Addressing Social Determinants of Health & Individual Needs with Health Data Analytics

THE **CONFERENCE BOARD**

springbuk®

November 10, 2021

Today we will be discussing:

- Leveraging population health to meet individual needs

- Building a culture of health

- Role of data analytics to address individual needs

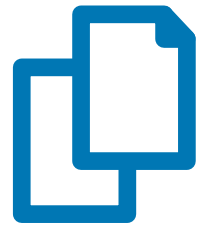- Using Springbuk and SDoH data for greater precision

Earn Credits

HRCI, SHRM, CPE (NASBA) Click the link in the

CEU Request Widget to sign up for credit

- ✓ Stay online for the entire webcast

- ✓ Click 'ok' for 3 popups that occur during the program

- ✓ Credit available for participation in <u>live</u> webcast only

SIGN UP FOR AVAILABLE CEU CREDITS

Making the most of the webcast

Ask Questions
(via the Q&A box)

Q&A

Download Resources

Today's Speakers

Ray Fabius
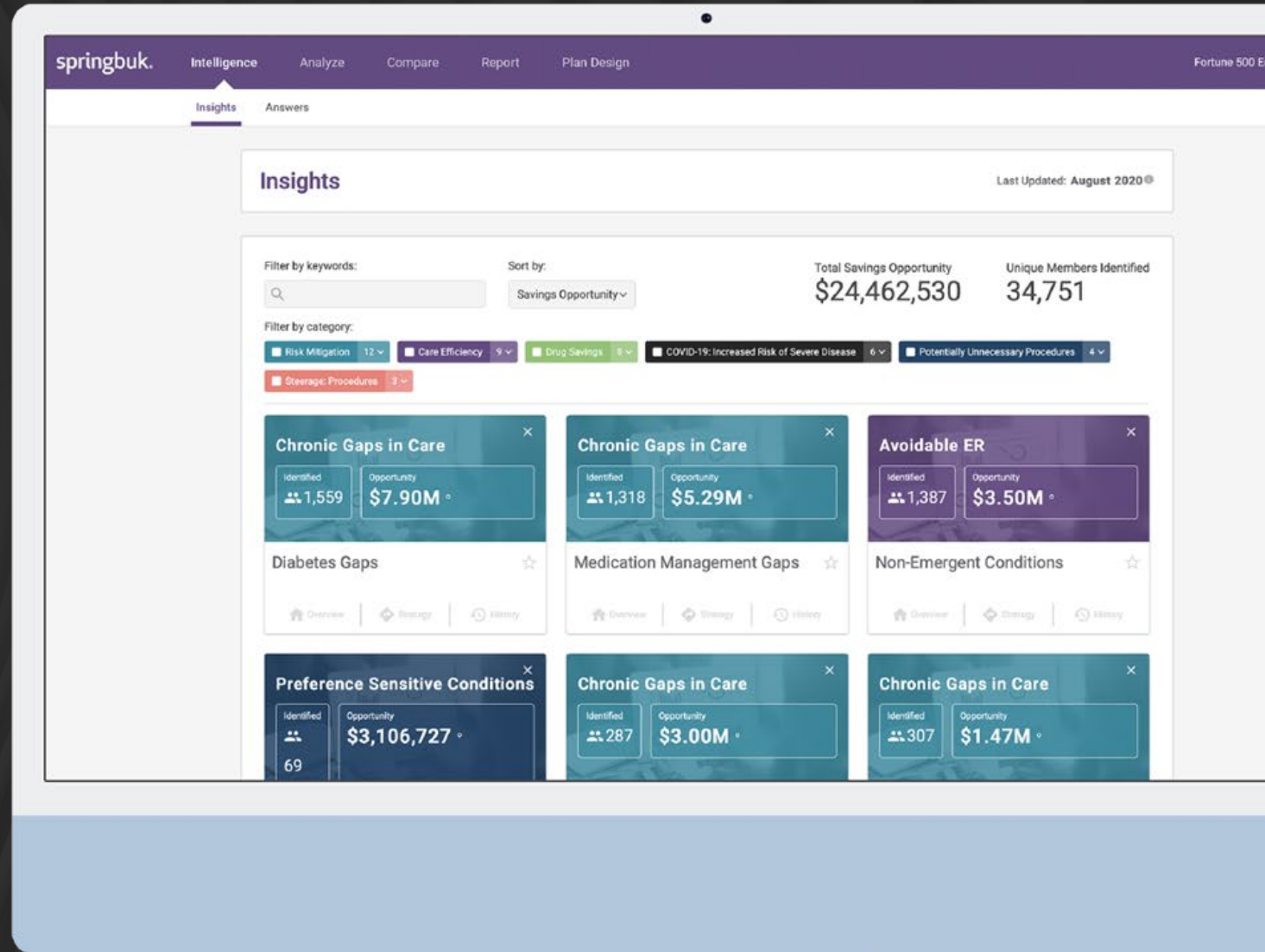President &
Chief Medical Officer
HealthNEXT

Jennifer Jones
Population Health
Practice Leader
Springbuk

Stela Lupushor (Moderator)
Senior Fellow &
Program Director,
Human Capital
The Conference Board

springbuk®

Health Intelligence

Synthesis of knowledge (data) distilled down to *opportunities* and *information* at your fingertips

The Silicon Review®
30 MOST INNOVATIVE BRANDS

Awarded Best Use of AI in Insurance by the The Global Annual Achievement Awards for Artificial Intelligence

Poll Question:

How would you rate your overall high level understanding of Social Determinants of Health and Population Health?

Response Options:
1. I could present this webinar
2. I can have an intelligent conversation on the topics
3. I know enough to be dangerous
4. Don't make eye contact

Poll Question:

How would you rate your overall high level understanding of Social Determinants of Health and Population Health?

Response Options:
1. I could present this webinar
2. I can have an intelligent conversation on the topics
3. I know enough to be dangerous
4. Don't make eye contact

Poll Question:

I would say, my organization's ability to objectively build a culture of health and measure impact is:

Response Options:

- Mature and proven
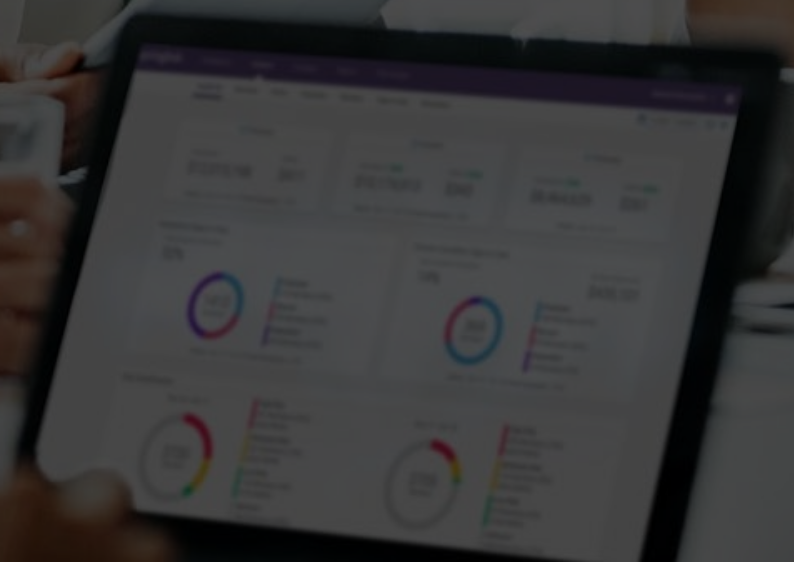- In process
- In need of help
- Non-existent

Poll Question:

I would say, my organization's ability to objectively build a culture of health and measure impact is:

Response Options:

- Mature and proven
- In process
- In need of help
- Non-existent

Leveraging Population Health
to Meet Individual Needs

Including Managing Across the Health Continuum
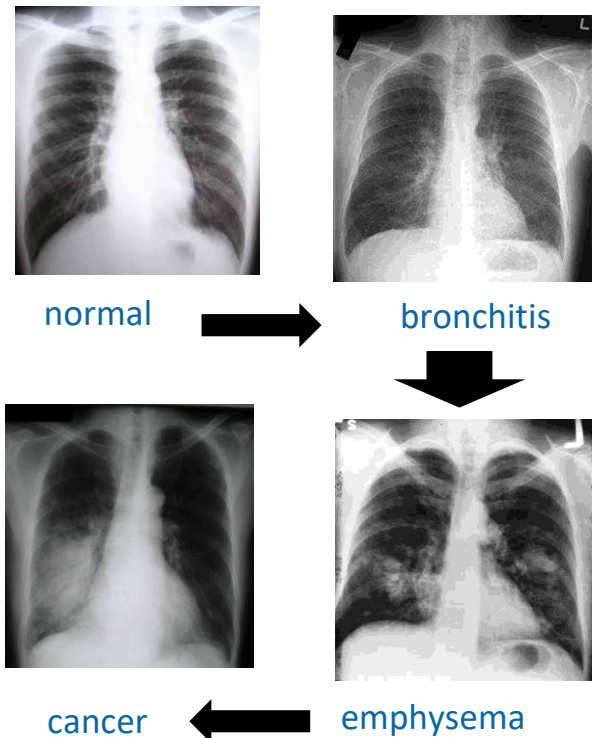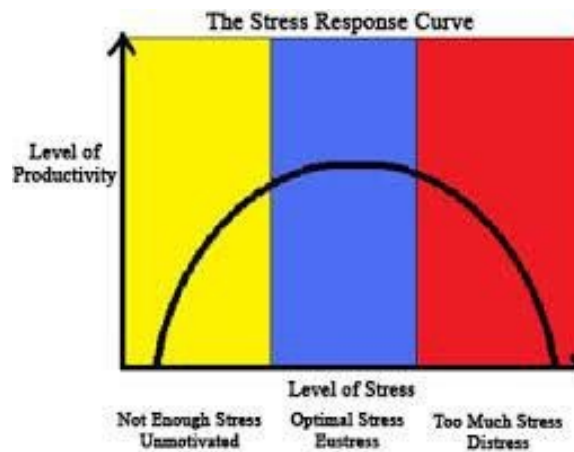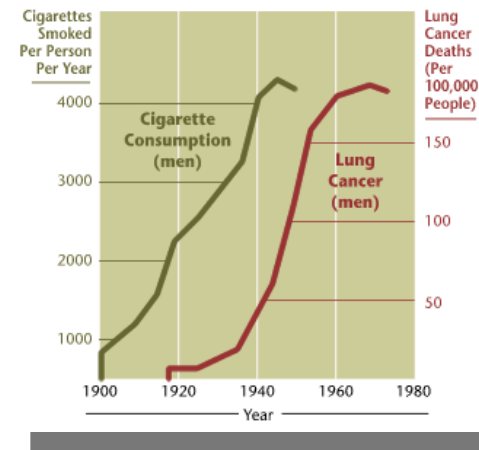*Caring for Your People Regardless of Where they Are in their Journey*

Well

At Risk

Acute Illness

Chronic Illness

Catastrophic Illness

Proprietary & Confidential

HealthNEXT

Insidious Progression of Disease
Smoking & Acute Illness Leads to Chronic and Catastrophic Illness

normal → bronchitis

emphysema → cancer

20-Year Lag Time Between Smoking and Lung Cancer

The Stress Response Curve

normal stress → burnout

depressed → suicidal

HealthNEXT

"Population Health Management"
Care Across the Continuum within Benchmark Companies

85% members = 15% cost   15% members = 85% cost

HEALTHY	AT RISK	ACUTE/ EPISODIC	CHRONICALLY ILL	CATASTROPHIC
HRA/ Biometric	Early detection screenings	Scheduled/ Walk-in Clinic	Integrated DM	Emergency Response
Lunch & Learns	Patient outreach & Education	Referral Management	Case Management	Complex Case Management
Immunizations			Self Care	
Travel Medicine	Health Coaching	Access to Primary Care	Referral Management	Pharmacy Care Management
Fitness	Lifestyle Prompts		Pharmacy Care Management	Disability Management
Healthy Environs	Health Advocacy			

Face to Face with Trusted Clinicians

Integrated 360° Coaching and Care Management

Provider/Member Portal Content & Tools

HealthNEXT

Social Determinants of Health

- **Physical environment** – safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health.

- **Education** – low education levels are linked with poor health, more stress and lower self-confidence.

- **Employment and working conditions** – people in employment are healthier, particularly those who have more control over their working conditions

- **Income and social status** - higher income and social status are linked to better health. The greater the gap between the richest and poorest people, the greater the differences in health.

- **Gender** - Men and women suffer from different types of diseases at different

- **Social support networks** – greater support from families, friends and communities is linked to better health.

- **Culture** - customs and traditions, and the beliefs of the family and community all affect health.

- **Personal behavior and coping skills** – balanced eating, keeping active, smoking, drinking, and how we deal with life's stresses and challenges all affect health.

- **Health services** - access and use of services that prevent and treat disease influences health

- **Genetics** - inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses

Source: Dahlgren and Whitehead, 1991

HealthNEXT
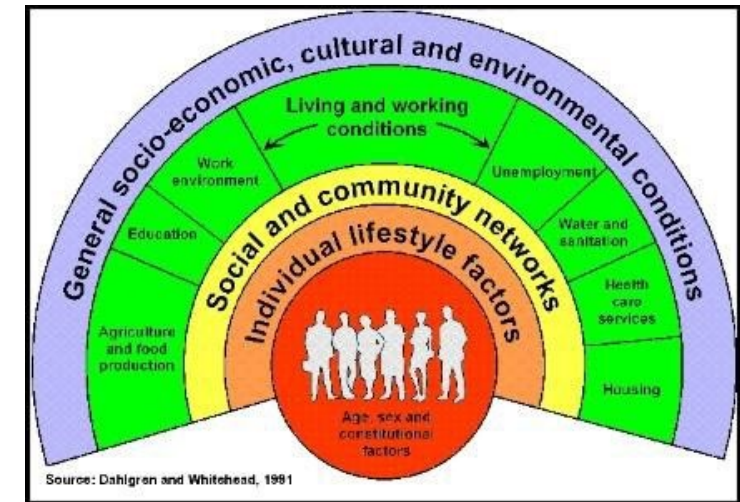
Seven Dimensions of Wellness
Your Health is Remarkably Influenced by Your Work
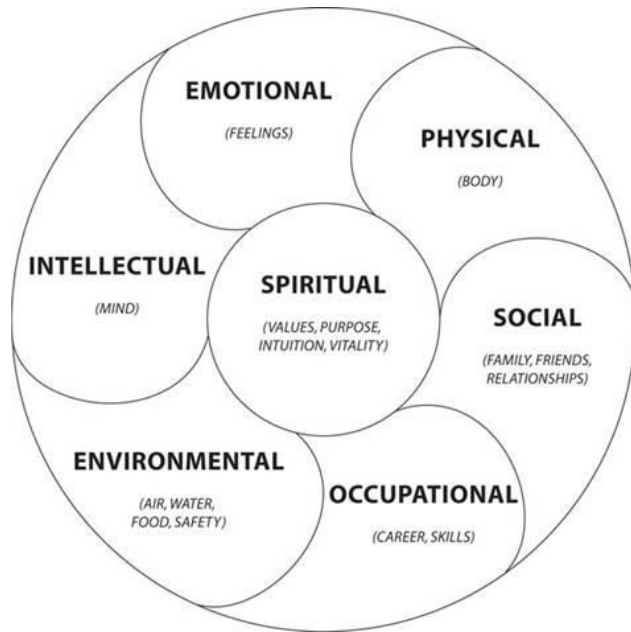
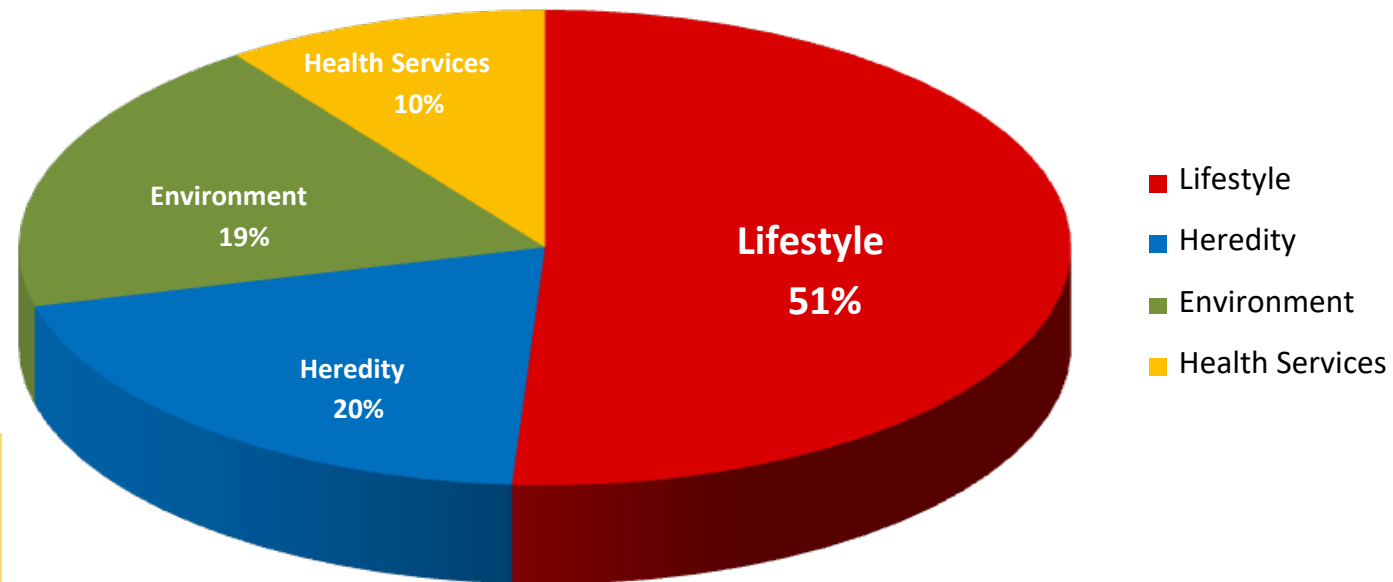Source: http://www.undstudenthealth.com
Swenson, John A., M.D.

Social - Influences

Physical - Occupational Risks

Emotional – Pride of Employment

Career - Compensation/Advsancement

Intellectual - Education & Training

Environmental – Workplace Safety

Spiritual - Sense of Purpose
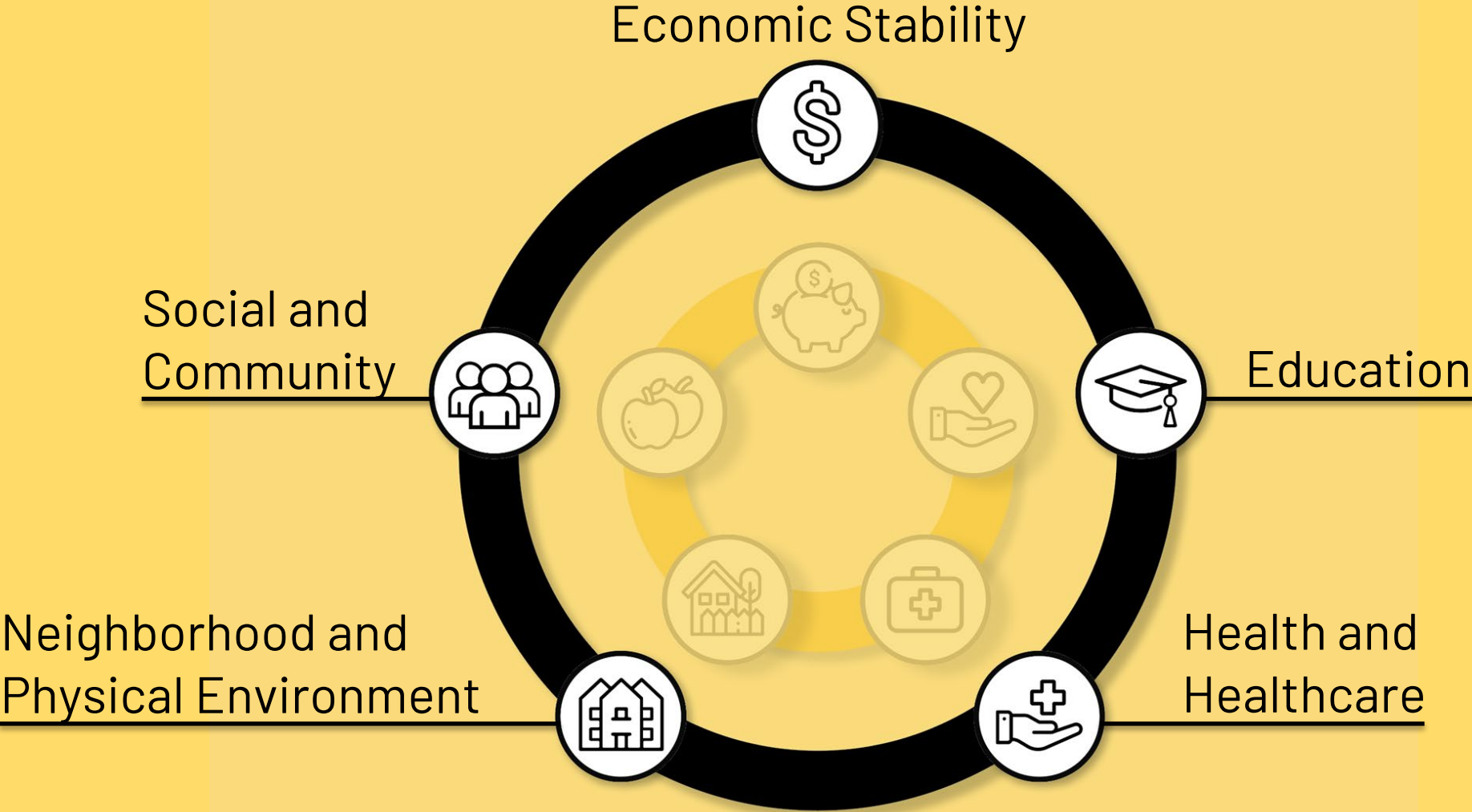
HealthNEXT

Lifestyle: Strongest Determinant of Mortality

Health Behaviors:

The Main Mortality Risk Factors in U.S.

Health Services 10%

Environment 19%

Heredity 20%

Lifestyle 51%

Legend:
- Lifestyle
- Heredity
- Environment
- Health Services

How do you convert these risk factors into data?

Mokdad AH, et.al. Actual Causes of death in the United States, 2000. JAMA. 2004; 291:1238-1245.

HealthNEXT

Social Determinants of Health

Economic Stability

Social and Community

Education

Neighborhood and Physical Environment

Health and Healthcare

springbuk®

Employer-Focused Social Determinants of Health[1]

Income

Food Access and Insecurity

Childcare

Housing Instability and Transportation

Access to Healthcare

springbuk®
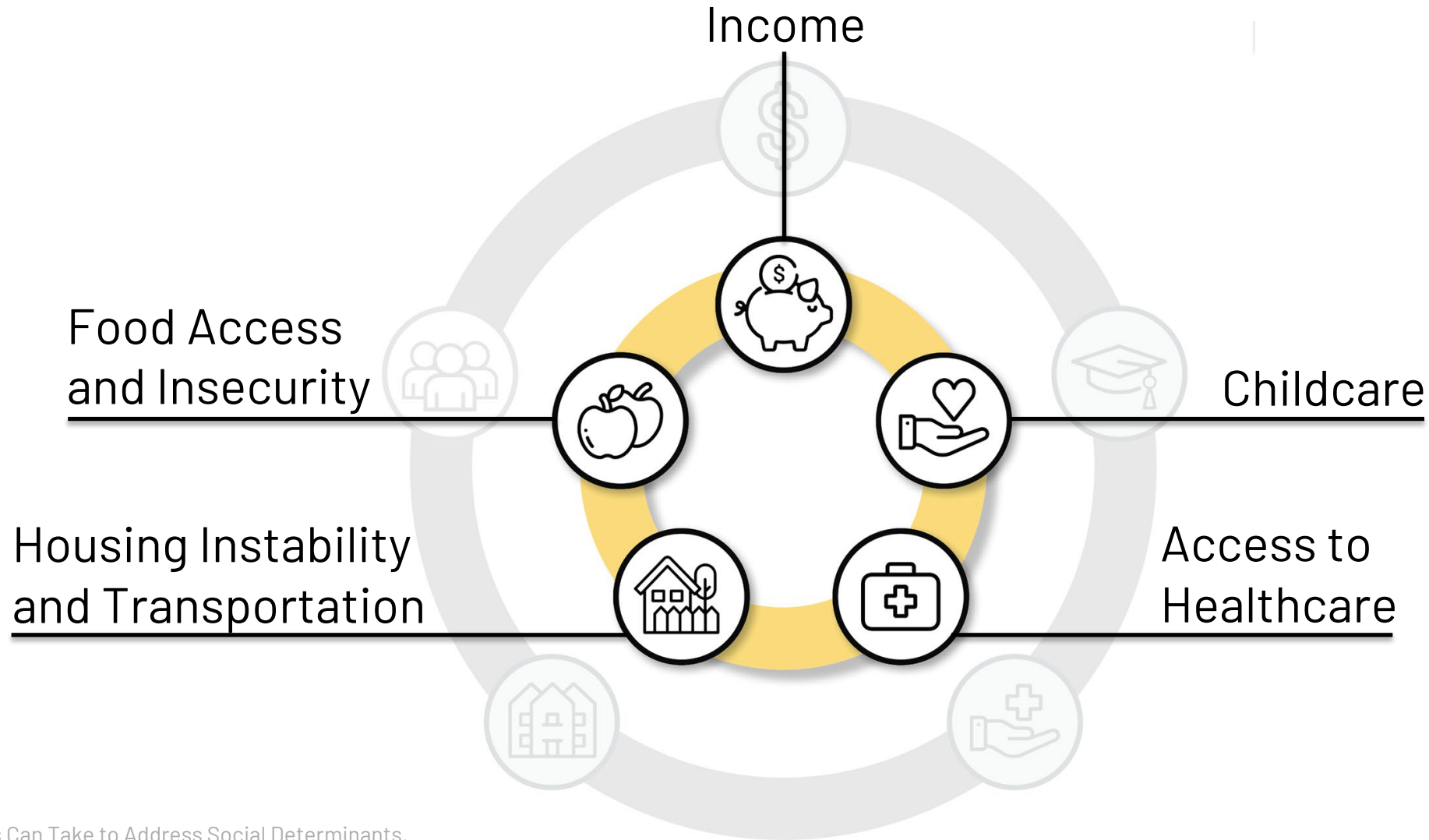
The Culture of Health & Wellbeing (COHW) Equation

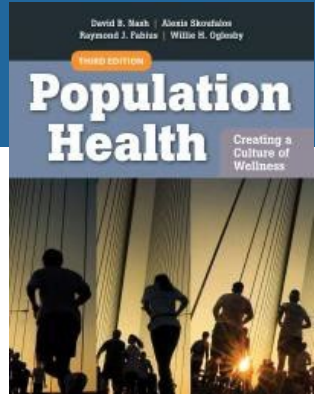**Culture of Health** = Elevating Population Health + Addressing Determinants of Health

HealthNEXT

Building a Culture of Health:
Elevating Population Health & Addressing Determinants of Health
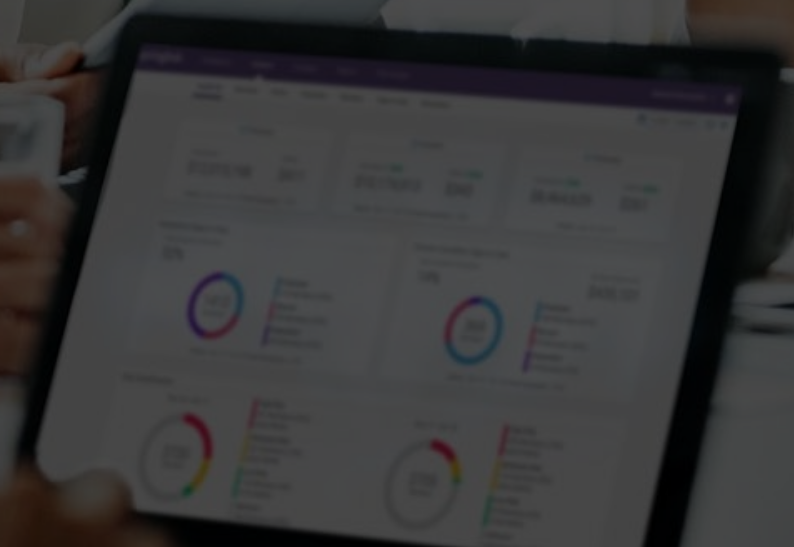
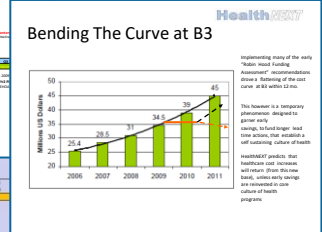# In Pursuit of the Truth

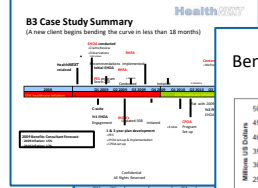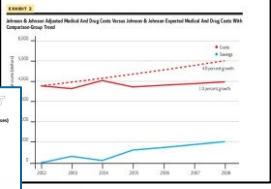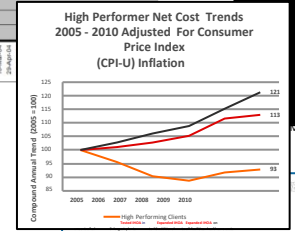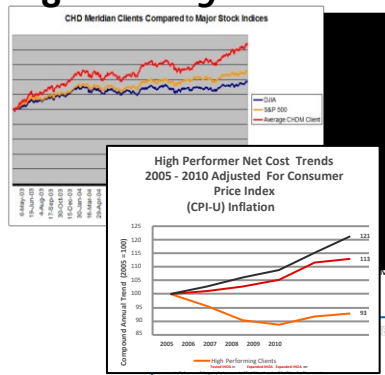*Over a Decade of Research & Testing Best Practice*

Tertiary Research:
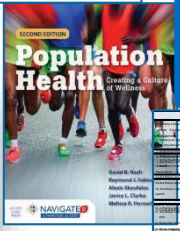3rd party literature review
Anecdotal learning

Secondary Research:
Internal retrospective research
Hypothesis generation &
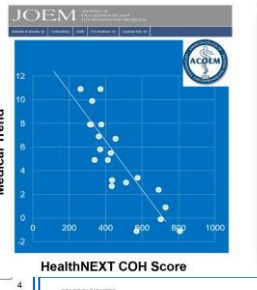Benchmark organization research

Primary Research:
Prospective application testing
& Proof-of-Concept

200	200	200	200	2				2017	2018	2019	2020	2021
6	7	8	9									

Proprietary & Confidential All Rights Reserved

Research established and sequenced
10 Best Practice Pillars

- Leadership Support & Management Alignment
- Well-being Strategic Plan
- Health Supportive Environment
- Well-being On-site Activities (Holistic Approach)
- Health & Wellness Across the Health Continuum (Additional health activities)
- Data Driven Approach
- Marketing/Communication
- Incentives and Benefit Design
- Engagement & Navigation
- Vendor Management - Strategic Partnerships (internal/external)

Proprietary & Confidential

HealthNEXT

A Decade of Research Understanding
Informs Our Methodology and Perhaps Your Path Forward

- **EXECUTE WITH EXCELLENCE - It is not just what you do but how well you do it.** There are **hundreds of possible elements** and several thresholds of implementation (awareness, acceptance, applied resources, penetration, metrics...) that can have influence on a   culture of health

- **You must be COMPREHENSIVE -** A **critical mass of elements** is required to drive a change in culture. However each benchmark company had their own unique mix

- **You must be SELECTIVE** – Focus should be on activities that are consistent with the **corporate culture** and target **highly prevalent** conditions and health risks

- **You must be STRATEGIC** The "annual" programs and budgets approach were almost always unsuccessful

- **SEQUENCE MATTERS.** Good initiatives conducted out of order   yielded poor results

Proprietary & Confidential

HealthNEXT

How to create a culture of health, safety and wellbeing using a system with business rigor

- **Generating a single score out of 1000 points**
- **Incorporates heatmaps to identify gaps from benchmark**
- **Sequences gaps from benchmark into strategic plan over multiple years**
- **Allows for predictive modeling**
- **Establishes of a glidepath with tollgate goals**
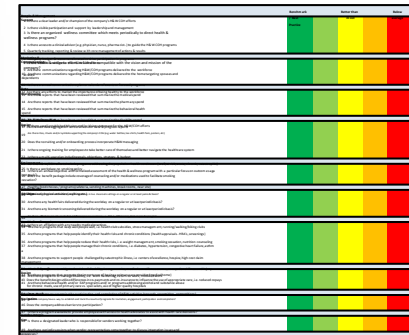- **Provides periodic re-assessment and evidence of continuous improvement and achievement**

Two Gaps-From-Benchmark Planning Tools

E HOA™
For Large Employers
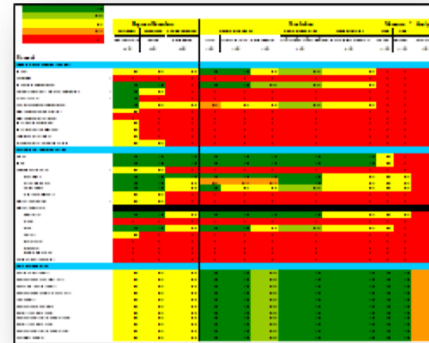
- 218 "E lements"
- 10 "Categories"
- 11 "Thresholds"
- 5 "Degrees" of completion
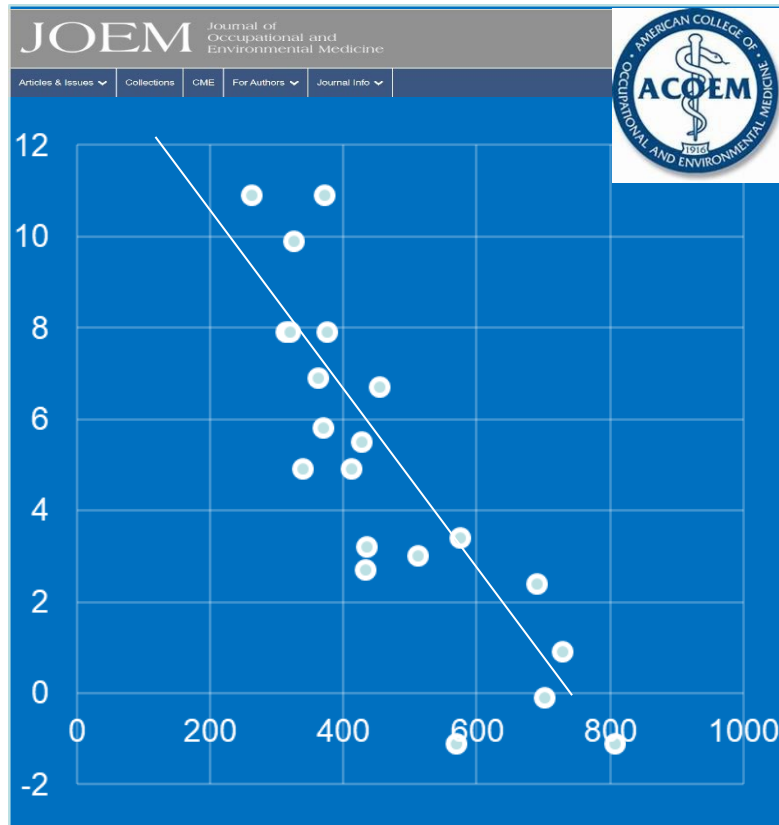
E A50™
For Mid-Mkt Employers

- 50 "E lements"
- 10 "Categories"
- 5 "Degrees" of completion

HealthNEXT

1. Control Healthcare Costs

High Correlation Between "Culture of Health"

Score & Medical Cost Trend – *Every 50 points reduces medical trend by 1%*

HealthNEXT COH Score

Medical Trend

FAST TRACK ARTICLE

The Correlation of a Corporate Culture of Health Assessment Score and Health Care Cost Trend

Raymond Fabius, MD, Sharon Glave Frazee, PhD, MPH, Dixon Thayer, BS, David Kirshenbaum, MBA, and Jim Reynolds, MD

Objective: Employers that strive to create a corporate environment that fosters a culture of health often face challenges when trying to determine the impact of improvement on healthcare cost trends. This study aims to test the stability of the correlation between health care cost trend and corporate health assessment scores (CHAS) using a culture of health measurement tool. **Methods:** Correlation analysis of annual health care cost trend and CHAS on a small group of employers using a proprietary CHAS tool. **Results:** Higher CHAS scores are generally correlated with lower health care cost trend. For employers with several years of CHAS measurements, this correlation remains, although imperfectly. **Conclusion:** As culture of health scores improve, health care costs trends moderate. These findings provide further evidence of the inverse relationship between organizational CHAS performance and health care cost trend.

Keywords: corporate health assessment, culture of health, health scores, health care trend, risk reduction

Many occupational health professionals' roles have evolved or expanded to address the strong connection between workforce health, wellbeing, and safety, and their impact on occupational health.[1] In addition, these professionals must establish ways to measure progress over time and to justify investments in workforce health in an environment where up to 84% of the full-time workforce has at least one chronic disease or is overweight.[2] This paper aims to contribute to these efforts, and in particular, to assist corporate physicians and wellness leaders in meeting these demands.

Over the last few decades, corporate health has become much more comprehensive. Traditional occupational health and safety efforts have incorporated workers' compensation and occupation-related disability management. More recently, occupational health professionals have also been asked to establish efforts to apply primary, secondary, and tertiary preventive services to the workforce and their dependents. Health executives are expected to keep workforces healthy and productive with sustainable and cost-effective programs. Yet, to be successful, companies must build health and safety into the mission, vision, and values of the organization. Adding programs is not enough. The famous quote attributed to Peter Drucker – "culture eats strategy for breakfast" – emphasizes the need to create a work environment where employees and their family members are more likely to make the healthy choice on both a conscious and unconscious basis. Companies have achieved cultures of safety. Now it is time to achieve cultures of health.

How does one define an organizational culture of health? Healthy corporate cultures have a workforce with less illness and fewer unhealthy behaviors. So, employers with "cultures of health" should spend less on health care, without the need to reduce benefit services or shift more costs to their employees. It is feasible to measure a population's culture of health using medical and pharmacy claims information, health appraisals, biometric screenings, and other sources to calculate and track their collective illness burden and risk factors. This may be expressed as reductions in the collective illness burden of employees and their family members, as well as reduced health care cost trend.

Yet, cultural transformation often requires a systematic approach that addresses drivers of culture change, as well as an organizations' comprehensive efforts to put in place and measure a broad array of coordinated changes to improve health. Measuring corporate cultures of health is a recent and evolving development with significant challenges. As there are a long list of determinants of health, this measurement must be comprehensive, recognizing the influence that work itself has on health as well as health benefit design, workplace environment, and company policies. Measurements must also be meaningful and practical if organizations are going to be willing to apply the resources required.

Employers can measure the health of their culture using one or more of the tools developed to provide a corporate health assessment score (CHAS). Examples of these tools include the Centers for Disease Control and Prevention healthy worksite assessment tool and the on-line self-assessment developed by the Health Enhancement Research Organization in coordination with Mercer (the HERO Scorecard). Two other such tools are the Employer Health Opportunity Assessment™ (EHOA™) and Employer Assessment 50™ (EA50™). The EHOA and EA50 are proprietary culture of health and wellness assessment tools that measure elements that can contribute to a culture of health utilizing data collected via document review, workplace observational site visits, and interviews with senior leadership, management, and employees.

This article tests the stability of the correlation between health care cost trend and scores that measure the culture of health by extending the work by Goetzel et al.[3] The seminal work by Goetzel et al[3] demonstrated that another CHAS tool, the HERO Scorecard, was predictive of future health care cost trend. Our hypothesis is that the health care cost trend of companies achieving higher CHAS scores will be lower than companies with lower CHAS scores using data from employer companies that implemented the EHOA/EA50. Moreover, by implementing against a multiyear strategic plan and using simulation, companies can predict the impact of CHAS on future health care cost trend. This has significant implications for financial planning and establishing reserves for covering health care costs.

CORPORATE HEALTH ASSESSMENT USING THE EHOA/EA50

Corporate health assessments vary in design, but all have the ultimate intention of scoring how an organization is doing in terms of their populations' health, their corporate health policies, and

DOI: 10.1097/JOM.0000000000001305

Proprietary & Confidential
All Rights Reserved

© Springbuk. All Rights Reserved. | springbuk.com

HealthNEXT

Poll Question:

What is your organization's biggest challenge to building a culture of health and incorporating Social Determinants of Health?

Response Options:
1. Access to standardized data
2. Executive support of initiatives
3. Limited time/tools/resources to address initiatives
4. Overwhelmed with where to start

Poll Question:

What is your organization's biggest challenge to building a culture of health and incorporating Social Determinants of Health?

Response Options:
1. Access to standardized data
2. Executive support of initiatives
3. Limited time/tools/resources to address initiatives
4. Overwhelmed with where to start

Role of Data Analytics to Address Individual Needs

Precision Population Health
Focus on Prevalent Risks & Conditions

Risk Factors	Episodes of Care	Rx Medicines	Chronic Illness	High Cost	STD/LTD Liability	Life Insurance
Obesity Overweight 15%35%	Musculo-skeletal	Cardio Vascular	Musculo skeletal 20%	Musculo-Skeletal	Cancer	Cancer 25%
Nutrition 60%	Respiratory	Behavioral Mental Pain	Diabetes 6%	Heart Circulatory	Musculo-Skeletal	Heart Circulatory 20%
High CHOL 15%/22%	Mental	Diabetes Endocrine	Pre-Diabetes 3%	Cancer	Mental Neuro	Respiratory 20%
High BP 17%/15%	Heart Circulatory	Infection	Arthritis 6%	Renal	Injury	Injury 11%
Stress 25%	Diabetes Endocrine	Gastro Intestinal	Depression/ Anxiety/Pain/ ADHD 13%	Neuro	OB/GYN/ GU	Neuro 2%
Sedentary 25%	Gastro Intestinal	Respiratory	Respiratory 5%	Pulmonary	Heart Circulatory	
	Pregnancy Newborns	Neuro Cancer	CV Disease 6%			

ILLUSTRATION PURPOSES ONLY

HealthNEXT

Business Rigor - Corporate Cockpit / Triple Aim

Effectiveness		Efficiency	Experience	
HEALTH Health Risk & Improvement	**PRODUCTIVITY** Disability, Absence, WC & Safety	**COST** Cost Drivers & Trends	**ENGAGEMENT** Program Outreach, Engagement & Return	**SATISFACTION** Employee & Family Experience
Trend: 1% Flat	Trend: 1% Negative	Trend: -2% Positive	Trend: .5 % Positive	Trend: 1% Flat

Culture of Health

Site Scan

59.8
AVERAGE CULTURE OF HEALTH CHECK SCORE

PRIOR PERIOD	52.0
AVERAGE	67.0
BENCHMARK	75.0
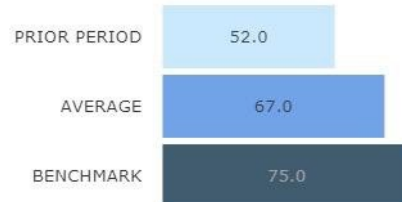
Best Practices

Best Practice	Base Year	Forecast Year	Actual Year	Target Year
Leadership Support & Management Alignment	44	55	46	59
Well-being Strategic Plan	23	35	25	39
Health Supportive Environment	37	45	39	49
Well-being On-site Activities	32	34	34	38
Health & Wellness Across Continuum	79	90	81	94
Data Driven Approach	49	55	51	59
Marketing & Communication	49	49	51	53
Incentives & Benefit Design	33	33	35	37
Engagement & Navigation	30	30	32	34
Vendor Management - Strategic Partnerships	10	10	12	14

HealthNEXT

Many Studies of Virtual & Actual Portfolios
Marketplace rewards companies who achieve cultures of health

☐ **Health Enhancement Resource Organization High-Scoring Companies**
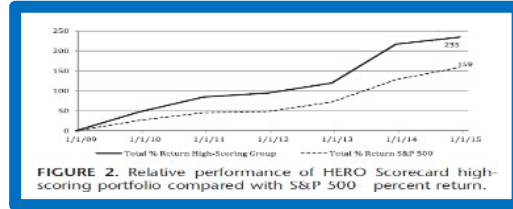
☐ **Health Project Award-Winning Companies**

☐ **CHAA Award-Winning Companies**

Companies That Promote a Culture of Health Safety and Wellbeing Outperform in the Marketplace

Conclusion: Employers, fund managers, and fund investors would be well served by including strategies that assess a company's commitment to the health, safety and wellbeing of their workforce when evaluating investment in their enterprise and portfolios
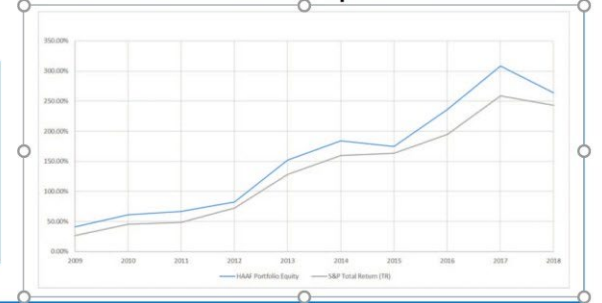
A Portfolio of companies that distinguish themselves by building cultures of health, safety and wellbeing appreciated 20% better than the S&P 500 during a ten year span 2009 -2018

Proprietary & Confidential

springbuk®

Using Springbuk & SDoH Data for Greater Precision

Integrate with Other Data
Understand population SDoH profile and relationship with health and productivity-related aspects of population

Predict Risk
Incorporate SDoH into predictive models to help identify certain aspects of risk

Improve Efficiency
Inform strategies around utilization navigation and guidance opportunities

Inform Interventions
Influence selection and outreach for Care Management/Wellness programs

Design Benefits
Ensure best benefit plan options available for all types of employees/families

Target Communication
Customize health-related communication and education to improve engagement and comprehension

Diabetes – Disease Management Programming

Age / Member Type

36-49

	Employee	Spouse / Partner
	32	
	39	22

50-64

	Employee	Spouse / Partner
	97	88
	116	49

65+

	Employee	Spouse / Partner
	34	31
	18	

BMI Lab Result Distribution

Biomarker Type

BMI

Risk State: ■ 1 ■ 2 ■ 3

Blood Glucose Lab Result Distribution

Biomarker Type

Blood Glucose

Risk State: ■ 1 ■ 2 ■ 3

Disease management program data combined with **medical/rx data** allows us to understand utilization of specialty programs and the overall impact on engaged members.

Layering in **lab/biometric data** can provide further insight into the **member experience and outcomes** as well as highlight opportunities to. improve engagement.

Without additional evaluation, the efficacy of the program may be in question

---

springbuk.

Diabetes – Disease Management Programming

SDoH data can help complete the picture, providing additional information on **challenges members are facing** and informing strategies to reduce barriers.

In this instance, by overlaying **high-density fast food** areas we see the outside challenges facing this population

Disability - Completing the Picture

Chronic Condition Average (Members w/Disability)

of Chronic Conditions

(Bar chart with values ranging approximately from 1000 at 0 down to near 0 at 9, with bar 6 highlighted)

Aggregate Average Duration

of Chronic Conditions

0	1	2	3	4	5	6	7	8	9
39.35	42.00	42.96	44.48	47.12	48.94	50.53	56.88	24.83	61.00

Disability with Multiple Conditions | 6

Diagnosis Group Description

Individual ID	# of Unique Programs	AIDS	Asth..	Cardio vascu..	Chronic Obstr..	Conduc tion D..	Congen ital H..	Conges tive H..	Degen erativ..	Di..	Endoc..	Epilep..	Glauc..	Hyper..	Lupus	Menstr ual Di..	Metab olic Di..	Non-neopl..	Renal F ailure..	Thyroi d Dise..
	Null			$0K				$1K	$424K				$0K			$0K			
	Null			$11K				$0K	$363K				$0K			$30K			$1K
	1	$948K		$158K		$26K			$216K	$274K				$0K				$0K		
	Null			$0K				$1K	$215K				$16K			$0K			$1K
	Null		$0K						$184K				$0K			$7K		$9K	$1K
	Null		$17K	$144K					$161K				$21K		$0K	$16K			
	Null		$0K	$13K				$41K	$145K				$19K			$1K			
	1							$66K	$140K				$2K			$4K		$25K	$11K
	1			$30K				$6K	$136K				$0K			$0K			
	Null							$0K	$110K				$0K			$16K	$2K		$1K
	3	$594K																		$18K
	Null																	$4K	
	Null																		
	Null																		

program	engagement_status	initial_eng..	program_e..
HIV	Engagement Rule	Null	Null
Diabetes	Engaged	12/6/2019	12/2/2019
Hypertension	Engaged	12/6/2019	12/2/2019

- **Disability data** combined with **Medical and Rx data** allows us to drill into the relationship between the **number of chronic conditions** and the **duration** of leave.

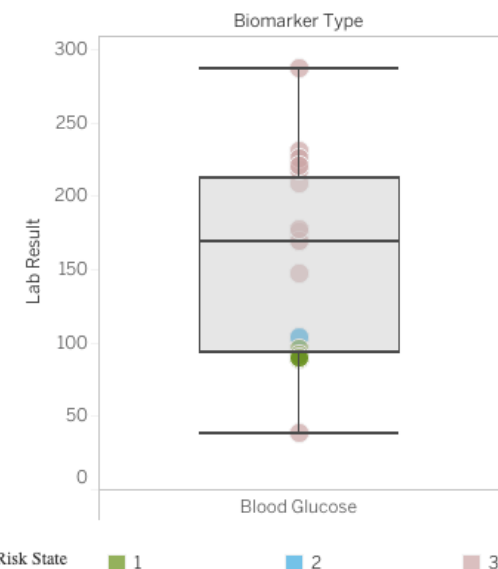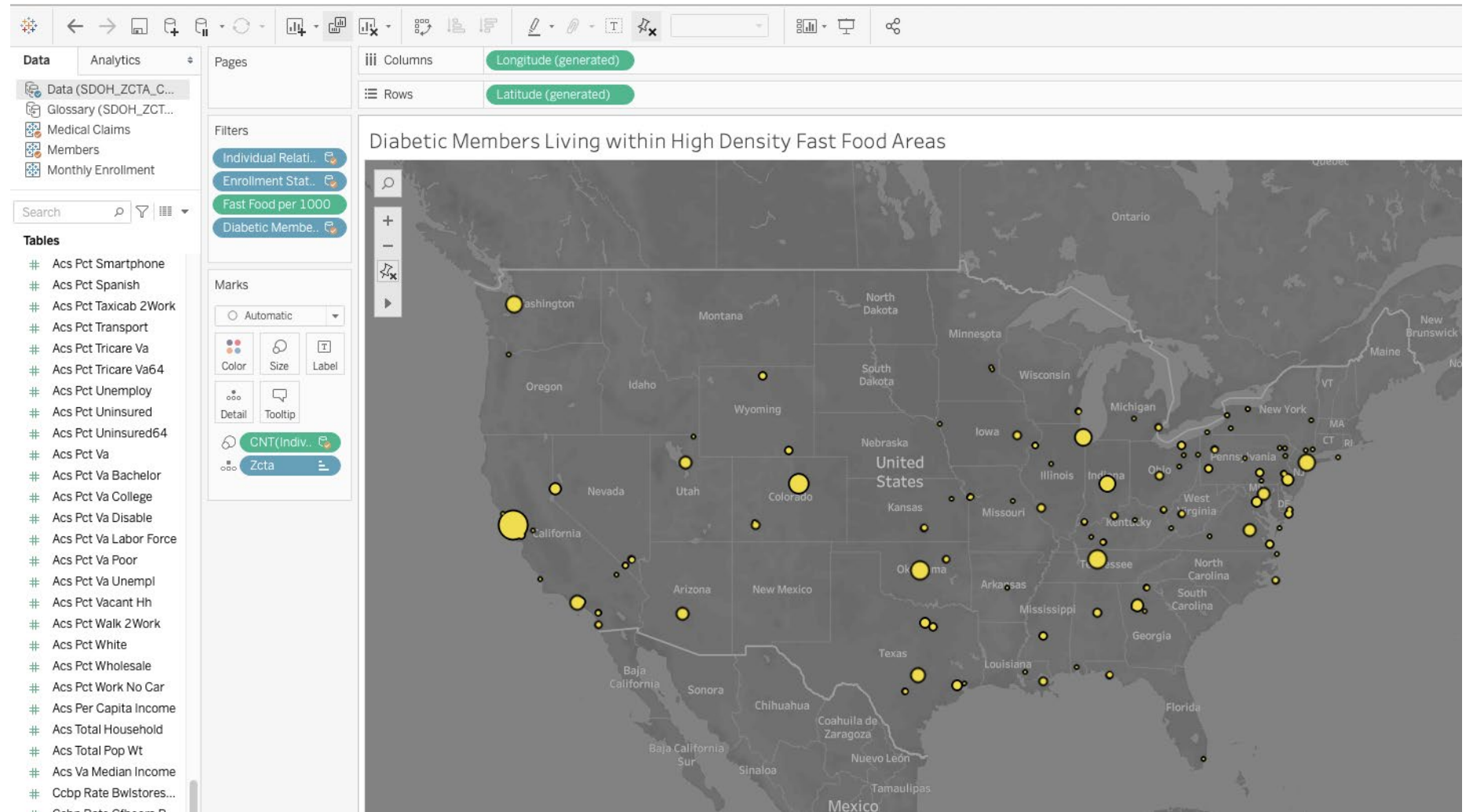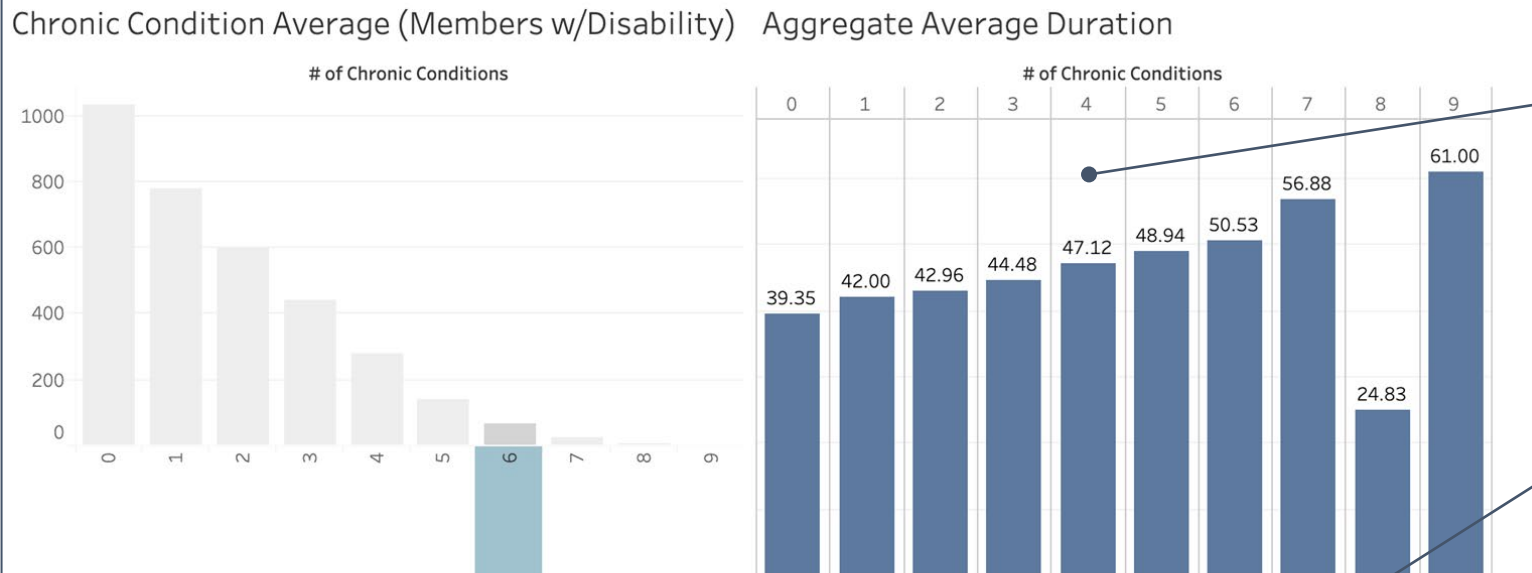- Layering in **Point Solution data** can provide further insight into the **member experience** as well as highlight opportunities to **improve engagement**.

SDoH data can help complete the picture, providing additional information on **challenges members are facing** and informing **strategies to reduce barriers**.
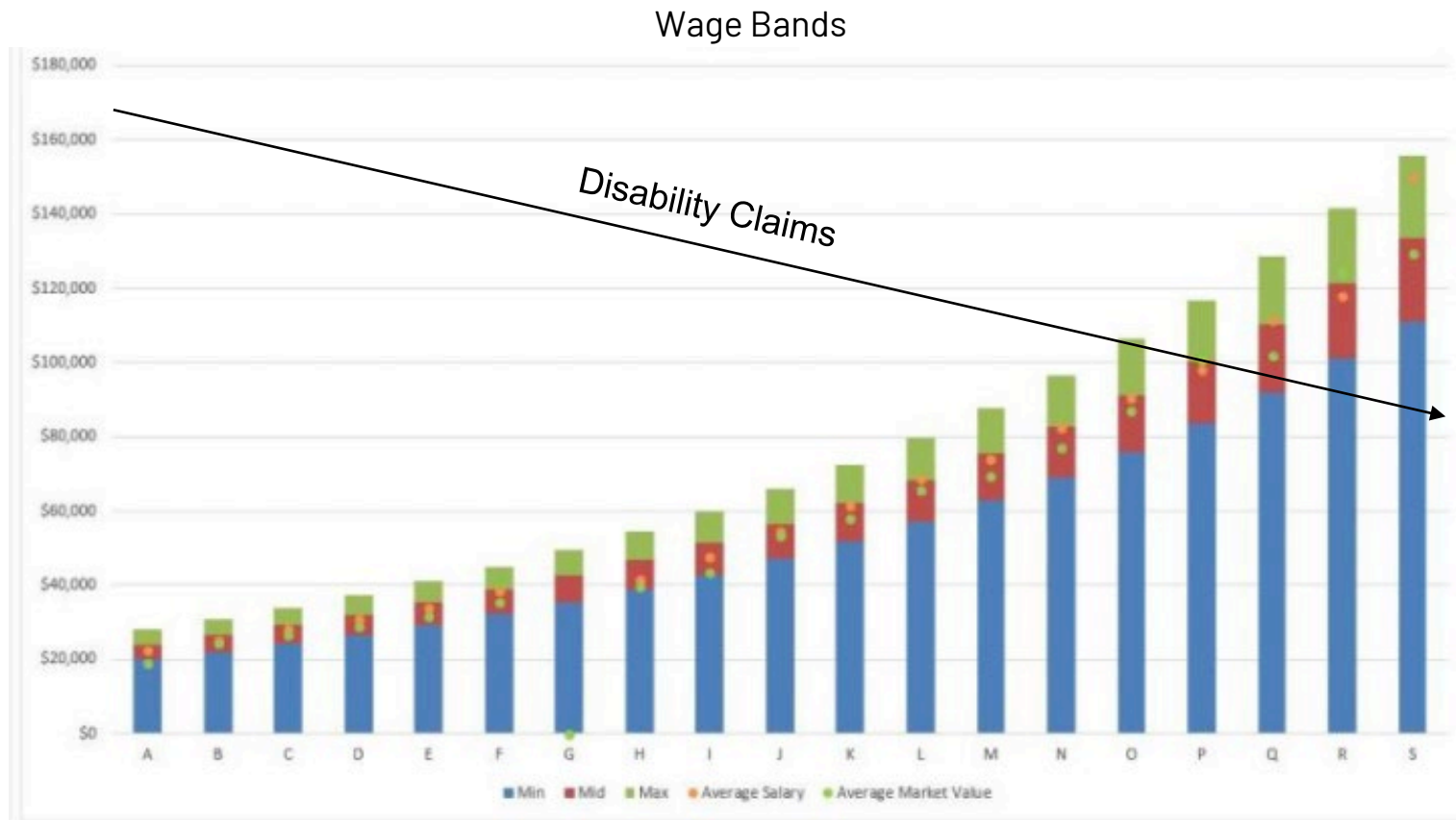
springbuk

Disability – Completing the Picture

Wage Bands

Disability Claims

Min   Mid   Max   Average Salary   Average Market Value

Income levels or wage bands specifically can help tell the story of disability and the **additional challenges** they may be incurring.

Studies have shown that **illness burden is disproportionate to wage band** and that can continue to put financial strain on members.
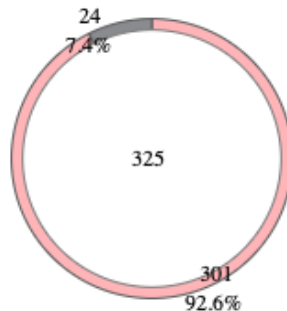
This is a key piece of data to understand opportunities to provided targeted solutions, communications or care coordination.

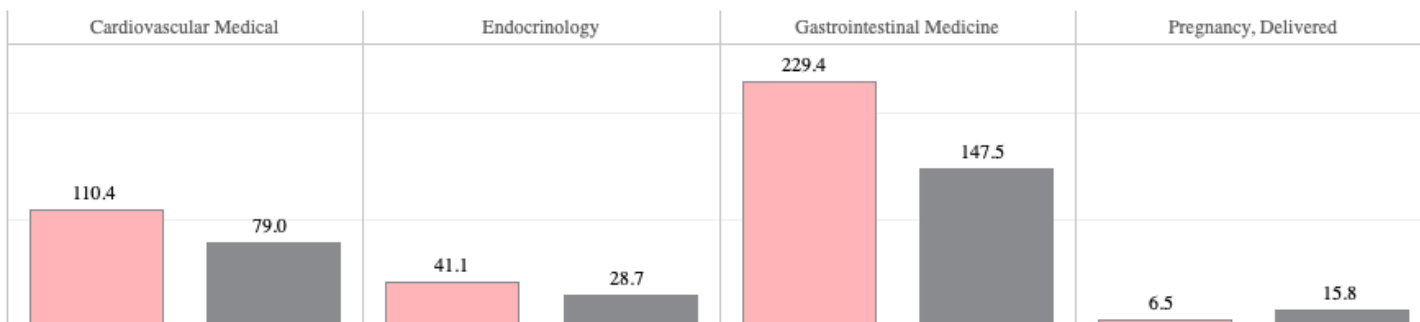springbuk®

Mental Health – Access to Care

Total Cost

$15,440
38.2%

$40,396

$24,956
61.8%
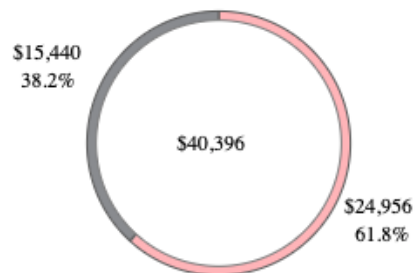
In Network · Out of Network

Total Claims

24
7.4%

325

301
92.6%

Prevalence with and without Mental Health Condition
Based on members per 1000

Cardiovascular Medical	Endocrinology	Gastrointestinal Medicine	Pregnancy, Delivered
110.4 / 79.0	41.1 / 28.7	229.4 / 147.5	6.5 / 15.8

Diagnosed w/ Mental Health Condition · Not Diagnosed w/ Mental Health Condition

Addressing mental health remains a focus for employers well into 2021. Many providers remain **out of network**, resulting in higher out of pocket costs for employees to receive the care they need.

Research suggests people with mental health and at least one other chronic condition tend to have more severe symptoms of both illnesses and can further result in higher medical costs
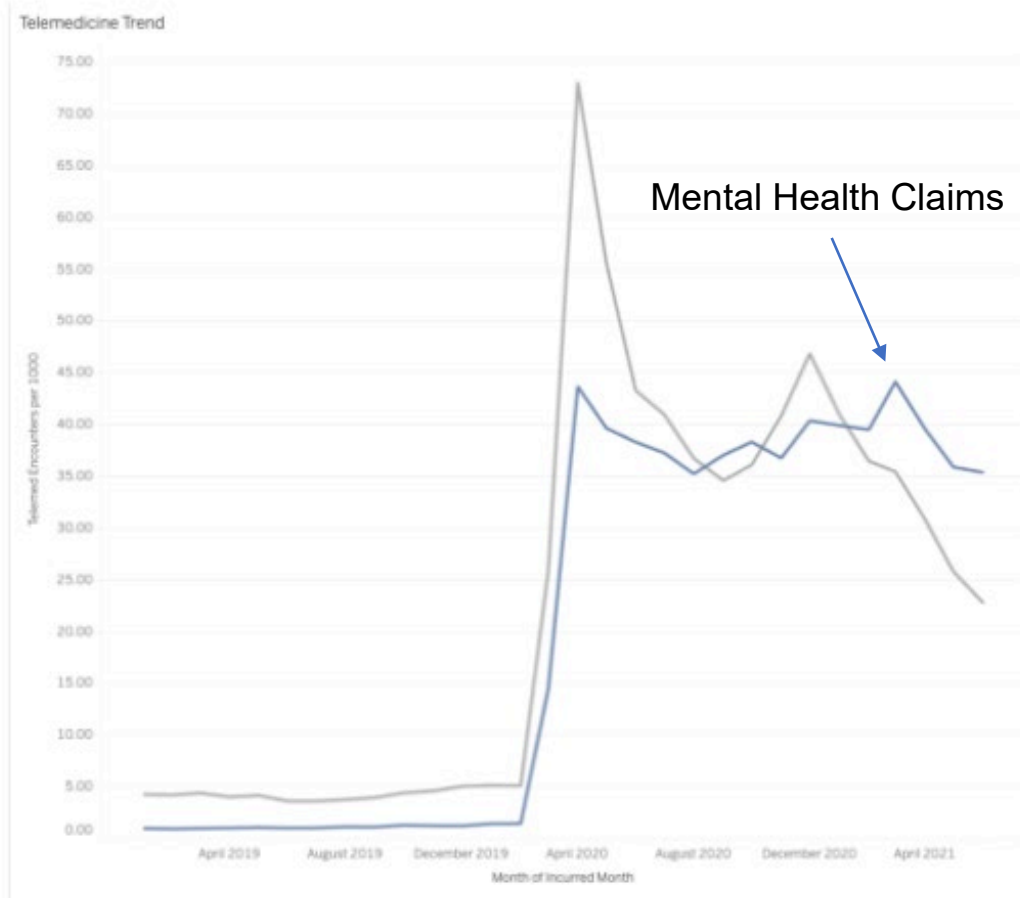
Without addressing mental health, access to cost efficient treatment and the impact on other conditions, the problem will continue to grow.

springbuk®

Mental Health – Access to Care

Chr Mental Dr Rate
99.5   865.7
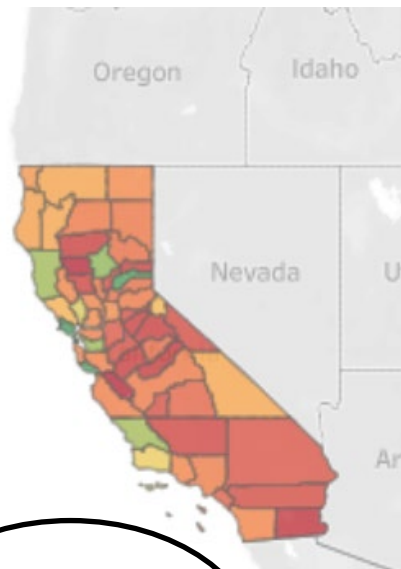
Mental health providers per 100k (county level)

Telemedicine Trend

Mental Health Claims

By using county level data on the rate of mental health professionals, we understand for this population, access to in-person care is severely limited .

Our data indicates that after the initial spike, mental health telemedicine claims have remained stable and remain the driver of overall telemedicine utilization.

In order to best address mental health needs, consider targeted communication around access to mental health services via telemedicine to drive and improve efficiency.

springbuk®

Learn more about
6 key categories
where data related to individual and social determinants can hel design impactful population health strategies.

Social
Determinants
of Health

A Springbuk Perspective

springbuk.com/e-book

springbuk®

Questions?

Dr. Ray Fabius
Co-Founder / President
HealthNEXT

Jennifer Jones, MSM RD
Population Health Practice Leader
Springbuk
jjones@springbuk.com

Upcoming Webcast Programming from The Conference Board

- [Talent Acquisition, Recruitment, and Retention in a Remote World](#) **(November 10, 2021)**

- [It Seemed Like a Good Idea at the Time: From Principle to Practice in Executive Compensation](#) **(November 15, 2021)**

- [Human Capital Watch™: Impact of AI in HR: Real Benefits and On-Going Challenges](#) **(November 16, 2021)**

**View all our upcoming webcast programs at
https://www.conference-board.org/webcasts/upcoming/**

NEW Podcast Series: CEO Perspectives - Insights for What's Ahead™

Hosted by our CEO, **Steve Odland**, this bi-monthly series features in-depth interviews with thought leaders from The Conference Board to provide business executives with data-driven insights to prepare them for what's ahead.

Available on our website at https://www.conference-board.org/podcasts/ceo-perspectives-podcast or on most popular podcasting platforms, including:
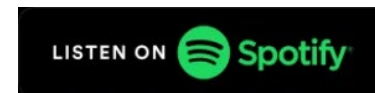
*my*TCB™

Sign in to enjoy customized, convenient access to the full range of
Member benefits – the latest research, benchmarking & data tools,
peer networks, and events delivering Trusted Insights for What's Ahead.

Watch this short video to get started.
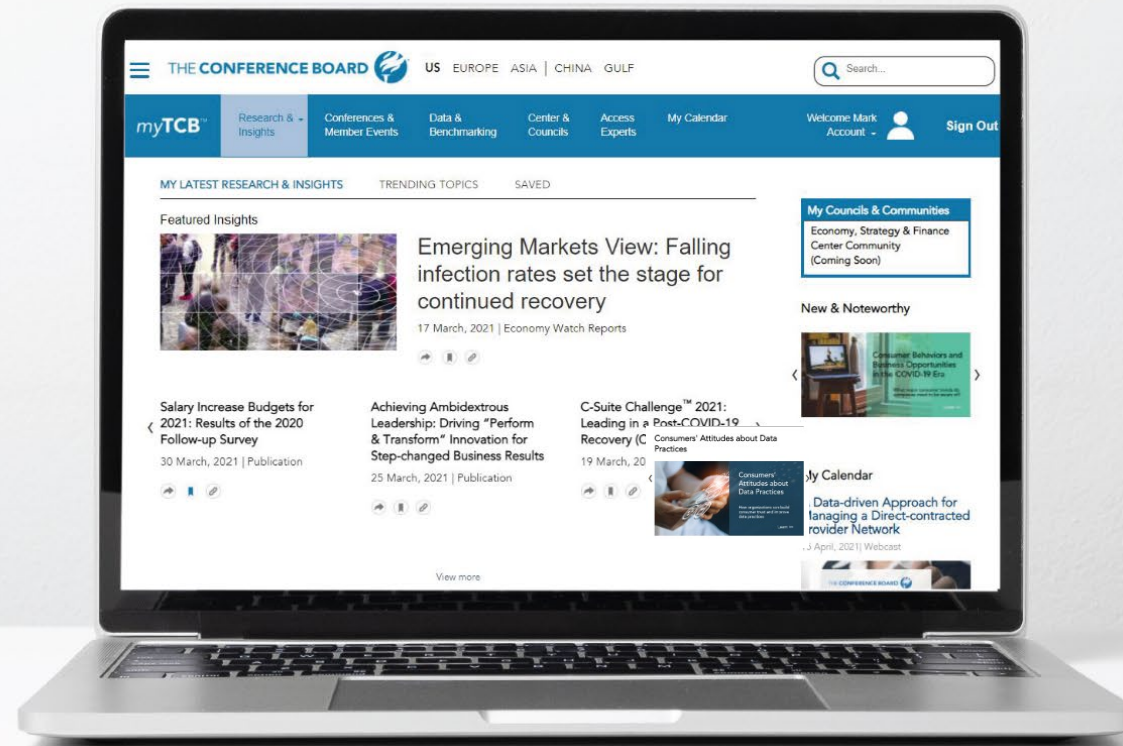
EMOTIONAL WELL-BEING @ WORK CONFERENCE

VIRTUAL EVENT
December 15, 2021

This event is Complimentary for The Conference Board members.

Register now at www.conference-board.org/emotionalwellbeing