana estimated savings from medical costs and absenteeism for the weight lost in the programme at US$ 88,200. Although Humana has not continued the "Win, Place, Show Me the Money" programme, it has continued to create a community around nutrition and weight loss and to financially reward associates for positive behaviours. Weight management programmes have been rolled into HumanaVitality, a partnership between Humana and Discovery Health. Through HumanaVitality, weight management is just one part of a larger total health and well-being programme that offers financial incentives for engaging in healthy behaviours and achieving various health and well-being goal.

7. Biometric and Economic Indicators of Success: Jubilant

Jubilant HollisterStier is an integrated life sciences organization specializing in the development and manufacturing of both proprietary and contract-manufactured dosage products, providing specialized manufacturing services for the pharmaceutical and biopharmaceutical industries. With facilities in the United States and Canada covering approximately 1,100 employees, they offer a comprehensive workplace health and well-being programme called "My Life".

My Life is based on the premise that employees are not all the same and therefore benefit from customized health and wellness improvement programmes. With three main categories called *Maintain*, *Improve* and *Change*, My Life provides support for employees to maintain their health status, improve it with specific goals, or change their habits for a significant shift in health e.g. smoking cessation. The incentive structure links positive results to rebates on premiums when targets are achieved. The philosophy is also to keep things as simple as possible to encourage high compliance and provide tools for self-management, making it as easy as can be for people to lead healthier lives.

Conscious of the importance of measurement to track results, Jubilant records participation rates in different activities and initiatives and screenings take place every six months for regular follow-up, with blood work outsourced to a third party. Results are reviewed and the offering is updated accordingly, with the most recent results leading to several new initiatives around weight loss management and physical activity. Some of the biometrics

measured include cholesterol (both with and without medication), blood pressure, BMI, percentage body fat, blood glucose and an additional yes/no question on tobacco use.

With metrics going back to a few years before the implementation of their workplace wellness programme and the programme being in place since 2009, Jubilant has observed a marked improvement in biometric results over time, with an average improvement in cholesterol results by 5% and reduced blood pressure by an average of 7%.

In addition, economic indicators have followed a similar trend, with Jubilant's annual increase in payments before the programme was started at +14.2% compared to a national average of +13% in contrast to a current annual increase for Jubilant of a mere +5.4% compared to the national average of 8.3%.

While the correlation between economic and biometric indicators is a loose one rather than a situation where a clear cause-effect pathway can be identified, Jubilant recognizes that other factors are probably contributing to the improved numbers. Given the transparent approach Jubilant has taken in metrics collection and monitoring of claims data and costs, internal communication may have served the dual purpose of raising employee awareness, contributing to their acting more responsibly with their health expenditures. This could be attributed to something similar to the Hawthorne effect, also known as the Observer effect, where just knowing that items are being measured affects outcomes. Nevertheless, Jubilant's results still strengthen the case for a comprehensive workplace wellness programme as the return can be seen both in biometrics and economic indicators.

8. Employee Leadership and Productivity: Saudi Aramco

Owned by the Saudi Arabian Government, Saudi Aramco is a fully-integrated global petroleum enterprise that undertakes the exploration, production, refining, distribution, shipping and marketing of oil and gas. The company manages proven conventional reserves of 259.7 billion barrels of oil as well as the fourth largest gas reserves in the world, at 282.6 trillion cubic feet. In addition to its headquarters in Dhahran, Saudi Arabia, Saudi Aramco has affiliates, joint ventures and subsidiary offices in China, Japan, India, the Netherlands, the Republic of Korea, Singapore, the United Arab Emirates, the United Kingdom and the United States. It has a multinational workforce of over 56,000 employees, and faces significant challenges in ensuring that employees across locations and enterprise functions have the opportunity, knowledge and support to take charge of their health. To that end, the firm launched the Saudi Aramco Wellness Programme (SAWP) in 2005 to target the well-being of Saudi Aramco employees and encourage healthier lifestyles.

The programme is based on a population health management model, consisting of online and onsite health improvement and injury prevention resources, physical activity classes, lifestyle wellness coaching courses, health screening clinics, healthy lifestyle modification classes and injury prevention programmes. Wellness on Wheels (WOW) clinics ensure that employees in remote locations, such as oil rigs and offshore facilities, can also take part in the onsite and online wellness activities, health screenings and wellness lifestyle coaching. The SAWP promotes a culture of health throughout the company infrastructure, connected through a "champion" network; to help make wellness part of everyday work practice.

Management nominates wellness champions who complete a four day certification programme and attend an annual conference. In a recent qualitative study of a random sample of wellness participants (n=150), Saudi Aramco found that the corporate wellness champion structure enhanced employee health improvements from the SAWP (p=0.001) and resulted in increases in employee participation. The champions programme was also associated with employees increasingly taking wellness information home to their families (p=0.001).

An additional study, using longitudinal cohort data of 1,157 participants from 2005 to 2011, investigated the effect the workplace wellness programme has had in cost avoidance. The effect was estimated to be US$ 3.5 million. This was accomplished through disease prevention, reduction of health risks and behaviours and physical activity. Through Markov-modelling, Saudi Aramco was able to demonstrate the efficacy of the programme. In addition to the cost avoidance, the company's preliminary survey findings indicate that well employees have improved other work and health factors, such as job satisfaction (60%), managing stress more effectively (61%), improved work engagement (60%) and enhanced productivity (70%).

To date, Saudi Aramco has found its programme has a statistically significant positive impact on a number of biometric indicators, health behaviours and job performance in its workforce.

Additional research based upon this methodology has led to applying these cost avoidance figures to the development of a proposed differential equation for presenteeism. A significant industry sector outcome of SAWP equates loss of productivity to poor health, saved US$ 14.85 million for the company, equivalent to 138,831 barrels of oil (market value).

To contribute towards the on-going wellness work and research in the Middle East region, a book entitled "A Wellness Roadmap for the Middle East" will be released in 2013.

9. A Holistic Approach to Health, Well-being and Employee Engagement: Novartis Singapore

Introduction: Be Healthy in Singapore

Launched in April 2011, Be Healthy is Novartis AG's group-wide health promotion initiative for affiliates worldwide to support healthy lifestyles, share knowledge and help associates to reduce injury and risk of disease that could impact their personal and professional lives. Be Healthy reaches 95% of the more than 120,000 group company associates worldwide.

This initiative builds upon a tradition of providing health and well-being programmes for associates at Novartis, their health and well-being being a top priority for the Novartis Group and a natural extension of the company purpose to "care and cure."

> **"Over the last several years, I have been making changes to improve my health like eating better and exercising more. Be Healthy further reinforced my commitment to keep healthy and regularly monitor my key metrics. I am glad to share that my health screening numbers are now within the normal and healthy range."**
>
> Mark Chua, General Manager, CIBA Vision Asian Manufacturing and Logistics Pte Ltd

In Singapore, Be Healthy is offered on a voluntary basis to 100% of the company's associates in manufacturing, research, commercial and regional offices, approximately 1,100 people. The programme is based on four key pillars of health prevention:

A highlight of the year for Novartis worldwide is the annual Be Healthy Celebration Week, five days of health and well-being activities focusing on all four dimensions of the initiative – Move, Choose, Know and Manage – with events open to associates and their families.

Be Healthy has been well received in Singapore with high participation rates in all aspects of the initiative. For instance, more than 70% of associates took part in some aspect of "Move" during 2012.

Outcomes: Improved health, engagement and retention

While it is still too early to know the full impact of Be Healthy, anecdotal reports like the one from the site head above suggest that it is achieving its objective and supporting associates to live healthier lifestyles both at work and at home.

The programme also seems to be having an impact on absence and turnover rates. Be Healthy is one of a number of work-life engagement initiatives Novartis Singapore has put in place addressing staff engagement and motivation, the end result being a significant decrease in both absence and turnover rates. In two out of the three Be Healthy sites that launched in 2011, absence rates have fallen between 20-40%. In addition, there has been a 5% decrease in voluntary turnover since the start of the programme; and turnover is significantly below the industry benchmark in Singapore, which is estimated at around +/- 20%.

In addition, in 2012, Novartis Singapore sites were recognized externally with one gold and three bronze awards from The Singapore Health Promotion Board for promoting workplace health.

Success Factors

- **Innovative communications:** Regular reminders to employees about Be Healthy activities and sharing of activities across Singapore sites to build excitement and encourage healthy competition.
- **Leadership support and integration of families:** The country leadership team strongly supports Be Healthy and frequently takes part in activities. Families of associates are invited to participate in healthy lifestyle initiatives.
- **Regular evaluation**: Site-level "Be Healthy Champions" encourage best practice sharing and monitor key performance indicators like participation.
- **Diversity in a global campaign:** Due to the diversity of the employees in Singapore, programmes are tailored to suit every type of associate, from manufacturing to office-based roles.

Table 4: Novartis Be Healthy pillars and offering in Singapore

Pillar	Offering in Singapore
Move: exercise	Employees are encouraged to participate in a range of physical fitness activities. Novartis Singapore offers a 50% gym subsidy as well as a football team on each location.
Choose: healthy eating	Along with offering inexpensive, labelled healthy food at on-site canteens, free fresh fruit is available to all employees. There are nutritionist talks and hands-on workshops in areas such as sushi and salad making and supermarket shopping demonstrations.
Know: health awareness, vaccination and smoking cessation	Associates are offered checks such as blood pressure, blood sugar, total cholesterol, BMI and other free health screenings. In addition, all sites are smoke-free and associates are offered smoking cessation support. An online Healthy Lifestyle Assessment Tool gives associates a personalized report on their health behaviours and tips to help them continue to live in a healthy way and reduce potential risk areas.
Manage: your health at work	Novartis Singapore has put in place a care management process to help ill or disabled associates stay at work or return to work. In late 2012, the country team plans to roll out an Employee Assistance Programme to provide confidential counselling and referral services to employees.

Acknowledgements

The World Economic Forum thanks the members of the Workplace Wellness Alliance Leadership Board for their contributions.

Name	Company
Etienne Deffarges	Accretive Health
Kyra Bobinet	Aetna
Ann Saybolt, Anna Tunkel	APCO Worldwide
Raewyn Bates	Barclay's
Jon Kaplan, Carol Wildhagen	BCG
Paul Litchfield	BT
Bill Tompkins	Coca Cola
Craig Nossel	Discovery Health
Victor Dzau	Duke Uni. Medical Center & Health System
Conor McKechnie	GE Healthcare
Julia Halberg	General Mills
Tom Noland	Humana
Fikry Isaacs	J&J
Marcelo Morales	Jubilant
Sarah Delea	Kraft Food
Pete Leddy	Life Technologies
Marina Tengku	Nestlé
Martin Kuster, Sarah Samson	Novartis
Martin Kristiansen	Novo Nordisk
Paul Boykas, Ellen Exum	PepsiCo
Greg Moon	Proteus Biomedical
Samantha Horseman	Saudi Aramco
Mary Coventry	Sealed Air
Bahaa Abboud	Tamer Group
Ritu Anand	Tata Consultancy Services
Yolanda Londono	Tupperware
Anne Heughan, Dean Patterson	Unilever

From FTI Consulting

Eliot Davila, Senior Consultant

Anna Glockner, Associate Vice President

Meg Guerin-Calvert, President and Senior Managing Director

Colin O'Laughlin, Senior Consultant

Jeff Raileanu, Economist

Mariyam Rawat, Senior Vice President

Liz Shanahan, Global Head of Healthcare and Life Sciences and Senior Managing Director

From the World Economic Forum

Eva Jané-Llopis, Head, Health Programmes

Shahnaz Radjy, Project Manager, Workplace Wellness Alliance

To contact the Institute for Health and Productivity Management (IHPM) for more information on how to get involved with the Workplace Wellness Alliance, e-mail Dr. Edward Jones, Senior Vice-President, Strategic Planning, at edjones@ihpm.org

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

The World Economic Forum is an independent international organization committed to improving the state of the world by engaging business, political, academic and other leaders of society to shape global, regional and industry agendas.

Incorporated as a not-for-profit foundation in 1971 and headquartered in Geneva, Switzerland, the Forum is tied to no political, partisan or national interests.

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744

contact@weforum.org
www.weforum.org