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Integrating Health Metrics Into Corporate Reporting

A working group document



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Summary

The Vitality Institute is convening a working group with the shared vision that by 2020, workforce health metrics will be

- an integral indicator of overall organizational performance within the broader corporate accountability framework
- core to corporate reporting
- used as an aid to investment decisions and a guide to priority setting to enhance health within the workplace

This document aims to inform discussions about the incorporation of health metrics into corporate reporting. It builds on the document developed by Daniel Malan,¹ focusing specifically on which health metrics should be considered for incorporation and how they should be incorporated.

Introduction

As described in Daniel Malan's document,¹ it is increasingly recognized that some forms of corporate reporting may have a dual purpose: it can have a humanitarian/moral purpose (i.e., it is the right thing to do), as well as being good for long term business profitability. This dual purpose has been well described and illustrated with extensive examples in Mervyn King's recent book *Integrate: Doing Business in the 21st Century*.²

The reporting of employee health within corporate reporting currently largely focuses on issues related to occupational health and safety (OHS). OHS reporting has the dual role described; it is ethically important (as described in the International Labour Organization's decent work agenda on extending social protection into workplaces), and important to a business' financial bottom line (in terms of the business costs of accidents, injuries and disability). To date, health reporting within corporate reporting has largely ignored broader and evolving health issues of employee populations, such as chronic disease risks and prevalence, despite increasing evidence of the material impact of these on the lives of working age individuals, the impact on businesses' financial bottom lines, and increasing activity within organizations to address these issues in their workforce through workplace health promotion and disease prevention programs.

OHS and workplace health promotion and disease prevention have the common goal of promoting worker health. However, they differ significantly in the areas of worker health in which they intervene. As eloquently put by Walsh and colleagues,³ OHS largely addresses "job risks" whereas health promotion addresses "life risks". As a result, there has been less employee advocacy for businesses' role in addressing health promotion, when

compared to OHS, due to the perception of some of "corporate invasion" into personal matters. In addition, there are real and perceived legal concerns in workplace health promotion around accessing data, publishing data, encouraging or enforcing change in individuals and discrimination in the workplace. Due to many of these issues, organizations have historically focused on employee health by covering healthcare costs and providing OHS services rather than through a holistic approach that also includes health promotion and disease prevention. However, there are strong reasons for encouraging investment in health promotion and disease prevention by organizations:

- 1.** Risks may be worsened by the workplace, e.g., sedentary lifestyles, poor diet and poor mental health
- 2.** Risks could be effectively altered by workplaces due to the amount of time individuals spend at work and the influence that this can have on their behaviors
- 3.** Employers in the US are uniquely positioned to influence the health of 155 million working-age individuals and to see some benefit in terms of long-term savings, as unlike in many other OECD countries where there is a national health system (such as that in the UK), employers in the US pay for much employee healthcare.
- 4.** Employers in the US and outside the US can both influence the health of working-age individuals and see benefits through decreased worker absence, increased productivity, benefits to job satisfaction, recruitment and retention, and even investor returns.

Building a greater understanding in the employee population as to the importance of health promotion and disease prevention initiatives in the workplace for their health will be critical in addressing the previously mentioned real and perceived concerns. Employees need to be engaged as partners. Recent regulatory changes in the US may have a significant impact on this, as they not only increase protection over individual health information, they also give individuals more control over how and where this information is used. In January 2013, the US Health and Human Services (HHS) Office for Civil Rights released a series of regulatory changes.⁴ The changes in the final rulemaking provide the public with increased protection on personal health information. Many of the requirements of the Health Insurance Portability and Accountability Act (HIPAA) Privacy and Security Rules have been expanded to business associates that receive protected health information from health care providers, health plans and other entities that process health insurance claims (historically, some of the largest breaches reported to HHS have involved business associates). They also set new limits on how information is used and disclosed for marketing and fundraising purposes and prohibit the sale of an individuals' health information without their permission. The changes in the final rulemaking also provide the public with increased control over their personal health information; patients can ask for a copy of their electronic medical record in an electronic form, and when individuals pay by cash they can instruct their provider not to share information about their treatment with their health plan.

Access to health information is critical for employers to design, monitor, measure, evaluate and modify their health promotion and disease prevention programs. If employees are engaged as partners in the workplace, and are willing to share this data with the appropriate protections on how this data is used, then employers can ensure that they implement effective programs that are appropriate for their employee population. When coupled with the latest technological advances in data collection and integration, this could provide great opportunity for the field of health promotion and disease prevention in the workplace.

Effective workplace health promotion and disease prevention makes business sense.⁵ The economic benefits of effective workplace health promotion and disease prevention to businesses include:

- **Medical cost reductions:** The burden of healthcare costs to businesses is ever-increasing (see box 1 for a detailed focus on the healthcare cost burden to businesses in the US). In a meta-analysis of cost savings from workplace health promotion programs,⁶ it was found that every dollar spent on health promotion resulted in an average \$3.27 decrease in medical costs. Of note, over 90% of the studies analyzed were investigations of programs implemented in large US organizations with over 1000 employees.
- **Productivity gains:** The costs of absenteeism decrease by \$2.73 for every dollar spent on health promotion.⁶ There is also a boost from reductions in presenteeism, which is defined as the loss of productivity due to an employee who can still work but who, because of their health status, is not as productive as baseline.
- **Job satisfaction:** A health promotion program promotes job satisfaction because it provides a positive work environment and indicates to employees that the employer values their health. This positive attitude can arise from the physical benefits of improved health and fitness.⁷
- **Recruitment and retention:** More than 75% of high-performing companies have health management programs as part of their strategy,⁸ and having a health promotion program is also associated with reduced rates of voluntary staff turnover.^{9,10} In a survey of 1,000 US organizations by the 2005 National Study of Employers,¹¹ 47% of employers said that recruitment and retention were main reasons for implementing health promotion programs.
- **Return to investors:** In a retrospective performance analysis of companies who are recognized for their commitment to workforce health and safety, Fabius and colleagues (2013)¹² showed that companies that create a "culture of health" outperform their peers in the financial markets over decades.

However, despite these humanitarian/moral and financial benefits of health promotion and disease prevention in the workplace, companies are currently investing less than 2% of their healthcare spending on prevention.¹³

BOX 1**The Healthcare Cost Burden to Businesses**

The United States (US) spends more on healthcare than any of its peer countries; median per capita spending among all OECD countries in 2009 was \$3223, less than half the \$7960 per capita spent in the US.¹⁴ In total, the US spent \$2.7 trillion on healthcare in 2011 (17.9% of GDP), marking a doubling in spending in three decades since 1980.¹⁵ Recent Congressional Budget Office projections suggest that healthcare cost increases will be the primary driver of national debt in the US going forward.¹⁶ For businesses, the financial burden of healthcare costs is clear; in 2010 US employers spent a total of \$560.9 billion for group health insurance, an increase of approximately 67% over the past 10 years.¹⁷ Starbucks announced in 2005 that it was spending more on employee health benefits than on coffee, and similarly GM, Ford and Chrysler spend more on employee health expenses than on the steel they use to make cars.¹⁸ For the third consecutive year, nearly 60% of chief financial officers cited health care costs as their main financial concern for their companies, above revenue growth, cash flow, and corporate tax rates.¹⁹

Despite this high level of spending, over the past decades life expectancy and disease-specific survival rates in the US have not improved at the rate seen in peer countries. Americans live shorter lives and experience more illnesses than people in peer countries, they reach age 50 with less favorable cardiovascular risk profiles, and their death rate from ischemic heart disease is the second highest among OECD countries.¹⁵

What accounts for the paradox of high spending on health care with relatively poor health status and life expectancy? The answer lies in where money is spent. When compared to investment in the treatment of disease, preventive services in the US have historically been underinvested in by government¹⁶ and business.¹³ In light of the fact that a significant proportion of the burden of major chronic diseases can be prevented by addressing key risk factors,²⁰ this is a major error that needs correcting in an environment of poor health outcomes and high healthcare costs.

The workplace needs to become a key component of the broader international strategy to address the non-communicable disease (NCD) burden and associated costs across the world. With clear humanitarian/moral and financial benefits for businesses, the current underinvestment in prevention over treatment by corporates must be reversed. A significant mechanism to do this is through the integration of health metrics into corporate reporting. This builds leadership and advocacy both within organizations and outside organizations to highlight the importance of prevention within

businesses as a national strategic imperative. It also enables investors and other key stakeholders to consider the health of employees within a business as a critical data point for investment decision making, due to the dual impact of health on a business (ethical and financial). This latter effect, in turn, places increased pressure on businesses to consider it as a critical component of business strategy. Finally, it also enables organizations to measure, manage, and benchmark the health of their workforce as a strategic asset to the business.

¹⁴Non communicable diseases include cardiovascular disease, cerebrovascular disease, type 2 diabetes, cancer, chronic respiratory diseases and some mental illnesses

Selection of Appropriate Metrics

In order to incorporate health metrics into corporate reporting, the group of health metrics chosen must be limited. Corporate reporting is already extensive, and each further metric that needs to be added will place a burden on organizations to report it. To demonstrate using an equivalent model, the case study in Box 2 shows the very limited but focused data recommended by the Global Reporting Initiative for Emissions reporting.

BOX 2

Case Study – Global Reporting Initiative recommendations on Emissions Reporting

The Global Reporting Initiative guidelines on the Emissions Aspect focus on indicators of greenhouse gas (GHG) emissions as well as ozone-depleting substances (ODS), NO_x, SO_x, and other significant air emissions. These include 7 key indicators:

1. Gross direct GHG emissions in metrics tons of CO₂ equivalent
2. Gross indirect direct GHG emissions in metrics tons of CO₂ equivalent
3. Gross other indirect direct GHG emissions in metrics tons of CO₂ equivalent
4. GHG emissions intensity ratio
5. Amount of GHG emissions reductions achieved as a direct result of initiatives to reduce emissions, in metric tons of CO₂ equivalent
6. Production, imports and exports of ODS in metric tons of CFC-11 equivalent
7. Amount of significant air emissions, in kilograms or multiple of NO_x, SO_x, and other significant air emissions

The health metrics as a group should also not encourage employers to discriminate against potential employees at the point of employment or during employment, but rather encourage organizations to invest further in health promotion and disease prevention to build a sustainable culture of health. In selecting the limited number of health metrics, it is critical that the following three principles are considered.

- **Material*** – Each metric must have significant impact on the health of employees and the financial bottom line of a business.
- **Measurable** – Each metric must be easily measurable across whole employee populations in organizations of all sizes to ensure consistency.
- **Understandable** – Each metric must be understandable to employees and non-health professionals.

*Defined as significant or important

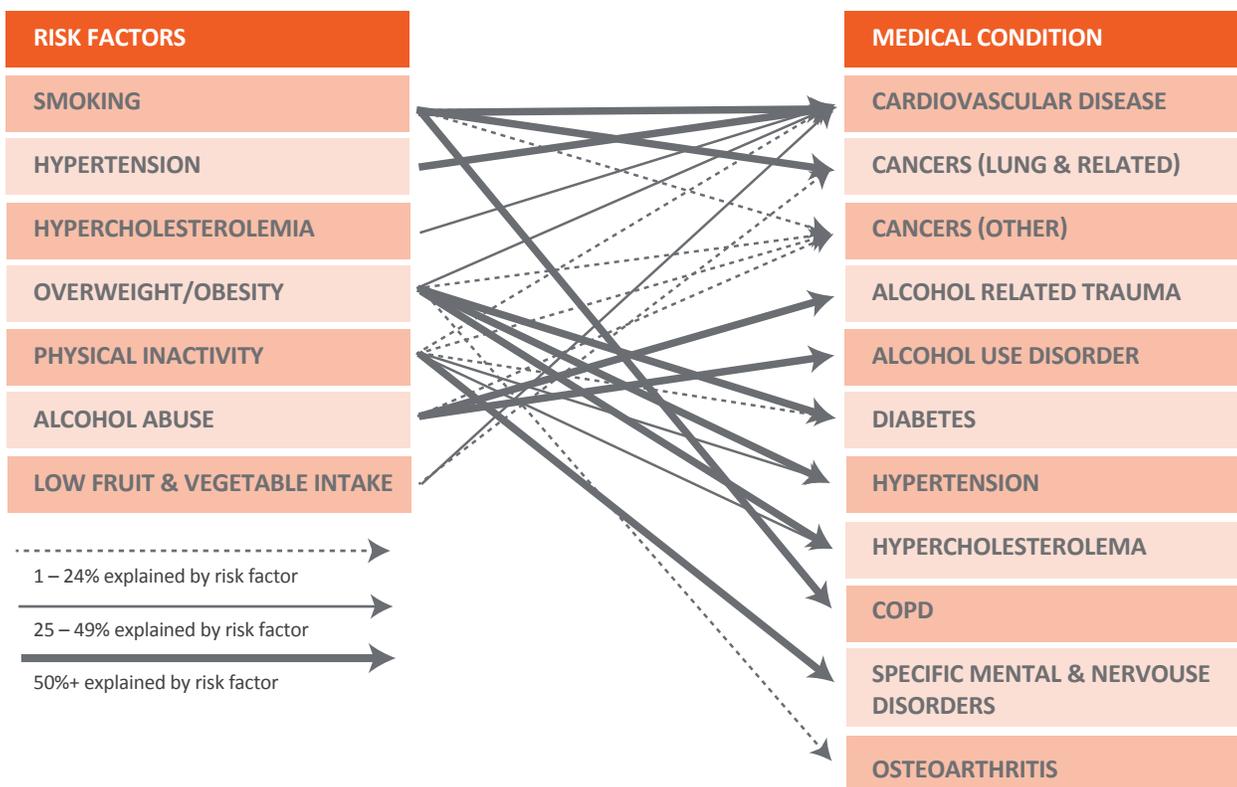
Material Metrics

The first of these principles needs a more detailed discussion. When considering the materiality of health metrics, the first consideration is the impact of the risk or disease that they are measuring on the population that they are assessing, because changing behaviors around these

risks and diseases will have the most significant impact on the health of employees and the financial bottom line of the business. Box 3 demonstrates the interrelationship between multiple risk factors and diseases.

BOX 3

Risk factors and their relationships with medical conditions



Source: Bolnick H, Millard F, Dugas J. (2013) Medical Care Savings From Workplace Wellness Programs What Is a Realistic Savings Potential? JOEM; 55(1): 4-9

The Global Burden of Disease Study²¹ has provided insight into the major health risks and non-communicable diseases (NCDs) that cause the greatest disease burden globally, and specifically in the US. In terms of the greatest burden of disability adjusted life years (DALYs, healthy life years lost due to ill-health, disability or death), the top ten risk factors and diseases in the US and Western Europe are as follows

RANK	RISK FACTOR - USA
1	DIETARY RISK
2	TOBACCO SMOKING
3	HIGH BODY MASS INDEX (BMI)
4	HIGH BLOOD PRESSURE
5	HIGH FASTING PLASMA GLUCOSE
6	PHYSICAL INACTIVITY AND LOW PHYSICAL ACTIVITY
7	ALCOHOL USE
8	HIGH TOTAL CHOLESTEROL
9	DRUG USE
10	POLLUTION

RANK	RISK FACTOR - WESTERN EUROPE
1	DIETARY RISK
2	TOBACCO SMOKING
3	HIGH BLOOD PRESSURE
4	HIGH BODY MASS INDEX (BMI)
5	PHYSICAL INACTIVITY AND LOW PHYSICAL ACTIVITY
6	HIGH FASTING PLASMA GLUCOSE
7	ALCOHOL USE
8	HIGH TOTAL CHOLESTEROL
9	POLLUTION
10	OCCUPATIONAL RISK

RANK	DISEASE - USA
1	ISCHEMIC HEART DISEASE (IHD)
2	CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
3	LOW BACK PAIN
4	LUNG CANCER
5	MAJOR DEPRESSIVE DISORDER
6	OTHER MUSCULOSKELETAL DISORDERS
7	CEREBROVASCULAR DISEASE (CVD)
8	DIABETES
9	ROAD INJURY
10	DRUG USE

RANK	DISEASE - WESTERN EUROPE
1	ISCHEMIC HEART DISEASE (IHD)
2	LOW BACK PAIN
3	CEREBROVASCULAR DISEASE (CVD)
4	MAJOR DEPRESSIVE DISORDER
5	LUNG CANCER
6	FALLS
7	CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
8	OTHER MUSCULOSKELETAL DISORDERS
9	NECK PAIN
10	DIABETES

Due to their large impact on DALYs, metrics on these risk factors and diseases must be the primary ones to be considered for health metrics inclusion.

A second consideration specifically for risk factors is the time taken for the impact of the risk factor to manifest into disease. While some risk factors may have a direct impact on the financial bottom line of a business through short term behaviors (e.g., taking time out of work to smoke), the majority of the impact of risk factors on employee health and the financial bottom line of a business is through the diseases that subsequently manifest. The factors that lead to disease development have their roots in a complex chain of events that often begin in early childhood. The effects on the body of risky health behaviors, such as tobacco use, unhealthy diets, and low levels of physical activity, accumulate over time and in close association with social and environmental factors.²² Thus, the probability of disease and death is related to years of exposure to a

collection of risks. An individual’s age and cumulative risk determine how successful efforts to return to minimum risk levels will be, since some damage may be irreversible. As shown in Figure 1, the prevalence of risky health behaviors varies by age and by specific risk. The cumulative effect of risky health behaviors leads to significant increases in the prevalence of biometric risk factors after age 40, including high blood pressure, high fasting plasma glucose levels, and high body mass index.^{23, 24, 25} In turn, because of the cumulative effects on the body by risky health behaviors and biometric risk factors, the prevalence of NCDs such as diabetes, and cardiovascular disease increases with age, rising rapidly after age 55.^{23, 24, 25} Of note, however, is mental health, which is one disease category for which the risk factor pathway remains less well described and the incidence pattern differs, because the median age of onset of major depressive disorder is 32 years.²⁶

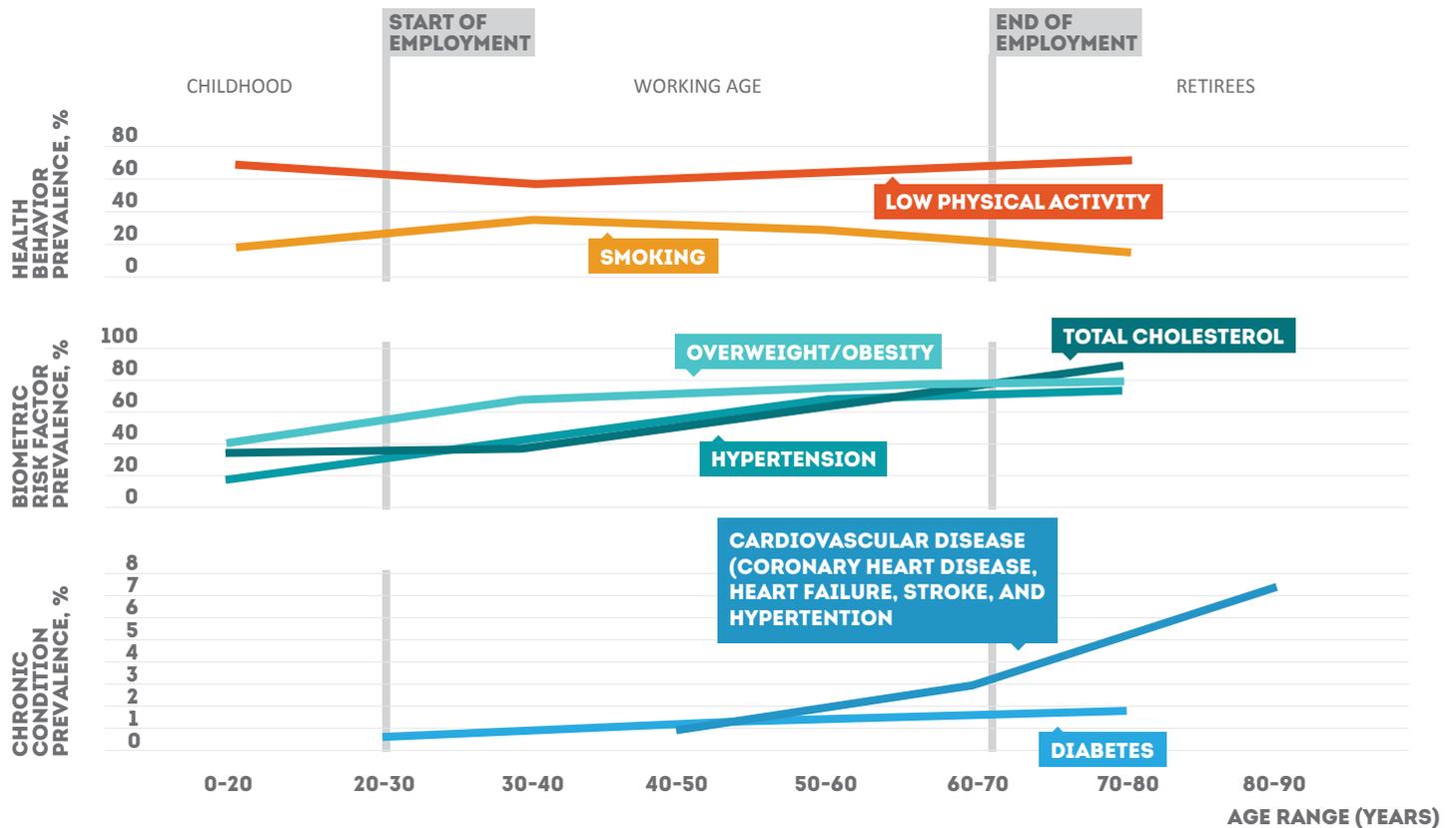


FIG 1.- PREVALENCE OF HEALTH BEHAVIORS, BIOMETRIC RISK FACTORS AND CHRONIC CONDITIONS BY AGE

As a result of this cumulative effect over time, interventions carried out by businesses to reduce risk and subsequent disease burden may not

1. reverse all of the historical damage that has already occurred prior to employment.
2. yield benefit directly to the business due to the long time-to-benefit, such that financial benefits may not be seen until post-retirement ages when disease prevalence rises rapidly.

As a result, the ethical and business pressures on health metric corporate reporting may conflict. For example, encouraging employees to quit smoking and reporting on this may be ethically the correct course of action. It may

also have some short term positive impact on employee productivity. However, the more significant longer term financial benefit may be yielded post retirement through lower prevalence of diseases such as cardiovascular disease and cancer. As a result, a health metric may be material from an ethical perspective, but not as material from a business' financial perspective.

All of the three principles laid out above must be considered when evaluating whether a health metric should be incorporated into corporate reporting, with a detailed analysis into the materiality of the metric both in terms of its ethical impact and its financial impact on a corporate's financial bottom line.

Categories of Health Metrics

In conceptualizing the measurement of health within a population, there are two major complementary but contrasting views; culture of health measurement and population health measurement. Nash and colleagues, in their book *Population Health: Creating a Culture of Wellness*,²⁷ discuss the difference between the "culture of health" and "population health" approaches.

Culture of Health

"Culture of health" - This assesses ability of the environment in which people operate (be that a workplace, a community, or a home) to promote health, and assumes that if this is done effectively then population health will improve. Research from organizations such as HealthNEXT suggests that without high scores on the culture of health it is difficult to generate long term sustainable positive population health results. These metrics may be thought of as "process metrics" and are also referred to as "qualitative metrics". Culture of Health metrics compare organizations

to benchmark companies that have built cultures of health, and are generally organizational data as opposed to individual data.

Nash and colleagues describe five central "Pillars" that support a culture of health. Complementing this, research by HealthNEXT has revealed five key features of exemplary employers that have developed cultures of health within their organizations.

Nash and colleagues' five central "Pillars"

VISION from senior leadership, which demands alignment in seeking a healthy workforce

OPERATIONS leadership, whereby an environment is created that supports health, integrates all internal resources, and requires integration of external partners

COMMUNICATION of the vision, the environment, and the culture rationale, ultimately leading to self-leadership and self-determination of employees

GIVING REWARDS for positive actions in order to encourage and sustain the healthy behaviors

The existence of a **QUALITY ASSESSMENT PROGRAM**, which emphasizes the need for metrics in place to measure progress toward the vision

HealthNEXT five key features

VISION - Providing leadership and management alignment, including having a documented one and three year plan

OPERATIONS - Utilizing data warehousing and analytics, enriching the workplace environment for positive actions, offering onsite health services as well as integrating external vendors, and utilizing evidenced based benefit design

COMMUNICATION - Offering effective health education, communication and marketing

REWARDS - Offering incentives for positive actions and using other engagement strategies

QUALITY ASSESSMENT - Evaluating their one and three year plan against detailed metrics

Population Health

“Population health” – This assesses “the distribution of health outcomes within a population, the health determinants that influence distribution, and the policies and interventions that impact the determinants.” These may be largely described as “outcome metrics”, though are frequently referred to as “quantitative metrics”. Population health metrics are divided into two general categories; those that measure health risks and those that measure illness burden. Hence, these metrics could include prevalence data on risk factors and diseases, and cost data on risk factors and diseases (including healthcare and non-healthcare costs such as employee absence and productivity).

Population health metrics are generally measured at the individual rather than organizational level, and the data required is generally personal data on risk and health status. Therefore, there are the significant concerns – real and perceived – around data collection and publication that have been previously described in this document. Of particular concern is the measurement of absolute values

rather than the measurement of the change in values. In general, measurement of the absolute values of health outcomes opens up the organization to potential discrimination issues as the organization is being evaluated on the basis of the health of its employees and could alter hiring or firing practices on this basis. In contrast, measurement of the change in values results in an organization being evaluated based on the efforts it is taking to change the health of its employees, regardless of the baseline health of its employees.

When considering the health metrics that should be incorporated into corporate reporting, both culture of health metrics (qualitative metrics) and population health metrics (quantitative metrics) should be assessed. This will enable businesses to understand the health of their workforce, trends and how their activities to address this compare to other organizations. It will also enable the investment community to understand the present health status of the workforce, its trend and to what extent their employer is working on improving it.

A Health Metric Proposal

In light of above discussion in terms of the selection of appropriate metrics and the different categories of metrics possible, the following tables outline potential options for health metrics that could be incorporated into corporate reports.

RECOMMENDED
(based on materiality, measurability and understandability)

NOT RECOMMENDED
(based on materiality, measurability and understandability)

RISK FACTOR	APPROPRIATENESS OF METRICS	CATEGORIES OF HEALTH METRICS
<p>DIETARY RISK</p>	<p>MATERIAL – Diet modifications may have short and long term impact, however there remains debate on the influence of specific dietary component on health</p> <p>MEASURABLE – Challenge to acquire objective data</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., healthy vending machines and cafeterias), strong organizational communication, rewards for healthy diets</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of dietary habits</p>
<p>SMOKING</p>	<p>MATERIAL – The time to benefit from smoking cessation activities may be longer than the financial benefits that accrue</p> <p>MEASURABLE – Some challenge to acquire objective data but feasible</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., no smoking policies, smoking cessation assistance), strong organizational communication, rewards for smoking cessation</p> <p>OUTCOMES/QUANTITATIVE METRICS – Smoking prevalence</p>
<p>HIGH BODY MASS INDEX (BMI)</p>	<p>MATERIAL – The time to benefit from BMI reduction may be longer than the financial benefits that accrue</p> <p>MEASURABLE – Simple measurement</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity and diet activities, weight loss assistance), strong organizational communication, rewards for weight loss</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of BMI categories</p>
<p>HIGH BLOOD PRESSURE</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through management, longer term benefits through prevention</p> <p>MEASURABLE – Simple measurement</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity, diet and smoking activities, blood pressure management assistance), strong organizational communication, rewards for blood pressure management</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of Blood pressure categories</p>
<p>HIGH FASTING PLASMA GLUCOSE</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through management, longer term benefits through prevention</p> <p>MEASURABLE – Invasive measurement</p> <p>UNDERSTANDABLE – Challenging for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity and diet activities, blood glucose management assistance), strong organizational communication, rewards for blood glucose management</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of Blood glucose categories</p>

RISK FACTOR	APPROPRIATENESS OF METRICS	CATEGORIES OF HEALTH METRICS
<p>PHYSICAL INACTIVITY AND LOW PHYSICAL ACTIVITY</p>	<p>MATERIAL – Short and long term benefits of increasing physical activity to physical and mental health</p> <p>MEASURABLE – Well known mechanisms for collecting objective data</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., support for active transport, onsite or offsite facilities, physical office changes, organized groups and events), strong organizational communication, rewards for increasing physical activity</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of physical activity categories</p>
<p>ALCOHOL USE</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through reduction in use, longer term benefits through prevention of significant health issues</p> <p>MEASURABLE – Challenge to obtain objective data</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., changes to working practices, policies on alcohol use and the workplace, alcohol use reduction assistance), strong organizational communication, rewards for alcohol use reduction</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of alcohol abuse</p>
<p>HIGH TOTAL CHOLESTEROL</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through management, longer term benefits through prevention</p> <p>MEASURABLE – Invasive measurement</p> <p>UNDERSTANDABLE – Challenging for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity and diet activities, weight loss assistance), strong organizational communication, rewards for weight loss</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of BMI categories</p>
<p>DRUG USE</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through cessation, longer term benefits through prevention of significant health issues</p> <p>MEASURABLE – Challenge to obtain objective data</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., policies on drug abuse and the workplace, drug abuse assistance), strong organizational communication, rewards for drug abuse cessation</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of drug abuse</p>

DISEASE	APPROPRIATENESS OF METRICS	CATEGORIES OF HEALTH METRICS
<p>ISCHAEMIC HEART DISEASE (IHD)</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through management, longer term benefits through prevention</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS METRICS – Leadership support, environmental changes (e.g., physical activity, diet and smoking activities, medication adherence and chronic disease management assistance), strong organizational communication, rewards for physical activity, healthy diets, smoking cessation and medication adherence</p> <p>OUTCOMES/QUANTITATIVE METRICS – IHD prevalence, costs associated with IHD (healthcare and non-healthcare)</p>
<p>CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through management, longer term benefits through prevention. However limited role for corporations specifically in disease management and to reverse a prevalence trend may take many years</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS METRICS – Leadership support, environmental changes (e.g., no smoking policies, smoking cessation assistance), strong organizational communication, rewards for smoking cessation</p> <p>OUTCOMES/QUANTITATIVE METRICS – COPD prevalence, costs associated with COPD (healthcare and non-healthcare)</p>
<p>LOW BACK PAIN</p>	<p>MATERIAL – Significant impact on health and financial bottom line through management and prevention in the short and long term</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS METRICS – Leadership support, environmental changes (e.g., physical activity programs, weight loss assistance, chronic pain management program), strong organizational communication, rewards for participation in programs</p> <p>OUTCOMES/QUANTITATIVE METRICS – Chronic pain assessment, costs associated with chronic pain (healthcare and non-healthcare)</p>
<p>LUNG CANCER</p>	<p>MATERIAL – Significant impact on health and financial bottom line, but an individual with a current diagnosis is unlikely to be in the workplace, and the prevalence is low</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS METRICS – Leadership support, environmental changes (e.g., no smoking policies, smoking cessation assistance), strong organizational communication, rewards for smoking cessation</p> <p>OUTCOMES/QUANTITATIVE METRICS – Lung cancer prevalence, costs associated with lung cancer (healthcare and non-healthcare)</p>
<p>MAJOR DEPRESSIVE DISORDER</p>	<p>MATERIAL – Short time to benefit for organizations and individuals through management, longer term benefits through prevention</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Challenging for a non-health professional</p>	<p>PROCESS METRICS – Leadership support, environmental changes (e.g., mental wellbeing programs, mental illness management programs), strong organizational communication, rewards for participation in programs</p> <p>OUTCOMES/QUANTITATIVE METRICS – Major depressive disorder prevalence, costs associated with major depressive disorder (healthcare and non-healthcare)</p>

DISEASE	APPROPRIATENESS OF METRICS	CATEGORIES OF HEALTH METRICS
OTHER MUSCULOSKELETAL DISORDERS	<p>MATERIAL – Significant impact on health and financial bottom line through management and prevention in the short and long term</p> <p>MEASURABLE – Challenge to acquire objective data across a range of conditions, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Challenging for a non-health professional (collection of a range of conditions)</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity programs, weight loss assistance, chronic pain management program), strong organizational communication, rewards for participation in programs</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of musculoskeletal disorders, costs associated with musculoskeletal disorders (healthcare and non-healthcare)</p>
CEREBROVASCULAR DISEASE (CVD)	<p>MATERIAL – Significant impact on health and financial bottom line, but an individual with a current diagnosis is unlikely to be in the workplace, longer term benefits through prevention</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Complex for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity, diet and smoking activities, medication adherence and chronic disease management assistance), strong organizational communication, rewards for physical activity, healthy diets, smoking cessation and medication adherence</p> <p>OUTCOMES/QUANTITATIVE METRICS – CVD prevalence, costs associated with CVD (healthcare and non-healthcare)</p>
DIABETES	<p>MATERIAL – Short time to benefit for organizations and individuals through management, longer term benefits through prevention</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity, diet and smoking activities, medication adherence and chronic disease management assistance), strong organizational communication, rewards for physical activity, healthy diets, smoking cessation and medication adherence</p> <p>OUTCOMES/QUANTITATIVE METRICS – Diabetes prevalence, costs associated with Diabetes (healthcare and non-healthcare)</p>
NECK PAIN	<p>MATERIAL – Significant impact on health and financial bottom line, but an individual with a current diagnosis is unlikely to be in the workplace, and the prevalence is low</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., physical activity programs, weight loss assistance, chronic pain management program), strong organizational communication, rewards for participation in programs</p> <p>OUTCOMES/QUANTITATIVE METRICS – Chronic pain assessment, costs associated with chronic pain (healthcare and non-healthcare)</p>
ROAD INJURY	<p>MATERIAL – Significant impact on health and financial bottom line through prevention but limited ability for workplaces to intervene</p> <p>MEASURABLE – Challenge to acquire objective data, ethical challenges on personalized information</p> <p>UNDERSTANDABLE – Simple for a non-health professional</p>	<p>PROCESS/QUALITATIVE METRICS – Leadership support, environmental changes (e.g., facilities to support active transport, provision of hands free sets), strong organizational communication, rewards for safe driving</p> <p>OUTCOMES/QUANTITATIVE METRICS – Prevalence of road injuries, costs associated with road injuries (healthcare and non-healthcare)</p>

Examples of Existing Tools

In the appendix to this paper, we describe several currently used metrics reporting tools that utilize a combination of process and outcome metrics to assess both the culture of health and population health. We propose that our rationale laid out in the previous sections builds on all of the extensive work done to date in this space. The identification of the specific metrics to be used should draw further on this experience to highlight the best possible metrics for incorporation into corporate reporting.

Integration into Existing Corporate Reporting Mechanisms

Whilst the principles laid out in this paper apply globally, it is critical to note that in order for health metrics to be integrated into existing corporate reporting mechanisms, they must be integrated within ongoing national processes. Whilst organizations such as the Global Reporting Initiative, International Integrated Reporting Council, and the UN Global Compact have developed reporting frameworks to be used around the world, these work in partnership with ongoing efforts at a national level.

In the US, work on integrating health metrics into corporate reporting should build on the work of organizations such as US SIF and the Sustainability Accounting Standards Board (SASB) in advocating for, and better defining, environmental, social and governance (ESG) disclosure within Securities and Exchange Commission (SEC) reporting such as 10-K reporting. Similarly, in South Africa, many of the core principles of ESG reporting are embodied within the King II Report (2002) and the King III report (2009). Whilst the code of corporate governance in these reports is not enforced through legislation, many of the principles are currently, and continue to be, integrated into associated legislation, such as the Companies Act of South Africa of 2008. In the UK, whilst the government offers guidance on sustainability reporting, in particular from the Department for Environment, Food and Rural Affairs (DEFRA), more integrated solutions are being developed by the FTSE Group (owned by the London Stock Exchange), which launched the FTSE4Good Index in 2001. This is a series of ethical investment stock market indices covering a range of markets and shares.

Work on the integration of health metrics into corporate reporting, must not only work at the international level through integration into international reporting frameworks, by also the national level through integration into ongoing mechanisms to improve the levels of ESG reporting in each country.

Conclusion

The Vitality Institute is convening a working group with the shared vision that by 2020, workforce health metrics will be

- an integral indicator of overall organizational performance within the broader corporate accountability framework
- core to corporate reporting
- used as an aid to investment decisions and a guide to priority setting to enhance health within the workplace

This document establishes a framework for the discussion of health metrics for corporate reporting, and strongly recommends a limited number of key health metrics for consideration by the working group. The working group needs to build on all of the work carried out by the many experts in this field and define an appropriate set of health metrics to be piloted and rolled out within corporate reporting.

The Vitality Institute is an evidence-driven and action-oriented research organization dedicated to health promotion and the prevention of non-communicable diseases (NCDs) to build a culture of health. The work on integrated health metrics reporting stems from our Commission Recommendations launched in June 2014, the overall vision of which was that health should be embraced as a strategic imperative across sectors and as a core value in society.

If you are interested in finding out more or participating in the integrated health metrics initiative, contact sradjy@thevitalitygroup.com.

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Appendix

Examples of Existing Evaluative Tools

The following selection of surveys and evaluation tools illustrate a range of purposes and types of health metrics currently in use.

Broad Assessments:

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
CDC WORKPLACE HEALTH PROMOTION ²	INTERNAL: Toolkit for workplace health promotion design, implementation, and evaluation	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Section on Planning/Workplace Governance includes Leadership Support, Governance Structure and Management, Dedicated Resources 2. OPERATIONS: Workplace Health Improvement Plan, Workplace Health Informatics, Environmental Support 3. COMMUNICATIONS: Section on Communication 4. INCENTIVES: Not addressed. 5. ASSESSMENT: Entire section on Assessment (site assessment, interviews, employee health surveys, health care cost data, on-the-job injuries data, employee time & attendance, job satisfaction, reporting). Health Topics Addressed for process and outcome evaluation: Health Behaviors (alcohol & substance abuse, nutrition, physical activity, tobacco use); Health screening (BP, obesity, breast cancer, cervical cancer, colorectal cancer, cholesterol, type 2 diabetes), mental health (depression), injury (work-related musculoskeletal disorders), and adult immunization (influenza, pneumococcus). 	<p><i>From health risk assessments:</i> RISK FACTOR & DISEASE INDICATORS Outcome measures on Health Behaviors (alcohol & substance abuse, nutrition, physical activity, tobacco use); Health screening (BP, obesity, breast cancer, cervical cancer, colorectal cancer, cholesterol, type 2 diabetes), mental health (depression), adult immunization (influenza, pneumococcus).</p> <p><i>From employee surveys, insurance claims, safety reporting, and attendance records:</i> COSTS - Injury (work-related musculoskeletal disorders) - Job satisfaction - Productivity/absenteeism - Cost of care</p>
AMERICAN COLLEGE OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE (ACOEM) – GUIDE TO A HEALTHY WORKFORCE ^{3,4}	<p>INTERNAL: Checklist to assess “how organization currently measures up in terms of health and safety.”</p> <p>EXTERNAL: Can use this guide to apply for the Corporate Health Achievement Award (CHAA).</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: (1.1) Organization and Administration; (1.2) Organizational Commitment, Innovation, and Change Management; (4.3) Health benefits management 2. OPERATIONS: (2.1) Health evaluation of workers (pre-assignment, medical surveillance, post-illness or injury); (2.2-2.3) Occupational & non-occupational injury and illness management; (2.4) Traveler health and infection control; (2.5) Mental and behavioral health and misuse of substances; (2.6) Medical screening and preventive services; (3.1) 	<p>RISK FACTOR INDICATORS</p> <ul style="list-style-type: none"> - Smoking: (4.1) Health promotion and wellness - Alcohol: (4.1) Health promotion and wellness - Diet: (4.1) Health promotion and wellness - Physical activity: (4.1) Health promotion and wellness - Risk categories: (2.6) Medical screening and preventive services; (4.1) Health promotion and wellness <p>DISEASE INDICATORS</p> <ul style="list-style-type: none"> - (1.4) Program evaluation and quality improvement -(4.1) Health promotion and wellness

² CDC – Workplace Health Promotion. Available [online]: <http://www.cdc.gov/workplacehealthpromotion/index.html>. Accessed 19 Sep 2014.

³Corporate Health Achievement Award.” Available [online]: <http://www.chaa.org>. Accessed 18 Jul 2014.

⁴“ACOEM Employer Incentives for Workforce Health and Productivity.” (2008). Integrated Benefits Institute. Available [online]:

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EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
		<p>hazard evaluation, inspection, and abatement; (3.3) Personal protective equipment; (3.4) Toxicologic assessment and planning; (3.5) Environmental protection programs; (3.6) Emergency preparedness, continuity planning, and disruption prevention; (4.1) Health promotion and wellness; (4.3) Health benefits management</p> <p>3. COMMUNICATION: (3.2) Education regarding worksite hazards; (4.1) Health promotion and wellness; (4.3) Health benefits management</p> <p>4. REWARDS: None stated.</p> <p>5. ASSESSMENT: (1.3) Health Information Systems; (1.4) Program evaluation and quality improvement; (1.5) Privacy, confidentiality, and health records management; (1.6) Systematic research, statistics, and epidemiology; (4.2) Absence and disability management; (4.3) Health benefits management; (4.4) Integrated health and productivity management</p>	<p>(2.5) Mental and behavioral health and misuse of substances</p> <p>COSTS</p> <ul style="list-style-type: none"> - Healthcare costs; (4.1) Health promotion and wellness, (4.3) Health benefits management, (4.4) Integrated health and productivity management - Program costs: (1.3) Health information systems; (4.3) Health benefits management; (4.4) Integrated health and productivity management - Workers' comp and disability: (1.4) Program evaluation and quality improvement; (3.1) workplace health hazard evaluation, inspection, abatement; (4.2) Absence and disability management; (4.3) Health benefits management - Safety: (2.2-2.3) Occupational & non-occupational injury and illness management; (3.1) workplace health hazard evaluation inspection abatement - Productivity: (2.2-2.3) Occupational & non-occupational injury and illness management; (4.2) Absence and disability management; (4.4) Integrated health and productivity management
<p>CDC WORKSITE HEALTH SCORECARD ⁵</p>	<p>INTERNAL: To assist employers to assess health promotion programs (& whether or not they are evidence-based), identify gaps, prioritize high-impact, evidence-based strategies.</p> <p>EXTERNAL: Can be used by state or local agencies to monitor, benchmark, and track improvements.</p>	<p>1. SENIOR LEADERSHIP: demonstrate organizational commitment and support at all levels of management; have a champion who is a strong advocate; include employee health in business objectives or mission statement; tobacco control policies (written? Enforced?); nutrition policies (written? To make healthier food and beverages available in cafeterias, snack bars, vending machines, or at meetings); lactation support policies & provisions, maternity leave; have an active health promotion committee; have a paid health promotion coordinator; have a dedicated budget or funding; provide flexible work scheduling; stress management training for managers; Emergency response to heart attack or stroke: EMS plan, CPR courses, CPR policies, presence and maintenance of AEDs</p> <p>2. OPERATIONS: provide health insurance for tobacco cessation medications including NRT, refer or</p>	

⁵ Centers for Disease Control and Prevention. The CDC Worksite Health ScoreCard: An Assessment Tool for Employers to Prevent Heart Disease, Stroke, and Related Health Conditions. Atlanta: U.S. Department of Health and Human Services; 2014.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
		<p>provide tobacco cessation counseling, ban sales of tobacco on company property; availability of healthy food prep and storage facilities for employees; exercise facilities, environmental supports, signs to encourage use of stairs; Quiet spaces, social events, work-life balance programs; occupational health and safety; flu vaccinations</p> <p>3. COMMUNICATION: promotion and marketing; educational materials or seminars for physical activities, healthy eating, tobacco, weight management, stress management, depression; signs about tobacco policy; identify healthier food items with signs or symbols; use of employee role models and “success stories;” tailoring program to specific linguistic or cultural groups; engage in other health initiatives throughout the community; support employee participation and volunteer efforts; offer or promote farmers’ market; one-on-one or group counseling; provide employees with resources from community (e.g. public health agency, workers comp, health insurance broker, hospital, YMCA, community org or business group)</p> <p>4. REWARDS: use incentives, use competitions; provide incentives for not smoking; subsidize or discount healthier food items;</p> <p>5. ASSESSMENT: conduct ongoing evaluations of programming using multiple data sources; conduct employee needs and interests assessment, health risk appraisals; BMI measurement with feedback and clinician referral; screening for BP, cholesterol, diabetes</p>	
<p>HERO SCORECARD ⁶</p>	<p>INTERNAL: To help learn about and determine Employee Health Management best practice.</p> <p>EXTERNAL: Uses the submitted data to create national benchmark reports by industry, size, geography</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Leadership engagement 2. OPERATIONS: program-level integration and coordination; physical work environment; Types of programs (esp educational, lifestyle management, behavior modification, disease management) 3. COMMUNICATION: engagement methods; What types of educational resources or campaigns?; on-site events? does organization make components available to any hard-to-reach segments of population, or to retirees, or to spouses? What is the feedback process? 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Physical & mental health <p>COSTS</p> <ul style="list-style-type: none"> - Program costs for various components - Change to employee health risk and medical plan costs - Healthcare utilization & cost - Productivity and/or presenteeism,

⁶ HERO. “The HERO Best Practice Scorecard.” Version 3.1.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
		<p>4. REWARDS: are there recognition or rewards for healthy behaviors, incentives for selecting or complying with specific evidence-based treatments (such as cost-sharing provisions); what incentives for specific programs</p> <p>5. ASSESSMENT: -% Participation in health assessment, biometric screenings [BMI, BP, BG, chol], disease management programs [asthma, DM, COPD, CAD, CHF], behavior modification [tobacco cessation, weight mgmt., mental and emotional well-being/stress mgmt., physical activity]) On-site screenings? has a needs assessment been conducted; are there measurable objectives for the metrics of participation, changes in health risks, improvements in clinical measures/outcomes, productivity gains, financial outcomes); is there evidence-based design; what sort of data are captured and used to evaluate the program; how often is it evaluated; how effective do you believe the M&E is?</p>	
<p>BUSINESS IN THE COMMUNITY (BITC)⁷ – PUBLIC REPORTING FRAMEWORK</p>	<p>INTERNAL: To measure human capital management in order to better understand organizational risk</p> <p>EXTERNAL: To serve as a benchmark, to encourage others to report, to “represent a new chapter for CSR reporting” and to advance the UN’s Principles for Responsible Investment through reporting and integration of environmental, social, and governance</p>	<p>1. SENIOR LEADERSHIP: None stated</p> <p>2. OPERATIONS: company funded training time/person, Proportion of workforce with agile working arrangements (change in work practice); employment equity (gender, ethnicity, sexual orientation, disability, age – at multiple organizational levels); proportion of women returning after maternity leave; grievance cases as a spot rate; volunteering commitment</p> <p>3. COMMUNICATION: None stated.</p> <p>4. REWARDS: None stated.</p> <p>5. ASSESSMENT: None stated.</p>	<p>RISK FACTOR AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Workforce demographics (smoking, alcohol, exercise, BMI, waist size, trend health/safety data (esp as aligned to strategic commitments); BP, cholesterol, glucose, impaired mental health - Statutory health & safety reporting (slips/trips/falls, work at height, struck by moving object) <p>COSTS</p> <ul style="list-style-type: none"> - Results of annual job satisfaction or engagement survey, employee satisfaction of services - Length of tenure of staff; proportion of senior positions filled by internal applicants; staff turnover (spot rate, trend over time); - Performance trend in external surveys of employee engagement - Sickness absence (spot rate & trend over time & by major cause) <p>AWARDS</p> <ul style="list-style-type: none"> - External awards

⁷ Business in the Community. “BITC Public Reporting Guidelines: Employee Engagement and Wellbeing.” July 2013.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
<p>NATIONAL BUSINESS GROUP ON HEALTH (NBGH) - TOOLKIT⁸</p>	<p>INTERNAL: For designing a comprehensive H&P dashboard that is designed to look at key questions of “Are at-risk groups improving their health behaviors?”, “Are healthy behaviors already in place being sustained?”, and “Is the employee population moving toward improved health status?”</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: None stated. 3. COMMUNICATION: None stated. 4. REWARDS: None stated. 5. METRICS: Participation and completion rates in health promotion programs, health coaching, condition management, return-to-work programs 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Employee Health Risk Profile, risk factors, injury rates, healthy behavior levels, prevalence of chronic diseases <p>COSTS</p> <ul style="list-style-type: none"> - Disability claims and workers’ comp claims - Program costs (vendor fees, staffing costs, communication costs) - Recruitment, retention, voluntary turnover - Workforce engagement: satisfaction, recommend company to a friend, feel pride in company, willing to work extra hours without being asked, not looking for another job - Absenteeism and presenteeism - Hospitalization rates; inappropriate ER utilization rates - Medication adherence
<p>LEADING BY EXAMPLE (LBE)⁹</p>	<p>INTERNAL: Identifying leadership and programmatic supports to Employee Health Management. An assessment to “reveal what your organization is doing right and what more your management can do to integrate employee health into a cost-effective business strategy.” Suggestions of program elements for low vs. high risk employees.</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: commitment to health promotion; alignment of health strategies with business goals; education of both management and employees on link between employee health and total economic value 2. OPERATIONS: programs support prevention, risk reduction, and disease management and have no barriers to evidence-based design; worksite program is integrated; provide safe and clean work environment; provide healthful food selections in vending machines and cafeteria; presence of programs for primary prevention and lifestyle management 3. COMMUNICATION + CULTURE: targeted communication based upon need; an employee leadership network supports health management programs; education about medical consumerism and self-care; provide health risk reduction programs or resources, disease management programs or resources 4. REWARDS: use of incentives to support employee responsibility and motivate employees; subsidization of gym memberships and/or have on-site fitness facilities 	<p>RISK FACTOR AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Clinical measures (A1c, cholesterol, etc) - Quality of life measures - Morbidity/mortality <p>COSTS</p> <ul style="list-style-type: none"> - Direct medical care costs (inpatient, outpatient, pharmacy) - Indirect cost: sick days, disability, workers’ compensation, presenteeism

⁸Institute on Health, Productivity, and Human Capital. “Section Four: Designing an H&P Dashboard for Presenting the Value of Investment to your C-Suite.” Value of Investment in Employee Health, Productivity, and Well-Being: A National Business Group on Health Toolkit. May 2014.

⁹US Chamber of Commerce. “Leading by Example: Leading Practices for Employee Health Management.” Partnership for Prevention. Copyright 2007.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
		<p>5. ASSESSMENT: Health Risk Assessment at least every 3 years; identification of leading physical and mental health conditions among employees and related direct and indirect costs; work to capture and link key medical costs with indirect costs (disability, sick days, workers' comp); establish metrics and measures of program effectiveness, have periodic evaluations and improvement processes</p>	
<p>PATIENT-CENTERED PRIMARY CARE COLLABORATIVE (PCPCC): MEDICAL HOME PERFORMANCE METRICS FOR EMPLOYERS¹⁰</p>	<p>INTERNAL: Employers can gain a better understanding of the value of proposed or current investments and become even more knowledgeable purchasers of healthcare services. Purpose of metrics is to improve experience of care, health of populations, reducing per capita costs, and improve workforce productivity.</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: None stated. 3. COMMUNICATION: None stated. 4. REWARDS: None stated. 5. METRICS: None stated. 	<p>RISK FACTOR INDICATORS</p> <ul style="list-style-type: none"> - Health risk categories <p>DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Chronic condition prevalence <p>COSTS</p> <ul style="list-style-type: none"> - Utilization of PCMH - Hospitalizations & readmissions - ED utilization - Usage of preventive care services - Medication adherence - Treatment target goals - Productivity (short-term disability, workers' comp, incidental absence, presenteeism) - Patient satisfaction - Patient activation survey (patients who have taken a more active role in their self-care/management)
<p>RAND - HEALTH EMPLOYER EXCHANGE METRICS¹¹</p>	<p>INTERNAL: Use a set of process and outcome measures endorsed by the National Quality Forum (NQF) to help employers assess quality of health plans, identify gaps in care, align care processes, and make decisions about health plans.</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: safe care practices, medication safety: unsafe doses, medications that should not be taken together; adherence to evidence-based guidelines; overuse of medical services (e.g. number of cardiac stress tests not meeting appropriate use criteria, C-section rate for low-risk first birth women, avoidance of antibiotic treatment in adults with acute bronchitis); how well doctors communicate 3. COMMUNICATIONS & CULTURE: Ways in which programs are promoted. Health promotion at work. Relationships and interpersonal factors at work (support, encouragement, etc.). 4. INCENTIVES: None stated. 5. ASSESSMENT: General job characteristics (irregular hours, sitting, physically demanding labor). 	<p>RISK FACTOR AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Medical outcomes: intermediate (e.g. number of well-controlled hypertensives; hospitalization & rehospitalization rates), and health outcome (e.g. rates of surgical complications; health-care associated infections or injuries) - Patient experience and patient-centeredness: how well people rate their health plan <p>COSTS</p> <ul style="list-style-type: none"> Work hours, missed work, productivity, satisfaction

¹⁰ Patient-Centered Primary Care Collaborative. "Patient-Centered Medical Home Performance Metrics for Employers." PCPCC.net. Copyright 2010.

¹¹ RAND Corporation. Matthe, S, Van Busum, KR, & Martsof, G. (2013). "Final Report: Evaluation of Tools and Metrics to Support Employer Selection of Health Plans." Sponsored by the US Department of Labor. Available [online]: <http://www.dol.gov/ebsa/pdf/toolandmetricvaluation.pdf>. Accessed 15 Jul 2014.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
<p>WORLD ECONOMIC FORUM WORKPLACE WELLNESS ALLIANCE (WWA) – COMPANY REPORT ¹²</p>	<p>INTERNAL: Designed to strengthen the understanding of benefits given to employees and how such workplace health and well-being programs can be measured and improved.</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Flexible working arrangements. 2. OPERATIONS: Support services (tobacco, alcohol, mental health, physical activity, nutrition) – type, eligibility, length, enrollment, results/outcomes. 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: General demographics, employee health survey 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <p>Health indicators (smoking, alcohol, exercise, nutrition, stress, BMI)</p> <p>COSTS</p> <p>Occupational health and safety Employee Assistance Program Job satisfaction Employee engagement Labor outcomes: Lost time, sick leave, turnover, presenteeism, complaints</p>
<p>PRUHEALTH BRITAIN'S HEALTHIEST COMPANY (BHC) CORPORATE HEALTH ASSESSMENT & EMPLOYEE SURVEY ^{13,14}</p>	<p>INTERNAL: To measure and manage health risks within organization, understand their impact on employee engagement and productivity, and set practical recommendations on how to manage the risks.</p> <p>EXTERNAL: Part of an annual competition amongst companies to reduce absence rates, increase employee engagement, and improve the bottom line.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Smoking policies. Budgetary and organizational support. 2. OPERATIONS: Health benefits (private medical, cash plan, dental coverage). Food/nutrition access. Wellness program components (screening, disease management, nursing advice, occupational health and safety, on-site clinics, smoking cessation support, alcohol and substance abuse, exercise facilities & opportunities, diet and healthy alternatives, stress management). Challenges to implementation. 3. COMMUNICATIONS & CULTURE: Ways in which programs are promoted. Health promotion at work. Relationships and interpersonal factors at work (support, encouragement, etc.). 4. INCENTIVES: None stated. 5. ASSESSMENT: General job characteristics (irregular hours, sitting, physically demanding labor). 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <p>Top health concerns/health problems Physical & mental health Height & weight, waist circumference, BP, cholesterol, blood glucose, sleep patterns, chronic diseases, smoking (frequency & volume), alcohol (frequency, volume), exercise (frequency, opportunities), diet (fruits, vegetables, lean meats, grains, added fats and salts, sugar-sweetened beverages)</p> <p>COSTS</p> <p>Work hours, missed work, productivity, satisfaction</p>
<p>WORKPLACE WELLNESS ALLIANCE METRICS DOCUMENT ¹⁵</p>	<p>Pilot</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Policies, support, leadership engagement 2. OPERATIONS: Types of employee wellness programs available. Smoking cessation programs. Links to instruments and tools. 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: Demographics. General job characteristics (sedentary, manual work, etc.) 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <p>BMI, waist-to-height ratio BP, cholesterol, fasting blood glucose Smoking Alcohol consumption Exercise and activity level Nutrition Mental health Immunizations</p> <p>COSTS</p> <p>Health care use (how often get medical checkups, frequency of ER visits) Cost (amount spent on health services) Productivity (absenteeism, disability, worker compensation, accidents, lost time rate, turnover) Engagement, fidelity, satisfaction</p>

¹² World Economic Forum. "Workplace Wellness Alliance 2012 Custom Report for: Discovery Health." Fall 2012. Confidential.

¹³ "Britain's Healthiest Company: Why Participate." Available [online]: <https://www.britainshealthiestcompany.co.uk/why-participate.html>. Accessed 23 Jul 2014.

¹⁴ Britain's Healthiest Company. "Corporate Health Assessment" and "UK Employee Survey." Prepared by RAND Europe/the RAND Corporation.

¹⁵ Draft document. Confidential.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
<p>CHANGE AGENT WORKGROUP (CAWG): EMPLOYER HEALTH ASSET MANAGEMENT¹⁶</p>	<p>INTERNAL: To give a “roadmap” for key decisionmakers. Use broad metrics that go beyond medical costs and focus on improving health status. Align economic and behavioral incentives to create value. “Health is an investment to be optimized, not a cost to be minimized.”</p> <p>EXTERNAL: None stated.</p>	<p><i>NB: This evaluation tool has a schema to characterize companies into three phases of “health:” from a basic understanding of the needs of its workforce (Phase 1) to complete integration of a comprehensive employee health strategy (Phase 3).</i></p> <ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Workplace policies and work environment: smoking policy, encouraged use of stairs, flexible work schedules. Vision from senior leadership. 2. OPERATIONS: Health-friendly environment (bike racks, healthy food, Employee Assistance Program, stairwells, on-site fitness centers, healthy cafeteria choices). Program offerings (classes, social activities). Screenings (diabetes, breast cancer, colorectal cancer, dental health), immunizations, allergy shots, tobacco cessation, stress or weight management. Value-based plan design (access to primary care, secondary care, mental health care). 3. COMMUNICATIONS: Orientation, newsletters 4. INCENTIVES: Use of incentives 5. ASSESSMENT: Health risk assessment, demographics. 	<p>RISK FACTORS AND DISEASE INDICATORS Risk factors Bioindicators of BP, cholesterol, blood glucose, stress levels</p> <p>COSTS Financial cost of disease, mortality, morbidity Employee relations, morale, job satisfaction Participation, changes in population health status</p> <p>Stratify employee population using medical and pharmacy data PLUS disability, workers’ comp, absences, HRA, biometric data. E.g. Level 1 (high/acute risk), Level 2 (chronic risk), Level 3 (moderate risk), Level 4 (low risk)</p>
<p>HEALTHLEAD^{17,18}</p>	<p>INTERNAL: Assessment to help workplaces define their health status and chart course for improvement.</p> <p>EXTERNAL: Serves as a certification, a public statement of accomplishment. “HealthLead is to workplace well-being as LEED is to sustainable building design.”</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Business alignment, leadership alignment, policy alignment 2. OPERATIONS: Environmental alignment, administrative/operations alignment 3. COMMUNICATIONS: Communications alignment 4. INCENTIVES: Benefits alignment 5. ASSESSMENT: Data management alignment 	<p>RISK FACTORS AND DISEASE INDICATORS Primary prevention & health maintenance Risk factor intervention/modification Decision support/medical management Well-being and information support services Risk outcomes Clinical outcomes</p> <p>COSTS Financial outcomes Work safety Community engagement</p>
<p>WELCOA’S WELL WORKPLACE CHECKLIST¹⁹</p>	<p>INTERNAL: To assess an organization’s progress in developing a “results-oriented” worksite wellness program</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: WELCOA Benchmark #1 (Capturing CEO Support) 2. OPERATIONS: BENCHMARK #4 (Carefully crafting an operating plan), #5 (Choosing appropriate interventions), #6 (Creating a supportive environment) 	<p>Outcome measures as part of BENCHMARK #7: RISK FACTORS AND DISEASE INDICATORS Changes in biometric measures, risk factors</p>

¹⁶ Change Agent Work Group. “Employer Health Asset Management: A roadmap for improving the health of your employees and your organization.” Copyright 2009.

¹⁷ “HealthLead FAQ.” US Healthiest. Available [online]: <http://www.ushealthiest.org/faq>. Accessed 25 Jul 2014.

¹⁸ “HealthLead Practice Areas.” US Healthiest. Available [online]: http://www.ushealthiest.org/assets/HealthLead_Practice_Areas.pdf. Copyright 2013.

¹⁹ Welcoa.org. Well Workplace Checklist. Available [online]: <https://www.welcoa.org/services/build/well-workplace-checklist/>. Accessed 20 Sep 2014.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
NOT PUBLICLY AVAILABLE			
<p>HEALTHNEXT CULTURE OF HEALTH ASSESSMENT ²⁰</p>	<p>INTERNAL: HealthNEXT was formed specifically to achieve productivity and cost advantage for businesses via “cultures of health and wellness”. The Employer Health Opportunity Assessment™ (EHOA) leadership engagement tool assesses an employer’s progress on 250+ elements across a twelve point scale; weighted by effectiveness and efficiency of impact. This provides the framework and enables HealthNEXT to work with an employer to seek solutions to a healthier workforce and bottom line.</p>	<ol style="list-style-type: none"> 3. COMMUNICATIONS: BENCHMARK #2 (Creating cohesive wellness teams) 4. INCENTIVES: as part of BENCHMARK #5 5. ASSESSMENT: BENCHMARK #3 (Collecting Data to Drive Health Efforts), #7 (Carefully evaluating outcomes) 	<p>COSTS Productivity Return on investment</p> <p>Participation, satisfaction, improvements in knowledge attitudes and behaviors</p>
<p>JOHNSON AND JOHNSON ²¹</p>	<p>INTERNAL: Employer and employee benefits through ongoing evaluation and modification of employee programs</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Not stated. 2. OPERATIONS: % of employees with access to Culture of Health Programs (measured by site implementation); % completed HRA. access to quality treatment & clinical trials (cancer); mental wellbeing (EAP) 3. COMMUNICATION: Not stated. 4. REWARDS: Not stated. 5. ASSESSMENT: Measure progress and improvement against established baselines in tobacco use, diet/nutrition, physical activity, screening & early detection 	<p>From health risk assessments: % of population characterized as “low risk”; “unhealthy eating” “obesity” “inactivity”.</p>
<p>LIFEGAIN HEALTH CULTURE AUDIT ²²</p>	<p>INTERNAL: To examine cultural strengths and barriers to wellness in an organization. For evaluation and planning wellness programs.</p> <p>EXTERNAL: Data may be used in an anonymous fashion to provide benchmark data for similar organizations.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Measure employee’s perceptions of organizational priorities and norms of workplace safety. 2. OPERATIONS: Assesses level of peer support at work and at home. 3. COMMUNICATION: Assesses communication, training, confrontation; sense of community. 4. REWARDS: Assesses rewards. 	<p>RISK FACTOR & DISEASE INDICATORS: -Lifestyle strengths, lifestyle change</p> <p>COSTS -Program satisfaction</p>

²⁰ “HealthNEXT >> Our Approach.” Available [online]: <http://healthnext.com/what-we-do/our-approach/>. Accessed 10 July 2014.

²¹ “Johnson & Johnson – Strategic Framework.” Available [online]: <https://www.jnj.com/caring/citizenship-sustainability/strategic-framework/health-conscious-safe-employees>. Accessed 23 Jun 2014.

²² Allen, Judd. Lifegain Health Culture Audit. Available [online]: http://www.healthyculture.com/orderpages/Lifegain_Health_Culture_Audit.html. Accessed 18 Sep 2014.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
		5. ASSESSMENT: Measure programming preferences, and employee feedback about past wellness programs. Barriers to participation	
GALLUP-HEALTHWAYS WELLBEING INDEX ²³	<p>INTERNAL: To improve organizational and individual performance and costs.</p> <p>EXTERNAL: Surveys individuals and populations internationally to determine “important aspects of how people feel about and experience their daily lives.”</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Work environment. 2. OPERATIONS: Access to basic necessities. 3. COMMUNICATION: None stated. 4. REWARDS: None stated. 5. ASSESSMENT: None stated. 	<p><i>From aggregated survey data:</i></p> <p>Life evaluation, emotional health, physical health, healthy behaviors.</p> <ul style="list-style-type: none"> - % obese, exercise, eat produce frequently, smoke, have daily stress - % uninsured, have a personal doctor - % job satisfaction

Narrow Assessments:

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
NEW YORK STATE DEPARTMENT OF HEALTH'S HEALTHY HEART PROGRAM - HEARTCHECK ²⁴	<p>INTERNAL: To assess organizational elements that address employer-sponsored cardiovascular disease risk-reduction efforts.</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: written policies on smoking, healthy food prep practices in cafeteria, and supporting employee physical fitness; management training on workplace-related stress issues; sexual harassment policies; presence of a worksite wellness committee, whether or not it sets annual objectives; does mission statement refer to employee health; are health education services/instruction/screening available to family members of employees; is there a dedicated individual for delivery of health promotion program; does worksite complete its own needs assessment; is it involved in a wellness coalition or health council; does the CEO make a statement supporting health promotion; do managers have performance objectives related to worksite health; are there flexible work scheduling policies, employee grievance procedures, allow for leave/vacation time allowances, extended disability coverage; does the worksite address elder care or childcare 	None stated.

²³ Gallup-Healthways Well-Being Index. Available [online]: <http://info.healthways.com/wellbeingindex>.

²⁴ New York State Department of Health. “Heart Check: Assessing Worksite Support for a Heart Healthy Lifestyle. Version 4.1.” Healthy Heart Program.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
		<ol style="list-style-type: none"> 2. OPERATIONS: on-site showers, changing facilities, exercise; outdoor exercise or playing fields; allow for a lunchtime or after-work walking club; employee lounges; smoking cessation programs/services offered; sale of tobacco products on site; Vending machines & cafeterias items offered; weight control programs; healthy-eating programs; educational campaigns against smoking or re healthy eating diet management, or for physical activity; 3. COMMUNICATION & CULTURE: labels to identify healthy foods in vending machines or cafeterias; after work social events; stress-reduction events 4. REWARDS: incentives for being a non-smoker or quitting smoking; promotions or sales on healthier foods in vending machines or cafeterias; subsidize off-site exercise facilities; sponsored sports teams or corporate challenges; material or benefits-plan-related incentives for physical activity; subsidize or provide free food options for employee meetings (nutritious vs. non-nutritious) 5. ASSESSMENT: are there on-site fitness assessments for employees; does worksite evaluate its own health promotion efforts; Medical screenings and health risk appraisals (e.g. BP, cholesterol, diabetes) 	
<p>WHO STEPWISE APPROACH TO CHRONIC DISEASE RISK FACTOR SURVEILLANCE (STEPS) ²⁵</p>	<p>INTERNAL: For use by each site or country in order to develop a personalized, more tailored instrument. Contains core items that are required of all, and expanded items that ask for more detailed information.</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: None stated. 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 6. ASSESSMENT: Demographics 	<p>From health risk assessments: RISK FACTORS AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Tobacco, Alcohol, diet, physical activity - Travel (bicycle/walking) - Recreation - History of hypertension or diabetes - Biometrics (height, weight, waist, BP) - Biochemical (blood glucose, lipids, hemoglobin) <p>COSTS: None stated.</p> <p>EXTERNAL AWARDS: None stated.</p>

²⁵ World Health Organization. "STEPwise Approach to Surveillance (STEPS)." Available [online]: <http://www.who.int/chp/steps>. Accessed 23 Jul 2014.

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
CHECKLIST FOR HEALTH PROMOTION ENVIRONMENTS AT WORKSITES (CHEW) ^{26, 27, 28}	<p>INTERNAL: 112-item “Direct observation [checklist] to assess characteristics of worksite environments that are known to influence health-related behaviors,” especially physical activity, eating habits, alcohol consumption, and smoking.</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: “Physical characteristics of worksite, features of the information environment, and characteristics of the immediate neighborhood around the workplace.” E.g. bicycles, changing rooms, showers, bulletin boards, elevators, stairs, fitness centers, lunchroom/cafeteria, vending machines, parking, grounds and open spaces. 3. COMMUNICATIONS: Signs related to alcohol consumption, nutrition, and health promotion. 4. INCENTIVES: None stated. 6. ASSESSMENT: None stated. 	<p>None stated.</p>
ENVIRONMENTAL ASSESSMENT TOOL (EAT) (NHLBI) ²⁹	<p>INTERNAL: Adaptation of CHEW as an “observation protocol and checklist by trained evaluators to record how much healthy eating, physical activity, and weight management are supported by the ‘ecology’ of the workplace”</p> <p>EXTERNAL: None stated.</p>	<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: Flexible work schedule policies; written policies focused on employee health and well-being 2. OPERATIONS: On-site physical activity areas, open stairways, bicycle accessibility, showers, changing facilities, signage, workplace’s cafeterias, vending machines, healthy food choices at company meetings, access to safe walkways and open spaces, presence of kitchenettes or refrigerators; community resources e.g. health clubs and parks; availability of ongoing health promotion programs related to physical activity, diet and nutrition, and weight management 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 6. ASSESSMENT: None stated. 	<p>None stated.</p>

²⁶ The Art of Health Promotion, May/June 2013, DOI: 10.4278/ajhp.27.5.tahp; page 3

²⁷ Oldenburg, Sallis, Harris, Owen. Checklist of Health Promotion Environments at Worksites (CHEW): development and measurement characteristics. Am J Health Promot, 2002, 16(5), 288-299. PMID: 12053440.

²⁸ Sallis, J et al. “Checklist of Health Promotion Environments at Worksites (CHEW).” Version 5. 2001.

²⁹ Ibid. The Art of Health Promotion, page 3

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
INDIVIDUAL COMPANIES – CASE STUDIES ³⁰			
<p>BOEING</p>		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: None stated. 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: None stated. 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Disease burden and diagnoses: especially heart disease, diabetes, hypertension - BMI - Patient surveys: functional status, depression screening, satisfaction - Lab data: HbA1c (% individuals < 7%), cholesterol (% individuals with LDL < 100) - Biometric measures: % of individuals with SBP < 140 <p>COSTS</p> <ul style="list-style-type: none"> - Utilization (hospitalizations, hospital days, emergency department use, lab utilization, radiology, pharmacy) - Costs (total medical and pharmacy, hospitalization, ED, hospital admits, outpatient visits – primary care and specialist, lab, radiology, prescription costs) - Self-reported productivity (absenteeism, presenteeism), work days missed in prior 6 months due to poor health, at-work health-related productivity impairment
<p>WHIRLPOOL CORPORATION</p>		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None started. 2. OPERATIONS: Compliance with preventive care utilization rates 3. COMMUNICATIONS: None started. 4. INCENTIVES: None started. 5. ASSESSMENT: Quality care measures for diabetes, HTN, COPD/asthma 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - Lab data: % individuals with HbA1c < 7, <8, and < 9; % individuals with lipid profile improvement -Biometrics: % individuals with BP in control (<134/85) -% individuals with asthma using rescue inhaler < 2 days per week <p>COSTS</p> <ul style="list-style-type: none"> -Utilization (hospitalization rates, ED use, primary care) -Costs: medical, ED, inpatient, specialty care -Pharmacy utilization and costs
<p>CALHOUN COUNTY – CITY OF BATTLE CREEK, KELLOGGS, KELLOGG FOUNDATION, STEWART INDUSTRIES, BATTLE CREEK HEALTH SYSTEM</p>		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: Diabetic foot exam rate, retinal exam rate; care disparities (gap in care between ethnicities for diabetes and heart disease) 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: Participation rates in HRA and interventions 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <ul style="list-style-type: none"> - % of patients with HbA1c < 7%; % with BP < 130/80; % of high-risk individuals (heart disease, diabetes) with LDL < 100 - Rate of preventable hospitalizations for CHF and diabetes - Population health risk profile (% low, medium, high risk)

³⁰ Ibid. PCPCC

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
			<p>COSTS</p> <ul style="list-style-type: none"> - Costs (medical, Rx, disability) - Productivity, absentee days, presenteeism
<p>ROY O MARTIN LUMBER COMPANY & GILCHRIST CONSTRUCTION</p>		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: Physician process (correct tests at right time; appropriate meds; follow-up notes show contact with patient); patient process (appointments kept, medication taken properly, responding to care coordinator calls, compliant with diet/exercise regime); clinic process (care coordinator following up with patient, records being reviewed for outside clinic visits, all results logged) 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: None stated. 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <p>Severity of diagnosis (trend; via medical claims codes)</p> <p>Clinical outcomes</p> <p>COSTS</p> <p>Utilization (ER, specialty, diagnostic)</p> <p>Costs (primary care, ER, specialty, diagnostic)</p> <p>Pharmacy claims (increase in compliance, decrease in costs)</p> <p>Absenteeism</p>
<p>COMPREHENSIVE HEALTH SERVICES</p>		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: Compliance with evidence-based practices (e.g. diabetic patients with 2 HbA1c tests in past 12 months; patients with annual screening for diabetic nephropathy;... total of 54 conditions with multiple rules per condition) 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: None stated. 	<p>RISK FACTORS AND DISEASE INDICATORS</p> <p>Clinical metrics: diabetes (HbA1c < 7%, etc.), asthma (spirometry, flu vaccine), hyperlipidemia (lipid panel, BMI, BP), hypertension (BP, BMI, lipid panel), physical activity (BMI, cardio), weight management (BMI, BP, waist circumference), ...and several other conditions (CAD, COPD, CHF, vascular disease, osteoarthritis, GERD, metabolic syndrome, pre-diabetes, low back pain, stress management, nutrition, tobacco cessation)</p> <p>Episode risk group for risk adjustment (retrospective risk score)</p> <p>Risk cohort (high, medium, low)</p> <p>COSTS</p> <p>PMPY cost (and risk adjusted)</p> <p>Utilization (provider visit rate, ER visit rate, admit rate, Rx utilization) PMPY</p>

EVALUATION TOOL	PURPOSE	CULTURE OF HEALTH METRICS (PROCESS)	POPULATION HEALTH METRICS (OUTCOMES)
MERCK		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: % diabetics getting at least one HbA1c test per year, at least one LDL per year, annual eye exam, annual foot exam 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: None stated. 	<p>RISK FACTORS AND DISEASE INDICATORS % diabetics with HbA1c < 7, 7-9, >9; % diabetics with LDL < 100; BP values</p> <p>COSTS PMPM total health care costs per diabetic (both pharmacy and medical costs)</p>
QUADGRAPHICS, QUADMED		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: Cholesterol testing, appropriate medication prescribing (ACEi, ARB, beta blocker); diabetic testing. Tobacco screening, vaccinations, mammograms, cervical cancer screening, colorectal cancer screening, osteoporosis screening 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: None stated. 	<p>RISK FACTORS AND DISEASE INDICATORS Cholesterol; BP; HbA1c (diabetics)</p> <p>COSTS Costs per employee Utilization of services Satisfaction</p>
STATE OF NEW YORK		<ol style="list-style-type: none"> 1. SENIOR LEADERSHIP: None stated. 2. OPERATIONS: Diabetes screening, lipid screening, urine screening (microalbuminuria), lead screening, BMI screening, asthma medication appropriateness, formulary adherence at the pharmacy 3. COMMUNICATIONS: None stated. 4. INCENTIVES: None stated. 5. ASSESSMENT: None stated. 	<p>RISK FACTORS AND DISEASE INDICATORS HbA1c; LDL; BP; BMI</p> <p>COSTS Diabetes-related ER visits or admissions (and trends) Cost of admission Pharmacy utilization, spending ER, inpatient, specialist, and radiology utilization Total spend Total costs for certain conditions Total surgical procedures Readmissions</p>