Healthy Business Coalition: Program Metrics & Case Study

Prepared for the Action Collaborative

April 4, 2019
Agenda

1. Introductions

2. The Healthy Business Metrics Guide

3. The Merck & Co. Case Study

4. Question & Answer
1. Introductions
Speakers

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Healthy Business Coalition

Our Mission
To build a community of cross-sector leaders to create communications and tools that drive interest and investment in health & well-being across value chains.

Healthy Business Definition
A management approach that seeks to create value and optimize performance by improving the health and well-being of employees, consumers, and communities.
Current Corporate Contributors*

With support provided by:
Robert Wood Johnson Foundation

*Companies that have attended the annual convening or webinars in the past year.
2. The Healthy Business Metrics Guide
Why is this guide needed?

The private sector is increasingly investing in programs that improve health outcomes for employees, consumers, and the communities in which they operate. The Healthy Business Metrics Toolkit is intended to enable business leaders to socialize a measurement framework that will encourage increased investment in an evidence-based Healthy Business Program.

The tool leverages public health expertise and current corporate sustainability reporting practices to provide a framework and inventory for companies to select and apply health metrics. The tool enables company practitioners to demonstrate the value of pursuing a suite of health programs in order to maximize the company’s impact on key health issues impacting our communities.
The Role of Metrics in Healthy Business Programs

Metrics and targets (or KPIs) are an integral component of a Healthy Business Program and enable companies to monitor their progress toward satisfying a Healthy Business Vision.

Source: Healthy Business Toolkit - Strategy Tool
The Need for Healthy Business Metrics

BSR research shows a need for more harmonization and translation of metrics for the private sector to take action on public health.

<table>
<thead>
<tr>
<th>No common private sector approach on health</th>
<th>Limited guidance from sustainability reporting frameworks</th>
<th>Reporting frameworks do not fully incorporate public health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies vary on their level of reporting on Healthy Business issues and are chiefly aligned on reporting mandated Employee Health and Safety metrics.</td>
<td>Sustainability frameworks do not offer a comprehensive set of indicators for health and well-being.</td>
<td>There is close alignment among global, national, and community health frameworks, but sustainability reporting frameworks do not take full advantage of existing of public health metrics.</td>
</tr>
<tr>
<td>Public health frameworks are aligned on key messages</td>
<td>Public health frameworks offer varying metrics</td>
<td>Public health metrics need private sector translation</td>
</tr>
<tr>
<td>Frameworks distinguish social determinants of health from health outcomes – and see health equity* as an overarching goal of public health – which is helpful for companies.</td>
<td>Public health frameworks intentionally align on health priorities and issues but there can be variation in specific metrics.</td>
<td>Public health metrics can be long-term, large-scale, and sometimes unwieldy for companies to adopt as actionable program metrics.</td>
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</tbody>
</table>

* The Robert Wood Johnson Foundation (RWJF) provides the following definition for health equity: “Health equity means that everyone has a fair and just opportunity to be healthier. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.” (Source: [What is health equity?](#))
HBC Methodology for Health Metrics

BSR undertook a research and engagement process to help bridge the gap and develop the Healthy Business Metrics Framework.

Framework Review
Reviewed 14 sample public health and corporate reporting frameworks and their 850+ metrics.

Screening and Filtering
Metrics filtered for relevance to Healthy Business and screened for commonality across frameworks.

Consultation with Private Sector
Metrics further refined by company participants and translated for private sector use.

Expert Review
Private sector list reviewed and refined by public health experts, investors, and corporate practitioners.

Framework & Inventory
Finalized framework with outcome and impact metrics inventory.

Framework Review
We created an inventory of health metrics based upon a review of leading public health as well as corporate sustainability frameworks.

<table>
<thead>
<tr>
<th>Global</th>
<th>National (U.S.)</th>
<th>Local and Community</th>
<th>Corporate / Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Sustainable Development Goals" /></td>
<td><img src="image" alt="Healthy People 2020" /></td>
<td><img src="image" alt="Healthy Living Toolkit" /></td>
<td><img src="image" alt="Global Reporting Initiative" /></td>
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<tr>
<td><img src="image" alt="World Health Organization" /></td>
<td><img src="image" alt="AMERICA'S HEALTH RANKINGS" /></td>
<td><img src="image" alt="Mariposa" /></td>
<td><img src="image" alt="Sustainability Accounting Standards Board" /></td>
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<tr>
<td><img src="image" alt="THE LANCET" /></td>
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<td><img src="image" alt="United Health Foundation" /></td>
<td><img src="image" alt="JUST Capital" /></td>
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<tr>
<td><img src="image" alt="OECD Better Life Index" /></td>
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<td><img src="image" alt="CDC" /></td>
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</tbody>
</table>
**Expert Review**

Feedback from the following organizations was incorporated into the methodology and framework.

<table>
<thead>
<tr>
<th>Academic</th>
<th>Non-profit</th>
<th>Inter-governmental</th>
<th>Investor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia University</td>
<td>American Sustainable Business Council</td>
<td>OECD</td>
<td>Morgan Stanley</td>
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<tr>
<td>Mailman School of Public Health</td>
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<td>Columbia Business School</td>
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<td>AT THE VERY CENTER OF BUSINESS™</td>
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<td>Northwestern Medicine</td>
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<td>Feinberg School of Medicine</td>
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<td>Johns Hopkins</td>
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<td>Carey Business School</td>
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<td>Harvard University</td>
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<td>T.H. Chan School of Public Health</td>
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<td>justcapital</td>
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<td>LISC</td>
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<td>GISR</td>
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<tr>
<td>Global Initiative for Sustainability Ratings</td>
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<td>Multi-stakeholder Initiative</td>
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<tr>
<td>Foundation</td>
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<tr>
<td>Robert Wood Johnson Foundation</td>
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</tbody>
</table>
The Healthy Business Metrics Framework
Principle 1 – Broad Perspective on Health

Over 80 percent of what makes us healthy is determined by our behavior, our environment, and our socioeconomic status* -- companies need an expanded portfolio of health metrics to encompass the full range of issues that impact our health.

• The HBC Strategy Tool identified a long list of health issues that experts believe are areas where the private sector can play a role in improving population health outcomes.

• The strategy tool recognizes that all categories and issues are important, yet it encourages companies to identify those issues that best align with their corporate priorities and stakeholder expectations.

• The six health categories (listed below) and 30+ healthy business issues provide a starting point for companies to address health, with a broader and more holistic perspective on what constitutes “good health.”

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*Population Health Institute, University of Madison-Wisconsin, American Journal of Preventative Medicine, 2016.
Principle 2 – Logic Models for Healthy Business

Global and national health frameworks emphasize long-term metrics – an actionable framework needs to allow companies to align with shared long-term ambitions, while enabling monitoring against more near-term targets and metrics.

Healthy Business Strategy

Companies set a Healthy Business strategy that identifies priority health issues on which to invest.

Healthy Business Programs

Companies design breakthrough programs and partnerships to pilot new healthy business solutions and scale through partnerships.

Outcomes & Impacts

Near-Term Outcomes

Demonstrated changes in awareness of, and access to, positive health drivers.

Demonstrated changes in individuals’ healthy behaviors and actions.

Long-Term Impacts

Measurable changes in population health and community conditions.

The Healthy Business Metrics Framework will leverage company’s previous efforts to define their Healthy Business Vision and deliver programs and partnerships.

The Healthy Business Metrics Framework will provide guidance on distinguishing and selecting between outcomes and impacts.
Principle 3 – Multiple Scopes of Business Action

Companies directly impact and influence our national Culture of Health* – Healthy Businesses will seek to create health and well-being programs that span the four scopes of action.

Direct Impact

**Workforce & Operations**

**DEFINITION:** Corporate work environment and business practices’ impact on health for direct and indirect employees, as well as workers in a company’s supply chain.

**OPPORTUNITY:** Serve as a model for health by creating a workplace that values positive health outcomes for direct and indirect employees, as well as exemplifying corporate environmental responsibility.

**Products & Services**

**DEFINITION:** Health impacts and behaviors resulting from the customer and consumer use of a company’s products and services.

**OPPORTUNITY:** Mitigate negative health impacts and improve health outcomes of current products and services, and develop accessible solutions for critical health and well-being needs.

Enabling Influence

**Community Engagement**

**DEFINITION:** Company efforts and collaborations toward improving the health outcomes of a company’s key communities and focus populations.

**OPPORTUNITY:** Incubate positive health programs and partner with community organizations to improve community health outcomes.

**Policy & Advocacy**

**DEFINITION:** Policy and advocacy efforts to support regulation and cultural norms that promote healthy behaviors and health equity.

**OPPORTUNITY:** Influence the cultural dialogue and policy debates by promoting healthy equity through public policy engagement as well as public communications that serve to promote health.

CORPORATE IMPACT ON A CULTURE OF HEALTH

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* "Culture of Health" is Robert Wood Johnson Foundation’s vision and the organization provides the following context: “A Culture of Health is broadly defined as one in which good health and well-being flourish across geographic, demographic, and social sectors; fostering healthy equitable communities guides public and private decision making; and everyone has the opportunity to make choices that lead to healthy lifestyles.” [What is a Culture of Health]
The Healthy Business Metrics Framework

Here is a process for companies to integrate their healthy business strategy, programs, and metrics to achieve their healthy business visions.

**Healthy Business Strategy**

Corporate perspective for improving health and well-being through a broader understanding of health.

- Access to Care
- Disease Burdens
- Economic & Social Determinants
- Healthy Behaviors
- Physical Environment
- Work Environment

**Healthy Business Programs**

Holistic corporate efforts that select direct and enabling opportunities among companies’ four scopes of action.

- Workforce & Operations
- Products & Services
- Community Engagement
- Policy & Advocacy

**Metrics**

- **Near-Term Outcomes**: Outcomes that support new awareness, increased access, and positive behavior change.
- **Long-Term Impacts**: Impacts that demonstrate lasting change on population health issues and evidence greater health equity.

**Healthy Business Vision**

The entirety of objectives, activities, and metrics that satisfy a company’s ambition to positively impact population health.
Healthy Business Metrics – View on Outcomes

The metrics are presented in an Excel spreadsheet so as to enable companies to sort outcomes based on scope of action and healthy business category.

<table>
<thead>
<tr>
<th>Scope of Action</th>
<th>Healthy Business Category</th>
<th>Outcome</th>
<th>Outcome Definition</th>
<th>Connected Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce &amp; Operations</td>
<td>Work Environment</td>
<td>Re-Skilling Opportunities</td>
<td>% of employees with access to and utilizing learning and development opportunities to build skills for evolving workplace</td>
<td>Inequality Ratios</td>
</tr>
<tr>
<td>Workforce &amp; Operations</td>
<td>Healthy Behaviors</td>
<td>Biometric Screenings</td>
<td>% of employees regularly visiting health professionals for necessary tests, screenings, and observation</td>
<td>Unemployment Rates</td>
</tr>
<tr>
<td>Workforce &amp; Operations</td>
<td>Disease Burdens</td>
<td>Parental Leave Access</td>
<td>% of new parents among employees, contract workforce, and supply chain workers with access to paid family leave</td>
<td>Years of Potential Life Lost Rate</td>
</tr>
<tr>
<td>Workforce &amp; Operations</td>
<td>Healthy Behaviors</td>
<td>Access to Recovery</td>
<td>% of employees with access to services and programs that support recovery from alcohol and substance abuses</td>
<td>Diabetes Rates</td>
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<td></td>
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<td></td>
<td>Cancer Mortality</td>
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<td>Infant Mortality Rates</td>
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<td>Maternal Mortality Rates</td>
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<td></td>
<td></td>
<td>Breastfeeding Rates</td>
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<td></td>
<td></td>
<td>Substance Abuse</td>
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<td></td>
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<td></td>
<td></td>
<td>Suicide Rates</td>
</tr>
</tbody>
</table>

Identified outcome metrics are tagged to the most relevant scope of action and relevant healthy business category.

Outcome metrics are labeled and defined.

Outcome metrics are connected to significant long-term impacts on which they play a deciding factor.
The metrics are also available in a format to prioritize health impacts and enable companies to identify some priority outcome metrics that contribute positively to that long-term impact.

<table>
<thead>
<tr>
<th>Healthy Business Category</th>
<th>Impact</th>
<th>Impact Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic &amp; Social Determinants of Health</td>
<td>Inequality Ratios</td>
<td>Ratio of household incomes at the 80th and 20th percentile</td>
</tr>
<tr>
<td>Physical Environment</td>
<td>Air Quality Index</td>
<td>Average daily amount of fine particulate matter in micrograms per cubic meter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Scope of Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diverse Leadership</td>
<td>Workforce &amp; Operations</td>
</tr>
<tr>
<td>Diverse Hiring</td>
<td>Workforce &amp; Operations</td>
</tr>
<tr>
<td>Re-Skilling Opportunities</td>
<td>Workforce &amp; Operations</td>
</tr>
<tr>
<td>Access to Living Wage</td>
<td>Workforce &amp; Operations</td>
</tr>
<tr>
<td>Housing Affordability</td>
<td>Community Engagement</td>
</tr>
<tr>
<td>Voting Participation</td>
<td>Policy &amp; Advocacy</td>
</tr>
<tr>
<td>Availability of Public and Pedestrian Transportation</td>
<td>Workforce &amp; Operations</td>
</tr>
<tr>
<td>Travel Time and Cost</td>
<td>Workforce &amp; Operations</td>
</tr>
<tr>
<td>Well-Being Building Standards</td>
<td>Workforce &amp; Operations</td>
</tr>
<tr>
<td>Environmental Responsibility - Greenhouse Gases and Pollutants</td>
<td>Products &amp; Services</td>
</tr>
<tr>
<td>Safe and Comfortable Housing</td>
<td>Community Engagement</td>
</tr>
</tbody>
</table>

Identified impacts are tagged to the relevant Healthy Business category.

Impacts and definitions provided reflect a sampling of key priorities common across multiple public health frameworks.

Near-term outcomes that may contribute to changes in the impact metrics are included and categorized by their respective scope of action.
Scopes of Action
Community Engagement


**Community Engagement**

**DEFINITION**

*Community Engagement* addresses the health impacts in communities of interest as defined by each company. This can include the communities where employees live, work, and play but could also encompass focus populations and communities more broadly defined.

**KEY INTERNAL PARTNERS**

- Marketing & Communications
- Community Relations
- Human Resources
- Corporate Foundations / Philanthropy

**THE PRIVATE SECTOR OPPORTUNITY**

Pursuing Healthy Business programs is evidence that a company is committed to delivering on community partnership and social purpose – but also allows companies to address the gap between workforce healthy behaviors and the community health factors that impact their employees.

- Investing in the communities where a company sources talent ensures that these companies have a strong pipeline of talented and healthy professionals.
- Partnerships between corporations and nonprofits influence whether people become customers – 55 percent of global consumers said they are more likely to buy products associated with an NGO partnership.*

**IMPORTANT CONSIDERATIONS**

- *Defining Community*: How a company defines its engagement with a community or focus population will greatly determine what metrics are relevant. In fact, once a community is identified, a company should seek to understand that community’s health needs and challenges toward selecting the appropriate health metric(s).

- *Attribution is Very Difficult*: Attributing health impacts at the community level is very difficult. Even if a company’s focus population is very well defined and the company initiative is large scale, connecting company actions to community impacts will require a long-term and coordinated process.

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* Source: *[More than Three-Quarters of Americans Say a Nonprofit-Corporate Partnership Makes a Cause Stand Out]* (Cone Communications: Mar 2010)
## Community Engagement – Outcome Metrics (1/2)

The following list of metrics apply to the Community Engagement scope of action.

<table>
<thead>
<tr>
<th>Healthy Business Category</th>
<th>Outcome</th>
<th>Outcome Definition</th>
<th>Connected Impacts</th>
<th>Outcome Derivation (Sources)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Care</td>
<td>Access to Community Health Services</td>
<td>% of population with regular access to community health workers, health promotion services, and community-based services</td>
<td>• Affordability of Healthcare • Substance Abuse</td>
<td>SDGs; WHO Core Health; Global Burden of Health; Just Capital; CDC Work-site; County Health Rankings; America Health Rankings; RWJF - Culture of Health</td>
</tr>
<tr>
<td>Access to Care</td>
<td>Access to Primary and Specialist Care</td>
<td>% of population with regular access to primary care physicians, dentists, mental health services, and other specialists</td>
<td>• Affordability of Healthcare</td>
<td>WHO Core Health; Global Burden of Health; Just Capital; County Health Rankings; Healthy People 2020; America Health Rankings; RWJF - Culture of Health</td>
</tr>
<tr>
<td>Access to Care</td>
<td>Community Health Partnerships</td>
<td>% of local health departments that collaborated with community organizations (that do not typically deal in health care) in at least four public health program areas in the last year</td>
<td>Can vary depending on health interventions prioritized by community organizations</td>
<td>RWJF - Culture of Health</td>
</tr>
<tr>
<td>Healthy Behaviors</td>
<td>Better Food Options</td>
<td>Number of healthy food outlets within 1/2 mile of neighborhood</td>
<td>• Healthy Eating Choices</td>
<td>Mariposa Healthy Living Initiative</td>
</tr>
<tr>
<td>Healthy Behaviors</td>
<td>Female Reproductive Health Services &amp; Education</td>
<td>% of sexually active females receiving reproductive health services</td>
<td>• Sexually-Transmitted Diseases • HIV Infections</td>
<td>Healthy People 2020</td>
</tr>
</tbody>
</table>
Community Engagement – Outcome Metrics (2/2)
The following list of metrics apply to the Community Engagement scope of action.

<table>
<thead>
<tr>
<th>Healthy Business Category</th>
<th>Outcome</th>
<th>Outcome Definition</th>
<th>Connected Impacts</th>
<th>Outcome Derivation (Sources)</th>
</tr>
</thead>
</table>
| Healthy Behaviors        | Sexual Health & Education | % of adolescents receiving education on healthy sexual relationships | • Crime and Violence Rates  
  • Sexually-Transmitted Diseases  
  • HIV Infections | Healthy People 2020 |
| Healthy Behaviors        | Regular Health Visits | % of population visiting health providers for regular check-ups (dental, cholesterol screening, cancer screenings) | • Affordability of Healthcare  
  • Diabetes Rates  
  • Cancer Mortality | WHO Core Health; America’s Health Rankings; CDC Worksite Health; Healthy People 2020; |
| Healthy Behaviors        | Access to Activity & Utilization | % of people who have access to places for leisure-time physical activity and utilize those opportunities regularly | • Obesity Rates | WHO Core Health; CDC Worksite; County Health Rankings; Healthy People 2020; America Health Rankings; AARP Livability Index |
| Physical Environment     | Safe and Comfortable Housing | Number of households living in homes without: overcrowding, high housing costs, or lack of kitchen or plumbing facilities. | • Access to Safe Water  
  • Air Quality Index  
  • Years of Potential Life Lost | SDGs; Global Burden of Health; County Health Rankings; AARP Livability Index |
Case Study: Community Engagement
Kaiser Permanente’s Community Health Initiatives establish place-based collaboratives on the broad set of factors that ultimately foster healthier neighborhoods.

Kaiser Permanente: Community Health Initiatives
- **Kaiser Permanente’s** Community Health Initiatives takes a prevention-driven approach to promote healthy eating and active living (HEAL) in neighborhoods, schools and workplaces.
- The HEAL Cities Campaign, funded by Kaiser Permanente and other partners, supports cities in their efforts to improve the physical environment and give residents more opportunities to be physically active and eat healthy foods.

Potential Outcome Metrics

<table>
<thead>
<tr>
<th>Scope of Action</th>
<th>HBC Category</th>
<th>Outcome</th>
<th>Outcome Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Engagement</td>
<td>Healthy Behaviors</td>
<td>Better Food Options</td>
<td>Number of healthy food outlets within 1/2 mile of neighborhood</td>
</tr>
<tr>
<td>Community Engagement</td>
<td>Healthy Behaviors</td>
<td>Access to Activity &amp; Utilization</td>
<td>% of people who have access to places for leisure-time physical activity and utilize those opportunities regularly</td>
</tr>
<tr>
<td>Community Engagement</td>
<td>Physical Environment</td>
<td>Safe and Comfortable Housing</td>
<td>Number of households living in homes without: overcrowding, high housing costs, or lack of kitchen or plumbing facilities</td>
</tr>
</tbody>
</table>

Source: Kaiser Permanente: Community Health Initiatives Framework; “Community Health Initiatives” (Kaiser Permanente)
Case Study: Impacts

Companies can demonstrate long-term impacts through alignment with commitment platforms or national/international aspirations for health.

Alignment with Sustainable Development Goals

- **Merck**'s alignment with SDGs focused on improving maternal and infant health, and are supported by the company’s sponsorship of the National Healthy Mothers, Healthy Babies Coalition (HMHB) and broader efforts to expand well-baby care during the first year of life in the U.S.

- **The Walt Disney Company** aligned with SDG 3.4 to reduce premature mortality and cites its programs to establish nutrition guidelines and introduce industry leading food advertising standards.

Potential Impact Metrics

<table>
<thead>
<tr>
<th>HBC Category</th>
<th>Impact</th>
<th>Impact Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease Burdens</td>
<td>Infant Mortality Rates</td>
<td>Stillbirth, infant, and under-five mortality rates</td>
</tr>
<tr>
<td>Disease Burdens</td>
<td>Maternal Mortality Rates</td>
<td>Maternal mortality rates</td>
</tr>
<tr>
<td>Healthy Behaviors</td>
<td>Healthy Eating Choices</td>
<td>Mean number of fruits and vegetables consumed daily by adults</td>
</tr>
</tbody>
</table>

Source: "Disney Launches Magic of Healthy Living"; National Healthy Mothers, Healthy Babies Coalition; Business for 2030
3. The Merck Case Study
ACTION COLLABORATIVE ON BUSINESS ENGAGEMENT IN BUILDING HEALTHY COMMUNITIES

CONNECTING WELL-BEING TO BUSINESS METRICS

4/4/2019

Virginia Peddicord
Director Employee Population Health
FOR MORE THAN A CENTURY, MERCK HAS BEEN INVENTING TO SOLVE SOME OF THE GREATEST CHALLENGES TO PEOPLE’S HEALTH AND WELL-BEING AROUND THE WORLD.

BUSINESSES
- Prescription medicines
- Vaccines
- Biologic therapies
- Animal Health products

2017 REVENUES
$40.1 billion, 57% of sales come from outside the United States

2017 R&D EXPENSE
$9.98 billion; 20+ product pipeline programs in late-stage development

HEADQUARTERS
Kenilworth, NJ, U.S.A. operating in more than 140 countries

MRK
Merck & Co., Inc. is our legal name and is listed on the New York Stock Exchange under the symbol "MRK."

EMPLOYEES
approximately 69,000 worldwide (as of 12/31/17)
Employee Population Health

Requires managing care across the continuum at Merck

80% members = 20% cost*

20% members = 80% cost*

Well
At Risk
Acute Illness
Chronic Illness
Catastrophic Illness

Keep or Move the Population Toward Wellness

*Based on Merck Data, Truven 2015 Calendar Year
Adapted from Population Health; Creating a Culture of Wellness, 2nd edition, Jones & Bartlett Learning, Burlington, MA, Raymond Fabius, MD edited by David Nash, MD, 2016
A Culture of Wellbeing Is More Than ‘Health’

>85% of health care costs are due to non-communicable diseases and conditions, including chronic conditions¹

36% of employees report losing an hour or more of productivity per day at work due to stress²

Financial issues are one of the most common sources of stress in people’s lives³

Association between lifestyle risks and medical conditions, and workplace safety⁴

¹ National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention p1A
² Business Management 75 years of sound business advice daily”, ComPsych StressPulseSM Survey, 2012 p1A
³ ComPsych StressPulseSM Survey, 2016 p1A, p4B
⁴ Integrating Health and Safety in the Workplace, JOEM May 2015, p4A
LIVE IT - A Holistic Approach to Wellbeing

Introduced in the US in 2011 to bring together the health & wellness offerings under one branded program

<table>
<thead>
<tr>
<th>Preventive Services</th>
<th>Emotional, Mental &amp; Financial Wellbeing</th>
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<tbody>
<tr>
<td>• Vaccination clinics</td>
<td></td>
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<tr>
<td>• Screenings</td>
<td></td>
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<tr>
<td>• Tobacco-free worksite</td>
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<td>• Connections to safety</td>
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<td>• Mindfulness workshops</td>
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<td>• Brain health</td>
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<tr>
<td>• Sleep</td>
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<tr>
<td>• EAP resources</td>
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<tr>
<td>• Financial planning</td>
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<table>
<thead>
<tr>
<th>Nutrition</th>
<th>Physical Activity or Movement</th>
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</thead>
<tbody>
<tr>
<td>• Healthy choices in cafeteria</td>
<td></td>
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<tr>
<td>• Healthy meetings</td>
<td></td>
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<tr>
<td>• Nutrition education</td>
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<tr>
<td>• Fitness center</td>
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<td>• Walking routes</td>
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<td>• Stretch breaks</td>
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<tr>
<td>• Activity challenges</td>
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</tbody>
</table>

Today LIVE IT has launched to approximately 69,000 employees in 65 countries, representing 99% the workforce
6 Data Sets Analyzed to Answer 3 Questions

We have a reasonably healthy workforce, but could improve in:

- **Lifestyle – nutrition and activity**
- **Screenings**
- **Vaccinations**
- **Stress**
- **Alcohol**
- **Weight**
- **Pre-diabetes, diabetes**

*PHA = 2015 WebMD Personal Health Assessment*
1. Improve health in targeted areas
   - Cardiometabolic risk
   - Vaccinations
   - Cancer screening & prevention
   - Stress

2. Establish a workplace that promotes health and wellness and is focused on daily habits
   - Movement / Activity
   - Nutrition
   - Mindfulness
   - Tobacco Free Campuses
   - Safety
   - Champion’s Network
A study of 10 large companies found that for every dollar spent on health care there was $2 to $4 in lost productivity\(^1\). 

**Direct Health Total Costs\(^2, 3\)**
- Medical Care
- Pharmaceutical Costs

**Indirect Costs\(^2, 3\)**
- Absenteeism & Presenteeism
- Short-term Disability
- Long-term Disability
- Worker’s Compensation
- Worker Replacement Costs
- Lower Employee Morale\(^2\)
- Higher Turnover

\(^*\)Not a complete list

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# Merck Employee Population Health’s Mission

Optimize a culture of health, wellness and safety that becomes a business imperative with measurable improvement in targeted areas and where Merck’s employee and family health status is improved.

## Desired Outcomes

- Increased **productivity and engagement**, resulting in lower absenteeism and voluntary turnover,
- Increased ability to attract and retain **talent**
- Improved **safety** outcomes
- Reduced direct **benefits spend** (by bending the trend for medical, disability, workers comp costs)

## Levers Influencing Outcomes

- Corporate Culture
- Wellness & wellbeing programs
- Health advocacy services
- Condition management programs
- Medical plan design
- Disability plan design
- Work environment, policies and practices
- Workplace safety
- Employee communications and tools
- Benefit plan providers

## Key Merck Stakeholder Groups

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>On-Site Partners</th>
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</thead>
<tbody>
<tr>
<td>Employee Benefits/HR</td>
<td>Fitness Centers</td>
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<tr>
<td>Global Population Health</td>
<td>Food Services</td>
</tr>
<tr>
<td>Health Services</td>
<td>Health Coaches</td>
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<tr>
<td>Safety</td>
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</tbody>
</table>

## Business Performance

[Merck Logo]
**2017 EXECUTIVE OVERVIEW**

**N O T  A C T U A L  D A T A**

DATA SHOW THAT INVESTMENT IN EMPLOYEE WELLBEING FUELS BUSINESS SUCCESS

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**18,737**

U.S. EMPLOYEES

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**49% PHA completion in 2017, vs. 47% in 2016** (industry benchmark: 46%)

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**24% HIGH RISK** in 2017 vs. 22% of employees in 2016 (Manufacturing Benchmark 20.4%)

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**AGE MIGRATION**

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**79% ENROLLED** in health plan vs. 81% in 2016

---

**45.5 YEARS OLD** average age vs. 47 in 2016

---

**56% FEMALE**

---

**77% OF EMPLOYEE POPULATION** based in NY & CA

---

**2017 WELLBEING TAKEAWAYS**

---

**EMPLOYEE WELLNESS**

- Increasing prevalence among employees for diabetes, hypertension, and behavioral health conditions, suggesting an opportunity to intervene
- Room for improvement with prevalence of overweight and obesity, though some modest improvements in healthy eating, levels of exercise and
- Increase in EAP utilization (5.2% in 2017, 3.9% in 2018), but opportunities to increase remain
- All preventive screening and vaccinations are above the internal target or benchmark, though room to improve to Healthy People 2020 targets
- About half way to target of being 100% tobacco free locations

---

**PRODUCTIVITY AND ENGAGEMENT**

- 69% of employees agree “Senior Leadership is interested in the wellbeing of employees” - goal is 70% by 2020
- Reduction in lost time due to injury and injury rates since 2014

---

**BUSINESS PERFORMANCE**

- Stock value increased by 40% since 2015 when well-being was introduced
- 2017 trend was 5.8% for Medical and Rx, versus goal of 5%

---

**Sources:**
1. Demographic and enrollment data - data warehouse
2. Risk and HA – results; benchmark: 2017 Mercer Employee Sponsored Health plan survey, Manufacturing industry 500+ employees
3. Engagement – Employee Opinion Survey results
4. Internal Finance - 2017 Medical & RX 2016 Spend
5. Internal HR Sales and Non-Sales
EXECUTIVE SUMMARY – EARLY INDICATORS – NOT ACTUAL DATA

**Vaccination Adherence**

- Pneumococcal Vaccines %
  - 2014: 45%
  - 2015: 48%
  - 2016: 49%
  - 2017: 55%

- Influenza Vaccines %
  - 2014: 55%
  - 2015: 56%
  - 2016: 57%
  - 2017: 62%

- Shingles Vaccines %
  - 2014: 16%
  - 2015: 24%
  - 2016: 27%
  - 2017: 36%

**Prevalence of Depression and Anxiety**

- Depression: 54.0% (2015), 55.8% (2016), 58.2% (2017)
- Anxiety: 33.8% (2015), 36.1% (2016), 39.2% (2017)

**Consumption of Healthy Food & Levels of Exercise**

- >5 fruit and veggies per day
  - 2015: 21.5%
  - 2016: 22.2%
  - 2017: 24.8%

- % of employees who exercise 90-150 minutes per week
  - 2015: 14.3%
  - 2016: 10.2%
  - 2017: 11.5%

- % who belong to an on site fitness center
  - 2015: 41%
  - 2016: 44%
  - 2017: 46%

**Prevalence per 1,000 of Obesity & Overweight**

- Overweight
  - 2015: 12.2
  - 2016: 14.3
  - 2017: 15.9

- Obesity
  - 2015: 42.2
  - 2016: 44.8
  - 2017: 47.1

Sources:
1. Vaccination performance: HA data; Vaccination targets: Healthy People 2020 goals. Healthy People is a government led initiative that provides science based, 10 year national objectives for improving the health of all Americans. Objectives are selected by experts from federal agencies, and released for public comment. All objectives must have a reliable data source, baseline measure, and target for specific improvement.
2. Depression and Anxiety Prevalence - data warehouse based on medical claims only; benchmark is from MarketScan and is Age/Gender Adjusted
3. Health assessment and internally tracked fitness food sales data
4. Claims from data warehouse, using diagnosis codes for obesity (BMI >30) and overweight (BMI >25) only; no HA data was included
EXECUTIVE SUMMARY – OUTCOMES

NOT ACTUAL DATA

WORKFORCE IMPACT

US Employee Productivity

Lost Time Due to Injury (Hours)¹

- 2014: 0.46
- 2015: 0.50
- 2016: 0.41
- 2017: 0.35

Presenteeism Cost (PEPY)²

- 2014: $1,541
- 2015: $1,500
- 2016: $1,514
- 2017: $1,495

Recordable Injury Rate (PER 1,000)³

- 2014: 0.81
- 2015: 0.64
- 2016: 0.52
- 2017: 0.44

US Employee Engagement⁴

- 2014: 67.0%
- 2015: 71.0%
- 2016: 75.0%
- 2017: 81.0%

Overall Healthcare Spend (PMPY)

Overall medical + Rx trend from 2016 to 2017 was 5.8%.
Goal - bring trend down to 3% per year by 2021.

Sources:
1. Health Assessment Data
2. 2016 Employee Opinion Survey
3. From Safety & Environment Systems Assurance
**C H E C K  I T**

**N O T  A C T U A L  D A T A**

2017 saw increases in all vaccination adherence, with all three now above the annual internal goal for 2017.

- **Pneumococcal Vaccines %**
  - 2014: 45%
  - 2015: 48%
  - 2016: 48%
  - 2017: 55%

- **Influenza Vaccines %**
  - 2014: 55%
  - 2015: 56%
  - 2016: 57%
  - 2017: 62%

- **Shingles Vaccines %**
  - 2014: 16%
  - 2015: 24%
  - 2016: 27%
  - 2017: 36%

Note. Line indicates internal goal (revised annually)

Screening adherence increased and now exceeds benchmark data for similar companies; that said, adherence still underperforms against HealthyPeople 2020 target ranges.

- **Cervical Cancer Screening**
  - 2015: 78%
  - 2016: 79%
  - 2017: 82%

- **Colorectal Cancer Screening**
  - 2015: 46%
  - 2016: 42%
  - 2017: 47%

- **Breast Cancer Screening**
  - 2015: 77%
  - 2016: 78%
  - 2017: 80%

Note. Lines indicates target (HealthyPeople 2020) and benchmark MarketScan Benchmark

48% of US employees worked at a US site with a tobacco-free policy in 2017 — Our goal is to get to 100% by 2020

2.4% of employees reported at risk for cigarette use in 2017, representing a continued downward trend from 2016 and a 0.2 point drop from prior year

In 2015, the Centers for Disease Control estimated that 15.1% of U.S. adults were current cigarette smokers

**So What?**

Vaccinations are at or above external goals, but only shingles is at internal goal, while screenings remain below targets. Strong momentum on tobacco-free, but there are opportunities to expand

**What’s Next?**

- Increase awareness of programs to increase vaccinations and screenings to internal targets (shingles is already there)
- Expand smoke-free policy to all sites by 2020

Sources:
1. Vaccination performance: HA data; Vaccination targets: Healthy People 2020 goals. Healthy People is a government led initiative that provides science based, 10 year national objectives for improving the health of all Americans. Objectives are selected by experts from federal agencies, and released for public comment. All objectives must have a reliable data source, baseline measure, and target for specific improvement. [https://www.healthypeople.gov/](https://www.healthypeople.gov/)
2. Pneumococcal vaccination goal and performance is based on high risk adults 18-64
3. [Screening performance: claims from data warehouse; Screening targets: HealthyPeople2020 goals; screening benchmarks: MarketScan](https://www.healthypeople.gov/)
4. Health assessment
Consumption of Healthy Food and Levels of Exercise

So What?
Consumption of healthy food and levels of exercise stayed relatively consistent from 2016 to 2017. Prevalence of chronic conditions is below norm, though prevalence for overweight is increasing notably.

What's Next?
• More healthy food and physical activity choices
• Additional focus on managing overweight

Sources
1. Health assessment and internally tracked fitness/food sales data
2. Claims from data warehouse; using diagnosis codes, but may be understated due to undiagnosed diabetics; benchmarks reflect 2017 MarketScan Employer norms, which includes >300 companies and 15M+ members; prevalence is based on 1st and 2nd diagnoses, as such some conditions may be underreported due to presence of multiple co-morbidities
3. Claims from data warehouse, using diagnosis codes for obesity (BMI >30) and overweight (BMI >25) only; no HA data was included
4. Health assessment data
2016 Voice Survey US Results: % Agreement

83% "I like my colleagues and enjoy their company."

92% "My work gives me a sense of personal accomplishment."

89% "My manager is considerate of my life outside of work."

So What?
Behavioral health conditions and risks are generally increasing and above norms; use of the EAP increased; investigate implementing programs to help reduce stigma around mental health.

What's Next?
- Continue to promote and emphasize benefits of Manage It Programs
- Continue to raise awareness of programs through local site wellness champions

Sources:
1. Data Warehouse: consists of all drugs and includes active (full-time and part-time) employees who received at least one script for at least one of the drugs indicated within the standard MHSA-related drug list
2. EAP vendor
3. Vendor partner report
4. Health Assessment
5. Depression and Anxiety Prevalence - data warehouse based on medical claims only; benchmark is from MarketScan and is Age/Gender Adjusted
A focus on productivity and engagement measures allows us to examine the relationship between a healthy workforce and workforce related outcomes.

What’s Next?
In 2018-2020, we will compare productivity and engagement in populations where wellness programs have been introduced against baseline.

Sources:
1. Health Assessment data
2. 2016 Employee Opinion Survey
3. Disability vendor (non-union population)
4. From Safety & Environment Systems Assurance
A long standing economic measure of productivity which can be strongly affected by workforce characteristics and management practices, including employee health and investments in wellness. Moreover, persistent advantages in value added per employee are associated with higher market value.

NOTE: This data point is one that industry leaders are beginning to explore and is still in the early phase of analysis. In an effort to be on the cutting edge of wellbeing analytics, our intent is to gather baseline data and establish a process for analyzing the results and monitoring the information to gauge its change over time.

This measure can be a leading indicator of future health claims and risks. When the trajectory is heading up, the likelihood that future health claims/risks will go up as well is stronger. While the overall rates of persistent low performance are low, the overall upward trend and the variance across business units may indicate future trends in health claims and risks.

Overall, despite consistent downsizing to eliminate low performers, the % change in low performers has increased YOY since 2013/2014.

NOTE: This data point is one that industry leaders are beginning to explore and is still in the early phase of analysis. In an effort to be on the cutting edge of wellbeing analytics, our intent is to gather baseline data and establish a process for analyzing the results and monitoring the information to gauge its change over time.

Sources:
1. Calculated as: Value added = Operating income + employee compensation + plus depreciation + (non-income) taxes; Value added per employee = Value Added/FTE
3. Internal workforce analytics
4. Q&A