Vitality™
INSTITUTE

BEYOND THE FOUR WALLS:

Why Community Is Critical to Workforce Health

JULY 2015

About the Vitality Institute

The Vitality Institute (the Institute) is an evidence-driven, action-oriented research organization dedicated to building a culture of well-being by promoting health and preventing chronic diseases. The Institute aims to unite leaders in the public and private sectors to transform evidence into action and create a healthier society. Employers play a critical role in achieving this, and the Institute's mission is to serve as a catalyst in this process by guiding companies on the implementation of evidence-based workplace and community health-promotion practices. The Institute was founded in 2013 by the South African insurer, Discovery Limited, as part of its commitment to health promotion and well-being programs that advance social good.

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Executive Summary

The Vitality Institute Commission on Health Promotion and the Prevention of Chronic Disease in Working-Age Americans made five actionable recommendations to close gaps in empirical evidence on prevention, place prevention at the center of health policies and actions in the U.S. and work with stakeholders from all sectors to prevent major noncommunicable diseases. These recommendations were investing in prevention science, strengthening leadership, creating markets for health, making health measurable and promoting cross-sector collaboration.

This report shares evidence and a call to action to increase cross-sector collaboration that generates systemic health improvements across society. It uses county health data to demonstrate linkages between workforce and community health, documents strategies of cross-sector collaboration between employers and community groups and provides guidelines for employer-community partnerships to promote health within and beyond the workplace.

Demonstrating the Link Between Community and Workforce Health

Nearly 80% of U.S. employers offer workplace health promotion programs, which can be a cost-effective means of improving health and decreasing presenteeism and absenteeism, but most do not address the environmental and social drivers of workforce health at the community level. Research demonstrates that workforce health varies by employment sectors, such as manufacturing and arts/entertainment/recreation. In addition, population health outcomes, such as obesity and smoking prevalence, vary across counties. The relationship between employment sector and health at the county level remains unclear, however, and opportunities for cross-sector collaboration to support both community health and business profitability have not been well documented.

To demonstrate the relationship between employment sector and county health, we analyzed health data (prevalence of smoking, obesity, physical inactivity, diabetes and death due to cardiovascular disease) across more than 3,100 U.S. counties. To understand existing employer-community partnerships for health promotion, we interviewed representatives of 33 employers from a range of sectors (finance and insurance; health care and social assistance; manufacturing; retail; real estate development; and professional, scientific and technical services) and from 38 community groups (government, nonprofit and private foundations).

Through this quantitative and qualitative research, we found the following

1. Major employment sectors with unhealthy workforces are more likely to be located in counties with poor health, demonstrating the linkage between community and workforce health

2. Employers invest in community health using three strategies that community groups can leverage to engage businesses beyond the workplace:

   a. Strategic philanthropy

   b. Corporate social responsibility

   c. Creating shared value, including extended corporate health strategy

   These strategies are not mutually exclusive and are often implemented in concert.

3. Many opportunities exist to link community and workplace health

In addition to describing these findings in more detail, the report features best-practice case studies of businesses (Kaiser Permanente, General Dynamics Bath Iron Works, The Dow Chemical Company, General Electric, Campbell Soup Company, and PepsiCo) and community groups (Let's Move! Active Schools, Central Florida YMCA and The Spartanburg Academic Movement). An additional 7 to 10 case studies of effective partnerships will be featured on the Vitality Institute website **www.thevitalityinstitute.org/communityhealth**.

We also identified the following potential gains for both employers and communities through partnership:

BUSINESS GAINS	COMMUNITY GAINS
Improving and maintaining the health of their employees (decreasing their own health care costs in the long term)	Managing budgetary constraints
Increasing retention/engagement/ interest in their business	Building capacity
Tapping into major market trends that are of interest to investors and other potential partners/stakeholders	Leveraging technological capabilities
	Reducing potential negative impacts of business practices

Application of This Report

Our research demonstrates linkages between community and workforce health. It highlights the critical need for private and public employers to make investments in workforce and community health and to evaluate their impact. Our hope is that both communities and employers will leverage the business case for community health promotion and draw on the case studies and guidelines for best practices as a blueprint for cross-sector collaboration to create a nationwide culture of health.

Call to Action for Strategic Employer-Community Partnerships in Health Promotion

In addition to increasing public health advocacy and undertaking more quantitative research to better understand the causal mechanisms at play between employment sector and county health, we identified six primary actions that employers and communities should take to have the greatest positive impact on population health:

1. Employers should extend their corporate health strategies to the community, using local data to drive decision making
2. Employers should engage in strategic philanthropy and use market-driven solutions to create shared value and address health disparities
3. Employers should align internal divisions to facilitate data sharing and effective program evaluation
4. Employers should invest in implementation science by partnering with research institutions and other stakeholders to identify and share best practices and evidence of impact of investments in community health
5. Communities should engage employers beyond the workplace to improve population health
6. Communities and employers should cross-pollinate skills to optimize their health program planning and evaluation

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Introduction and Research Purpose

Research Purpose: Addressing the Burden of Noncommunicable Diseases

The aim of this report is twofold: to determine the relationship between the risk and burden of noncommunicable diseases (NCDs) and employment sectors at the county level and to document effective strategies for collaboration between employers and communities. The purpose of this work is to catalyze strategic, locally focused partnerships between employers and community groups to build a nationwide culture of health within and beyond the four walls of the workplace. We explore opportunities for win-win relationships between community health organizations and businesses, including the potential for social and financial return on investment (ROI) in the form of a healthier population, a more productive workforce and innovative opportunities for market research and product development. See Box 1 for definitions of frequently used terms.

A Global Burden and a Threat to Economic Vitality

NCDs, including cardiovascular disease (CVD), cancer, diabetes, musculoskeletal disorders, chronic respiratory diseases and mental illness, are a threat to individuals, communities, businesses and economic development.[1]

- Globally, NCDs make up the greatest disease burden in terms of healthy life years lost because of ill-health and years lived with disability or premature death, or disability-adjusted life years (DALYs).[2]
- In the U.S., NCDs account for 7 of the top 10 causes of death. Heart disease and cancer combined cause nearly 48% of all U.S. deaths.[3]
- NCDs drive more than 80% of U.S. health care costs.[4] In 2013, the U.S. spent $2.9 trillion, or 17.4% of its gross domestic product (GDP), on health care.[5]
- Over the past two decades, deaths due to lung cancer and CVD declined thanks to a reduction in tobacco use, improved disease management and medical treatment advances. However, diabetes and its associated risk factors of physical inactivity and obesity are on the rise, and trends for mental illness are also worsening.[2]
- A global survey of business executives conducted by the World Economic Forum and the Harvard School of Public Health from 2009 to 2011 identified NCDs as one of the leading threats to global economic growth.[6]

NCDs impose the greatest burden on working adults, their communities and businesses via direct and indirect costs. The workforce bears the burden of NCDs via poor health, disability and decreased quality of life. Although there is a large evidence base on addressing NCDs in a clinical setting, further progress will require investment beyond the clinical and workplace settings, as most health-related choices and opportunities for health promotion occur in the community. Investment by businesses in community health can have a large impact on both profitability and population health.

Box 1. Useful Definitions

DISABILITY-ADJUSTED LIFE YEARS

DALYs are years of life lost because of ill-health, disability or premature mortality among people living with a health condition or its consequences.

DISEASE BURDEN

The impact that a health problem or disease has on a population as measured by financial cost, mortality, morbidity or other indicators such as DALYs.

EMPLOYMENT SECTOR

The North American Industry Classification System at the Bureau of Labor Statistics classifies establishments primarily engaged in producing or handling the same product or groups of products, or in rendering the same services, into sectors. Sectors are aggregate groups of industries.

NONCOMMUNICABLE DISEASES

NCDs, also known as chronic diseases, are noninfectious and nontransmissible. They are of long duration and generally slow progression.

PREVENTION SCIENCE

The systematic application of scientific methods to the causes and prevention of health problems such as NCDs at the population level. This traditionally includes epidemiology, public health and, more recently, behavioral economics.[1]

RISK FACTORS

Any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury. Five leading behavioral, or modifiable, risk factors for NCDs are tobacco use, poor diet, physical inactivity, alcohol consumption and nonadherence to medication. Unmodifiable risk factors include age, sex and race.[7]

COMMUNITY HEALTH PROMOTION

The process of enabling people to increase control over and improve their health. It moves beyond a focus on individual behavior toward a wide range of social and environmental interventions.[8] Community health promotion focuses efforts on a community, which can be defined in many ways, including by geographical boundaries, such as a county or congressional district; as an administrative area covered by a service, such as hospital operations; and as a social network or group of people with shared characteristics.

"Healthy people are a great asset to successful business. The unfortunate reality is that the increasing expenditures on health care are not delivering greater health for our population. This is why Dow is investing in changes at the community level where we have our largest operations: to fully realize the health and thereby the performance of our workforce and the company."

–Catherine Baase, MD, Chief Health Officer, The Dow Chemical Company

How NCDs Impact Business Profit and Loss (P&L)

NCDs burden employers through high employee health care costs and reduced workforce productivity due to increased absence from work (absenteeism) and reduced performance at work related to personal and family health problems (presenteeism) (Table 1).[7] From 2010 to 2013, nearly 60% of chief financial officers worldwide cited health care costs as their main financial concern, and in 2014, the Society for Human Resource Management reported that 79% of the organizations that provide coverage to their employees in the U.S. were "very concerned" about controlling health care costs.[9,10] A company's failure to invest in its employees' health leads to loss of economic efficiency and to financial inefficiency of the business driven by avoidable and costly health care spending.

Table 1. Impact of NCDs on Business P&L

HIGH HEALTH CARE COSTS REDUCE PROFITS	PRODUCTIVITY LOSS DECREASES OUTPUT AND INNOVATION
In 2012, U.S. employers spent $578.6 billion on group health care coverage, a 72% increase over the $336.1 billion spent in 2000.[5,11]	Productivity losses as a result of absenteeism and presenteeism cost U.S. employers about $225.8 billion annually.[15]
In 2005, Starbucks announced that it was spending more on employee health benefits than on coffee; similarly, General Motors, Ford and Chrysler spent more on employee health care than on the steel they use to make cars.[12]	In 2010, the global cost of CVD alone was estimated at $863 billion (an average per capita cost of $125), with about 45% driven by productivity loss due to disability or premature death or time lost from work because of illness or the need to seek care.[3]
Obese men incur $1,152* more in direct annual health costs than do normal-weight men, and obese women incur $3,613 more than do normal-weight women.[13]	Overweight and obese men (body mass index [BMI] 25-35) miss approximately two more work days per year than do normal-weight men, a 56% increase in missed days. Overweight women miss 3.9 days, a 15% increase in missed days compared with normal-weight women.[16]
Goetzel and colleagues demonstrated that 10 modifiable health-risk factors are linked to more than 20% of employee health care spending.[14]	Obese women (BMI >30) miss 5.2 days, a 53% increase; and women with BMIs of 40 or higher miss 8.2 days, a 141% increase in missed days, almost 1 week more of missed work each year than among normal-weight women.[16]
	Macroeconomic simulations suggest a cumulative U.S. output loss of $47 trillion over the next two decades due to CVD, chronic respiratory disease, cancer, diabetes and mental illness. This represented 75% of the global GDP in 2010 ($63 trillion).[6]

P&L = profit and loss.

* All references to $ are in U.S. dollars unless otherwise specified.

How Workplace Health Promotion Impacts Business Profit and Loss

Over the past several decades, employers have moved beyond occupational health and safety to investing in the well-being of their workforces. Such health promotion and disease prevention programs can be effective while demonstrating net savings. For example, British Petroleum, winner of the 2014 C. Everett Koop National Health Award, launched its Wellness Program in 2010 and has since seen a 10% reduction in overall health risk among employees and an ROI of $2.10 for every dollar spent over the program's first 3 years.[17] See Table 2 for benefits of workplace health promotion.

Workplace Health Promotion Is Insufficient Without Community Health Promotion

Despite evident gains from workplace health promotion efforts, NCDs still pose a significant risk to businesses' financial and strategic positioning. The health of the workforce to a large extent reflects the health of the community from which employers draw employees. The health risk of communities varies geographically; hence, talent pools vary across locations of business operations.

Individual and workforce health are products of a health ecosystem shaped by structural, community, institutional/organizational, interpersonal and individual factors.[21, 22] Policies (i.e., federal and state laws, education, health care policy) can facilitate equitable distribution of community resources to promote population health.[23] Efforts focused solely on workplace health promotion and/or increased health care cost sharing with employees are insufficient to address the broader, community-based drivers that influence employees' individual behaviors outside the workplace. For example, programs limited to the workplace fail to address outside social networks and the built environment (e.g., access to green spaces, active transportation, healthy housing, nutritious foods), which influence individuals' ability to make healthy choices.[24]

Table 2. Impact of Workplace Health Promotion on Business P&L

IMPACT ON COST, ABSENTEEISM AND PRODUCTIVITY	CULTURE OF HEALTH YIELDS COMPETITIVE ADVANTAGE
Increase productivity at work and reduce voluntary employee turnover rates[18,19]	Companies that have received the Corporate Health Achievement Award from the American College of Occupational and Environmental Medicine yielded greater value for their investors, with an average annual excess return of 5.75% over the Standard and Poor's 500.[20]
Decrease medical costs by about $3.27 for every dollar spent on wellness programs[19]	
Decrease absenteeism costs by about $2.73 for every dollar spent[18]	

II

Challenge and Opportunity

"GE was spending upwards of two billion dollars on health care costs. We knew we had to go outside the workplace to create lasting change, and this meant partnering with stakeholders in Cincinnati, where we were spending the most on health care and also have our largest manufacturing plants."

–Alan Gilbert, Director, General Electric Global Government and NGO strategy

THE CHALLENGE: LINKING COMMUNITY AND WORKFORCE HEALTH

Despite evidence of the relationship between environmental/community factors and individual health, corporate executives' understanding of the relationship between community and corporate health varies substantially.[25] In 2013, the Kaiser Family Foundation reported that more than 90% of large firms offered employee-wellness benefits, yet only 65% extended these programs to spouses or dependents, and only a fraction did so for communities.[26] Similarly, Business for Social Responsibility found that companies across industries primarily focus on workplace health promotion, rarely extending their reach to improve the health of the communities from which employees are recruited.[27] Finally, although a 2013 study of workplace wellness programs showed that 77% of U.S. employers with 50 or more employees currently offer some form of workplace wellness program,[28] the prevailing lack of linkage between community and workforce health promotion is a barrier to effective workplace wellness programs and business profitability.[29]

THE OPPORTUNITY: STRATEGIC CROSS-SECTOR PARTNERSHIPS FOR HEALTH PROMOTION

Cross-sector collaboration refers to nonhealth sectors and the public health community working together to tackle multiple factors influencing health. This requires intervention beyond the traditional health system (hospitals and clinics) and includes representatives from sectors such as agriculture, transport, urban design, housing and education, as their actions influence population health. Effective partnerships identify points of synergy for health while supporting each sector in accomplishing their individual priorities.

A tailored approach to community health promotion can address the striking variability in disease burden at the county level. Employer collaboration with community groups can enable businesses to assess local needs and synergize the strengths of all stakeholders to design targeted strategies to address them. Community health organizations, ranging from health departments to nonprofits and YMCAs, can offer employers expertise in conducting local health needs assessments, implementing health promotion programs and evaluating impact. Cross-sector collaboration can expand the positive effects of workplace and community health promotion efforts and overcome barriers to effectively promoting population health.

What's in It for Business: Potential of Cross-Sector Collaboration for Employers

Collaboration with community groups presents employers with opportunities to boost their competitive advantage through the following mechanisms:

1. Improving the health of their workforce through community and workplace health promotion.

Organizations such as the Alliance for a Healthier Minnesota lead in engaging local businesses to promote workplace health. Similarly, private sector investment in community health via corporate giving and shared value (SV) has supported thousands of communities. For example, the Merck Foundation has contributed more than $785 million globally to health, education and community initiatives since its inception.[30] Although these efforts are laudable, the public health and business communities miss a major opportunity to improve population health when they overlook the linkage between community and workforce health. In contrast to the evidence base on the impact of workplace health programs on employees, there is a paucity of literature on best practices demonstrating the impact of employer investment in community health on workforce and population health outcomes.

Box 2. Consumer Preferences[40]

Edelman, a global public relations firm, surveyed 8,000 consumers worldwide and found the following:

- **87%** believe that businesses should place equal weight on industry and society, especially those in rapid-growth economies that have higher expectations of and engagement with brands on societal issues.
- **76%** believe that it is all right for brands to support good causes and make money at the same time.
- When quality and price are equivalent, a brand's social purpose is the **most important factor** in consumer behavior, and millennials are more likely to buy or recommend products or switch brands on the basis of purpose.

2. Increasing human capital through employee recruitment, engagement and retention.

Human capital includes intangible individual and organizational resources, such as knowledge, talent, skills, abilities, experience, training, judgment and wisdom, and can generate wealth for a country's economy or a private firm. In a public organization, human capital is a resource to provide for the public welfare. In a private firm, human capital may drive profitability. Employers can promote volunteerism in community health promotion initiatives as a way to recruit talent and engage and retain current employees. Engaged and healthy employees may support long-term business performance and sustainability (see Table 3).

3. Seizing profitable business opportunities to develop products and services that respond to market demands for health and environmental sustainability.

Community and workforce health promotion can occur in parallel to business decisions that promote health, respond to consumer demands (see Box 2) and enhance market competitiveness. For example, Nestle spent two decades working internally and with community partners to link the company's long-term financial prospects and the health of the communities along its supply chain; now, each country in which it operates has a business plan that includes goals to improve community health and better manage natural resources. Simultaneously, the company reduced the proportion of added sugar in its Nesquik® consumer product by 35%, the impact of which can extend beyond the workforce to consumers worldwide.[39]

Table 3. Volunteerism, Employee Engagement and Implications for Business

VOLUNTEERISM AND HEALTH	EMPLOYEE ENGAGEMENT AND BUSINESS PERFORMANCE	IMPLICATIONS FOR WORKFORCE RECRUITMENT
Volunteering may improve cognitive function and mental health. It also has been associated with increased physical activity and well-being and decreased stress.[31]	A 2012 Gallup study found that companies with highly engaged workforces (reporting higher loyalty, pride, satisfaction, etc.) outperform their peers by 147% in earnings per share and realize[34] • 41% fewer quality defects • 28% less shrinkage (loss in inventory due to theft, error, fraud, damage, etc.) • 65% less turnover (in low-turnover organizations) • 25% less turnover (in high-turnover organizations) • 37% less absenteeism	Among 1,000 employees surveyed by Deloitte, two-thirds said they would prefer to work for companies that offer them opportunities to contribute their professional skills to charitable organizations, and 81% believe volunteering offers opportunities to develop skills they can use at work.[35]
Evidence from 139 countries showed that self-rated health was significantly associated with having social support from friends and relatives and with volunteering. Results from stratified analyses indicate that these associations are strikingly consistent across countries. The link between social capital and health is not restricted to high-income countries but extends across many geographic regions regardless of their national-income level.[32]		A 2013 survey of 80% of Hewlett Packard (HP) employees showed that volunteers had 10% higher rates of morale, motivation and intention to stay at the company than did nonparticipants. Overall employee engagement improved by five points to 70%. The proportion of employees recommending HP as a great place to work rose 11 points to 71%. In 37 out of 38 areas assessed, employee ratings either matched or exceeded the results from 2012.[36]
Volunteering may contribute to a greater sense of balance for people in the workforce, which might, in turn, have a positive influence on health.[33]		In 2011, 61% of millennials said that a volunteer program would be a factor "when choosing between two potential jobs with the same location, responsibilities, pay and benefits.[37]" In 2014, 63% of millennials gave to charities and 43% actively volunteered or were members of a community organization.[38]

What's in It for Communities: The Potential of Cross-Sector Collaboration for Community Groups

Collaboration with employers presents community groups with opportunities to scale their programs, operate more efficiently and improve products sold locally through the following mechanisms:

1. Managing budgetary constraints. In 2011, more than 1.6 million tax-exempt organizations of all kinds (various 501(c) subsectors) were registered with the Internal Revenue Service. In 2010, about 75% of nonprofits operated on less than $500,000 per year, with average grant allowance for overhead at less than 10%.[41] Meanwhile, more than 70% of large businesses (generally 500 or more employees) operate philanthropic foundations.[42]

2. Building capacity. Businesses offer skills-based volunteering and pro bono services and can support nonprofits to innovate in marketing, design, supply chain, etc. For example, companies can support community organizations to apply Six Sigma to their initiatives, including collective impact projects. Lean Six Sigma is a managerial and operational approach that aims to eliminate waste of physical resources, time, effort and talent while ensuring quality in production and organizational processes.[43]

3. Leveraging technological capabilities. The U.S. is home to 6 of the 10 largest technology companies in the world (Apple, HP, IBM, Amazon, Microsoft and Google). Community groups can tap into their immense capabilities to scale and measure the effect of health interventions. For example, IBM's World Community Grid is crowd-sourcing computing power from 2.8 million computers, smartphones and tablets to increase the pace at which researchers can generate research on issues such as effective treatment for Ebola, cancer or other diseases.[44]

4. Reducing the potential negative impact of business practices. Though community groups cannot alter business products directly, they can collaborate with the private sector to encourage product reformulation and ensure transparency and accountability by verifying and disseminating information on the industry's progress (See Box 3).

Box 3. Public-Private Partnerships Led by the New York City Department of Health and Mental Hygiene

The New York City Department of Health and Mental Hygiene (NYC DOHMH) is one notable example of a public agency promoting community health using local data and partnering with the private sector. Since 2014, the NYC DOHMH has used local data to implement a citywide initiative called Take Care New York to tackle the leading causes of preventable illness and premature death in New York City, with special targets for high-risk groups.

The NYC DOHMH is also working with the private sector to help prevent CVD and stroke by reducing the amount of salt in packaged and restaurant foods. The National Salt Reduction Initiative, a partnership of more than 90 state and local health authorities and national health organizations, set voluntary, achievable targets for salt levels in 62 categories of packaged food and 25 categories of restaurant food to guide food company salt reductions in 2012 and 2014.[45]

The National Salt Reduction Initiative includes mechanisms to monitor sodium in the food supply to track companies' progress toward specific targets and to monitor changes in New Yorkers' sodium intake. Although population health results are not yet available, trends in salt reduction in processed foods have been associated with a reduction in blood pressure and stroke and mortality due to ischemic heart disease.[46]

Partnership and Shared Gains: Economic Development and Population Health

The U.S. spends more on health care than do any of its peer countries.[47] Health spending accounted for 17.1% of the U.S. GDP in 2013,[48] the highest among Organisation for Economic Co-operation and Development countries.[47] Despite this, the U.S. ranks last among 11 peer countries on dimensions of access, efficiency and health care equity.[49] Organisation for Economic Co-operation and Development countries on average spend $2 on social services for every dollar spent on health care; in the U.S., we spend less than 60 cents.[50] Our low rate of investment in disease prevention and social programs and services and our high rate of spending on treatment drive this disparity in outcomes.[51] Effective partnership between employers, community groups and public systems can increase positive input to the health of the nation, providing an opportunity to improve health outcomes and close these gaps in social investment.

Strategic business investment in community health can foster positive feedback between population health and economic development (Figure 1). Healthy employees have a greater opportunity to contribute to business profitability through increased productivity, which can drive local economic growth and thereby allow for investment in innovation. Improvements in population health can fuel economic development through greater workforce productivity, higher profits, increased personal income and growth in GDP.[1] Expanding the average working life by 4.5 years can reduce federal debt by up to 16%.[52] In addition, between 2000 and 2011, about 24% of the growth of full income in low- and middle-income countries resulted from the value of additional life years gained.[53] Healthy communities can attract business investment. Colorado is a striking example of this, as DaVita, a Fortune 500 company, recently moved its headquarters from Los Angeles to Denver. Presumably other companies will follow this trend, moving their headquarters to states with some of the best health statistics in search of the healthiest talent pools.[54]

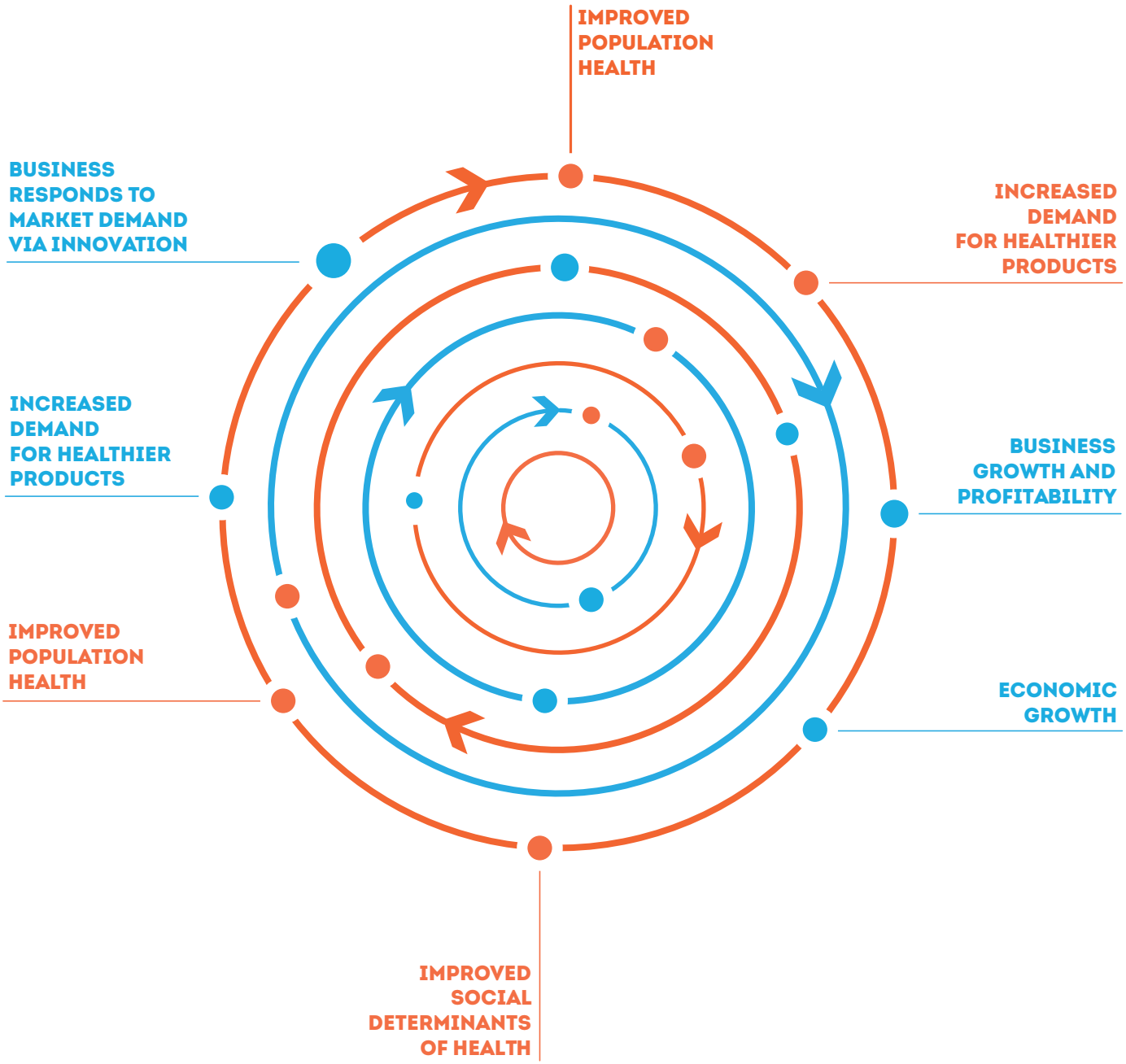
Similarly, economic growth can promote population health. Increased wages and, thereby, tax revenue provide governments with the opportunity to make greater investments in health, education and social services. Spending on social services is associated with a positive impact on population health, as exemplified by Scandinavia, whose great health outcomes have been attributed to a high level of social spending as a percentage of their GDP.[50] Furthermore, increases in income are associated with proportional decreases in mortality throughout the income distribution. For example, men in the U.S. with family incomes in the top 5% in 1980 lived about 25% longer than did those in the bottom 5%.[55]

On the other hand, less healthy communities are plagued by low-wage jobs, shorter lives, lagging educational achievement and little business investment to spur economic development.[56] High levels of chronic disease can result in higher Medicare or Medicaid costs and lower tax revenues from individuals who are unable to work because of health-related disability.[52] The Institute of Medicine described how high health care costs can hinder economic growth.[52] Health care expenses divert resources from other priorities such as education and infrastructure, which are essential elements for business development and growth. Also, increasing health care costs compress wages, forcing workers to dedicate a greater share of their wages and disposable income to health care benefits versus take-home pay, which could otherwise be reinvested in the local economy. Although economic development has not always led to improvements in population health given the proliferation of chronic diseases on national and global levels, cross-sector collaboration has the potential to prevent further detrimental effects on the health of individuals and national economic vitality.

"To ensure that students graduate with the skills that industry needs, IBM works with high school and college faculty to map the skills for entry-level careers to the curriculum. IBMers from every part of the business are serving as mentors for P-TECH students, and are providing them with skills-based internships that will enable them to practice and develop their technical and workplace skills."

–Grace Suh, Senior Program Manager, IBM Corporate Citizenship & Corporate Affairs

Figure 1. Positive Feedback Between Health and Economic Development via Cross-Sector Collaboration Drives Growth and Profitability



III

Critical Role of Prevention in Population Health Improvement

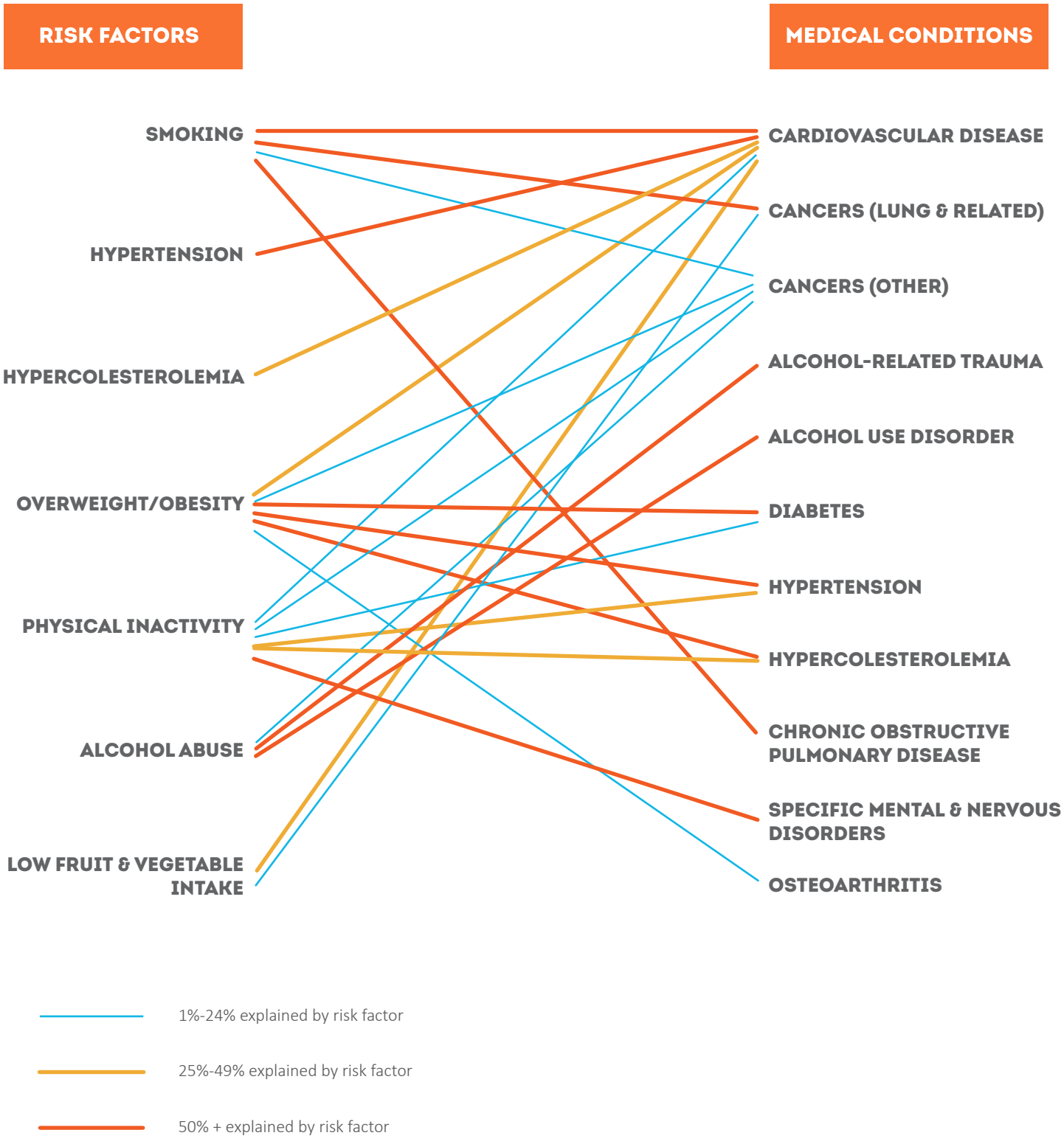
Behavioral Risks Drive Preventable Diseases

The top risk factors and diseases responsible for the greatest burden of DALYs in the U.S. are listed in Table 4. A significant portion of the burden of the leading five NCDs can be prevented through existing evidence-based methods to address the modifiable risk factors mentioned in Box 1.[1] In addition, because these risk factors are exacerbated by poor mental health, promoting mental health can further prevent the onset and progression of NCDs, resulting in improved physical and mental well-being.[57] Figure 2 demonstrates the relationships between multiple risk factors and diseases, with red lines indicating stronger relationships.

Table 4. Risk Factors and Diseases Responsible for the Greatest Burden of DALYs in the U.S.[2]

RANK	RISK FACTOR	DISEASE
1	DIETARY RISK	ISCHEMIC HEART DISEASE (IHD)
2	TOBACCO SMOKING	CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
3	HIGH BODY MASS INDEX (BMI)	LOW BACK PAIN
4	HIGH BLOOD PRESSURE	LUNG CANCER
5	HIGH FASTING PLASMA GLUCOSE	MAJOR DEPRESSIVE DISORDER
6	PHYSICAL INACTIVITY AND LOW PHYSICAL ACTIVITY	OTHER MUSCULO-SKELETAL DISORDERS
7	ALCOHOL USE	CEREBROVASCU-LAR DISEASE
8	HIGH TOTAL CHOLESTEROL	DIABETES
9	DRUG USE	ROAD INJURY
10	POLLUTION	DRUG USE DISORDERS

Figure 2. Risk Factors and Their Relationship With Medical Conditions[58]



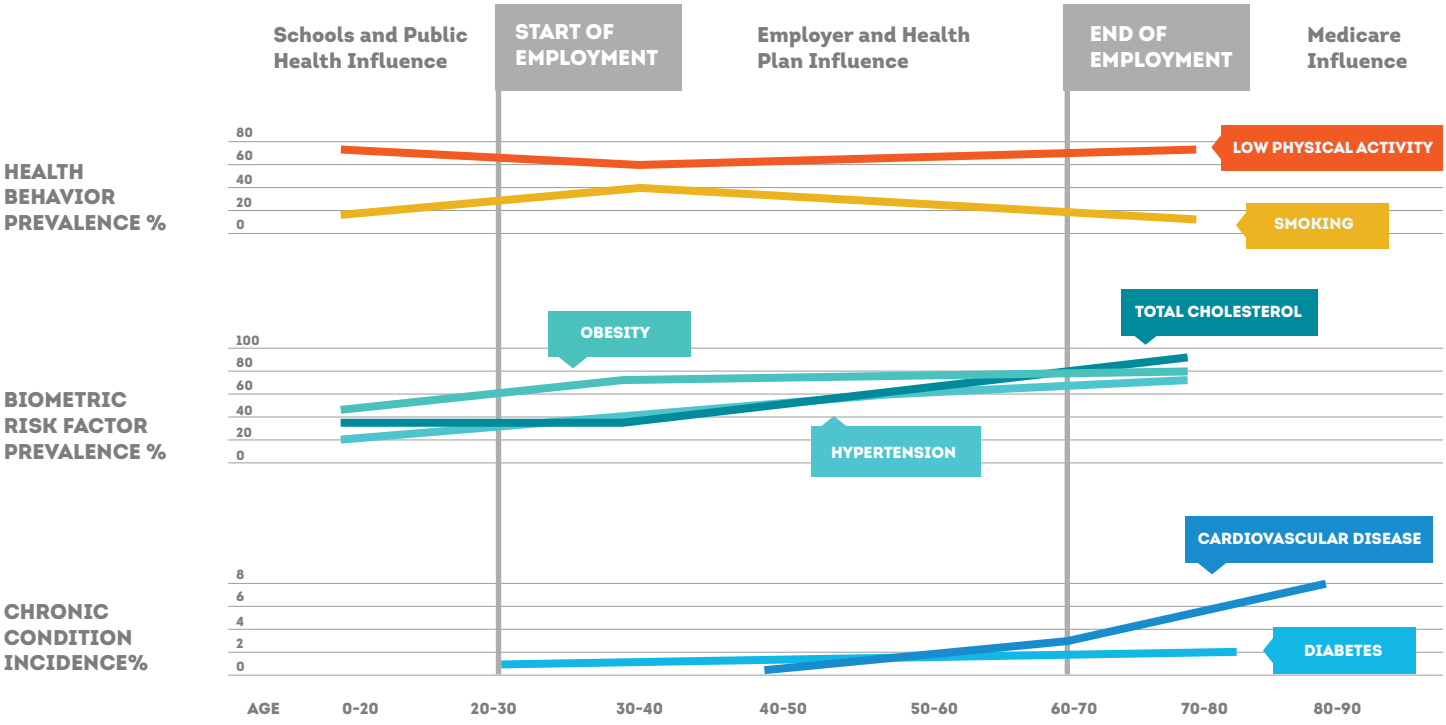
Investment in Prevention Throughout the Life Course Yields Cumulative Savings

The likelihood of developing an NCD depends on the cumulative years of exposure to modifiable risk factors such as tobacco use, unhealthful diet and physical inactivity, which often start in childhood.[29] Earlier intervention and disease prevention yield greater health care cost savings and gains in healthy life years than do investments made later in life. Figure 3 illustrates the variability in prevalence of health behaviors, biometric risk factors and chronic conditions by age and demonstrates that although employers and health plans have a large degree of influence on health during working age, the full benefits of prevention may not appear during this time because of the lag between interventions and changes in health outcomes.[1] The aggregate effect of risky health behaviors is a significant increase in the prevalence of biometric risk factors after age 40 (blood pressure, fasting plasma glucose levels and BMI).[59] The prevalence of NCDs increases with age, rising rapidly after age 55, reflecting the cumulative effects of risky behavior throughout life.[60-62] For mental health, the risk factor pathway and incidence patterns, such as the relatively early median age of onset of major depressive disorder (32 years), are less well understood.[63]

As a nation, if we forego investment in prevention today, we can expect that health care spending will increase 1.1 percentage points faster than the GDP and account for a projected 19.3% of the national economy by 2023.[64] The Vitality Institute Commission estimated that prevention efforts could yield an annual savings on national health care costs of up to $303 billion by 2023.[1] Total savings generated by prevention in schools and workplaces may not appear in the short term because of the lag time between intervention and changes in outcomes.

The proportion of Americans aged 65 and older is predicted to reach 19% by 2030 -- nearly one in five Americans.[65] Therefore, the prevention of chronic disease among working-age Americans will ultimately generate the largest savings for Medicare, which covers people 65 years old and older, the age range during which many NCDs manifest.[1] Medicare is facing critical challenges to its sustainability and effectiveness, including rising expenditures, variability in quality of care, program fragmentation and coverage gaps.[66] To date, it has neglected the value of disease prevention and health promotion as a means of reducing and delaying the impact of major causes and cost drivers of disease.[67] In 2013, only 28% of large firms offered retiree health coverage.[68] Since Medicare is expected to receive direct benefits of workplace health promotion, it should play a critical role in incentivizing employer investments in workforce and community health.

Figure 3. Prevalence of Health Behaviors, Biometric Risk Factors and Chronic Conditions by Age[1]



IV Research Gap

The Relationship Between Employment Sector and County Health and Effective Strategies for Community Investment

Whereas the variability in both workforce health across sectors and county health nationally has been demonstrated, the association between employment sector and county health has not been examined. This information would illustrate the association between workforce and community health, help employers identify specific community needs and enable employers to make targeted investments to address those needs. Likewise, abundant literature exists on the modes by which businesses can adjust their practices to promote sustainability and community health through corporate social responsibility. However, limited research demonstrates effective strategies for employers to engage the local communities that shape their workforces' health. The Health Enhancement Research Organization Environmental Scan found that many businesses were engaged in community health promotion but identified a lack of sharing of best practices between the business and public health communities.[69]

V The Current Landscape

Workforce Health Varies by Employment Sector

Effective health promotion interventions vary across sectors because of the high variability of health risk and disease burden across employee populations. Numerous studies demonstrate this variability.

Certain sectors employ workforces with elevated health risks. For example, employment in the manufacturing sector is associated with a higher prevalence of obesity, fewer quality-adjusted life years (QALYs, a measure that adjusts life length to reflect quality of life), and an elevated risk of hypertension.[70-72] Employment in the public administration sector has been found to have a high prevalence of obesity and an elevated risk of hypertension.[70,72] The transportation and warehousing sector is associated with a higher prevalence of obesity,[71] fewer QALYs remaining[71], and a higher risk of hypertension.[72] A study that examined the economic burden of disease by industry demonstrated that the transportation, warehousing, utilities and mining industries incur a total industry loss of $4.5 trillion, or $500,000 lifetime loss per worker.[71] The health care and social assistance sector has also been found to be significantly associated with a higher prevalence of obesity[70] and fewer QALYs remaining.[71]

In addition, studies indicate that certain industries are associated with lower risk and disease burden. For example, the arts, entertainment and recreation sectors and the accommodation and food service sector are significantly associated with a low prevalence of workforce obesity.[70] Studies examining the wholesale sector find that this workforce has a lower prevalence of obesity and experiences more QALYs, but this sector has also been posited to exclude unhealthy workers from employment, known as the 'healthy worker effect'.[70,71]

Population Health Varies Across Counties

Effective health promotion interventions will vary across counties according to the risk and disease burden of the local population. The variability in disease burden and associated risk across counties is well known. For instance, although the 2013 national prevalence rates of smoking and obesity among American adults were 19% and 29.4%, respectively, these rates varied significantly across counties.[73] The Robert Wood Johnson Foundation (RWJF) and the University of Wisconsin Population Health Institute "County Health Rankings and Roadmaps" data demonstrate that across the nation, smoking rates in the unhealthiest counties are more than 1.5 times those in the healthiest counties.[74] For example, in 2012, adult smoking prevalence was 8% in Yolo, California, and 45% in Shannon, South Dakota.[75]

Similar disparities prevail for physical inactivity and obesity. From 1990 to 2013, obesity prevalence increased 153% from 11.6% to 29.4% of U.S. adults.[73] In 2013, Mississippi had the nation's second-highest prevalence of obesity after West Virginia, Colorado had the lowest (Map 1). According to county health rankings data, in 2010, 63% of individuals in Issaquena County, Mississippi, engaged in sufficient physical activity, and county obesity prevalence was 38%.[75] In contrast, in Routt County, Colorado, 90% of individuals engaged in sufficient physical activity, and the adult obesity prevalence was 13%.[75]

Map 1. Prevalence of Obesity by County, 2010.[75]

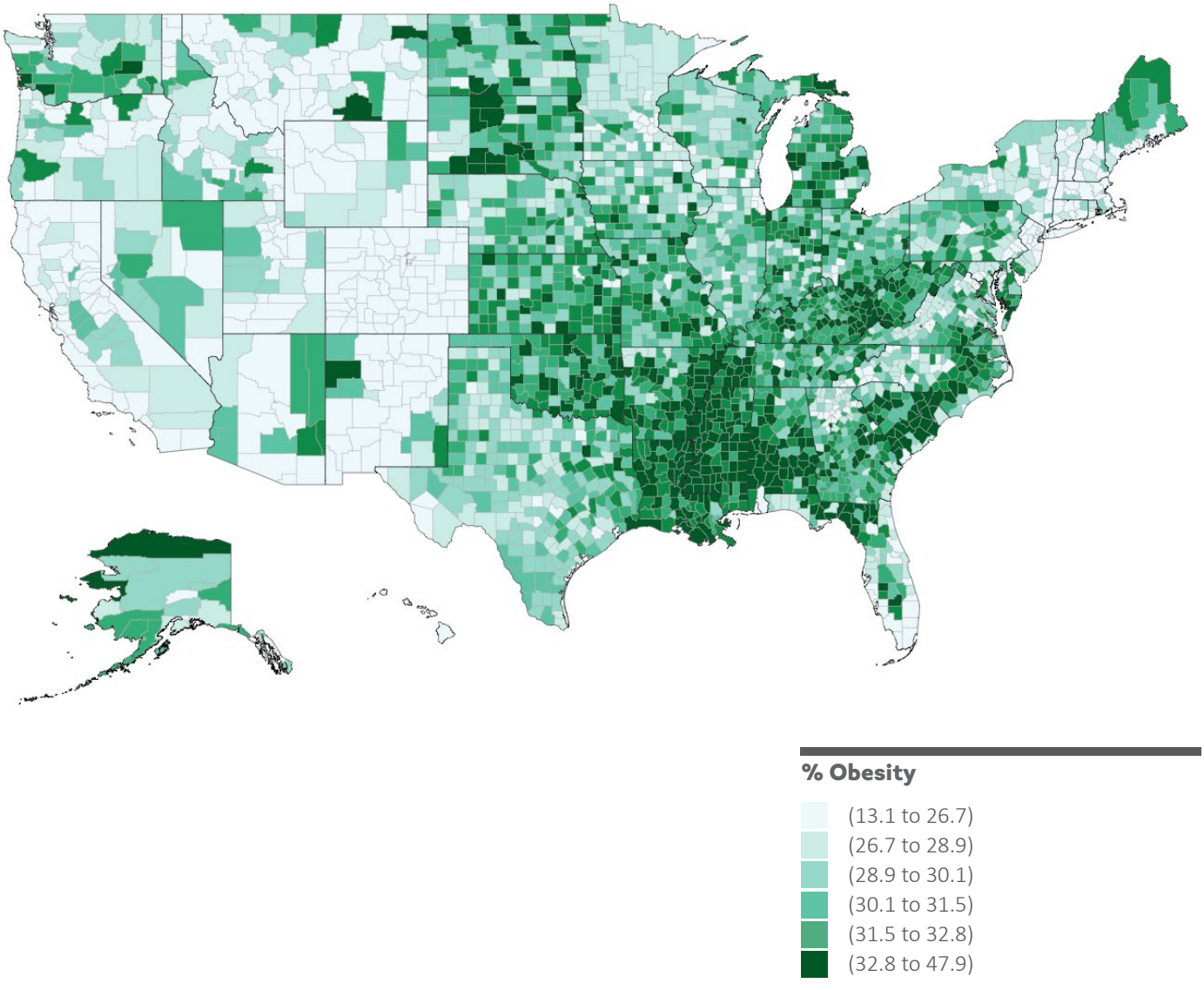
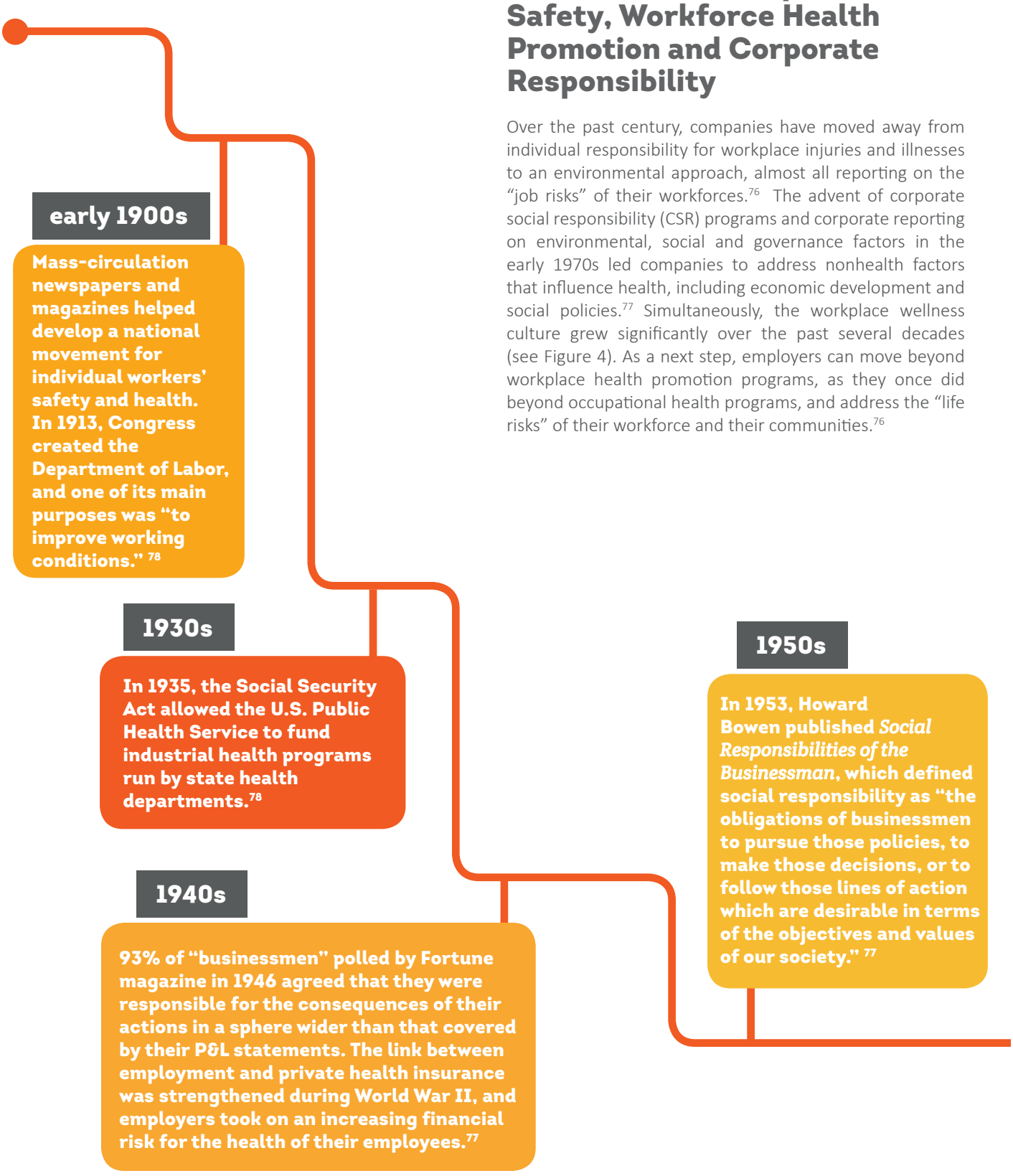
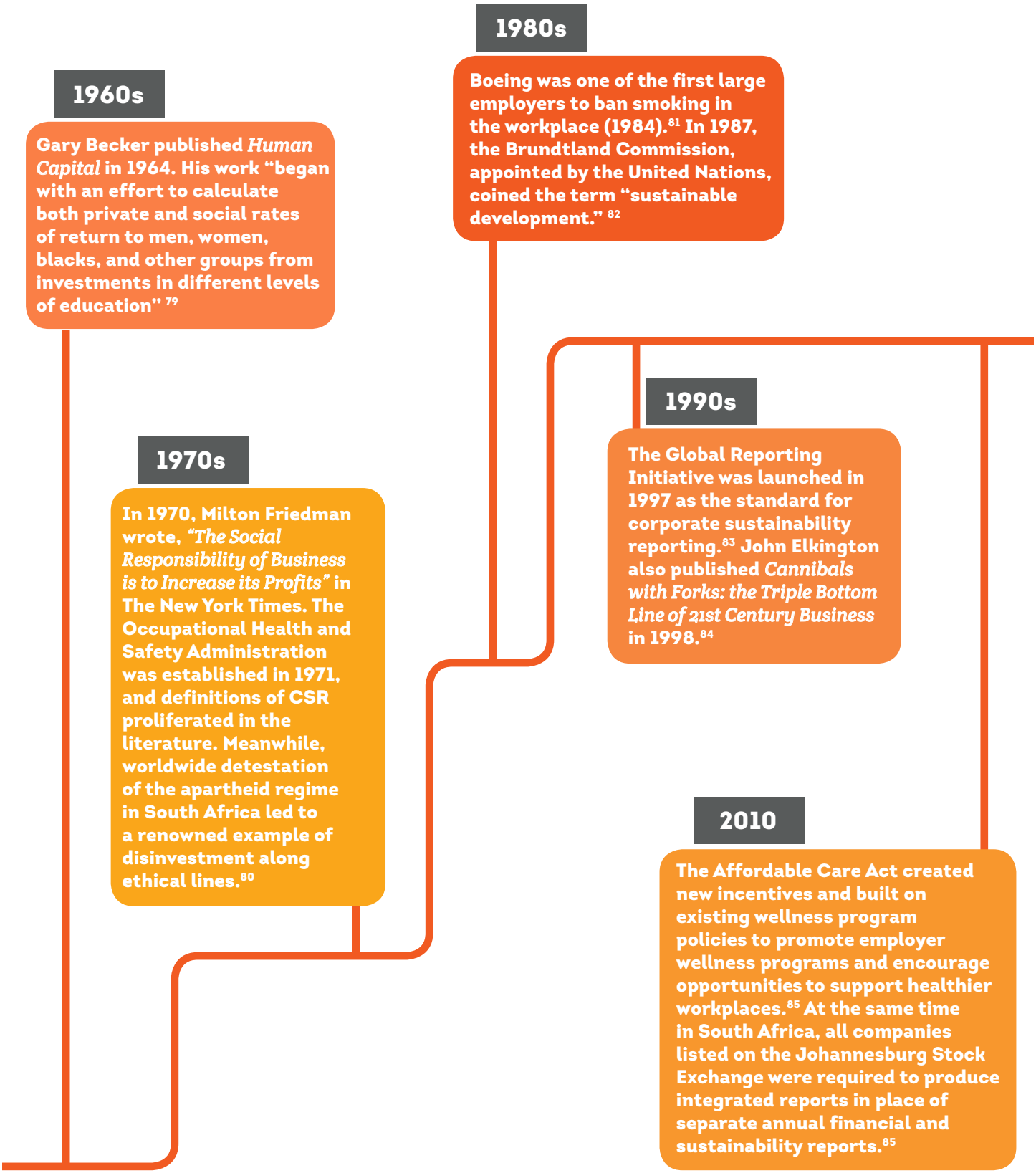


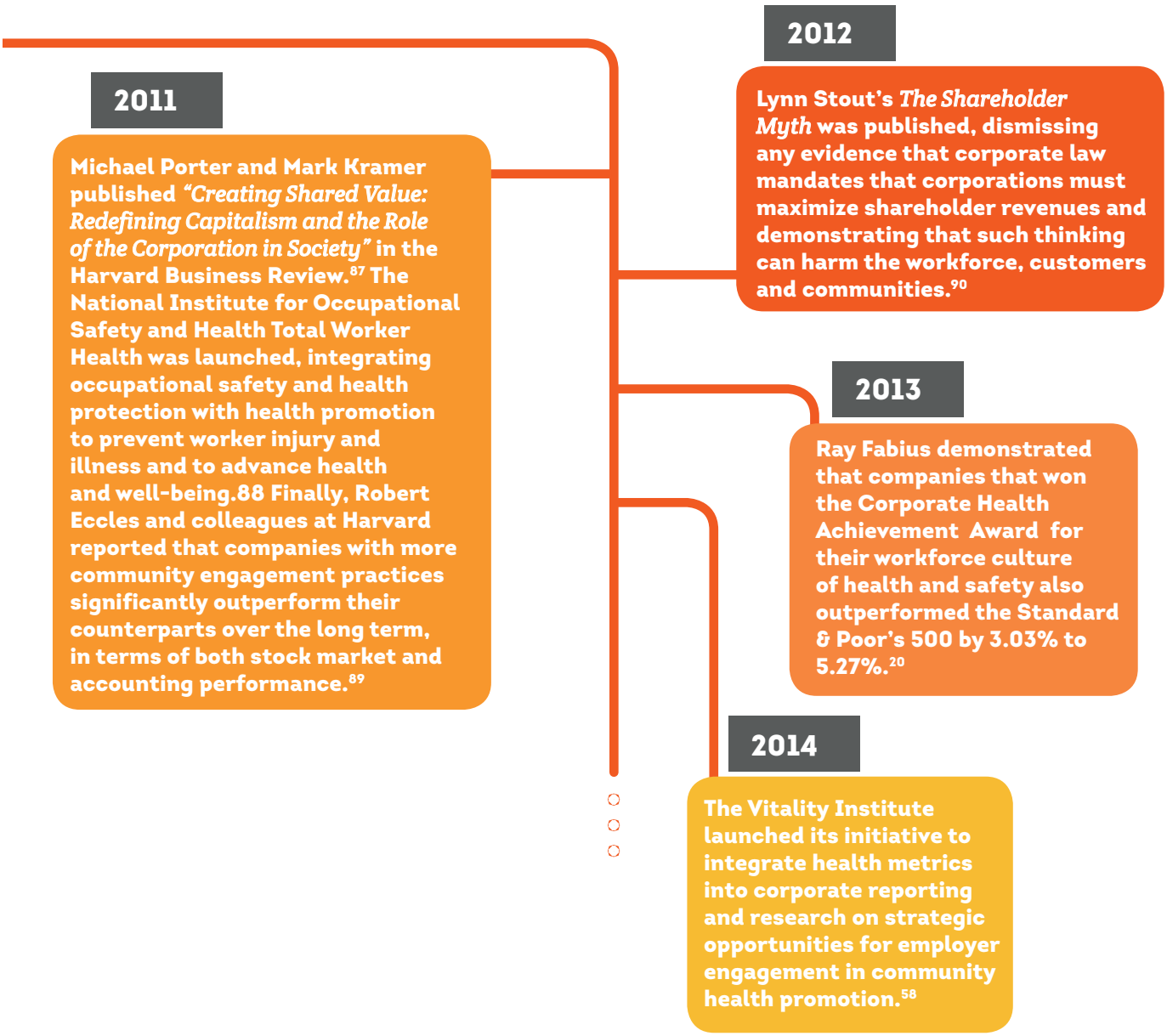
Figure 4. The Evolution of Corporate Investment in Workforce Safety and Health



How did we get Here? Milestones in Occupational Safety, Workforce Health Promotion and Corporate Responsibility

Over the past century, companies have moved away from individual responsibility for workplace injuries and illnesses to an environmental approach, almost all reporting on the "job risks" of their workforces.[76] The advent of corporate social responsibility (CSR) programs and corporate reporting on environmental, social and governance factors in the early 1970s led companies to address nonhealth factors that influence health, including economic development and social policies.[77] Simultaneously, the workplace wellness culture grew significantly over the past several decades (see Figure 4). As a next step, employers can move beyond workplace health promotion programs, as they once did beyond occupational health programs, and address the "life risks" of their workforce and their communities.[76]


1960s
Gary Becker published *Human Capital* in 1964. His work "began with an effort to calculate both private and social rates of return to men, women, blacks, and other groups from investments in different levels of education" [79]
1970s
In 1970, Milton Friedman wrote, *"The Social Responsibility of Business is to Increase its Profits"* in The New York Times. The Occupational Health and Safety Administration was established in 1971, and definitions of CSR proliferated in the literature. Meanwhile, worldwide detestation of the apartheid regime in South Africa led to a renowned example of disinvestment along ethical lines.[80]
1980s
Boeing was one of the first large employers to ban smoking in the workplace (1984).[81] In 1987, the Brundtland Commission, appointed by the United Nations, coined the term "sustainable development." [82]
1990s
The Global Reporting Initiative was launched in 1997 as the standard for corporate sustainability reporting.[83] John Elkington also published *Cannibals with Forks: the Triple Bottom Line of 21st Century Business* in 1998.[84]
2010
The Affordable Care Act created new incentives and built on existing wellness program policies to promote employer wellness programs and encourage opportunities to support healthier workplaces.[85] At the same time in South Africa, all companies listed on the Johannesburg Stock Exchange were required to produce integrated reports in place of separate annual financial and sustainability reports.[85]



Momentum for Partnership Between Employers and Community Groups Is Growing

Several recent national initiatives encourage collaboration between communities and businesses for population health: the Institute of Medicine roundtable on business engagement in building healthy communities,[52] the Health Enhancement Research Organization Employer-Community Collaboration Committee's Environmental Scan on the role of corporate America in health and wellness,[69] the RWJF Commission to Build a Healthier America [91] and recent publications from the U.S. Chamber of Commerce [92-93] all illustrate a growing movement in the public health community to engage business.

The RWJF Commission to Build a Healthier America calls for collaboration of public health and health care with early childcare, education, human services, housing, community development, finance and other areas that influence health. The Commission also encourages employers to invest in making their communities healthier places to live and work, recognizing long-term economic benefits of these investments.[91] In a national survey of 661 public health professionals in the fields of health care, public health, early child care, education, human services, housing, transportation, and community development finance, four out of five respondents worked on at least one of seven issue areas (Figure 5) in a cross-sectoral approach with one another.[94] Hence, community groups are well positioned to work with employers to address the linkage between community and workforce health.

Figure 4. Professionals in Health, Education, Social and Development Sectors Engaged in Cross-Sector Collaborations on Health-Related Issues[94]

Health Reform And Opportunities for Employers to Promote Population Health

The Affordable Care Act (ACA) is changing the relationship that health systems have with the communities they serve in an attempt to deliver on the triple aim of improving patient experience, reducing costs and improving population health. It incentivizes investment in workplace health promotion programs and is shifting the way hospitals and physicians are paid, moving away from fee for service and toward value-based care. Under the ACA, employers are required to provide greater coverage to their employees and include preventive services free of charge. They can also play a part in realizing the promise of health reform by utilizing community health needs assessments (CHNAs) in their community investments to amplify the return on workforce health promotion and by aligning their work with the efforts of accountable care organizations (ACOs).

Although the ACA incentivizes employers, including small businesses, to implement workplace health promotion programs, it does not clarify how businesses can use community-based health promotion to support workforce health.[84] It does require nonprofit hospitals to conduct CHNAs and develop action plans to address those needs. This presents employers and the health system a unique opportunity to collaborate. Employers can use CHNA data to identify potential areas for local investment. Targeted investments in community health by employers and health systems can multiply savings for employers, insurers (including some employers), providers and the public sector.

The ACA also includes ACOs as a new payment model to encourage the use of value-based care to improve population health. ACOs comprising doctors, hospitals and other providers commit to providing coordinated and integrated care; if they deliver on the triple aim, they receive financial rewards from Medicare, Medicaid or commercial insurers. This model is proliferating across the country; more than 40% of Americans live in primary care service areas with at least one ACO. Effectively engaging employers can be a key to success for commercial ACOs, as about 48% of Americans receive their coverage through employers. Employers can take note of the presence of ACOs in the provider networks through which employees get care to synergize workplace health promotion with ACOs' efforts to improve population health.

Value-based care is widely held as a promising strategy to move the health system toward a stronger focus on population health and away from transactional and reactive medicine. Increased collaboration between ACOs, employers and public health agencies can facilitate this transition. The health of an ACO population is driven by the health of the communities it serves. To promote population health, public health agencies can link ACOs with community organizations to reach vulnerable patients and supply public health surveillance data. Partnerships between the health systems, communities and employers can help deliver on the promise of value-based care and ultimately lead to population health, a gain far broader than risk mitigation and pricing leverage are on their own.

VI

Methods

Quantitative Analyses: Employment Sector Associations With County Health Risk and Disease Burden

The association between county health and local business presence is not yet well understood. Therefore, we set out to demonstrate the relationship between county health and employment sectors to illustrate a correlation between the county level of risk and disease and the percentage of the workforce employed by various sectors.

To accomplish this, we examined differences in employment sectors across U.S. counties with varying health profiles for some of the most costly yet preventable NCDs and related health-risk behaviors. We used 2014 County Health Rankings data to specify the proportion of adult county populations who were obese, physically inactive, smokers or diagnosed with diabetes.[75] Because the prevalence of cardiovascular disease (CVD) is not available at the county level, we relied on the 2008-2010 Centers for Disease Control and Prevention (CDC) data on county rates of death due to heart disease for adults more than 35 years old as a proxy for the heart disease burden.[109] We used data from the North American Industry Classification System (NAICS) to account for the mean number and percentage of working adults in any given county employed by each sector (Table 5). The industry concentration measures were constructed from the 2012 Quarterly Census of Employment and Wage data.[99] To assess associations between health risks/disease burdens and industry concentrations, we ranked more than 3,100 U.S. counties by each health risk/disease burden and divided them into four quartiles and analyzed the results. Logistic regression models were then used to estimate the odds of a county being in the fourth quartile instead of the first quartile of health risk/disease burden with a higher sector concentration. We calculated the proportion of workers in a county employed in each of 21 sectors as defined by the six-digit NAICS. This report focuses on the top 10 sectors by employment nationally. Comprehensive methodologies and quantitative analyses are described in the Appendix.

Quantitative Analysis Overview

1. National Demographic Analyses

National differences in demographics were examined to understand the context for health disparities across U.S. counties. Demographics included the proportions of population that are Hispanic, non-Hispanic black and non-Hispanic white; the proportion of population with some college education; the unemployment rate and the median household income.

2. National Sector Analyses

Univariate logistic regression models were used to estimate the odds of a county being in the fourth quartile instead of the first quartile of health risk/disease burden with a higher sector concentration.

3. Within-State Sector Analyses

Within-state analyses were performed to determine potential associations at the state level. The aim of the within-state analysis was to reveal associations between employment sector and health risk/disease burden across counties in the same state rather than at a national level.

Table 5. NAICS: Mean Number and Percentage of County Employed in Each Sector

SECTOR	% counties >0	# employed	% employed
Retail Trade	97.5	4720	16.1
Manufacturing	88.6	3770	14.8
Health Care and Social Assistance	70.6	5354	10.5
Public Administration	98.7	2154	9.0
Accommodation and Food Services	78.6	3700	8.9
Construction	89.9	1730	5.5
Educational Services	61.3	2096	4.7
Transportation and Warehousing	99.9	1438	4.4
Wholesale Trade	77.7	1575	4.2
Other Services (Except Public Administration)	91.3	1413	3.5
Administrative and Support and Waste Management and Remediation Services	71.4	2372	3.3
Finance and Insurance	85.8	1720	3.3
Professional, Scientific and Technical Services	76.5	2375	2.9
Agriculture, Forestry, Fishing and Hunting	54.5	279	2.4
Mining, Quarrying and Oil and Gas Extraction	38.3	219	1.9
Arts, Entertainment and Recreation	75.5	670	1.4
Information	78.9	837	1.2
Real Estate and Rental and Leasing	81.6	610	1.0
Utilities	50.1	177	0.5
Management of Companies and Enterprises	38.5	594	0.4
Unclassified	30.7	39	0.0*

* Zero employment in a sector may occur because of either an absence of that sector in a county or data suppression to prevent disclosure of identifying information.

Qualitative Analyses Overview: Strategies for Employer and Community Coinvestment in Health

In-depth interviews provided insight on strategies employers and communities use to partner and invest in community health promotion. Interview data also revealed challenges to cross-sector collaboration and allowed us to outline key elements of successful partnerships that can be used by employers and communities in designing and evaluating the quality of their initiatives.

1. Employer Interviews

Because effective employer strategies to alter community risk have not been well documented, semistructured interviews were conducted with representatives of 33 businesses nationwide (including numerous Fortune 500 companies) in the manufacturing, health care, technology, retail, energy, real estate and construction and financial sectors. The aim was to determine what strategies employers use to improve the health of communities and their long-term profitability. Four employers were in the preimplementation phase of their initiatives and three were interviewed as part of initiatives described by other businesses. These seven employers were excluded from the analysis, resulting in a sample size of 26.

2. Community Interviews

Because effective strategies for communities to engage businesses in health promotion beyond the workplace were similarly lacking, semistructured interviews were conducted with representatives of 38 community groups, including the Centers for Disease Control and Prevention (CDC), YMCAs, nonprofit organizations, health coalitions, federal reserve banks and economic development organizations. Nine of these interviews were informational and allowed us to obtain referrals to other cross-sector collaborations. Five community groups were excluded from the analysis, because their initiatives were on hold because of funding limitations or were in the preimplementation phase, resulting in a sample size of 24.

VII Findings

Quantitative Findings

Analysis of Nationwide Demographics Reveals Health Disparities

County health risks vary with demographics such as race/ethnicity, education, unemployment and household income (Table 6). The top 25% of counties facing the greatest health risks are characterized by high proportions of non-Hispanic blacks, high unemployment rates, and low median household income. In contrast, counties with greater proportions of non-Hispanic whites or Hispanics and college-educated adults are less likely to be in the highest risk/disease burden quartile.

Table 6. Variation in Demographics Across County Health Risks and Disease Burden by Quartiles (National Level)

COUNTY GROUPING BY SMOKING RATE	1ST Q	2nd Q	3rd Q	4th Q
% Smokers	14.0	18.9	22.8	29.6
County characteristics				
% Non-Hispanic black	6.6	9.4	11.3	8.8
% Non-Hispanic white	77.5	79.4	77.8	80.8
% Hispanic	10.6	7.1	6.8	4.2
% with some college education	63.3	57.7	53.1	48.1
Unemployment rate, %	6.7	7.5	8.3	8.8
Median household income, $	52,684	46,354	42,248	39,043

COUNTY GROUPING BY OBESITY RATE	1ST Q	2nd Q	3rd Q	4th Q
% Obese	25.2	29.6	31.9	35.6
County characteristics				
% Non-Hispanic black	4.3	4.8	8.1	18.3
% Non-Hispanic white	78.3	80.6	81.4	71.9
% Hispanic	11.9	11.0	6.5	4.5
% with some college education	62.6	56.3	52.7	48.8
Unemployment rate, %	7.3	7.1	7.6	8.7
Median household income, $	51,849	45,647	43,115	38,575

COUNTY GROUPING BY PHYSICAL INACTIVITY RATE	1ST Q	2nd Q	3rd Q	4th Q
% Physically Inactive	21.0	26.5	29.7	34.4
County characteristics				
% Non-Hispanic black	4.3	7.3	9.7	14.2
% Non-Hispanic white	78.0	78.3	78.2	77.7
% Hispanic	11.4	10.5	8.1	3.7
% with some college education	63.3	56.2	52.9	47.8
Unemployment rate, %	7.7	7.3	7.4	8.4
Median household income, $	52,970	46,283	42,450	37,299

COUNTY GROUPING BY DIABETES RATE	1ST Q	2nd Q	3rd Q	4th Q
% With Diabetes	8.0	9.9	11.4	13.7
County characteristics				
% Non-Hispanic black	3.1	4.7	7.5	20.7
% Non-Hispanic white	77.8	81.5	81.8	70.8
% Hispanic	12.6	10.2	7.0	3.9
% with some college education	63.4	57.8	51.9	46.7
Unemployment rate, %	6.7	7.1	7.8	9.3
Median household income, $	52,844	47,459	42,111	36,273

COUNTY GROUPING BY HEART DISEASE DEATH RATE	1ST Q	2nd Q	3rd Q	4th Q
Heart Disease Deaths per 100,000	287	348	402	506
County characteristics				
% Non-Hispanic black	3.2	5.5	9.0	17.0
% Non-Hispanic white	80.0	80.3	79.1	73.6
% Hispanic	10.4	9.9	8.4	5.3
% with some college education	62.7	58.0	52.5	47.0
Unemployment rate, %	6.6	7.2	8.1	8.9
Median household income, $	51,733	47,045	43,105	37,174

Major Employment Sectors With Unhealthy Workforces Are More Likely to Be Located in Counties With Poor Health

The following results demonstrate the relationship between county health and employment sectors on national and within-state levels. Figures 6 through 9 and Map 2 are visual representations of our results.

National Results

We examined the relationship between the percentage of employed individuals working in a particular sector (Box 4) in any given county and whether that county had higher odds of being in the top 25th percentile for leading NCD risk factors and diseases. The manufacturing, transportation and retail sectors were associated with higher county health risks at the national level (see Table 5), and the accommodation and food services as well as the health care and social assistance sectors had a lower likelihood of being concentrated in high-risk counties.

Within-State Results

When the relationship was examined within states, many of the associations between county health and employment sectors remained. Although counties in the same state may be similar in terms of disease burden – which could make associations on a national level disappear at the state level – the within-state analyses confirmed many of the national results. In addition, the analyses revealed an association between the public administration sector and county risk that was not evident at the national level.

Box 4. Employment Sectors at a Glance[100]

Sector	Description
Accommodation and Food Services	Provides customers with lodging and/or preparing meals, snacks and beverages for immediate consumption **Examples: hotels, casino hotels, parks and recreational camps, full- and limited-service dining places (including pizza delivery shops and fast food restaurants), bars**
Health care and Social Assistance	Includes establishments providing either medical care or social assistance exclusively and those providing a combination of services **Examples: ambulatory centers, hospitals, nursing facilities, child day care services, rehabilitation centers**
Manufacturing	Comprises establishments engaged in the mechanical, physical or chemical transformation of materials, substances or components into new products **Examples: food, beverage and tobacco companies; clothing manufacturers; chemical product or pharmaceutical producers**
Public Administration	Includes legislative activities, taxation, national defense, public order and safety, immigration services, foreign affairs and international assistance, and the administration of government programs **Examples: courts, police, housing administration, conservation, public health, education**
Retail Trade	Organized to sell merchandise in small quantities to the general public; comprises two main types: store and nonstore retailers (such as online stores, in-home demonstration sales, portable stalls, delivery services) **Examples: gas stations, general merchandise and food stores, electronics and appliance stores**
Transportation and Warehousing	Includes industries providing transportation of passengers and cargo, warehousing and storage of goods, scenic and sightseeing transportation and support activities related to modes of transportation **Examples: railways, postal services, freight trucking**
Wholesale Trade	Organized to sell or arrange the purchase or sale of goods for resale (i.e., goods sold to other wholesalers or retailers), capital or durable nonconsumer goods and raw and intermediate materials and supplies used in production **Examples: metal and mineral merchants, paper goods products, textiles**

Likelihood of Employment Sectors Being Concentrated in High-Risk Counties

The estimated associations between sector concentration and health risk/disease burden, as determined by regression analyses, are graphically depicted in Figures 6 through 10. The vertical line on each horizontal bar represents the odds ratio (OR) for a county to be in the high- versus low-risk category as the sector concentration increases by 5%. The entire horizontal bar segment captures the 95% confidence interval for that OR. If the entire horizontal line lies to the right of the dashed vertical line, which corresponds to an OR of 1, the sector is determined to be more concentrated in high-risk counties; all such sectors are represented by red lines in the figures. On the other hand, if the entire horizontal line lies to the left of the dashed vertical line, the corresponding sector is deemed to be more concentrated in low-risk counties; green lines in the figures represent all such sectors. Finally, all gray lines intersect with the dashed vertical line and represent the sectors that are neither more nor less concentrated in high- or low-risk counties. Note that all associations presented in Figures 6 through 10, other than the ones pertaining to the public sector administration, were determined in the national-level analyses. The associations between public sector administration and health risk/disease burden were determined in the state-level analyses.

Figure 6. Likelihood of Being Located in a High-Risk County for Smoking by Employment Sector

Figure 7. Likelihood of Being Located in a High-Risk County for Obesity by Employment Sector

Figure 8. Likelihood of Being Located in a High-Risk County for Physical Inactivity by Employment Sector

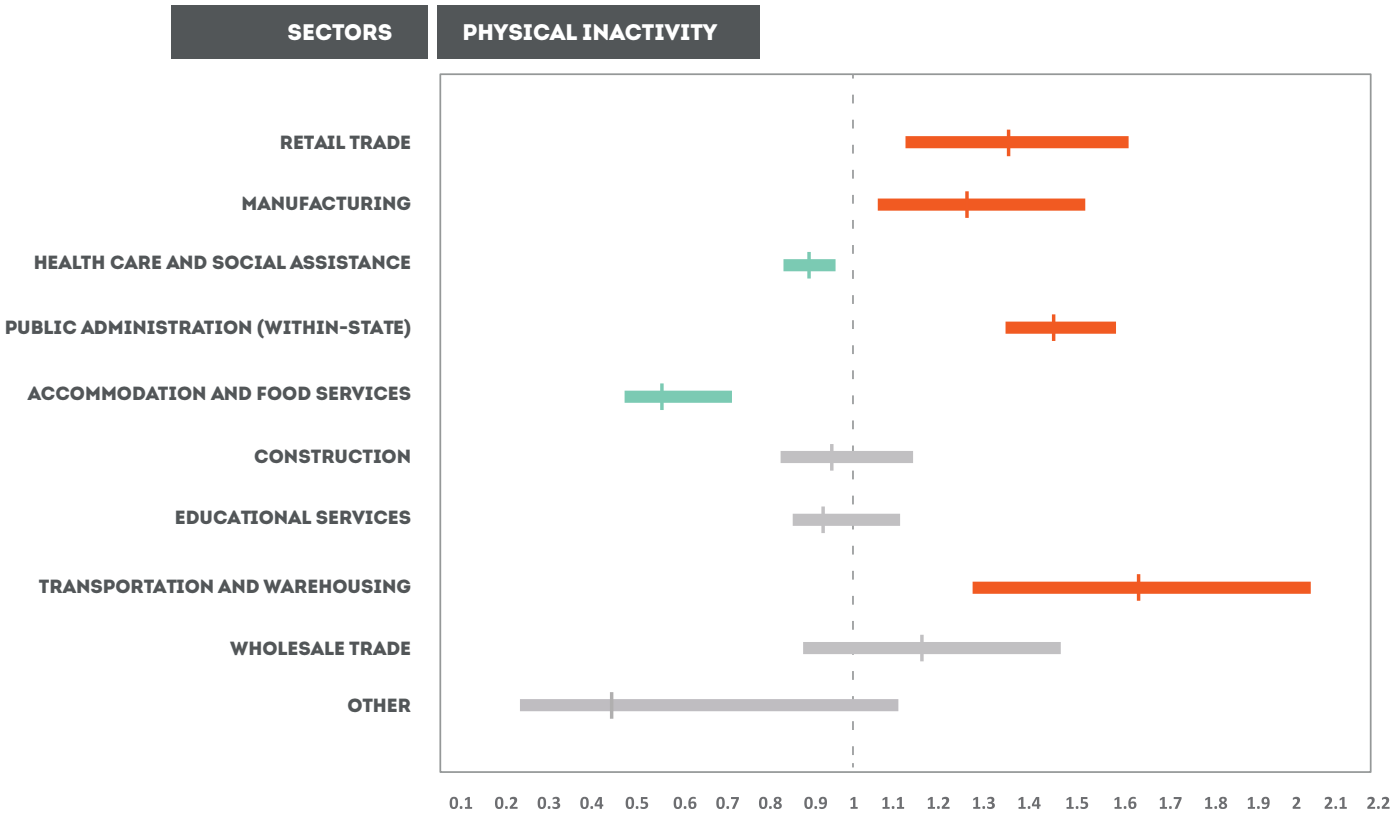


Figure 9. Likelihood of Being Located in a High-Risk County for Diabetes by Employment Sector

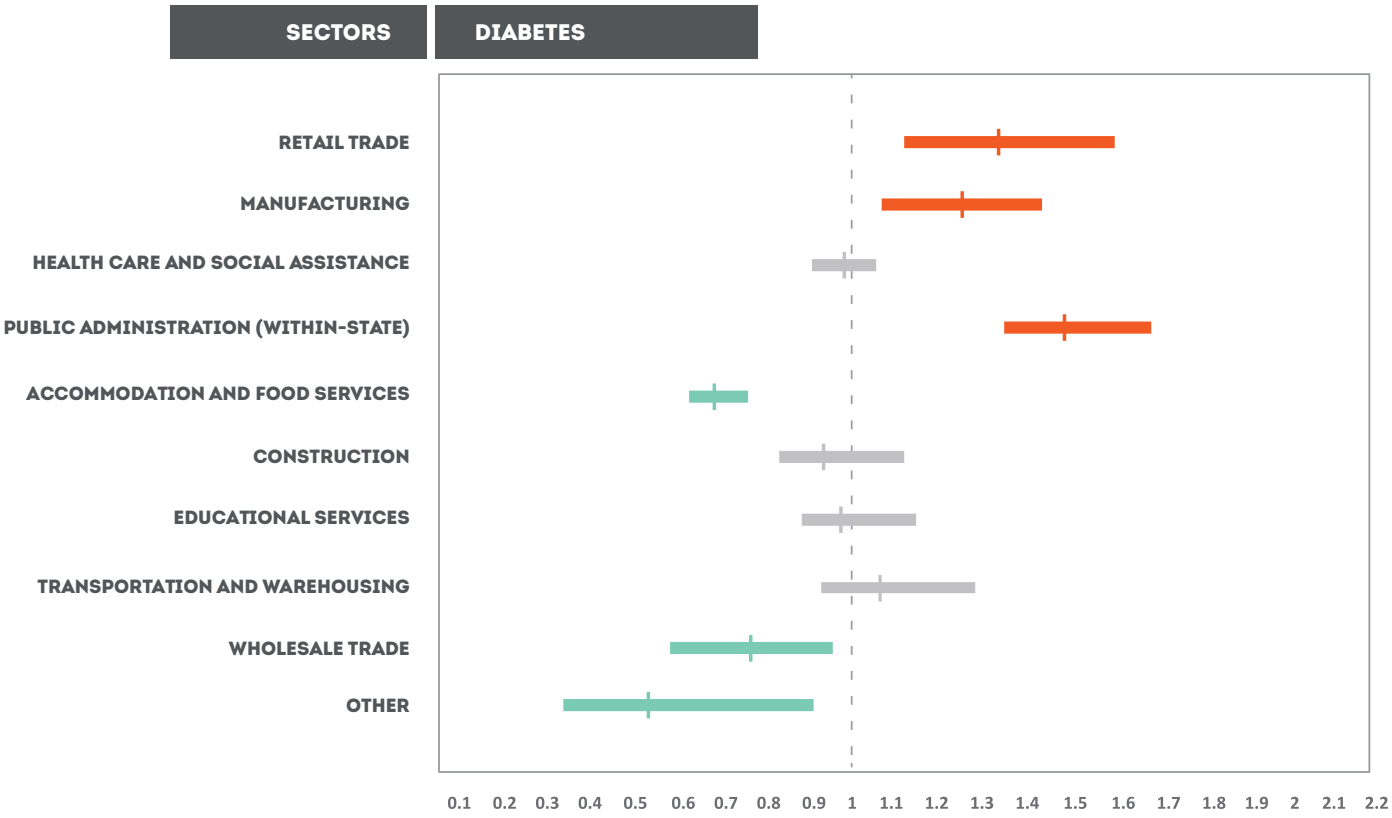
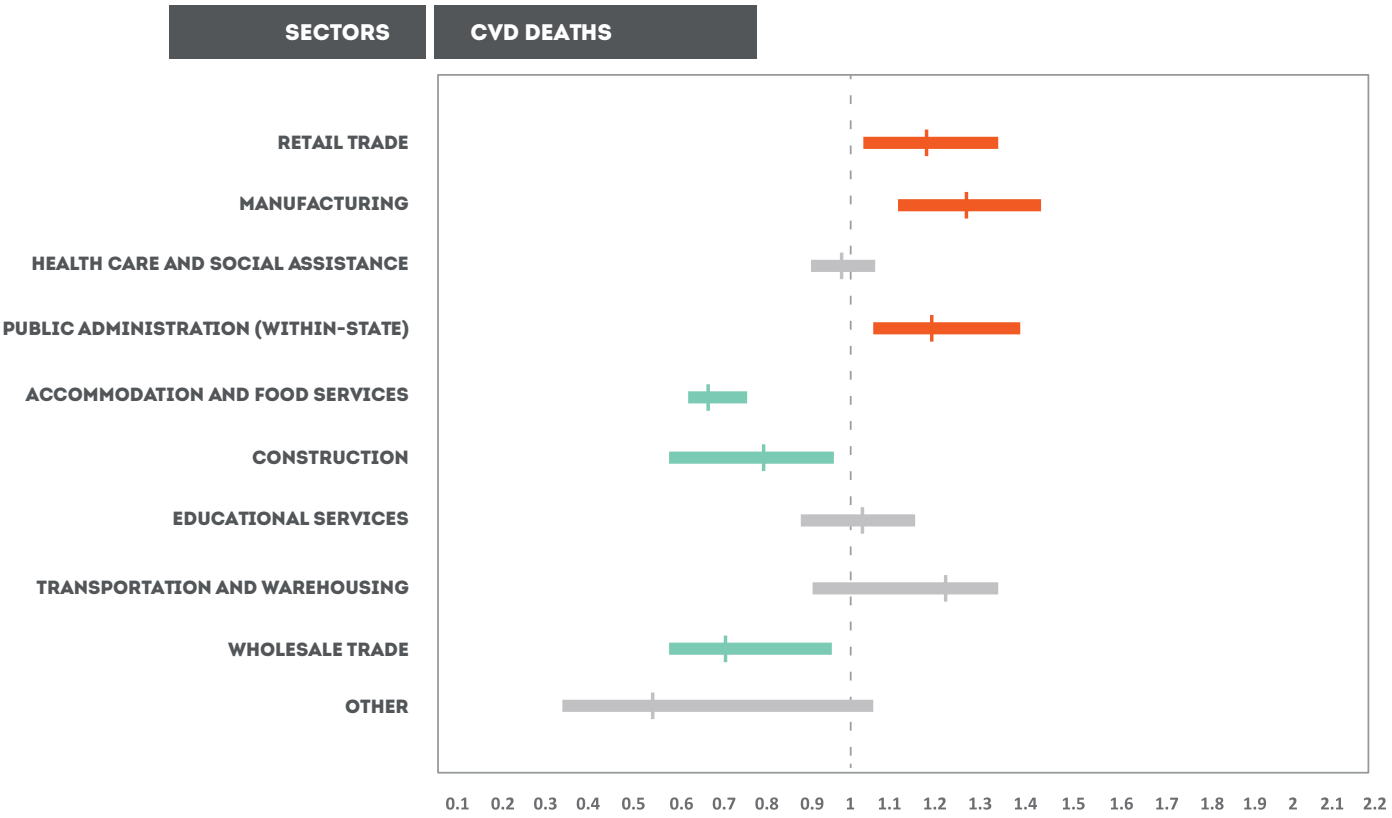


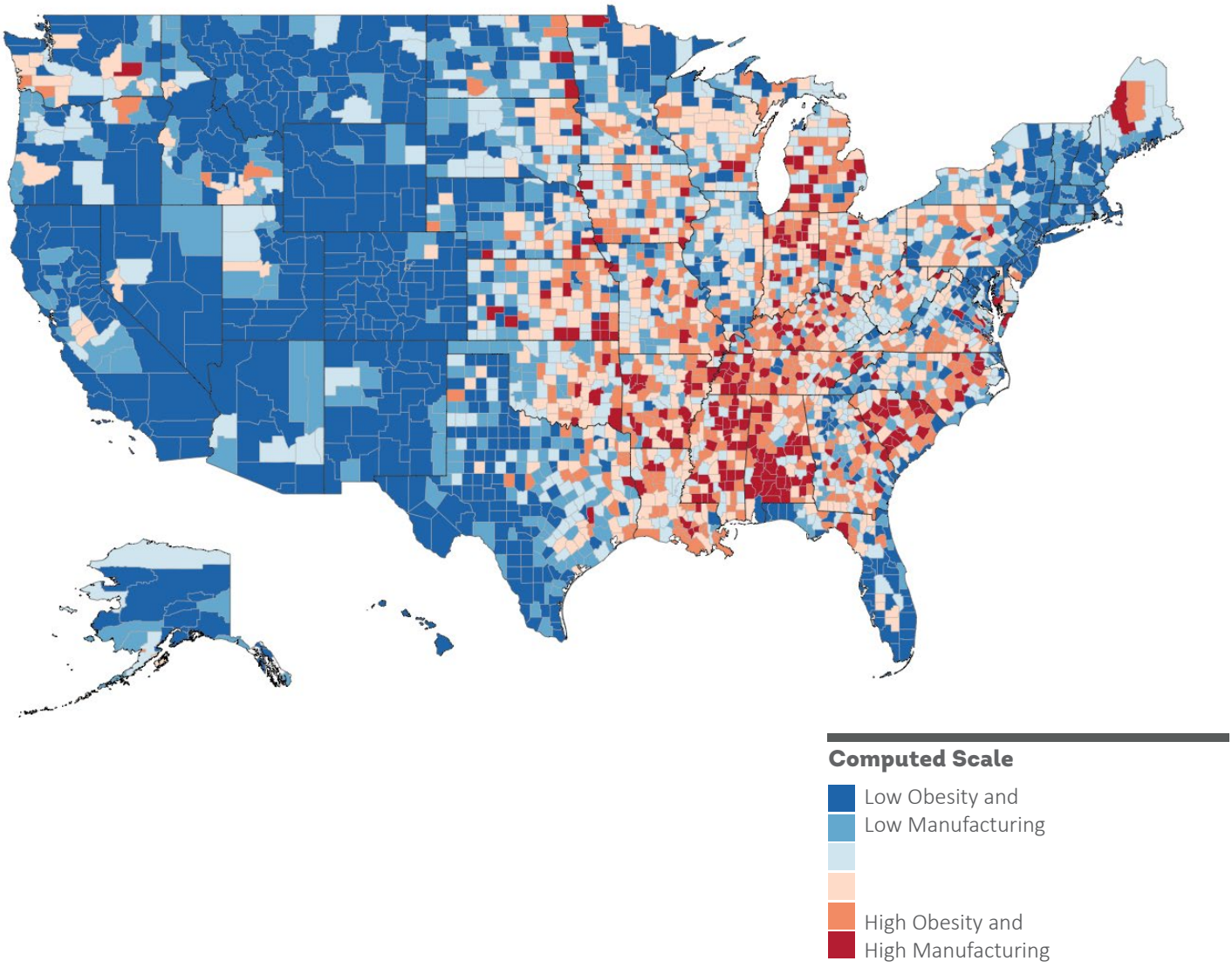
Figure 10. Likelihood of Being Located in a High-Risk County for CVD Deaths by Employment Sector



Overlap Between High Prevalence of Manufacturing and Obesity

Map 2 shows the association between employment sector and county health, with overlap between areas with high levels of manufacturing employment and areas with high prevalence of obesity. The red areas indicate high levels of both manufacturing employment and obesity; the blue areas indicate low levels of both manufacturing employment and obesity.

Map 2. Composite of Counties With High Prevalence of Both Manufacturing and Obesity[75]



Summary of Findings: Likelihood of Employment Sectors Being Concentrated in High-Risk Counties

Table 7 provides an overview of the national and within-state associations between sector employment and county health.

Table 7. Summary: Association Between Employment Sectors and County Risk/Disease Burden

CORRELATION BETWEEN SECTOR EMPLOYMENT AND COUNTY HEALTH (NATIONAL)	
Sector	**Likelihood of Employment in High- vs. Low-Risk County**
Accommodation and Food Services	⌄⌄ Risk for obesity, physical inactivity, diabetes and CVD deaths
Health Care and Social Assistance	⌄⌄ Risk for obesity
Manufacturing	⌃⌃ Risk for smoking, obesity, physical inactivity, diabetes, and CVD deaths
Retail Trade	⌃⌃ Risk for smoking, physical inactivity and diabetes
Transportation and Warehousing	⌃⌃ Risk for smoking and physical inactivity
Wholesale Trade	⌄⌄ Risk for smoking, diabetes and CVD deaths

CORRELATION BETWEEN SECTOR EMPLOYMENT AND COUNTY HEALTH (WITHIN-STATE)	
Sector	**Likelihood of Employment in High- vs. Low-Risk County**
Accommodation and Food Services	⌄⌄ Risk for obesity, physical inactivity, diabetes and CVD deaths
Health Care and Social Assistance	⌄⌄ Risk for physical inactivity
Manufacturing	⌃⌃ Risk for obesity and physical inactivity
Public Administration	⌃⌃ Risk for smoking, obesity, physical inactivity, diabetes, and CVD deaths
Retail Trade	⌃⌃ Risk for smoking, physical inactivity and diabetes
Transportation and Warehousing	⌃⌃ Risk for smoking and CVD deaths
Wholesale Trade	⌄⌄ Risk for smoking

*See Tables A1 and A2 in the Appendix for ORs.

⌄⌄ Lower Risk

⌃⌃ Higher Risk

Posing Causality: a Caveat

The main purpose of the quantitative analysis was to determine what associations might exist between employment sector and county health to facilitate collaboration between employers and communities in identifying and reducing community health risks/disease burdens. The analysis was cross-sectional. This means that we simultaneously examined disease prevalence and the percentage of employment by sector by county. This provides a snapshot of the overlap between health risks/diseases and the proportion of people employed by a given sector. However, one cannot infer from these results that employment in a particular sector causes county health outcomes. Further longitudinal research is needed to confirm our results and determine why these relationships exist. To refine strategies for addressing poor workforce and community health, more evidence is needed to explain the relationship between sector operations and the health of those communities.

Qualitative Findings

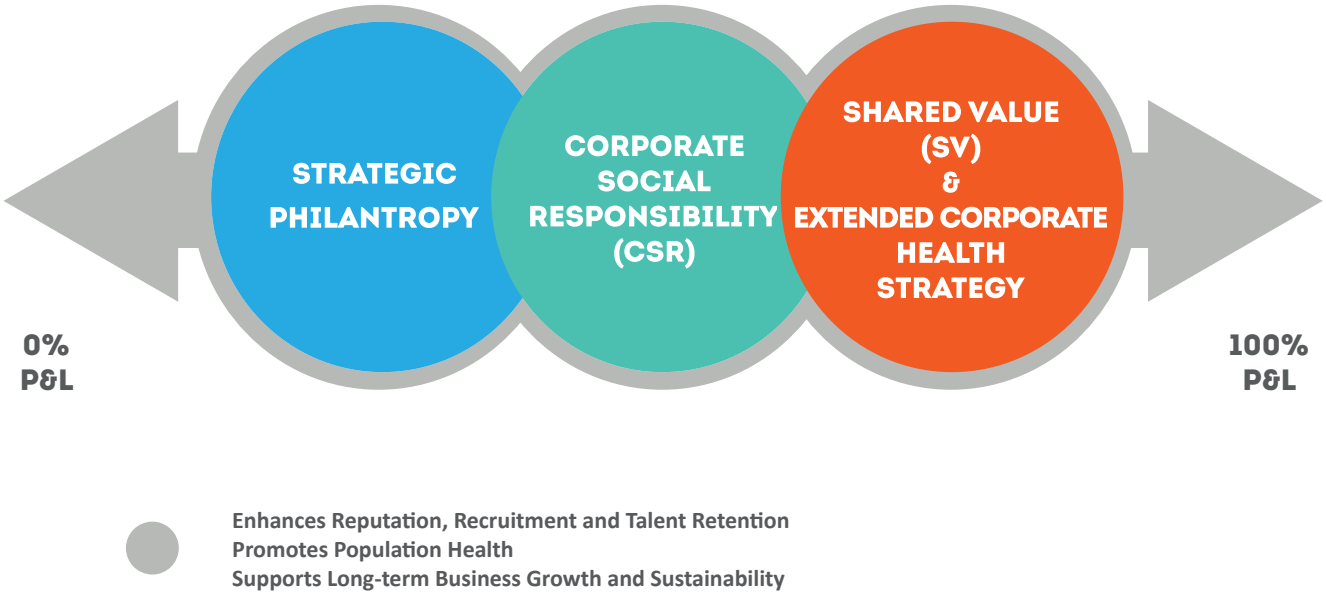
Employers Invest in Community Health via Three Strategies

Qualitative interviews with business executives in public affairs (foundation directors, corporate affairs leaders) and workforce health (human resources [HR] leadership and chief medical officers [CMOs]) revealed several strategies that employers use to tackle pressing yet highly variable community health challenges while developing and reaching their own business goals. These strategies fall into three categories that are not mutually exclusive: strategic philanthropy, corporate social responsibility (CSR) and creating shared value (SV). They have elements in common, such as enhancing corporate reputation, but they also are distinct in various ways, such as impact on P&L. They are often implemented in concert and reinforce one another to generate a mix of social and financial benefits for businesses and community groups. See Table 8 for a comparison of these strategies and Figure 11 for a summary of their interrelationship.

Table 8. Strategies Businesses Use to Promote Community Health

CATALYST FOR ACTION	STRATEGIC PHILANTROPY	CORPORATE SOCIAL RESPONSIBILITY	SHARED VALUE
VISION	Charitable giving and social impact	Citizenship, sustainability, ethical leadership	Competitiveness and strategic market positioning
VALUE FOR BUSINESS	Purely social but can inform business strategy	Primarily social, some financial returns	Balanced social and financial returns
VALUE FOR COMMUNITY	Financial support sustains successful community initiatives	Businesses reduce adverse effects on planet and people	Communities demand more healthful, environmentally friendly or socially responsible products while supporting economic growth
IMPACT ON BUSINESS P&L	Funding comes from foundation (tax exempt); not included in P&L; business continues as usual	Indirectly profit maximizing through branding; included in P&L; some financial loss if changes to operations are not profit maximizing	Included in P&L; business model redesigned to maximize social and financial
LONG-TERM RETURNS	Enhances reputation, recruitment and talent retention Promotes population health, environmental sustainability and social well-being. Supports long-term business growth and sustainability		

Figure 11. Relationship Between Strategic Philanthropy, Corporate Social Responsibility and Shared Value



Strategic Philanthropy

Strategic philanthropy is not included in the business P&L statement. Philanthropy can be considered an element of a larger CSR strategy or can operate independently via a corporate foundation. Nearly 70% of large companies operate foundations[42] and large hospitals often participate in strategic philanthropy despite holding nonprofit tax status. Philanthropy is a way of giving to the community via financial donations and noncash contributions such as time, expertise and resources (e.g., facilities, medicines, consulting services). Strategic corporate philanthropic programs can enhance a company's reputation, branding, employee recruitment and retention, and nonprofits can generate social ROI in line with fulfilling their core mission. Strategic philanthropy can support a wide range of community-based, state-level, national and global initiatives depending on the scope and goals of the business. Following are summaries of case studies demonstrating how businesses and community groups align to accomplish shared goals through philanthropy. Detailed descriptions of the case studies mentioned here can be found in the Appendix.

Strategic Philanthropy Case Studies

- **Kaiser Permanente's Community Health Initiative** is a strategic grant-making community benefit program that has allocated more than $50 million to Healthy Eating and Active Living collaboratives with the aim of improving community health. Kaiser Permanente generates a social ROI through improved community health, which aligns with its core mission and role as a nonprofit health care provider and insurer.

- Additional case studies of **General Mills**, **Johnson & Johnson**, and **Mondēlez International** as examples of strategic philanthropy are available online at **www.thevitalityinstitute.org/communityhealth**.

"Through Wireless Reach, we are creating social impact and seeding new business opportunities for Qualcomm mobile technology by promoting mobile health interventions for underserved communities globally. One of our initiatives, Care Beyond Walls and Wires, used mobile health monitoring tools in Northern Arizona to connect rural heart failure patients with the health system, resulting in measurable improvements in health and lower costs of care."

–Blake Tye, Manager, Government Affairs, Qualcomm

Corporate Social Responsibility

Non-tax-exempt funding is dedicated to implementing CSR strategies, and CSR is accounted for in a company's P&L statement. CSR can be referred to as corporate citizenship and can involve incurring short-term costs that do not provide an immediate financial benefit to the company but instead promote positive social and environmental change to reduce adverse effects on the planet and on people and promote healthier environments. CSR can involve engaging the workforce through employee volunteerism and obtaining a social license to operate.

Shared Value[87]

SV can be defined as business policies and operating practices that enhance the competitiveness of a company while advancing economic and social conditions in the communities in which it operates. This is part of the core business model and included in its P&L. Businesses create SV by identifying and pursuing market-driven solutions to generate and capitalize on social progress. Key elements of SV include[88]

- **Reconceiving products and markets:** defining markets in terms of unmet needs or social ills and developing profitable products or services that remedy these conditions.
- **Redefining productivity in the value chain:** increasing the productivity of the company and/or its suppliers by addressing the social and environmental constraints in its value chain.
- **Local cluster development:** strengthening the competitive context in key regions where the company operates in ways that contribute to its own growth and productivity as well as those of the region.

CSR and SV Case Studies

Interviews revealed that SV typically co-occurs with CSR, as companies engage with communities through a CSR framework while reformulating their products/services/health strategies to create SV. Hence, companies creating SV that also represent best practices for CSR are presented as single case studies.

- **Campbell Soup's** Campbell Healthy Communities is a $10 million, 10-year corporate investment in collective impact to reduce obesity and hunger rates by 50% in Camden, New Jersey, between 2010 and 2020. The initiative informs and influences Campbell's market positioning and business growth for healthful existing products and new products.
- **PepsiCo** has a Food for Good program that delivers and sells prepackaged, affordable meals that meet U.S. Department of Agriculture (USDA) standards for children and supports nonprofit partners in running retail farm stands stocked with affordably priced produce in underserved communities. Families eligible for the USDA summer food service program receive meals free of charge. Through this program, PepsiCo conducts research to develop food-delivery technologies that will enable them to expand to new markets, creating SV for the business and for communities. The Healthy Weight Commitment Foundation, led by Chief Executive Officer (CEO) Indra K. Nooyi, removed 6.4 trillion calories from the marketplace between 2007 and 2012 while demonstrating that more healthful products and business growth are not mutually exclusive.
- Additional case studies of **Blue Sea Development, Health Partners, IBM, Novo Nordisk, Prudential Financial and Qualcomm** as examples of creating SV are available online at **www.thevitalityinstitute.org/communityhealth**.

In addition, we identified **Extended Corporate Health Strategy (ECHS)** as a critical yet often overlooked component of creating SV. ECHS applies to local cluster development, a key component of SV, because the health of the community contributes to the company's growth and productivity. Employers implementing ECHS extend their internal employee health promotion strategies and benefits to the communities from which they recruit employees to impact the health status of their employees, their dependents and their networks. Several case studies summarized below demonstrate how ECHS is a strategic method of linking workplace and community health promotion to generate population health benefits.

- **General Dynamics Bath Iron Works (BIW)** partners with L.L.Bean to fund diabetes prevention programs (DPPs; see Box 5) available to BIW and L.L.Bean workforces, their dependents and the local community near both corporate headquarters in Maine. Both companies aim to improve health outcomes for their employees and the community from which they draw their workforce.

- **The Dow Chemical Company** engaged the Michigan Health Improvement Alliance (MiHIA), a collective impact initiative near Dow's headquarters in Midland, Michigan. Dow recognizes that the health of the community mirrors the health of the workforce and has extended its executive leadership has provided funding, and hosts programs on site (including the Diabetes Prevention Program) for community members and employees through MiHIA.

- **General Electric (GE)** spearheaded a multistakeholder health system initiative in Cincinnati, Ohio, to improve quality of care, reduce costs and improve health outcomes for its employees and the community. Interventions included investment in patient-centered medical homes and in health information technology infrastructure. GE partnered with RAND Corporation to evaluate the impact of this initiative.

Box 5. The Centers for Disease Control and Prevention Diabetes Prevention Program[102]

Businesses implementing the ECHS may do so by extending the DPP offered to employees to be available to employees' dependents and broader community networks. Likewise, community groups such as YMCAs may engage local businesses to align employee DPPs with the community at large. Established by the CDC, the year-long DPP lifestyle change program consists of the following:

- 16 sessions during the first 6 months, which may be provided in person or through distance learning; sessions are led by trained lifestyle coaches
- Participants focus on losing 5% to 7% of their body weight and increasing physical activity to 150 minutes each week
- Follows a CDC-approved curriculum based on evidence from efficacy and effectiveness trials
- At least six sessions during the second half of the program reinforce and build on content
- For evaluation of performance, programs recognized by the CDC Diabetes Prevention Recognition Program submit evaluation data on participants' progress every 12 months
- For more information, see **http://www.cdc.gov/diabetes/prevention/**

"The factors affecting workforce health go far beyond the jobsite, the individual employee, and availability of employer-based health insurance. Investing in wellness efforts that reach the whole family and leverage community resources is more likely to improve employees' physical and emotional well-being, benefit the community as a whole, as well as improve productivity and reduce health care costs."

–Michelle Probert, Manager of Integrated Health Services for General Dynamics Bath Iron Works

Communities Can Leverage Business Strategies for Collaboration

Nonprofit organizations, collective impact networks (see Box 6) and foundations increasingly align their work to build a national culture of health penetrating the built environment, schools, workplaces and policies.

- **Local Level:** Organizations can promote health at local levels in schools and communities, as demonstrated by the work of the Clinton Health Matters Initiative, Healthy Detroit and YMCAs around the country. Collective impact initiatives such as Shape Up Somerville aim to build and sustain healthy communities by engaging partners to strive to reach shared goals via shared measurement and continuous evaluation.

- **State Level:** Organizations such as LiveWell Colorado and the Oregon Healthiest State Initiative exemplify how to connect local nonprofit, government and funding partners.

- **National Level:** Organizations including Partnership for Healthier America, the Institute of Medicine, the American Heart Association and the CDC are advocating for health in all policies and convening public health stakeholders.

- **Private Foundations:** RWJF, the California Endowment and the Colorado Health Foundation, among others, are catalyzing collaboration and building an evidence base for prevention across the nation with initiatives such as the Build Health Challenge.

Community Case Studies

Communities can engage business via the three strategies outlined in Table 8. Understanding the motivations driving business health promotion is key to effective partnership. Relevant case studies of communities engaging the private sector include:

- **Let's Move! Active Schools** engaged several sporting goods companies through strategic philanthropy, including a $50 million partnership with Nike Inc., to support its collective impact efforts in schools nationwide.

- **The Spartanburg Academic Movement (SAM)** engaged the local BMW manufacturing plant to apply Lean Six Sigma principles to its programs to create SV in the form of a qualified local workforce pipeline.

- **The YMCA of Central Florida** partnered with the Orlando health system to integrate community and clinical care for employees and the larger community.

Table 9 summarizes the case studies included in this report and online.

Table 9. Case Studies Featured in the Report and Online

STRATEGY	COMPANY	SECTOR	KEY WORDS
Strategic Philanthropy	**General Mills**	Manufacturing (food)	Collective impact, nutrition, education, hunger
	Johnson & Johnson	Manufacturing (pharmaceuticals, medical devices, and other products)	Community revitalization, collective impact, evaluation, access to health care
	Kaiser Permanente	Health care and social assistance (provider and insurer)	Evaluation, social determinants, prevention, systems-level change
	Mondēlez International	Manufacturing (food)	Evaluation, nutrition, volunteerism, emerging markets
Shared Value and Corporate Social Responsibility	**Blue Sea Development**	Real Estate/construction	Affordable housing, healthy design, access to healthful food, active living
	Campbell Soup Company	Manufacturing (food and beverage)	Collective impact, product reformulation, physical activity, childhood obesity
	General Dynamics Bath Iron Works*	Manufacturing (shipyard specializing in design, building and support of surface combatants for the U.S. Navy)	Diabetes, workforce, prevention, evidence-based program
	General Electric*	Manufacturing (conglomerate: includes but not limited to aircraft engines, gas, health care, electrical distribution, oil, software, etc.)	Health information technology, health system improvement, evaluation, workforce
	HealthPartners	Health care and social assistance (insurance)	Childhood obesity, member health, school-based programs, childhood nutrition
	IBM	Professional, scientific and technical services	Education, mentorship, job creation, STEM
	Novo Nordisk	Manufacturing (pharmaceuticals)	Policy change, market expansion, prevention, urban diabetes
	PepsiCo	Manufacturing (food and beverage)	R&D, nutrition, product reformulation, meal delivery
	Prudential Financial	Finance and insurance	Veterans, health disparities, workforce, mental health
	Qualcomm Inc.	Manufacturing (mobile technology)	Tele-health, rural health, health system improvement, evaluation
	The Dow Chemical Company*	Manufacturing (chemicals)	Health system improvement, diabetes prevention, workforce, evaluation

* Exemplifies ECHS.

** R&D = research and development ; STEM = science, technology, engineering, and math

Table 9 Continued: Community Case Studies

STRATEGY	COMMUNITY ORGANIZATION	BUSINESS SECTORS ENGAGED	KEY WORDS
Strategic Philanthropy	**Partnership for a Healthier America: Let's Move! Active Schools**	Retail trade (sports equipment)	School-based programs, physical activity, collective impact, sports
Shared Value	**Spartanburg Academic Movement**	Manufacturing (cars)	Education, workforce pipeline development, collective impact, Six-Sigma
Extended Corporate Health Strategy	**YMCA of Central Florida**	Health care and social assistance (provider)	Care coordination, prevention, workforce health, member health

Note: Each case study serves as an example of effective use of one of the three strategies identified. However, many of the companies are using multiple strategies simultaneously, which may not be highlighted in the case study because of space constraints and to maintain focus on one initiative or program.

The collective impact model (Box 6) brings organizations, businesses and people previously working in silos together to achieve social change.[103] It is a commitment of a group of organizations from various sectors to a common agenda for solving a complex social problem. FSG, a mission-driven consulting firm, and the Aspen Institute Forum for Community Solutions developed the Collective Impact Forum. The website supports efforts in the field with tools, training materials, webinars and other resources and has a directory of group profiles to facilitate sharing of best practices.

Box 6. Collective Impact

PRECONDITIONS FOR COLLECTIVE IMPACT [103]	
Influential Champion	Individual who commands the respect necessary to bring together CEO-level and cross-sector leaders within and between organizations and keep their engagement active over time.
Financial Resources	Needed for the project to run for at least 2 to 3 years, generally in the form of at least one anchor funder who is engaged from the beginning and can support and mobilize other resources to pay for the needed infrastructure and planning processes.
Urgency for Change Around an Issue	Has a crisis created a breaking point to convince people that an entirely new approach is needed? Is there potential for substantial funding that might entice people to work together?

CONDITIONS THAT LEAD TO MEANINGFUL RESULTS FROM COLLECTIVE IMPACT [104]	
Common Agenda	All participants share a vision for change that includes a common understanding of the problem and a joint approach to solving the problem through agreed-on actions.
Shared Measurement	All participating organizations agree on the ways success will be measured and reported, with a short list of common indicators identified and used for learning and improvement.
Mutually Reinforcing Activities	A diverse set of stakeholders, typically across organizational sectors (nonprofit, for profit, government, etc.), coordinates a set of unique activities through a mutually reinforcing plan of action.
Continuous Communication	All players engage in frequent and structured open communication to build trust, ensure mutual objectives and create common motivation.
Backbone Support	An independent, funded staff dedicated to the initiative provides ongoing support by guiding the initiative's vision and strategy, supporting activities, implementing shared measurement practices, building public will, advancing policy and mobilizing resources.

Interview Results

The following are additional findings that emerged from the business interviews.

- **Collective Impact:** Less than one-fifth of participants (4/26) are involved in collective impact initiatives as funders, backbone organizations or implementing partners or are currently developing collective impact models.

- **Accomplishing Strategic Objectives:** All businesses aligned the community initiative with the company's strategic goals, core competencies, products and/or services and chose communities in accordance with those goals. Approximately one-third (8/26) demonstrated measurable business results (impact on sales, expansion into new markets, development of new products, etc.).

- **Evaluation:** All businesses performed process evaluation, and approximately one-third (8/26) conducted or are in the process of conducting formal impact evaluations in partnership with academic/research institutions. We considered companies to be performing process evaluation if metrics were collected and shared in the interview or in publicly available documents. Companies conducting impact evaluations partnered with academic or research institutions to do so.

- **Aligning Internal Teams:** Approximately one-third (8/26) of businesses reported sharing of community-level data between internal departments and/or explained how various departments work together. Because this was not specifically asked in the initial interviews and rather arose as one of the qualitative themes, this could be an underestimate.

- **Linking Community and Workforce Health:** All employers interviewed had workforce wellness initiatives in place and engaged communities. However, less than one-third (8/26) reported that the purpose of their community initiative was to improve community health and support the health of their workforce. Employers that linked community and workforce health targeted employees, dependents and larger networks beyond the four walls of the workplace. Four of the eight employers that used community interventions to support workforce health evaluated or planned to evaluate their impact on both populations (the workforce and community members). Though it is challenging to quantify workforce health outcomes attributable to multistakeholder initiatives, GE and the Dow Chemical Company stand out as best practices of quantifying these types of results (Table 10).

Table 10. Impact of the Dow Chemical Company and GE's Community Interventions on Workforce Health

COMMUNITY INTERVENTION	IMPACT ON WORKFORCE HEALTH AND ASSOCIATED COSTS
The Dow Chemical Company has a leadership role in the MiHIA, a collective impact effort whose founding Dow supported in 2007 to improve the health of residents in several counties, which are also home to Dow's headquarters and employee base.	• In 2013, Dow spent $4.8 million less in U.S. health care costs than it would have spent had it experienced the industry average. Since 2004, it has seen an increase of more than 15% in the proportion of its employee population at low risk for high BMI, insufficient physical activity and tobacco use and a 28% decrease in the employee population at high risk for these risk factors.[105] • A 2012 study conducted by Towers Watson comparing Dow's population to peer companies with adjustments for demographics and other variables found that its covered lives in the U.S. health care plans population had a 9% better health risk profile than other companies studied, and the prevalence of chronic conditions among Dow employees was 17% lower than those of peer companies, although Dow had also spent 17% less on chronic conditions.[105]
GE collaborates with a range of health care stakeholders in Cincinnati, Ohio, home to GE's largest employee base. Partners have been collecting metrics on health care improvement, health outcomes and costs and tracking goals for the metropolitan area's 2.2 million residents.	• In total, the patient-centered medical home pilot population had 3.5% fewer emergency department visits and 14% fewer hospital admissions between 2008 and 2012 among GE employees in Cincinnati than among GE employees outside of Cincinnati. • Among GE-covered lives, the percentage of diabetes patients with complications fell by .1% in Cincinnati, whereas it increased by .8 in other GE locations between 2008 and 2012.

*See Case Studies on the Dow Chemical Company and GE in the Appendix

Barriers to Effective Cross-Sector Collaboration

Linking community and workforce health remains a challenge. Interviews with businesses and community groups identified the following barriers to effective employer and community collaboration:

Lack of cross-pollination between the public and private sectors impedes effective collaboration and creation of SV

- The lack of a shared language or common vocabulary was frequently cited as a barrier to collaboration.
- Few departments outside the health, benefits or wellness teams had staff with public health and program evaluation training, and few community groups reported having staff that had business training.

Separation into business-division silos (HR, CSR, corporate health strategy, R&D, public affairs) reduces opportunities for comprehensive impact evaluation of community health initiatives

- The majority of employers did not align internal communication regarding community health interventions across business divisions in spite of this being essential to facilitating data sharing and effective evaluation. One example would be collaboration between CSR staff that oversee volunteer initiatives in the community with HR staff that track data on employee health, engagement and retention.

Short-term, process-oriented evaluation frameworks impede demonstration of the connection between interventions and changes in population health status

- Process measures (such as the number of people enrolled in exercise programs or the number of healthy meals served) are important, but are insufficient to assess the impact of business investments on community and workforce health.
- Less than one-third of employers (8/26) were evaluating the impact of their initiatives on risk and/or disease burden, and 100% of businesses identified challenges in demonstrating their impact on population health status.
- One-quarter of communities (6/24) conducted impact evaluations of their business partnerships, and more than three-fourths (20/24) had process metrics in place.

Limited business engagement by community groups beyond the workplace hinders effective cross-sector collaboration

- Less than one-third of the community organizations interviewed (7/24) engaged employers in promoting community health beyond the workplace, while the majority (17/24) limited employer engagement to workplace health promotion. Less than one-tenth (2/24) acknowledged their participation in a collective impact effort to engage employers.

VIII

Guidelines for Developing Quality Community Investments

Table 11 outlines components of quality community health promotion initiatives that improve population health and support business profitability. It also includes examples of companies applying these guidelines. All company case studies can be found online at **www.thevitalityinstitute.org/communityhealth**.

Table 11. Community Investment Guidelines: Critical Components of Business Investment in Community Health

Component	Description	Example
LEADERSHIP		
CEO and C-Suite Community Investment Champions	Community investment efforts are initiated, supported and championed by the CEO and C-Suite.	GE CEO Jeffrey Immelt began the Healthy Communities Initiative because he realized that stand-alone workplace health promotion programs were unsustainable solutions to rising workforce health care costs.
CROSS-POLLINATION		
Cross-Pollination	Company team responsible for community investment includes both business strategy and public health professionals.	BIW's extension of corporate wellness strategy to the community was led by its program manager, who had previously worked for a statewide public health coalition. This experience has enabled the ship manufacturer to build critical partnerships to address health risks within both its workforce and its community.
INTERNAL COORDINATION AND COLLABORATION		
Alignment on Community Investment Vision Across Business Departments	Corporate Social Responsibility engages with all business units and corporate centers to execute on an aligned, company-wide community investment strategy.	The Prudential Financial Office of Corporate Social Responsibility engaged in a 5-month strategic planning process to create a framework that aligns community investment activities and resources (cash, investments and human capital) with Prudential's overall corporate mission and the activities of each business unit.
Collaboration on Community Investment Implementation Across Business Departments	CMOs, HR professionals, product development and public affairs staff collaborate on the development, implementation and evaluation of the community initiative.	The Dow Chemical company's CMO/ Health Services group, HR Benefits and Public Affairs team work together to align all community investment initiatives; For example, the Public Affairs team is responsible for community outreach, and the employee Health Services and HR Benefits teams work with a health coalition to implement system changes that impact Dow employees and the broader community. All teams collaborate with partners in the community.
Internal Data Sharing	CMOs, HR professionals, product development and public affairs staff identify internal data sources that inform development of new initiatives and/or provide insight on the progress of existing initiatives.	Prudential Financial shares data across its employee health and benefits, human resources, and corporate social responsibility teams regarding the recruitment, training, and health needs and outcomes of veterans and their families.

BRFSS = Behavioral Risk Factor Surveillance System.

NEEDS ASSESMENT		
Utilizing Existing Data Sources	Business reviews existing community data to determine effective interventions (County Health Rankings, CDC Data, etc.).	Kaiser Permanente's community health needs assessment process leverages public and internal data, along with input gathered from communities and public health experts, to identify risk and disease burden in the communities it serves. These data are used to prioritize community health needs and develop community benefit strategies to address those needs through targeted programs, policy, systems and environmental interventions in local communities as well as on a statewide or national scale, efforts that are all part of Kaiser Permanente's Community Health Initiatives.
Addressing Community Need	Business identifies relevant internal sources of expertise/ data to effectively address community need.	PepsiCo leveraged internal expertise from their R&D department to see if they could address the community challenge of keeping foods cool throughout delivery to underserved communities in warm climates in eight communities across the USA.
Engaging Local Stakeholders	Business engages local stakeholders to qualitatively assess community concerns and existing initiatives.	IBM engaged the New York City Department of Education and local colleges to develop the curriculum for a new model of teaching STEM in high schools.
STAKEHOLDER ENGAGEMENT		
Community Partner Engagement/ Collective Impact	Business engages local stakeholders to collaborate on a collective impact model for risk/disease burden reduction, including other businesses, government entities, nonprofits, health systems and schools.	Campbell Soup is the backbone organization of a collective impact initiative in Camden, New Jersey, to address hunger and childhood obesity.
EVALUATION		
Evaluation Framework	In collaboration with stakeholders, business develops an evaluation framework that connects the community impact to the business investment and allows for continuous evaluation.	Evaluation of Qualcomm Wireless Reach's "Care Beyond Walls and Wires" project was supported by the National Institutes of Health and included baseline data collection and a process evaluation and assessed the impact of its initiative on health care costs and local health outcomes in rural Arizona.
Process Evaluation	In collaboration with stakeholders, business continuously evaluates initiative implementation and revises the logic model accordingly.	Campbell Soup tracks the number of hours of nutrition education and physical activity provided to communities through nonprofit partners to measure outputs and impact such as BMI and food insecurity.
Evaluation of Impact on Community and Business	In collaboration with stakeholders, business uses the evaluation framework to assess the impact on community risk/disease burden and progress toward its own strategic objectives.	**Community Evaluation:** Kaiser Permanente's population dose-effect is used to assess impact and inform the work of the Community Health Initiatives. Each grantee is encouraged to appropriate 10 to 15 percent of its budget for program evaluation. **Workforce Health Evaluation:** GE evaluated the impact of its investment in the local health system in Cincinnati on quality improvement, cost of care and GE workforce health outcomes, comparing health outcomes of GE employees in Cincinnati with outcomes in other markets. **Product Evaluation:** Healthy Weight Commitment Foundation tracked sales of products from companies that pledged to remove calories from their portfolios through reformulation, portion reduction and introducing new lower-calorie products. The RWJF also evaluated the extent to which companies fulfilled their calorie-reduction commitments.

IX

Discussion and Call to Action

Discussion

Our results complement the findings of previous studies, demonstrating overlap between workforce and community health for many of these sectors[70-72] and suggest that investments in community health have substantial potential to impact the health of the workforce in these sectors, to narrow occupation-related health disparities among working-age Americans and to reduce the risk that NCDs pose to the economic vitality of the nation.

Existing research demonstrates that workforces of certain sectors face higher health risks, and our results demonstrate that many of these same sectors are located in high-risk counties for smoking, obesity, physical inactivity, diabetes and deaths due to CVD. For example, employees of the transportation and warehousing, manufacturing, and public administration sectors have been found to be at higher risk for several of the chronic diseases we examined,[70-72] and we found these sectors to be more highly concentrated in counties facing elevated levels of health risk factors and chronic diseases. Whereas we also found retail to be highly concentrated in high-risk counties, we did not find existing research identifying significantly greater associations between this sector and risks for chronic diseases than for other industries.

Our findings demonstrate that several of the sectors, which existing research shows to employ healthier workforces, are also less likely to be located in high-risk counties for smoking, obesity, physical inactivity, diabetes, and deaths due to CVD. For example, the accommodation and food services and wholesale sectors have been found to employ workforces with relatively low health risks, and our analyses demonstrate that these sectors are less likely to be concentrated in high-risk counties. Further investigation is necessary to explain the mechanisms at play in the accommodation and food services sector given its diversity. For example, accommodation represents 15.9% of the accommodation and food services sector, whereas food services and drinking places represents 84.1% of the sector, with nearly one-third of the food services category composed of limited-service (including fast food) restaurants.[100]

Further, whereas we found that the health care and social assistance sector is less likely to be located in high-risk counties, this contradicts existing research suggesting that, overall, the sector employs a relatively higher risk workforce.[70-72] Notably, research has shown that physicians actually lead all major occupational groups in well-being.[106] The health care and social assistance sector comprises a mix of ambulatory care centers (34%), nursing homes (18.2%), hospitals (32.3%) and social assistance (15.1%) that include a broad range of occupations and provide a wide variety of services.[100] As with the accommodation and food services sector, further research is needed on the health care and social assistance sector to develop the evidence base on the relationship between workforce and county health.

Call to Action

The burden of NCDs calls for united action by the private and public sectors to promote health in workplaces and communities nationwide. Cross-sector collaboration in community health presents a win-win opportunity for employers and community groups, as both are uniquely positioned to address the drivers of NCDs. The findings presented in this report provide the following opportunities:

Advocacy

Despite endorsement of cross-sector collaboration for health at the highest political levels, including the 2011 United Nations Political Declaration on Non-Communicable Diseases, the public health community remains strongly divided on the role that the private sector, particularly companies that manufacture and/or sell products related to NCDs, have in policy dialogue and solutions.

To address multifaceted drivers of the NCD burden, communities should align their efforts with those of the private sector and engage businesses as cornerstones of sustainable development rather than political contention. Whereas top-down regulation has proven to be an effective strategy for immense gains in health status over the past several decades, a different logic needs to be applied to issues such as obesity and CVD, which are more complex and are embedded within social, economic and environmental contexts. Our research adds to a growing body of literature indicating that the public sector is well positioned to partner with the private sector on collective impact initiatives and other models for scaling effective interventions.

This moment of population health crisis is also an opportunity for innovation and strategic action for employers. Health systems, manufacturers and other sectors that double as major employers can make targeted investments that leverage their business capacity to influence community health. Whether that is through direct and evidence-based community interventions or by reformulating and rethinking business practices, employers have a number of opportunities to generate profits as a result of improving population health.

Research

Additional longitudinal studies may be needed to demonstrate the potential causal link between sector and community health. Our analyses indicate that certain employment sectors are associated with health risk and disease burden; however, the county health and sector data we examined are cross-sectional and do not necessarily demonstrate causality. In addition, the qualitative analyses uncovered a number of barriers to effective cross-sector collaboration. Because some of these barriers emerged during the interviews, further research can quantify their prevalence among cross-sector partnerships.

The public health literature lacks examples of effective cross-sector collaboration in community health promotion in the retail trade, transportation and warehousing and public administration sectors. It is imperative that these sectors develop and share best practices to encourage other employers to model similar types of investments.

More rigorous research is needed to demonstrate the impact of community health promotion on workforce health. It is critical to develop implementation science to evaluate community interventions thoroughly and to disseminate findings and best practices. Short-term, process-oriented evaluation frameworks fail to attribute changes in population health status to employer interventions in community health. Collaboration with public health professionals to design logic models and short-, medium- and long-term evaluation frameworks can help employers link community-based activities to strategic objectives such as workforce health. Leveraging relationships with academic institutions, health departments and nonprofit hospitals, is critical for quality impact evaluations of population and workforce health. Hospitals are required by federal law to conduct community health needs assessments and can play a critical role in helping employers identify local areas for investment. Employers can use these data to align their efforts with existing clinical and community-benefit initiatives.

Academic and research institutions have the capacity to conduct comprehensive evaluations of community-based programs. Businesses are beginning to draw on their expertise, as demonstrated by several case studies in this report and online (see Table 11 above for details).

Actions for Employers and Community Organizations

Employers Should Extend Their Corporate Health Strategies to the Community, Using Local Data to Drive Decision Making

To develop, implement and evaluate community health promotion programs, employers can use county-level data to understand the context in which employees live and work. Even sectors that operate in states with generally healthy populations could be associated with less healthy populations at the county level. Basing community-based interventions on local health profiles gives employers the potential to multiply their gains from investing in workplace health promotion. Employers located in high-risk communities can use county-level health data to tailor their workforce interventions to better address community need. See Table 12 for investment opportunities for each high-risk sector identified in our research.

- **Mechanisim:** Identify the geographic areas in which the majority of employees live and conduct a community needs assessment using public data sources (such as RWJF County Health Rankings, the local hospital's community health needs assessment or health department data).

- **Measure of success:** Companies include community health assessments in their integrated reporting. Socially responsible investors can promote the growth of companies that make targeted investments in the health of their communities.

Table 12. Employment Sectors, Health Risk and Areas for Intervention

SECTOR	WORKFORCE PREVALENCE OF CHRONIC DISEASE RISK FACTORS	COMMUNITY RISK (STATE AND/OR NATIONAL LEVEL)	OPPORTUNITIES FOR STRATEGIC INVESTMENT
Manufacturing	• Hypertension[72]: 21.4% • Obesity[70]: 12.8% • Smoking[107]: 23.2%	Obesity, Physical Inactivity, Diabetes, CVD Deaths	• Manufacturers producing goods not directly purchased by the average consumer (such as raw materials, chemicals, etc.) can partner with local governments to foster community resilience and healthy city design while investing in innovative products to reduce their environmental impact • Food and consumer goods manufacturers can create SV and respond to market demand for more healthful products by reformulating existing products and creating new ones
Public Administration	• Hypertension[72]: 27.5% • Obesity[70]: 36.3% • Smoking[107]: 14.9%	Obesity, Smoking, Physical Inactivity, Diabetes, CVD Deaths	• Design workplace health promotion strategy customizable to local context for public administration employees • Partner with other government agencies to synergize messaging promoting health across occupation sectors • Partner with local private employers to share best practices • At the national level, continue to incentivize and promote value-based population health care
Retail Trade	• Hypertension[72]: 17% • Obesity[70]: 25.7% • Smoking[107]: 23.1%	Smoking, Physical Inactivity, Diabetes	• Retailers can align their business to create SV for health by removing tobacco from shelves nationwide • Grocery and general merchandise stores can incorporate principles of healthy design into store layout and align product placement to encourage healthy choices
Transportation & Warehousing	• Hypertension[72]: 22.5% • Obesity[70]: 33.1% • Smoking[107]: 24.3%	Smoking, CVD Deaths	• Partner with retail clinics to expand access to affordable care along trucking routes. Enable mobile and telehealth solutions to reach employees who travel frequently • Partner with national, locally based organizations such as YMCAs and park districts to sponsor holistic health programs for employees and community members

Employers Should Engage in Philanthropy and Use Market-Driven Solutions to Create SV

Addressing the health of employees and their communities is critical to improving population health and building sustainable business models. Cross-sector collaboration has the potential to reduce major health disparities nationwide. Companies can engage in philanthropy to support health in underserved communities where they may not have a large business or workforce presence. Further, companies can create business-driven solutions, including product reformulation and new product development, to address the growing emphasis on a culture of health.

- **Mechanisim:** Corporate foundations identify existing collective impact or multistakeholder community initiatives in areas where they have a large presence and/or where there are large health disparities. To promote SV, corporations identify points along their manufacturing or supply chain where they can increase or maximize health, social, or environmental benefits.

- **Measure of success:** Community groups report on the corporate partners they engage via philanthropic or SV initiatives. Employers continue to report on efforts and progress to increasingly align business operations with community value.

Communities Should Engage Employers Beyond the Workplace to Improve Population Health

Limited employer engagement by community groups beyond the workplace hinders effective cross-sector collaboration. Although great progress has been made by community groups engaging employers in workforce health promotion, progress beyond the workplace is needed. Using the business models, case studies and strategies described in this report, community groups can identify local health needs that employers are uniquely positioned to address and diversify the ways in which they engage employers in enhancing their reach and population health impact.

Nontraditional Partners Are Uniquely Positioned to Convene Employers and Community Groups

Although backbone organizations play a critical role in collective impact by providing staff, resources and technical assistance to partners, several other types of organizations can serve to connect the private and public sectors. These organizations are uniquely positioned to advocate for cross-sector collaboration, as their operations, networks and goals span the public and private domains. They include

- Chambers of commerce
- Federal reserve banks
- National, regional and business coalitions on health
- Anchor institutions (hospitals and academic institutions)
- State and local public health agencies

The recently announced partnership between the RWJF and the United States Chamber of Commerce Foundation to engage business in community wellness demonstrates the movement toward harnessing the power of community conveners for cross-sector collaboration. The Chamber will engage regional chambers to host forums in 10 communities to involve businesses and community stakeholders in conversations about health.

- **Mechanisim:** Identify large employers in high-risk counties and present them with opportunities to promote community health beyond the workplace.

- **Measure of success:** Community groups report on the number of employers they approached regarding extending their workplace health promotion efforts to the community. Employers who engage in cross-sector collaboration on community health as a result also document their efforts.

Cross-Pollination and Internal Alignment Are Important for Effective Planning and Evaluation

We defined cross-pollination as involving staff from the business and/or community group to provide strategic insight or technical assistance to their counterparts. BIW and the SAM are two examples. BIW's corporate health program manager had experience working for a statewide health coalition. At BIW, he shaped the employee-wellness program to encompass the larger community. Employers can also harness invaluable opportunities to share their skills with community groups via various forms of skills-based volunteering. SAM partnered with the local BMW manufacturer on Lean-Six Sigma continuous-improvement training and applied this methodology to improve the efficiency, effectiveness and equity of education programs. This training benefits the community's ability to raise overall educational attainment levels and the business by fueling a qualified workforce pipeline.

- **Mechanism:** Private and public organizations hire staff from their counterpart sectors or establish a skills exchange whereby each receives guidance on public health and business strategies and creates shared value via community health promotion.

- **Measure of success:** Employers report on how they leverage staff with public health training and community groups report on how they leverage staff with business training in improving the implementation and evaluation of community programs.

Missed Opportunities in Silos: Internal Business Alignment Is Crucial

Internal business silos create missed opportunities to evaluate the impact of community health initiatives on business success. Teams such as CSR staff who oversee volunteer initiatives in community health programs have a significant opportunity to align aspects of their work with promoting workforce health. Improved collaboration and data sharing between business divisions can catalyze better evaluation of the program's impact on parameters that directly impact the business bottom line, such as health outcomes, engagement, productivity, absenteeism and retention.

- **Mechanism:** Share the results of the community needs assessment with internal divisions and strategize on resources that can be leveraged to address the identified need.

- **Measure of success:** Employers report on the business divisions involved in planning and evaluating community health promotion initiatives.

Employers Should Invest in Implementation Science by Partnering With Research Institutions to Evaluate the Impact of Investments in Community Health

There is a paucity of evidence on the impact of cross-sector collaboration and how investment in community and workforce can have a synergistic impact on employee and population health. Employers can leverage their internal expertise and data sources and partner with research institutions to evaluate the outcomes of their community

- **Mechanism:** Partner with a local research organization, such as an academic institution or local health department, to assess the impact of the initiative on workforce and community health.

- **Measure of success:** An impact evaluation is performed that demonstrates employer impact on workforce and community health.

Sharing Best Practices Is Critical to Quality Investments in Community Health

Sharing best practices and challenges regarding designing, implementing and evaluating the impact of community investments on workforce and population health is critical to ensuring development of evidence-based employer investments in community health promotion.

- **Mechanism:** Share community health promotion strategies and research findings with employers in your sector and local community groups via publications, conference presentations, business group events, community forums, etc.

- **Measure of success:** Publications quantifying the impact of cross-sector collaboration increase in the public health and business literature. Peer-reviewed journal articles include a mix of authors from private sector and public health, academic or government institutions.

Conclusion

Our research demonstrates the linkage between community and workforce health. It highlights the critical need for both private and public employers to invest in the health of their workforces and communities, as well as the crucial need to fill the gap in evaluating the impact of these efforts. Employers and community groups should use county data, leverage the identified strategies for community investment and apply the best practices included here to make targeted, need-based investments in community health and assess their impact.

X

Appendix

Detailed Methods

We used 2014 County Health Rankings data, which are based on various sources collected mostly in 2012 or earlier, to specify the proportion of adult county populations who were obese, physically inactive, smokers or diagnosed with diabetes.[75] The prevalence of obesity, physical inactivity and diabetes in the County Health Rankings data was derived from the 2010 National Center for Chronic Disease Prevention and Health Promotion data. The smoking prevalence was based on the 2006-2012 Behavioral Risk Factor Surveillance System. In addition to data on disease burdens and health risks, the County Health Rankings encompass information on demographic composition, such as ethnicity, and economic conditions, such as the unemployment rate and median household income, for each U.S. county. [108] Because the prevalence of cardiovascular disease (CVD) is not available at the county level, we relied on the 2008-2010 Centers for Disease Control and Prevention (CDC) data on county rates of death due to heart disease for adults more than 35 years old as a proxy for the CVD burden.[109]

The sector-concentration measures were constructed using data from the 2012 Quarterly Census of Employment and Wage (QCEW),[99] which is jointly produced by the Bureau of Labor Statistics of the U.S. Department of Labor and the State Employment Security Agencies. Based on information from establishments that report to U.S. unemployment insurance programs, the QCEW provides a near census of monthly employment and quarterly wage information at national, state and county levels. We calculated the proportion of workers in a county employed in each of 21 sectors as defined by the six-digit North American Industry Classification System. It should be noted that though the QCEW covers most economic activity in a county, it excludes data on certain types of workers such as members of the armed forces and self-employed individuals. In addition, data that would disclose the operations of an individual employer are suppressed. In this report, our focus is on the top 10 sectors by employment nationally.

The final study sample consists of 3,137 counties for which there were available data on both sector employment and the prevalence of obesity, physical inactivity and diabetes; 3,098 counties with data on both sector employment and heart disease death rates and 2,708 counties with data on both sector employment and smoking prevalence.

Analysis

To assess potential associations between health risks/disease burdens and industry concentrations, we ranked the U.S. counties by each health risk/disease burden and divided them into four quartiles: first (up to the 25th percentile), second (25th-50th percentile), third (50th-75th percentile) and fourth (75th-100th percentile). Univariate logistic regression models were used to estimate the odds of a county being in the fourth rather than the first quartile of health risk/disease burden nationally with a higher sector concentration (Table A1). Specifically, the following equation was estimated:

1. $\text{Fourth Quartile}_i = \beta_1 \text{ Sector Concentration}_i + \varepsilon_i,$

where Fourth Quartile_i indicates whether county i was in the fourth quartile of health risk/disease burden, $\text{Sector Concentration}_i$ denotes the concentration of a particular sector in county i, and ε_i is the error term.

In addition to identifying sectors associated with health risk or disease burden nationally , we performed a similar analysis to determine potential associations at the state level (Table A2) by estimating the following equation:

2. $\text{Fourth Quartile}_i = \beta_1 \text{ Sector Concentration}_i + \beta_2 \text{ State} + \varepsilon_i,$

where State_i represents the state to which county i belongs. The within-state analysis revealed associations between-sector concentrations across counties in the same state rather than all counties combined at a national level, accounting for the possibility that regional sector concentration contributes to the association between sector concentration and county risk. For example, manufacturing more heavily concentrated in the South could explain the association between high-risk counties and manufacturing concentration nationally, but if the same association were found in within-state analyses, this would mean that the association exists despite clustering of sectors in certain geographical regions. Standard errors were clustered at the state level for all regression models.

In addition to sector concentration in counties, we examined national differences in demographics to understand the context for health disparities across U.S. counties. Demographics include the proportion of population that is Hispanic, non-Hispanic black, and non-Hispanic white; the proportion of population with some college education; the unemployment rate and the median household income.

Table A1. Logistic Regression Estimates for Counties in the First and Fourth Quartiles of Health Risk/Disease Burden Nationally

	SMOKING		OBESITY		PHYSICAL INACTIVITY		DIABETES		CVD DEATHS	
LOGISTIC MODEL[a]	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
RETAIL TRADE	1.37[c]	(1.17 - 1.61)	1.19[b]	(1.04 - 1.36)	1.35[c]	(1.16 - 1.58)	1.35[c]	(1.16 - 1.57)	1.17[b]	(1.03 - 1.34)
MANUFACTURING	1.17[c]	(1.06 - 1.29)	1.41[c]	(1.25 - 1.59)	1.26[c]	(1.09 - 1.45)	1.25[c]	(1.09 - 1.44)	1.28[c]	(1.12 - 1.47)
HEALTH CARE AND SOCIAL ASSISTANCE	0.94	(0.87 - 1.02)	0.88[c]	(0.82 - 0.95)	0.89[b]	(0.81 - 0.98)	0.98	(0.90 - 1.05)	0.98	(0.91 - 1.05)
PUBLIC ADMINISTRATION	1.19[c]	(1.07 - 1.33)	1.07	(0.95 - 1.22)	1.09	(0.96 - 1.25)	1.07	(0.94 - 1.22)	0.97	(0.88 - 1.08)
ACCOMMODATION AND FOOD SERVICES	0.84[b]	(0.72 - 0.98)	0.59[c]	(0.51 - 0.68)	0.53[c]	(0.44 - 0.64)	0.66[c]	(0.58 - 0.74)	0.66[c]	(0.56 - 0.77)
CONSTRUCTION	0.89	(0.70 - 1.12)	1.00	(0.86 - 1.17)	0.93	(0.77 - 1.13)	0.92	(0.78 - 1.08)	0.78[b]	(0.63 - 0.97)
EDUCATIONAL SERVICES	1.02	(0.88 - 1.17)	0.98	(0.86 - 1.11)	0.92	(0.78 - 1.10)	0.97	(0.83 - 1.14)	1.04	(0.89 - 1.21)
TRANSPORTATION AND WAREHOUSING	1.34[c]	(1.12 - 1.60)	1.22	(0.96 - 1.56)	1.64[c]	(1.28 - 2.10)	1.08	(0.92 - 1.27)	1.22	(1.00 - 1.50)
WHOLESALE TRADE	0.56[c]	(0.45 - 0.71)	0.99	(0.87 - 1.14)	1.17	(0.93 - 1.49)	0.76[b]	(0.60 - 0.95)	0.70[c]	(0.55 - 0.89)
OTHER SERVICES	0.61	(0.28 - 1.30)	0.45[b]	(0.22 - 0.89)	0.44	(0.18 - 1.07)	0.52[b]	(0.30 - 0.91)	0.54	(0.27 - 1.06)
N[d]	1,365		1,572		1,571		1,570		1,549	

OR = odds ratio; CI = confidence interval.

a. The dependent variable in each model indicates whether the county was in the fourth quartile of health risk/disease burden nationally. The independent variable is the proportion of the sector in a county divided by 5. Each OR in the table was obtained from a separate regression model representing the increased odds of being in the highest instead of the lowest quartile as the sector concentration increases by 5% in a county.

b. $p<.05$.

c. $p<.01$; robust confidence intervals in parentheses.

d. Number of counties in each regression model.

Table A2. Logistic Regression Estimates for Counties in the First and Fourth Quartiles of Health Risk/Disease Burden in States

	SMOKING		OBESITY		PHYSICAL INACTIVITY		DIABETES		CVD DEATHS	
LOGISTIC MODEL[a]	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
RETAIL TRADE	1.26[c]	(1.11 - 1.44)	1.09	(1.00 - 1.19)	1.24[c]	(1.10 - 1.40)	1.31[c]	(1.17 - 1.46)	1.10	(0.96 - 1.25)
MANUFACTURING	1.03[c]	(0.95 - 1.11)	1.16[c]	(1.08 - 1.24)	1.11[b]	(1.02 - 1.21)	1.04	(0.96 - 1.12)	1.08	(0.99 - 1.17)
HEALTH CARE AND SOCIAL ASSISTANCE	0.91[b]	(0.84 - 0.99)	0.94[b]	(0.89 - 0.99)	0.90[c]	(0.84 - 0.96)	1.00	(0.93 - 1.07)	1.02	(0.96 - 1.08)
PUBLIC ADMINISTRATION	1.40[c]	(1.23 - 1.59)	1.25[c]	(1.05 - 1.47)	1.46[c]	(1.34 - 1.60)	1.47[c]	(1.30 - 1.65)	1.20[c]	(1.06 - 1.36)
ACCOMMODATION AND FOOD SERVICES	0.93	(0.82 - 1.04)	0.63[c]	0.55 - 0.72)	0.62[c]	(0.53 - 0.73)	0.68[c]	(0.59 - 0.79)	0.74[c]	(0.64 - 0.85)
CONSTRUCTION	0.95	(0.80 - 1.13)	0.94	(0.80 - 1.10)	0.80[b]	(0.66 - 0.95)	0.93	(0.79 - 1.09)	0.72[c]	(0.59 - 0.89)
EDUCATIONAL SERVICES	1.10[b]	(1.01 - 1.21)	1.11[b]	(1.02 - 1.21)	1.03	(0.93 - 1.13)	0.98	(0.89 - 1.09)	1.05	(0.98 - 1.13)
TRANSPORTATION AND WAREHOUSING	1.27[c]	(1.12 - 1.45)	1.17[b]	(1.00 - 1.36)	1.36[b]	(1.05 - 1.76)	1.14[b]	(1.01 - 1.29)	1.21[c]	(1.07 - 1.37)
WHOLESALE TRADE	0.70[c]	(0.57 - 0.85)	0.99	(0.90 - 1.09)	1.21[b]	(1.04 - 1.41)	1.04	(0.91 - 1.18)	0.91	(0.77 - 1.08)
OTHER SERVICES	0.94	(0.60 - 1.48)	0.77	(0.54 - 1.12)	1.00	(0.66 - 1.51)	1.17	(0.95 - 1.43)	0.90	(0.71 - 1.14)
N[d]	1,350		1,553		1,546		1,576		1,546	

a. The dependent variable in each model indicates whether the county was in the fourth quartile of health risk/disease burden nationally. The independent variable is the proportion of the sector in a county divided by 5. Each OR in the table was obtained from a separate regression model representing the increased odds of being in the highest instead of the lowest quartile as the sector concentration increases by 5% in a county.

b. $p<.05$.

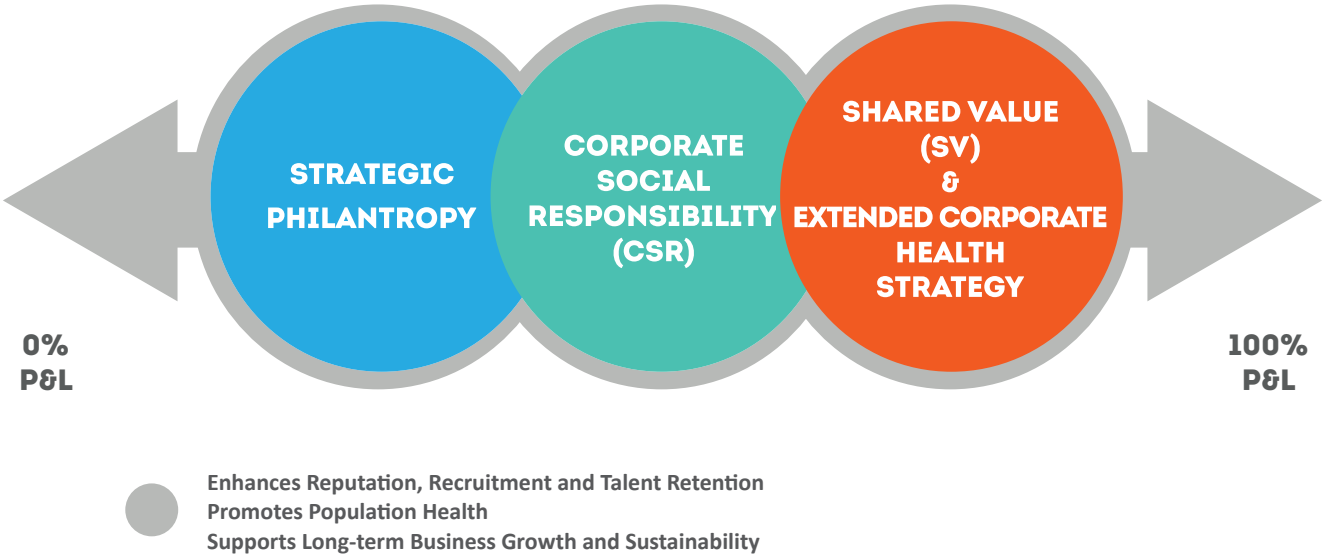
c. $p<.01$; robust confidence intervals in parentheses.

d. Number of counties in each regression model.

CASE STUDIES

Our hope is that communities and employers will leverage the business case for community health promotion outlined in this report, and draw on the guidelines for best practices as a blueprint for cross-sector collaboration.

To further catalyze action, this section features case studies of businesses and community groups partnering with one another to improve population health. We present each case study listed below as an example of either strategic philanthropy, corporate social responsibility or shared value.



Strategic Philanthropy

- **Business Case Study:** Kaiser Permanente
- **Community Case Study:** Let's Move! Active Schools

Corporate Social Responsibility

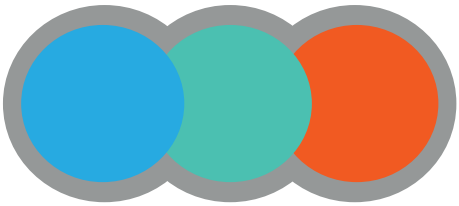
Interviews revealed that SV typically co-occurs with CSR, as companies engage with communities through a CSR framework while reformulating their products/services/ health strategies to create SV. Hence, companies creating SV that also represent best practices for CSR are presented as single case studies.

Shared Value & Extended Corporate Health Strategy

- **ECHS Business Case Studies:** General Dynamics Bath Iron Works, The Dow Chemical Company, and General Electric
- **ECHS Community Case Study:** The YMCA of Central Florida
- **SV Business Case Studies:** Campbell Soup Company and PepsiCo
- **SV Community Case Study:** Spartanburg Academic Movement

More information about these strategies can be found in the Qualitative Findings section on pages 31-40. Table 9 on page 36 includes a list of additional case studies that will be featured online on the Vitality Institute website, at **www.thevitalityinstitute.org/communityhealth**.

STRATEGIC PHILANTROPY



Kaiser Permanente

BUSINESS CASE STUDY

Company Overview

Sector: Health care and social assistance, nonprofit
Total Number of Employees: 240,125 nationwide (includes nurses, physicians and other personnel)
Headquarters: Oakland, California
2014 Total Revenues: $56.4 billion

Initiative Overview

Program: Community Health Initiatives (CHI)
Department: Community Benefit
Budget: Since the inception of the program in 2004, more than $58 million has been invested in funding CHI place-based and multisector collaborative efforts
Geography: 50+ grantee communities in Colorado, California, Maryland, Georgia, Oregon and Washington

Background

Kaiser Permanente is one of the nation's largest not-for-profit health plans, serving approximately 9.6 million members. CHI is a prevention-driven approach to supporting policies and environmental changes that increase access to nutritious foods, physical activity, economic vitality, safety and wellness in local schools, workplaces and neighborhoods.

CHI Supports Collective Impact Through Philanthropy

CHI focuses on a wide range of community health improvement efforts, from place-based initiatives in more than 50 communities in Kaiser Permanente service areas to larger-scale regional and national partnerships that lift up community-driven priorities and help accelerate and sustain community change. Along with financial support from Kaiser Permanente Community Benefit, local community health efforts also benefit from a variety of other Kaiser Permanente assets including the expertise and advocacy of Kaiser Permanente physicians and other health professionals; various forms of in-kind support and the engagement of the broader Kaiser Permanente workforce.

CHI Evaluation Framework: Population Dose[110]

Population dose is used to measure behavior change in a population resulting from a series of community health interventions. It is the product of "reach" (the number of people touched by a community intervention) and "strength" (the estimated effect of the change on each person reached). The dose approach helps estimate the combined impact of a series of interventions in a community health-improvement effort by adding up the doses of the interventions. By comparing the observed population-level behavior change (measured through surveys) with the expected change from the dose calculations, the CHI team can evaluate the impact of CHI interventions in communities.

Impact to Date: Policy Change and Population Health Improvement

- Reached 635,000 people in 46 communities implementing 850 change strategies as of 2015
- A rural Colorado community focused on improving youth physical activity (PA) between 2010 and 2014. Strategies included school policy changes, physical education curriculum improvements, introducing active learning into classrooms, active transport to school, and PA promotion. Yearly student surveys showed a statistically significant 4% increase in PA minutes after 3 years of implementation, which was sustained
- In the CHI community of Modesto, there was a 6-point increase in the percentage of children doing at least 20 minutes of vigorous PA per day after a districtwide evidence-based physical education curriculum was implemented between 2007 and 2010.
- In the Santa Rosa community, there was a 16 point increase in the percentage of children in the "healthy fitness zone" as measured by Fitnessgram data after an afterschool program was revised to include 20 minutes of exercise.

Looking to the Future: Impact in Development

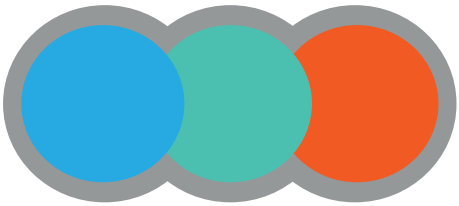
Community impact

A network of regional and national partnerships that raise community-driven priorities and accelerate and sustain community change complements local CHI impact. These efforts include Kaiser Permanente being a founding partner of the Partnership for a Healthier America (devoted to ensuring the health of our nation's youth by solving the obesity crisis) and the Convergence Partnership (a collaboration of funders working on policy and environmental changes to support healthy people in healthy places). Kaiser Permanente also partners with cities and municipalities to invest in the HEAL Cities Campaign in five regions, encouraging cities to pass obesity-prevention policies and resolutions related to land use, access to healthful food and employee wellness.

Business impact: CHI informs Kaiser Permanente's business strategy

CHI aligns with Kaiser Permanente's broader Total Health strategy, an effort to deploy its assets – its health care system, workforce and business operations – to create health for its members, its workforce and the broader community. The Total Health strategy recognizes that to truly affect health, it is essential to align Kaiser Permanente's existing clinical, behavioral, environmental and social initiatives. CHI also includes workforce health efforts that support changes in workplace environments that create "optimal behavioral defaults," changing the social norms in these environments to support healthier lifestyles.

STRATEGIC PHILANTROPY



Let's Move! Active Schools

COMMUNITY CASE STUDY

Initiative Overview

Focus Area: Physical Activity (PA)
Program Reach: National
Annual Budget: $2 million plus cash grants for enrolled schools provided by supporting organizations

Background

In 2010, Michelle Obama launched Let's Move!, an initiative to improve child and family health. Let's Move! Active Schools (LMAS), formed in 2013, is a national collaborative of health, education and private sector organizations committed to using the collective impact model to help schools provide students with a total of 60 minutes of PA total before, during and after the school day. Its activities include streamlining the selection of programs, resources, professional development and funding opportunities and delivering customized action plans for school champions.

Goal

Enroll and engage 50,000 schools in the process of becoming Active Schools.

Engaging Business via Philanthropy for Collective Impact

To date, LMAS has engaged 20 partners including government, nonprofits and foundations. Its business partners include NIKE, Kaiser Permanente, Reebok's BOKS program, and NBA Fit. From 2013 to 2018, NIKE, Inc. will invest $50 million to promote daily PA among America's youth through the LMAS initiative.

Evaluation Framework and Metrics

LMAS tracks progress using the following components: (1) utilization, process and implementation evaluation of LMAS; (2) process, implementation and impact evaluation of Active Schools receiving LMAS activation grants and (3) more extensive quasi-experimental evaluation of impact and outcome with a sample of LMAS schools. Components 1 and 2 are currently in place. An independent evaluator will prepare the annual evaluation report.

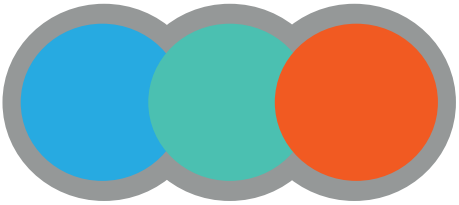
Impact in Development: Progress to Date

- 15,386 enrolled schools; 16,595 enrolled champions for those schools
- More than 9 million children reached
- 2,533 Physical Activity Leaders (PALs) trained

Metrics

SHORT-TERM	MEDIUM-TERM	LONG-TERM
LMAS Participation • Number of schools registered for LMAS • Number of potential students reached • Number of hits on specific tools and resources are recorded and tracked • Number of unique visits and total # of web downloads **Training/Technical Assistance (TA)** • Total TA and training inquiries • Frequency and intensity of TA provided • Number of customized trainings and Physical Activity Leader trainings conducted	• Number of Active Schools • Number of PA policies passed and environmental and systems changes implemented in Active Schools • Number of (potential) students reached in Active Schools • Number of PAL's trained	• Increased physical activity among school-age youth • 60 minutes of physical activity is the new norm in K-12 schools

EXTENDED CORPORATE HEALTH STRATEGY



General Dynamics Bath Iron Works

BUSINESS CASE STUDY

Company Overview

Sector: Manufacturing (surface combatants)
Number of Employees: 5,700
Headquarters: Bath, Maine

Initiative Overview

Program: BIW Fit for Life
Department: Integrated Health Services
Geography: Mid Coast region, Maine
Time Frame: 2014 - present

Background

Bath Iron Works (BIW) is a subsidiary of General Dynamics, the fifth-largest defense contractor in the world. BIW and L.L.Bean, two large local employers, recognize that chronic-disease burden in the community affects employees, family members and workforce productivity. The two companies cosponsored a diabetes prevention program (DPP) for the community in 2014 and are cosponsoring a second DPP class in 2015.

Extending Diabetes Prevention to the Community

BIW extends its employee DPP to employees' spouses and the wider community in partnership with local health systems and fellow interested employers. Although it is in the early stages of implementation, BIW's strategy reflects leadership to extend the DPP beyond the workplace. Since its initial class with L.L.Bean, BIW has kicked off six additional DPP classes in 2015 with community partners.

Community Choice Drivers

- **Where Employees Live and Work:** BIW employees live in communities immediately surrounding the shipyard, and most are patients at one of the three health systems with which BIW partners.

- **Overlap of BIW's Employee Population With Those of Other Employers:** L.L.Bean recruits employees from the same geographic area as BIW, and many spouses and/or dependents overlap between the two companies. The employers share in financial investment to prevent diabetes in the community. In addition, many employees of local health systems have spouses who work at BIW.

Assessing Community Risk and Disease Burden

BIW provides opportunities for employees and dependents to be screened for health risk factors onsite and in the community and to meet with health coaches who specialize in lifestyle change and disease management. BIW analyzes aggregate-level, health-related data from various sources (claims, workforce productivity, biometrics) through General Dynamics as well as with the Maine Health Management Coalition, which can run analysis specific to local health care providers. In addition, the Maine CDC and local Healthy Maine Partnership assess community risk and disease burden.

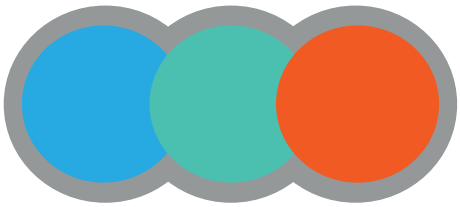
Engaging Stakeholders

- **Employers:** BIW shares the costs of each DPP class with health system partners and/or employers if at least 8 or 9 people in the class (50% of participants) are BIW employees. BIW provides a co-facilitator for these classes and assists with promotional materials and outreach.
- **Maine CDC:** The state has leveraged grants from the Maine State Innovation Model and the U.S. CDC to provide training; engage health care providers, payers and employers; and explore expansion and sustainability of DPP, especially through new payment models.
- **Health Systems:** Five area health systems share in the cost and implementation of the DPP to BIW employees and community members. Health systems have contributed space, training and cofacilitators; have participated in targeted outreach; and have agreed to track BIW participation to enable participants to receive incentives for achieving goals.

Looking to the Future: Impact in Development

COMMUNITY IMPACT	BUSINESS IMPACT
• In partnership with L.L.Bean, St. Mary's, Mid Coast, Martin's Point, Central Maine and Maine General Health Systems, between May 2014 and June 2015, BIW launched 10 DPP cohorts. • In its first class of 11 participants, BIW observed that participants averaged a 7.1% weight loss at completion of the program. A1c levels were not collected for this class. • Participants in BIW's second class, which completed the initial 16-week core portion and has 9 participants, averaged a 7.2% weight loss and a 0.3 point drop in their A1c values so far.	• BIW calculated the net projected savings it will attain over 5 years from enrolling 90 participants in the DPP. (The calculation methodology is available in the online case study.) • BIW estimates that, on average, it will reduce future health care costs of the participants in DPP by 60% over 5 years. • BIW is fostering cross-sector collaboration between health systems and private and public sectors, enabling partners to coinvest in reducing local chronic-disease burden.

EXTENDED CORPORATE HEALTH STRATEGY



The Dow Chemical Company

BUSINESS CASE STUDY

Company Overview

Sector: Manufacturing (chemicals)
Number of Employees: 54,000 worldwide
Headquarters: Midland, Michigan
Revenues: $57 billion

Initiative Overview

Program: Partnership with the Michigan Health Improvement Alliance
Department: Corporate Health Services and Community and Government Relations
Geography: 14 counties in central Michigan
Time Frame: 2007-present

Background

Dow's formal corporate-level health strategy focuses on disease prevention, quality and effectiveness of care, health system improvement and advocacy. It includes workplace health promotion elements that link to corporate priorities including safety, attracting and retaining talent, employee engagement and job satisfaction, corporate social responsibility, sustainability and profitability. Since 2007, Dow's health services, human resources and public affairs teams have taken a leadership role in the Michigan Health Improvement Alliance (MiHIA), an independent nonprofit and collective impact organization that serves 14 contiguous counties.

Vision and Goals

Dow hopes to accelerate its own health strategy by working with the communities around its headquarters. It is involved with the MiHIA, which is committed to increasing the rank of the communities on the Robert Wood Johnson Foundation (RWJF) County Health Rankings, obtaining better value for health care dollars and improving the quality of life of employees, families and retirees as measured by self-report surveys.

Extended Corporate Health

Dow recognizes that in its pursuit to improve the health of its workforce, the communities within which it operates and the health situation of those communities can be a great asset to and multiplier of its efforts. Dow is partnering with MiHIA on the regional implementation of the CDC DPP. Dow will be a host site for the program, open to employees and the larger community.

Community Choice Drivers

Where Employees Live and Work: Dow analyzes and considers the needs for U.S. communities with high concentrations of Dow employees, which represent a significant majority of Dow U.S. Healthcare Benefit Plan-covered lives.

Assessing Community Risk and Disease Burden

- **Community Success Survey:** Dow conducts periodic surveys in locations where it operates to gauge and identify priorities the communities have asked them to address. Many of these priorities, to which they refer as "rightful roles," generally fall under the following

categories; environment, economy, education and quality of life.

- **Community Health Profiles:** Dow collects and interprets community health-related risk data based on public data and generates a report for each community outlining the disease burden and how it compares with those of other counties in the state or with national benchmarks. Dow also engages community partners to develop a Community Success plan to address the needs identified through the survey.

- **Internal Coordination:** Dow shares insight on community health and disease burden with its community philanthropy team, the local Community Advisory Panel (CAP), nonprofit boards on which Dow leaders serve and company health services professional staff.

Stakeholder Engagement

- **Types of Stakeholders Engaged:** Health coalitions, city and county government entities, hospitals, religious organizations, health value exchanges, public health departments, United Way chapters and other non-profit organizations.

- **Community Advisory Panels:** CAPs consist of Dow leaders and community leaders who conduct a two-way dialogue. Topics center around Dow's operations, economic development in the region, community engagement and volunteerism. CAPs are in place at Dow's largest sites.

Program Reach

- **Employees:** In its Michigan operations, employees dedicated 17,000 hours to community volunteer efforts in 2014. Employees can also participate in the CDC Diabetes Prevention Program (DPP).

- **Dependents/Families:** Retirees and the dependents of current employees are reached via the community-based DPP and health education materials.

- **Broader Community:** Near its headquarters and manufacturing site in Midland, Michigan, Dow extends its sponsorship of the DPP to the broader community and partners with the MiHIA to improve health care delivery in the Great Lakes Bay Region and nearby counties.

Impact

Community Results in Collaboration With MiHIA

- **Choosing Wisely:** 38 employers, 795,980 consumers, and 1,700 physicians and other health professionals were reached by this campaign in 2014.

- **Physical Activity:** 30 minutes of daily PA were provided for 16,668 seniors through the Together We Can initiative in conjunction with MiHIA as reported in 2014.

- **County Health Rankings:** From 2007 to 2014, 10 out of 14 counties part of the MiHIA have elevated their positions in the county health rankings.

- **Self-Reported Quality of Life:** improved between 6% and 37% since 2007 in 10 communities where Dow has ongoing community-engagement efforts.

Community Impact in Development

The MiHIA DPP initiative (launched in April 2015) is expected to serve 500 people under the initial grant funds, reduce participant rate of developing type 2 diabetes by 58% for all participants including those in the pilot phase from 2015 to 2017 and save more than $2 million for the three pilot central-Michigan counties whose residents participate in the DPP over the duration of the program via elimination of missed work days, avoidance of blood pressure and cholesterol medications, reduction in hospital stays and savings in regional health care costs.

Business Impact

- In 2013, Dow spent $4.8 million less in U.S. health care costs than it would have had it experienced the industry average. Since 2004, it has seen more than a 15% increase in the percentage of its employee population at low risk for high body mass index, insufficient PA and tobacco use and a 28% decrease in the employee population at high risk for these risk factors.

- A 2012 study conducted by Towers Watson comparing Dow's population to those of peer companies adjusted for demographics and other variables found that Dow's covered U.S. lives had a 9% better health-risk profile than did populations of comparable employers, and the prevalence of chronic conditions was 17% lower than in other companies, although Dow spent 17% less on chronic conditions.

EXTENDED CORPORATE HEALTH STRATEGY

General Electric

BUSINESS CASE STUDY

Company Overview

Sector: Manufacturing (conglomerate)
Number of Employees: 131,000
Headquarters: Fairfield, Connecticut
2014 Revenues: $108 billion

Initiative Overview

Program: GE Healthymagination, Cincinnati Healthy Communities Initiative
Geography: Cincinnati, Ohio
Time Frame: 2009-2012

Extended Corporate Health Strategy In Cincinnati

GE's U.S. employee benefit programs cover more than 500,000 workers, their spouses and children, and retirees. GE has been feeling the growing pressure imposed by rising medical costs. GE recognized that had to go beyond the four walls of the workplace and into the community to create sustainable change by addressing the following challenges: 1) standard delivery models failing to address disease prevention, chronic conditions and care coordination; 2) fee-for-service payment system of incentives among all stakeholders; 3) insufficient transparency in quality and cost information to evaluate the performance of providers and hospitals, and help patients make informed healthcare decisions; 4) inadequate information technology infrastructure to address the above factors. In 2009, GE designed and implemented a comprehensive intervention, the Healthy Communities Initiative, which built on existing modes of collaboration to improve health care delivery in the Cincinnati metropolitan area.

Community Choice Drivers

Cincinnati has the highest concentration of GE employees, dependents and retirees in the U.S. and a strong civic culture with a history of business-community partnerships. In Cincinnati, GE insures the health of about 27,000 lives.

Executive Leadership Engaged Stakeholders and Facilitated Cross-Pollination

GE established a Stakeholder Council to reach decisions impacting current and potential multi stakeholder projects. For example, they deliberately selected measures for tracking health progress in Cincinnati to align with what the Centers for Medicare & Medicaid Services (CMS) had issued for evaluating Accountable Care Organizations (ACOs) so Cincinnati would be well-positioned for future work with CMS on multi-payer programs. GE made Craig Osterhues, a healthcare manager at GE Aviation, available to the community as a loaned executive for 2 years, enabling cross-pollination of skills between the private and public sectors. Other stakeholders included:

- **Employers:** Ethicon Endo-Surgery, GE, Kroger, Macy's, Procter & Gamble local agencies: , the city of Cincinnati, Hamilton County Public Health, United Way of Greater Cincinnati
- **Health plans:** Anthem, Humana, UnitedHealthcare
- **Provider organizations:** Cincinnati Children's Hospital Medical Center, Mercy Health, St. Elizabeth Healthcare, The Christ Hospital, Health Network, TriHealth, UC Health
- **National partners:** the National Committee for Quality Assurance, the RWJF, U.S. Department of Health and Human Services

Goals

COMMUNITY GOALS	BUSINESS GOALS
• Invest in primary care and experiment with patient centered medical homes (PCMH) • Secure funding for an interoperable exchange to deliver information at the point of care and inform measurement and quality improvement among physicians, health systems and federally qualified health centers • Strengthen evidence-based care for chronic conditions • Gather consumer feedback about healthcare quality via a web-based information platform • Explore ways to pay for healthcare based on value, not volume	• Build a competitive advantage by taking steps to improve employee health and productivity while placing its own healthcare costs on a more sustainable trajectory • Capitalize on its size and scale as a large employer to partner with other key opinion leaders in piloting innovative solutions • Drive future growth for GE's diverse healthcare businesses by bringing to market new products and services that facilitate better care at lower total cost

Evaluation Framework

In 2012, GE secured RAND Health Advisory Services to evaluate progress of the first 3 years of the initiative. RAND analyzed community health data and claims data of GE's workforce, dependents and retirees in Cincinnati to evaluate the Triple Aim progress. RAND also compared health and behavioral risk factors, employment status and health care utilization for the Cincinnati metropolitan area with those of 15 other major metropolitan statistical areas with similarly sized populations.

At baseline, Cincinnati residents had a smaller mean number of weekly hours missed from work per person per year due to illness, lower self-reported health status, more office-based primary care visits, more emergency department visits, more prescription drug fills, and larger total health care costs and were more likely to be obese and to binge drink than populations in 15 reference cities. However, the prevalence of chronic conditions among Cincinnati residents was similar to the prevalence among residents in the reference cities, validating the use of the reference cities.

Looking to the Future: Impact in Development

The U.S. government selected the region to participate in the prestigious Comprehensive Primary Care initiative organized by the Center for Medicare and Medicaid Innovation. This project has the potential to bring $100 million in incentive payments to primary care doctors who improve the coordination of care for their patients. In December 2014, the state of Ohio, in part because of the excellent work of the Cincinnati project, received $75 million as part of the Center for Medicaid and Medicare State Innovation Model awards. The goal of this project over the next 48 months is for Ohio to transform its health care system by rapidly scaling the use of PCMHs and episode-based models and by developing cross-cutting infrastructure to support implementation and sustain operations.

The early results of Cincinnati's efforts over the first 2 years of the project were strong enough that GE expanded its community-level efforts to two additional cities in 2012—Erie, Pennsylvania, and Louisville, Kentucky. GE has also recently partnered with the Clinton Foundation's new Health Matters Initiative to help build healthy communities nationally.

2009-2012 Impact on Health of GE Employees, Spouses, and Dependents

GE Building Better Healthcare in Cincinnati: Positive Findings of GE Workforce in Cincinnati Compared With GE Workforce Outside of Cincinnati

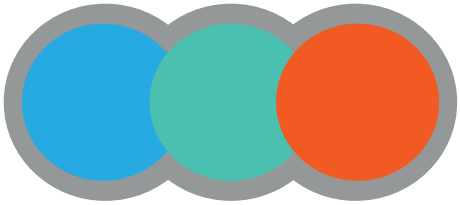
GOAL	METHODOLOGY	RESULTS
Improving Primary Care Through PCMH	Studied claims data in two populations of approximately 1,000 members each who were either patients of the original pilot group of 14 practices that achieved PCMH certification in 2009 or part of a matched cohort with similar age, gender and risk score makeup from the Cincinnati market.	• The PCMH pilot population had 3.5% fewer emergency department (ED) visits and 14% fewer admissions between 2008 and 2012. • The PCMH group showed decreases over the evaluation period in both ED visits and hospital admissions, compared with slight increases for the non-PCMH group. • Better results for the PCMH population in hospital inpatient bed days and in hospital readmissions. Inpatient admissions per 1,000 members decreased from 35 to 32 annually. Inpatient utilization costs have not been significantly affected by the intervention to date (2009-2012).
Quality Improvement in the Care of Pediatric Asthma	Compared claims data for pediatric asthma patients in Cincinnati with those of patients in the rest of the U.S. ("non-Cincinnati").	• Cincinnati outperformed the rest of the nation in improvement in complications, ED visits and hospital admissions for pediatric asthma. This includes 14 fewer ED visits per 1,000 pediatric asthma patients between 2008 and 2012.
Quality Improvement in the Care of Adult Diabetes	Compared claims data for adult diabetes patients in Cincinnati with those of patients in the rest of the country.	• Whereas A1c testing has improved nationally by about 3 percentage points, Cincinnati has improved by about 5 percentage points (reaching 80%). • Diabetes patients in Cincinnati are experiencing fewer complications: The percentage of diabetes patients with complications in Cincinnati decreased by about .7%, compared with an increase outside of Cincinnati of about .2%.

RAND Study: Quantitative Evaluation of the Impact of the Healthy Communities Initiative in Cincinnati: Positive Findings on Cincinnati Residents Relative to Residents in 15 Reference Markets

The analysis is based on a comparison of Cincinnati residents to the residents to 15 other similarly sized communities on each of the outcome measures described.

- **Productivity:** A significant decline in the likelihood of being absent from work, which translated to an estimated 7,281 fewer Cincinnati employees calling in sick over the course of the year.
- **Access to Care:** Access to preventive/ambulatory health services increased slightly in both Cincinnati and the reference markets over the course of the analysis.
- **Ambulatory Hospitalizations:** Cincinnati averaged 8.68 ED visits for ambulatory care sensitive conditions over the baseline period, 1.13 fewer visits per year than among the reference cities in that period.
- **Outpatient Care and Cost:** There was a significant decrease in outpatient utilization in Cincinnati over the first 3 years of the intervention but no significant change in outpatient costs.

EXTENDED CORPORATE HEALTH STRATEGY



Central Florida YMCA

COMMUNITY CASE STUDY

Organization Overview

Focus Area: **Youth Development and Healthy Living**
Headquarters: **Orlando, Florida**
2013 Overall Budget: **$65 Million**

Background

The Central Florida YMCA is a health, community and membership hub serving six counties surrounding Orlando. It engages in cross-sector collaboration with community organizations, employers and health care providers to reduce the local burden of chronic disease through evidence-based prevention and disease management programs.

Cross-Sector Collaboration to Integrate Health Care and Address Rising Costs

The YMCA recognizes the rising cost of health care and the concern of employers, many of whom are self-funded payers. The YMCA engaged companies such as Sodexo to augment their worksite wellness programs via community-based interventions. Recently, it also entered a partnership with Orlando Health (OH), a not-for-profit health system serving 2 million local residents, to guide the health system toward a population health approach.

Vision and Goals: YMCA-OH Partnership

OH aims to expand the geographic reach of its primary and preventive care services. Similarly, the YMCA aims to promote healthy living through its memberships and community-based programming. Both organizations aim to reverse population health trends in the following areas: obesity, diabetes, mental health, behavioral health and heart health. OH invested $1 million and the YMCA invested $250,000 to promote a community transition from sick care to healthy living.

Integrating Systems

- **Health promotion programming:** The YMCA and OH jointly offer and promote programs on diabetes prevention, sports programming, swim safety, nutrition education and orthopedics.
- **Communications:** Partners cobrand and integrate marketing plans to disseminate to employees and communities so providers and recipients of services will be aware of the partnership and can promote it.

- **Business building:** Partners use their referral networks to integrate services. For example, YMCA concierge desks help members find appropriate wellness programs and can connect them to OH providers. Similarly, OH providers refer their patients for behavioral and lifestyle interventions offered at the YMCA to improve care coordination and reduce community risk for chronic diseases.

- **Shared metric development and leadership:** A shared executive governance board establishes goals for success and jointly monitors progress as it relates to business development and health promotion.

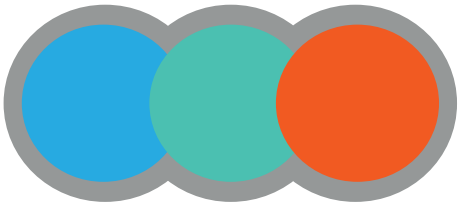
Evaluating Impact

The partners merged their community health assessments and aligned these to their business-development initiatives so that their programmatic offerings are tailored to community health needs.

To evaluate the impact on health of programming and cross-referring services, OH codes YMCA-referred patients in their electronic medical records to track patients who engage in programs offered at the community level. The partners will evaluate outcomes of obesity, diabetes, mental and behavioral health and heart health of patients who engage with the health system at the community and clinical levels in 2013 and 2016 to measure changes in health status.

OH and the YMCA are ensuring that at least 50% of their employee bases are educated on and can effectively promote and refer to programs offered by the partnership, as measured by the number of employees who refer patients or members and those who engage in volunteer initiatives at the partnering organization. The YMCA will track new members who come via referrals by OH clinicians and vice versa. OH hopes to expand its primary care patient base via referrals from YMCA health concierge desks.

SHARED VALUE



Campbell Soup Company

BUSINESS CASE STUDY

Company Overview

Sector: **Manufacturing (food and beverage)**
Number of Employees: **19,400 Worldwide**
Headquarters: **Camden, New Jersey**
2014 Revenues: **$8.26 billion (2014)**

Initiative Overview

Program: **Campbell Healthy Communities**
Department: **Led by corporate social responsibility with support from multiple business departments**
Budget: **$10 million**
Time Frame: **2010-2020**

Background

Campbell Healthy Communities collective impact initiative, a $10 million, 10-year effort, works to measurably improve the health of young people in communities where Campbell has its largest manufacturing operations. Alongside this, the company's strategy increasingly emphasizes health and well-being, as demonstrated by the acquisition of Bolthouse Farms and Plum Organics, as well as the introduction of healthful options to its product portfolio over the past several years.

Vision and Goals

By 2020, Campbell aims to reduce childhood obesity and hunger in Campbell communities by 50%, and to impact the lives of 100 million youth via all CSR initiatives including Healthy Communities. It is the backbone organization of a collective impact model, which began in Campbell's hometown of Camden, New Jersey, and has since expanded to Norwalk, Connecticut, and Henry County, Ohio, where Campbell has manufacturing operations. It plans to launch a similar initiative in Everett, Washington, in 2015. Campbell engages nonprofit and public partners to implement programs promoting PA and access to healthful food.

Shared Value for Campbell Communities

With an increasing emphasis on a culture of health nationwide, consumers are demanding more- healthful food options; Campbell is aligning its business and community engagement practices with this trend. Its collective impact initiative allows the business to position itself strategically as a competitive player in the food and beverage industry.

Community Choice Drivers

Where Employees Live and Work: Employees volunteer with Campbell collective impact partners. Community Conversations consult residents for feedback on Campbell programs and provide input on methods to improve food access.

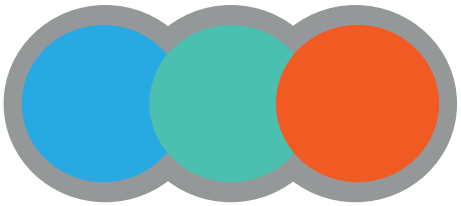
2014 Community and Business Impact Alignment

COMMUNITY IMPACT	BUSINESS IMPACT
• The Camden Coalition of Healthcare Providers, a collective impact partner, integrated a hunger questionnaire into local electronic medical records, and monitors population-level changes in hunger and obesity rates as part of the Healthy Communities initiative. • Campbell Healthy Communities Soccer for Success program participants accomplished a 10% reduction in obesity over the course of a twelve-week program administered 3 days a week, offered twice a year. The program served almost 700 students at 19 sites in community centers and schools throughout Camden in 2014. • Campbell Healthy Communities Cooking Matters program, a 4-6 week nutrition education program, engaged 596 youth in 2014. 43 percent of student participants increased their fruit intake, and 34 percent of students increased the number of days they participated in moderate to vigorous physical activity, as measured from baseline via self-report surveys.	• In 2014, Campbell's V8 launched a number of new beverages including two new flavors of V8 100% vegetable juice, introduced two new Campbell's Healthy Request microwaveable bowl varieties and updated its Arnott's Soy, Linseed & Sesame Lunch Slices to include a "Low Glycemic Index" label. Though the decisions to launch new products of acquire new brands are not driven directly by Campbell's community initiatives, they are aligned and happen in parallel, demonstrating the company's strategic shift towards a focus on health and well-being. • Campbell expanded its community network by leading 70 Community Conversations with 560 participants. • Partnerships with non profits have the potential to inform Campbell's decisions on how to meet consumer demands for more healthful and affordable foods that meet nutritional standards. Such healthful alternatives can be provided as part of nutrition/cooking classes in the community. Community partners can inform the company on what types of products could benefit consumers' diets and are affordable and appealing. • Building an increasing number of partnerships with community organizations allows Campbell to gain brand visibility and establish itself as a collaborator in addressing the issue of childhood obesity.

Looking to the Future: Impact in Development

- Assessing the effects of employee volunteerism on retention, productivity, and talent recruitment.
- Improving population health in Camden via increasing RWJF County Health Rankings, and lowering hunger and obesity prevalence as tracked by the Camden Coalition of Healthcare Providers.
- Continuing expansion of Campbell Healthy Communities to Everett, Washington, and other Campbell communities.

SHARED VALUE



PepsiCo

BUSINESS CASE STUDY

Company Overview

Sector: Manufacturing (food and beverage)
Number of Employees: 271,000
Headquarters: Purchase, New York
Annual Revenues: More than $66 billion

Initiative Overview

Program: Food for Good (FFG)
Department: FFG is a social enterprise program within PepsiCo
Funding: Program revenues cover the costs of meals and operations, which run at a break-even level
Geography: Dallas/Fort Worth, Texas; Austin, Texas; Houston, Texas; Waco, Texas; Little Rock, Arkansas; Detroit, Michigan; Oklahoma City, Oklahoma; Denver, Colorado
Time Frame: 2009 - present

Background

FFG creates scalable, break-even, business-driven solutions that make nutrition and employment more accessible for low-income families and incubates low-cost innovation to accelerate PepsiCo's commitment to its "Performance with Purpose."

Executive Leadership

Chief executive officer Indra Nooyi advocates strongly on behalf of FFG both externally and internally, and Mehmood Khan, Vice Chairman and Chief Scientific Officer, is FFG's executive sponsor.

Goals

Develop and deliver prepackaged meals to children that meet U.S. Department of Agriculture (USDA) standards and support nonprofit partners running retail farm stands stocked with affordably priced produce in underserved communities.

Shared Value for PepsiCo and Communities

FFG delivers meals to children 18 years old and younger and to adults with disabilities in qualifying low-income areas through the USDA Summer Food Service Program. FFG sells food to non profit partners (many of whom receive federal funding for the summer food service program) to generate revenue, which is reinvested into the program. Children and families receive meals free of charge, and non profit partners are reimbursed by the government. Employees from PepsiCo's research and development team engage with the program to improve food-delivery logistics, such as by using highly efficient cooling technology, and FFG program staff build partnerships with nonprofits and relationships with local governments. PepsiCo benefits from new relationships with nonprofit partners and opportunities to develop new products and technologies while expanding access to healthful food in underserved communities.

Community Choice Drivers

- **Community Needs Assessment:** PepsiCo used USDA data to identify the number of Americans who live in food deserts (29 million), children who receive free and reduced-cost lunch during the school year and children who do not have access to healthful meals during the summer (19 million) before launching FFG. Prioritization of cities in which to implement the program is based on the magnitude of need or relative unmet need.

- **Partnerships:** PepsiCo chooses FFG communities based on invitations from local nonprofit partners and governments looking to engage the company in cross-sector collaboration.

- **Customer Retention and Attraction:** In addition to fresh fruits and vegetables, the meals PepsiCo delivers include PepsiCo products that are USDA approved for the Summer Food Service Program.

Impact to Date

COMMUNITY IMPACT	BUSINESS IMPACT
• **Support to Local Nonprofits:** FFG contributes in-kind logistical support to help nonprofits scale their programs. • **Job Creation:** FFG creates about 100 jobs in communities PepsiCo serves during the summer months and employs 20 staff members to run year-round programs. • **Community and Pop-Up Markets:** PepsiCo piloted five fresh community markets and pop-up farm stands in 2014, which sold more than 400,000 servings of produce as of the end of 2014. • **Meals Served:** FFG has delivered 16 million servings to children in low-income families since 2009. In 2014, FFG delivered almost 1.5 million meals, with more than 6 million servings of grains, dairy, fruits and vegetables.	• **Government Relations:** Engaged leaders from nonprofits and government to open lines of communication and create opportunities for cross-sector collaboration that were previously unavailable. • **Innovation:** Use of low-cost, long-lasting cooling technology to open new product-distribution channels. The technology will be rolled out on 1,400 Gatorade routes in 2015 and possibly other global applications. • **Market Research:** FFG presents an opportunity to develop and deliver products to new consumer bases. • **Product Development:** PepsiCo brought the Quaker Maple Brown Sugar Chewy Bar to market specifically for school breakfasts after receiving consumer insight from FFG schools and communities. • **Talent Acquisition:** PepsiCo hires more than 100 front-line employees each summer, and Frito-Lay recruits about three to five employees from FFG staff. FFG is also used in on-campus recruiting, which helps PepsiCo stand out in broader talent-acquisition efforts.

PepsiCo Continued

Initiative Overview

Program: Healthy Weight Commitment Foundation (HWCF)
Department: PepsiCo was one of the 16 founding companies of HWCF; PepsiCo's chief executive officer Indra K. Nooyi is currently the chair of the HWCF
Funding: PepsiCo and the PepsiCo Foundation contributed $4.5 million to HWCF since 2009
Geography: National
Time Frame: 2009-present

Background

The HWCF a is coalition that brings together more than 275 retailers, food and beverage manufacturers, restaurants, sporting goods and insurance companies, trade associations, nongovernmental organizations and professional sports organizations. One of its main initiatives is a calorie-reduction pledge made by food and beverage companies to the First Lady's Let's Move initiative. PepsiCo is one of the 16 founding companies, and its participation aligns with its company strategy, Performance with a Purpose.

Goal

Reduce calories in the marketplace by 1 trillion by 2012 and 1.5 trillion by 2015 compared with 2007 by growing and introducing lower-calorie and portion-controlled options in the product portfolio of businesses that pledge to HWCF

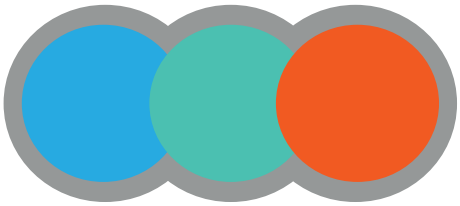
Shared Value: Cutting Calories Boosts Business

Businesses changed product recipes where possible, introduced portion-controlled or single-serve products and introduced new lower-calorie products. Many companies used all three mechanisms to make their changes. An evaluation of HWCF companies found that lower-calorie foods and beverages drove companies' sales growth.

Impact: 2007-2012

COMMUNITY IMPACT	BUSINESS IMPACT
• **Calorie Reduction:** HWCF companies removed 6.4 trillion calories (or 78 calories per person) from the marketplace from 2007 to 2012, well exceeding their original goal of 1.5 trillion by 2015, 3 years ahead of schedule. • **Availability of More Healthful Options in Stores:** By the end of 2012, the number of new lower-calorie products on the shelf had grown 14.1% since 2007, nearly twice the rate of higher-calorie products. Although slightly fewer lower-calorie products than higher-calorie versions were introduced, the number of lower-calorie products that remained on the market after 5 years was nearly double that of higher-calorie items, indicating a higher stick rate for lower-calorie items.	• **Sales:** From 2007 to 2012, 99% of sales growth came from low- or no-calorie products, which accounted for 52.5% of sales. Lower-calorie product sales were up significantly by $485 million, whereas higher-calorie items remained flat, increasing by only $2 million. Companies that grew their lower-calorie products increased total sales by $1.8 billion, whereas companies with flat or declining sales of lower-calorie items suffered declines in total sales of $1.3 billion. • **In-Store More-Healthful Product Promotion:** In-store promoted sales of lower-calorie products from 2007 to 2012 grew 9.0%, more than 1.5 times the rate of higher-calorie products. • **Increase in Lower-Calorie Retail Availability Mirrored Sharp Sales Gains:** From 2007 to 2012, growth of lower-calorie products in total points of all commodity volume distribution increased by 2.9%, whereas distribution of higher-calorie products remained flat (+ .1%).

SHARED VALUE



Spartanburg Academic Movement

COMMUNITY CASE STUDY

Organization Overview

Focus Area: **Education**
Headquarters: **Spartanburg, South Carolina (Population: 288,000)**
Annual Budget: **$300,000**

Background

In 2008, only 19.2% of Spartanburg adults 25 years of age and older held Bachelor's degrees compared with a 27% national average. Spartanburg Academic Movement (SAM) was started to shift educational indicators, recognizing that educational achievement is inextricably linked to economic development and health status.

Goals

SAM aims to foster a countywide culture that values and measurably improves educational achievement and to support a robust local economy via collective impact. SAM's effort rests on four principles: shared community vision, evidence-based decision making, collaborative action and investment and sustainability.

Engaging Stakeholders for Collective Impact

SAM's Collaborative Action Networks (CANs), composed of education practitioners and nonprofits, make measurable improvements in countywide educational outcomes. SAM has also partnered with Spartanburg's Way to Wellville and the Mary Black Foundation to focus on health and well-being. In identifying opportunities to increase wellness in Spartanburg, Spartanburg's Way to Wellville and SAM share a common outcome of success in kindergarten.

Shared Value via Collective Impact

SAM engaged BMW to support the CANs' work, because BMW's largest global manufacturing plant is located in Spartanburg. The business offers CANs Lean Six-Sigma continuous-improvement training to improve efficiency and effectiveness of the collective impact effort. As BMW supports CANs, they can work toward their goals of improving educational outcomes in Spartanburg using Six Sigma five-step problem-solving methodology. Increasing educational attainment leads to a more skilled workforce pipeline, higher median earnings and lower rates of unemployment. For example, in 2013, of Spartanburg's unemployed residents, 14.2% had less than a high school diploma compared with 3.2% with Bachelor's degrees. Likewise, median earnings of residents with Bachelor's degrees were nearly 64% higher than those of residents with less than a high school diploma.

Evaluation Framework

Focusing on community-level factors that drive academic outcomes, not just school environments, reflects SAMs approach to systemic change. SAM established six core indicators corresponding to each critical learning stage from cradle to career and uses countywide data from school districts and public sources to measure performance.

Short Term

As the CANs work through the Six Sigma process, key contributing factors or drivers of outcomes at each learning stage, such as health, can become the focus of collective action. Each CAN uses the Six Sigma problem-solving process to identify opportunities to improve outcomes directly.

Long Term

SAM monitors local data on Bachelor's degree attainment to measure progress toward its goal of having 40% Bachelor's degree attainment by 2030.

Looking to the Future: Impact in Development

SAM's long-term collective impact effort is well positioned to benefit the community through increased educational attainment and economic development. SAM's efforts benefit business through the creation of a qualified workforce pipeline. Communities with healthy and productive workforces can help local businesses maintain a competitive advantage, generating more value than their competitors, and comparative advantage, in which economic value is generated with lower costs. Entrepreneurship, technological advancement and overall economic development thrive in educated and healthy communities.

For additional case studies, go to the Vitality Institute website : www.thevitalityinstitute.org/communityhealth

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Businesses and Communities Interviewed

Through our research, we interviewed stakeholders across the country who are passionate about and dedicated to designing, implementing and evaluating programs to support the health of their workforces and communities. We sincerely thank each of these individuals, from public health professionals to community organizers and executive business leaders, for speaking with us about their work. They provided us with invaluable insight on existing cross-sector collaborations. These individuals embody the vision of cross-sector collaborations and we applaud their efforts to find innovative solutions to improve population health.

Contributors and Collaborators

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