



# CHANGE AT SCALE

HEALTH FORUM 2014

FROM DISEASE CARE TO HEALTHCARE



NORTHWESTERN UNIVERSITY





## Executive Summary

The 2013 KIN Health & Wellness Forum explored key megatrends and the underlying forces that promise to shape the future of innovation over the next ten years. The forum identified ways in which healthcare will become more personalized, predictive, preventive and participatory—commonly referred to as the 4P framework. And with this, we explored cost and access issues and the opportunities for innovation.

In May 2014, with focus on the new Kellogg Innovation Network initiative, Change@Scale, the KIN Health & Wellness Forum continued the discussion, taking on the challenges involved in creating change at scale in health & wellness.

This paper explores insights gained through discovery leading up to the KIN Health & Wellness Forum, as well as from our expert panel at KIN Global 2014.

### The Challenge:

Chronic disease is a pandemic that threatens global prosperity.

### The Solution:

Addressing this global challenge requires a paradigm shift from *disease* care to *healthcare*. Personalization of healthcare, at scale, will be a key component and necessary driver of this transformation. However, scaling change will require new thinking and approaches.

### Key Forum Insights:

Below are **five key insights** surfaced and discussed at this year's KIN Health & Wellness Forum. While they do not provide a roadmap for achieving change@scale, they do provide new ways of looking at the challenge and offer exciting new potential for innovation:

1. We must evolve from a stakeholder-specific approach to a *multi-stakeholder approach* to innovation.
2. Scaling personalization will require community-based intervention.
3. Big data will be a key enabler of personalization at scale, shifting the paradigm of care delivery and creating a model for dynamic learning & growth.
4. We must provide new incentives to influence consumer motivation.
5. Corporations can act as powerful agents of change once they view *population health* as a source of future competitive advantage.

This year's KIN Forum also surfaced and discussed three factors that must be solved for in order to create real change: *accessibility, affordability and desirability*. Once barriers are overcome, each becomes an enabler of innovation and change.

The key challenge for innovators is to approach the issues holistically and from a multi-stakeholder perspective. Silo thinking will not produce the kind of change needed. Real change requires systems thinking, and will rely on partnerships: governments and private sector, payers and providers, for-profit firms and NGOs, corporations and the startup community.



## Health & Wellness Experts

These health and wellness experts lead a discussion on the risks of rising chronic disease and the opportunities for shifting from disease care to healthcare.

### **RICK BRUSH**

CEO  
Health Initiative Coordinating Council (HICcup)

### **PAUL WALLACE, MD**

Chief Medical Officer  
Senior Vice President, Clinical Translation  
Optum Labs

### **NIELS LUND**

Vice President  
Novo Nordisk

### **DEREK YACH**

Senior Vice President  
The Vitality Group

### **MODERATOR:**

#### **SCOTT BOWMAN**

Partner  
Claero

### **MODERATOR:**

#### **JAMIE N. JONES, PHD**

Clinical Assistant Professor of Entrepreneurial Practice  
Kellogg School of Management, Northwestern University

## The Challenge:

### **Chronic Disease is the Pandemic of the 21st Century**

A silent pandemic of chronic disease is spreading across the globe, replacing infectious diseases as the leading cause of death and creating a staggering public health challenge.

### **The Human Cost of Chronic Disease**

According to the 2011 World Health Organization Global Status Report, more than 63% of annual global deaths are due to chronic diseases—with cardiovascular, cancer, diabetes and chronic respiratory diseases emerging as the leading cause of mortality in the world. By 2020, global deaths due to chronic diseases are projected to worsen by at least 15 to 20%. It is estimated that the four major noncommunicable diseases will be responsible for 75% of worldwide deaths by 2030.

## Projected Main Causes of Death

Worldwide, all ages, 2005



30% Cardiovascular disease



30% Communicable diseases, maternal and perinatal conditions and nutritional deficiencies



13% Cancer



9% Injuries



9% Other Chronic Disease



7% Chronic Respiratory Diseases



7% Diabetes

**TOTAL DEATHS 2005: 58 MILLION**

Source - World Health Organization

**"The rise of chronic noncommunicable diseases presents an enormous challenge. For some countries, it is no exaggeration to describe the situation as an impending disaster; a disaster for health, for society."**


—MARGARET CHAN

World Health Organization Director-General

### The Economic Cost of Chronic Disease

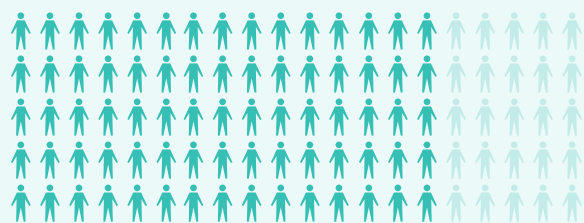
The economic costs of chronic disease are staggering. According to the World Economic Forum, chronic disease will cost the global economy an estimated \$47 trillion by 2030, with cumulative output loss upwards of 4% of global GDP. In the United States, the Centers for Disease Control (CDC) estimates that managing chronic disease accounts for approximately 84% of U.S. healthcare costs. The indirect costs (worker productivity and other factors) create an additional headwind: estimates of GDP loss range from a 1-5% decrease (2005-2015) depending on the demographics of the specific country.<sup>1</sup> On top of all this are broader social and environmental costs.

<sup>1</sup>Source - World Health Organization, Centers for Disease Control and OECD



## Americans with chronic conditions account for 84% of health spending.

In 2011, this totaled more than \$2 trillion.



75% One or More Chronic Condition



65% Two or More Chronic Conditions

Source - World Health Organization

### A Global Burden

Currently, over 2 billion adults are overweight or obese; over 350 million have diabetes. And, although often associated with developed nations, chronic diseases have become a significant health burden in many developing countries.

Increased urbanization and the expansion of western diet and lifestyle, are fueling the rise in chronic illness in developing markets: India and China are now the epicenter of global growth. With its scale, China alone now contributes 25% of diabetes cases globally. Put simply, chronic diseases are a global pandemic threatening the future prosperity of our planet.<sup>2</sup>

## The Solution:

### Migrating from Disease Care to Healthcare

Because they are complex, multifaceted and degenerative in nature, chronic diseases present a particular challenge. They cannot be traced to a single cause or agent, yet the primary focus of our system of healthcare is on the identification of an agent, or mechanism of action and intervention. Our system of healthcare has been focused around acute care, not chronic care; for intervention and not prevention. Instead of effectively addressing the underlying causes and factors driving the onset of disease, we play “whack-a-mole” with symptoms of chronic diseases like diabetes and cardiovascular disease – prescribing insulin, statins and other medications, without dealing with the onset of the diseases in a credible, systemic way.

<sup>2</sup> Source - World Health Organization



Given the proportion of the global population suffering from chronic diseases and projections of increases in the cost of chronic illness management with the onset of comorbidities, it will not be possible to create meaningful change through simply improving intervention. Credible solutions for prevention, tailored to the individual, will be needed.

**“Chronic diseases don’t heal by themselves; they grow worse over time; [and] they do not have a single cause...rather several factors give rise to them. Solving them by definition requires a personalized approach.”**

**—JEFFREY BLAND, PHD, AUTHOR**  
The Disease Delusion

**Prevention and Personalization: A Scaling Challenge**

Migrating from disease care to healthcare by definition requires a focus on *prevention* and wellness. And, it requires a focus on *personalization* of care – tailored to the individual and their context: economic, social, environmental, etc.

Over the past decade, innovations in genomics, sensors and monitoring technology, motivational techniques, wellness programs and healthcare services such as concierge medicine have enabled individual consumers to achieve a degree of personalization of care. However today, personalization of healthcare is facing a scaling challenge. That is, while we can create personalization at an individual level, we do not know how to accomplish personalization@scale. Our entire system of care has been optimized for intervention, not prevention; for mass production, not mass personalization.

**Solving the challenge of personalization@scale will require multiple paradigm shifts:**

A PARADIGM SHIFT IN	FROM	TO
Business Models	Provider-Centric —————→	Consumer-Centric
System of Care	Standardized and Centralized →	Decentralized
Enabling Technologies	Diagnostic —————→	Prognostic and Predictive
Consumer Engagement	Passive —————→	Participatory
Outcomes and Measurements	Cost-Based —————→	Value-Based





## Insights from the 2014 KIN Health Forum

With so much change required, how do we forge a path forward? Our goal is to leverage the power of the KIN—the power to convene, curate and facilitate a dialog with leaders from diverse perspectives—to provide new insights, connections and ideas to catalyze innovation.

Following are five practical insights from the distinguished panel of experts that emerged at the 2014 KIN Health Forum. While they do not provide a definitive roadmap for achieving personalization@scale, they do begin to open a window to a bold new vision of future innovation.

### **INSIGHT #1.**

#### **We must evolve from a stakeholder-specific approach to a *multi-stakeholder approach* to innovation.**

As human beings, we exist in mini-ecosystems, where multiple factors—including our genetic makeup, family and social structure, environmental conditions, food choices, physical activity (or lack thereof) and stress levels—conspire to affect our health outcomes. In each area, we are developing insights about the factors that lead to positive health outcomes and strategies for reducing the onset and advancement of chronic diseases.

Yet, even with the many factors that affect an individual's health outcomes, our approach to innovation continues to be largely stakeholder-specific, tackling only single components of the challenge without taking into account the entire personal ecosystem in which a consumer lives. For example, a pharmaceutical company develops a new drug to target a mechanism of action related to a chronic disease but that drug does not address the environmental factors that contributed to the onset of the disease. A food manufacturer explores ways to create healthier ingredients for its products but those healthier options do not address factors in the environment that affect food choices—factors that include socioeconomics, family structure and consumer motivation.

Of course, individual firms will continue to pursue novel new solutions in areas that drive their business model—and they should. However, in addition to this, more collaborative and multi-stakeholder approaches to innovation are needed to create real change. Novo Nordisk provides an inspirational model for the future.

#### **Novo Nordisk's *Cities Changing Diabetes* Program: A Visionary Multi-Stakeholder Model for Change**

Novo Nordisk, a Danish pharmaceutical firm that is a powerhouse in diabetes care, is pioneering Cities Changing Diabetes, a new multistakeholder approach to innovation in an urban context. Novo Nordisk understands that creating the next blockbuster insulin drug is only one element in addressing diabetes. New approaches to diabetes prevention, diagnosis and intervention are needed to address the onset and advancement of the disease.



In response to the fact that two-thirds of all people with diabetes live in an urban setting, Cities Changing Diabetes is bringing together a diverse coalition of stakeholders from business, city government, healthcare, academia and city planning to map the problem in select cities. Beginning in Mexico City and now in Copenhagen, the program is identifying barriers and priorities for the future. From this baseline, Novo Nordisk plans to share learnings, form creative partnerships and create innovative new solutions that can affect health outcomes.

**"Diabetes is the number-one health challenge in Mexico City. For me, Cities Changing Diabetes is a catalyst to sharing and learning about the dynamics of urban diabetes and is a spur to concerted action across all of us who can make a difference in my city and beyond. I'm delighted to work alongside a new and broader set of partners and am proud to be a part of the global fight against urban diabetes."**

**—DR. MIGUEL ANGEL MANCERA ESPINOSA**

Mayor, Mexico City



**64%** of people with diabetes live in urban areas

*Source: IDF Diabetes Atlas. International Diabetes Federation 2013. 6th edition*

At the KIN, we believe this type of multi-stakeholder approach is visionary, and the type of approach needed to ensure the prosperity of future generations.





## INSIGHT #2.

### Scaling personalization will require community-based intervention.

Credible approaches for prevention must be personalized, but scaling change requires developing solutions at the *population level*, not merely at the individual level. Solutions must be tailored to their community of context, individual results aggregated and generalized and outcomes must be evidence-based.

That said, so many questions remain unknown: How do we measure health? What evaluation systems should we use? How will we finance health-based initiatives to ensure that they are scalable? How will we create business model innovation in the delivery of healthcare?

One KINian is creating an innovative new approach that is focused on migrating from personal health to *collective health*.

### Producing Healthy Communities: HICCCup's Way to Wellville

Rick Brush, CEO of Health Initiative Coordinating Council (HICCCup), is a KINian who is developing an innovative approach to the migration from personal health to collective health. He notes that, even though 90% of the factors that matter to our health—including diet, lifestyle and stress—lie outside the healthcare system, the primary focus of today's health providers and payers is on the 10% that can be diagnosed and treated in a clinical setting. Rick believes that *local communities of engagement* can provide a conduit for scaling prevention.

HICCCup is a nonprofit organization founded by angel investor Esther Dyson to encourage a rethinking of how we produce health. Based on the belief that local communities can provide a conduit for scaling prevention, the organization's Way to Wellville initiative is working to identify ways to engage and support consumers in context in order to generate healthy communities. By focusing on scaling personalized health strategies at the population level rather than the individual level, the organization hopes to build a body of evidence regarding health outcomes.

Five communities of less than 100,000 persons will work with HICCCup and a network of partners over the next five years to produce visible improvements in five measures of health and economic vitality. The communities will receive support in the areas of data and measurement, evidence-based health solutions and innovative financing strategies. Rigorous evaluation will measure the impact of specific health initiatives, reinforced by a coordinated, communitywide approach, while generating new insights and market opportunities for producing health.

Communities are powerful vehicles for consumer engagement because the culture, social structure, rewards systems, accountability and other factors can be considered. HICCCup has focused its efforts on physical communities and will be supporting them with technology, online programs and more.



Other pure-play online models have also emerged, such as PreventNow ([www.preventnow.com](http://www.preventnow.com)), a model which is focused on virtual communities. These innovations and the outcomes they generate will bring powerful new insights and provide a window into how to create scalable solutions at the population level.

### **INSIGHT #3.**

**Big data will be a key enabler of personalization at scale, shifting the paradigm of care delivery and creating a model for dynamic learning & growth.**

KINian Paul Wallace, Chief Medical Officer for Optum Labs, has advocated that as we migrate from disease care to healthcare, we're facing a zero sum game unless we make healthcare more efficient. We simply cannot make systematic change without creating new ways of funding health initiatives and innovation efforts at scale. Making healthcare more efficient requires reducing waste, re-work and driving efficiency. *Personalization of care will be central to driving this change, and a key enabler of personalization is the use of massive datasets.*

We are collecting exponentially more data about our genetics, experience and environmental context that will lead to what KINian Vivek Wadhwa of Singularity University, and others, have referred to as the quantified self. These data include traditional health information such as electronic health records data, claims data, family structure, and the like, but in the future will also include data from devices and sensors—implanted, wearable and passive/environmental—as well as user-generated information. All told, we are living in an age of data abundance. That trend will continue exponentially in the future and offer us radical new possibilities in personalization of healthcare at scale.

### **Optum Labs: Leveraging Big Data to Create Personalization@Scale**

Dr. Wallace believes that in the future we'll be able to migrate from looking at healthcare from the perspective of diseases or organs and instead look at each person as a "rare event" with a health plan that is tailored and personalized, not generalized. As we do, we will be able to aggregate masses of rare events to look for patterns and create predictive models that enable step-function changes in efficiency. He believes that by focusing on the "over-treated and under-cared-for" portions of the population – the 10% of our population that are driving the majority of the costs associated with chronic illness – we will be able to open up significant sources of value across the system. Today, Optum Labs is in the process of embarking on that journey: procuring data sources, developing partnerships with players across the ecosystem and exploring the systems-related issues that create barriers to innovation.



Innovation like this will enable the migration from care models that are provider and payer-centric to those that are truly consumer-centric. However, this kind of innovation will also open up a whole new set of challenges—including privacy concerns, a need for new definitions of the role and scope of the physician in the continuum of healthcare and new models for dynamic learning and growth. Regulatory frameworks will need to evolve. And new approaches to care, partnerships and creative coalitions will be needed.

#### **INSIGHT #4.**

##### **We must provide new incentives to influence consumer motivation.**

While technology and big data hold great promise for the future, they will fail to deliver on the outcomes they promise unless they are combined with approaches that help influence consumer motivation. Many personalized wellness and prevention programs focus on the *supply* side of the equation, providing innovative new devices, solutions and offers for consumers. More innovation must be focused on the demand side – influencing consumer choice and decisionmaking – to create real change. Insurance payers have a potentially powerful role to play in the way they compensate and reward consumers, and promising innovation is beginning to take root. One great example of this is Vitality Group.

#### **CASE EXAMPLE:**

##### **Vitality Group**

Vitality Group, founded in 1997 by South Africa's largest health insurance provider, was the first insurer in the world to *reward and incentivize healthy behaviors*. Leveraging insights from behavioral economics, the company created an incentive platform for consumers. By breaking down barriers to healthy activity with free gym memberships and other incentives similar to airline frequent flier programs, Vitality's model provided incentives for health-promoting behaviors, which it ties to probabilistically favorable outcomes.

Today, Vitality's model now features comprehensive wellness offerings for corporate employers that include assessment, diagnostic and monitoring tools like pedometers, a partner gym and a points-based reward system to drive improved consumer outcomes. Today, with more than 20 years of experience and more than 220 million member months of data, Vitality is building a powerful bank of information from which to build insight on consumer motivation and outcomes.

Ultimately, new technology innovations combined with promising business model innovations like Vitality, HICcup's Way to Wellville, and others, hold promise for scaling change in prevention.



## INSIGHT #5.

### Corporations can act as powerful agents of change once they view population health as a source of future competitive advantage.

Armed with the realization that a healthy workforce is the engine of innovation for any firm, employee population health is becoming a C-suite issue. Today's business leaders understand that chronic diseases, especially those caused by lifestyle factors, can have a profound impact on the corporation in terms of worker's compensation claims, general health claims for those that are self-insured, lost productivity and work safety issues. As a result, employers are increasingly realizing that real business benefits accrue to those who invest in the health of their employees.

**"Employers must realize that evolving population health helps drive workforce resiliency—creating more desirable, productive workplaces."**

—JOHN ZERN,

Vice President and Global Health Leader, Aon

Corporations today have the *potential* to act as powerful agents of change in consumer health and wellness, because they are highly influential in the three core factors KINian John Peters of the Anschutz Wellness Center at University of Colorado described in last year's KIN Forum as: *survival* (the "operating system" of life), *purpose* (goal-orientation), and *context* (community, social structure, relationships).

Building on these insights and perspectives, at this year's KIN Forum, Derek Yach, SVP of Vitality Group and leader of the newly-formed Vitality Institute, urged that corporations need to integrate health metrics into corporate reporting and be held accountable for corporate health just as they are held accountable for financial health of the enterprise. This recommendation was one of five core recommendations made in a comprehensive report published recently by The Vitality Institute's Commission on Health Promotion and the Prevention of Chronic Disease in Working-Age Americans. For more on this report: <http://thevitalityinstitute.org/commission>.

## Barriers & Enablers to Real Change

This year's KIN Forum also explored three key factors that must be addressed if we are to create real change: accessibility, affordability and desirability.

**Accessibility:** Scaling the reach of innovative solutions beyond innovators & early adopters

**Affordability:** Ensuring economic viability for all stakeholders involved

**Desirability:** Creating a compelling value proposition for all stakeholders involved



There are *barriers* to overcome within each such as: cost and access for innovative new solutions, privacy & trust, infrastructure, consumer engagement & education, relative nascence of measures & evidence-based outcomes, and hurdles to overcome in existing healthcare business models.

However, there are also promising enablers of change emerging on the horizon, including factors such as: technology (sensors, machine intelligence, mobile technology), the promise of big data, increasing push toward transparency, evolving business models (e.g. move to defined contribution plans), evolving regulatory frameworks with a greater focus on wellness & prevention and others.

### Catalyzing Change

The challenge for innovators is to approach the issues *holistically* and from a multi-stakeholder perspective. Silo thinking will not produce the kind of change that is needed. Real change will require *systems thinking* and will depend on our ability to create *partnerships* among governments and private sector, payers and providers, corporations, NGOs and the startup community.

Real change will also involve a *serious and radical shift from payer and provider-centric models to consumer-centric models* for health.

**“WE MUST TAKE A FRESH APPROACH IF WE WANT TO BUILD A MORE PROSPEROUS, EQUITABLE AND SUSTAINABLE FUTURE. Creative coalitions, reinvigorated institutions and renewed methods to value the future in business and government practices are urgently needed to accelerate change. A good model for change is creative coalitions that bring business, government and public institutions together.”**

**—PASCAL LAMY**

former Director-General, World Trade Organization

We believe the KIN can play a role in uniting leaders and catalyzing change and will be pursuing a broader agenda in the coming year.



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Many thanks to those who contributed insights leading into this year's KIN Global event as well as our panelists at the 2014 KIN Health Forum:

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