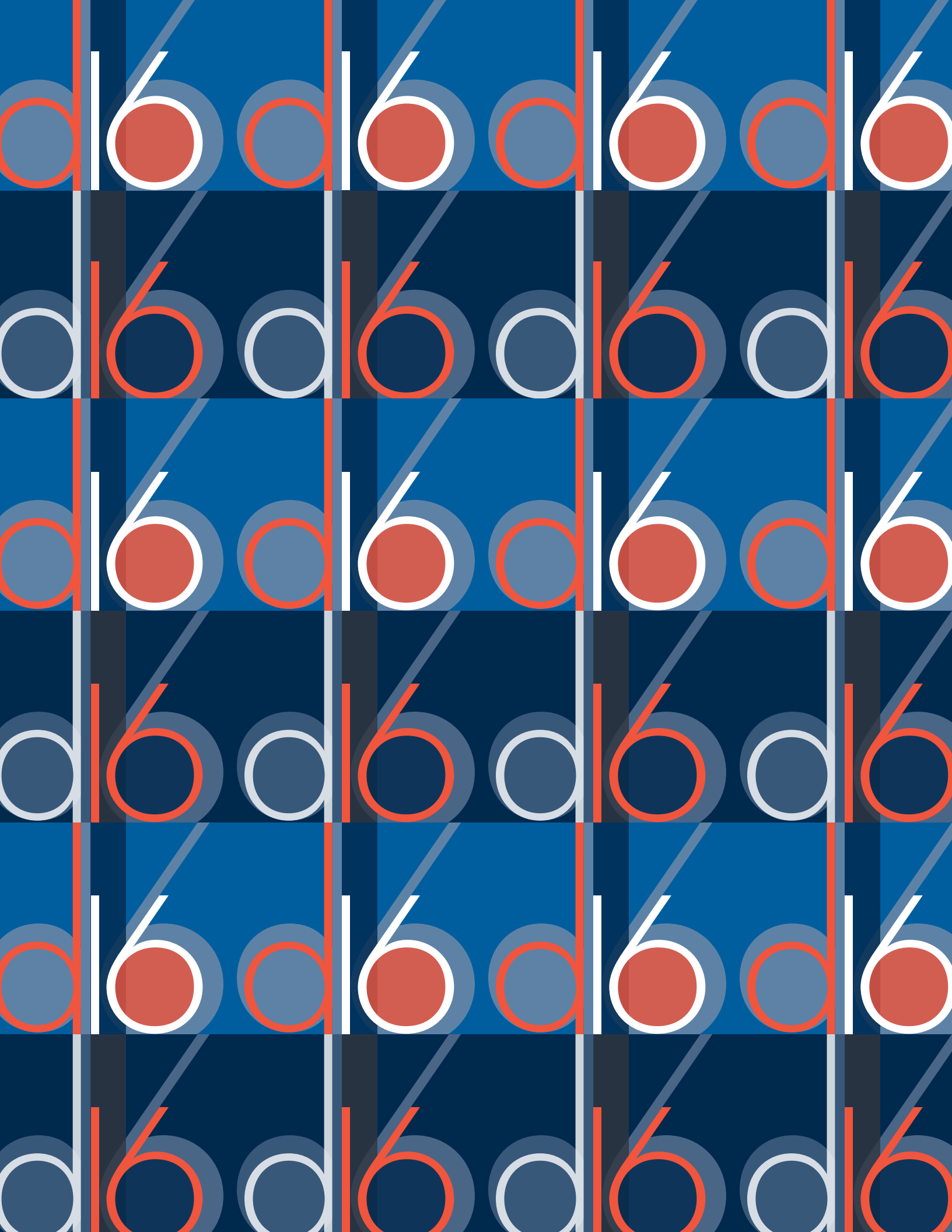
EXECUTIVE INNOVATION LAB
ON DIABETES AND OBESITY

CONSENSUS OF IDEAS


d16

ABOUT d16

The diaTribe Foundation hosted its inaugural **d16: Executive Innovation Lab** on Diabetes and Obesity from January 13–15, 2016 in Palo Alto, California. d16 engaged leaders across diverse sectors to produce innovative, systems-level solutions that could reduce the societal burden of diabetes, heighten the urgency and need for action around the epidemic, and bring a new way of thinking into the diabetes ecosystem.

HEATHER MCLEOD GRANT

ALEXA CORTES CULWELL

LISA KAY SOLOMON

d16 was facilitated by Heather McLeod Grant, an expert in scalable social impact, Alexa Culwell, co-founder of Philanthropy Futures, and Lisa Kay Solomon, a leading innovation strategist. Using elements of "design thinking," participants were guided through collaborative workshops to offer innovative solutions to the most pressing challenges in type 2 diabetes.

Forty-two participants attended d16, including prominent medical professionals, entrepreneurs, manufacturing leaders, policy-oriented healthcare experts, academics, tech leaders, government decision makers, educators, media experts, food and nutrition scholars, and philanthropists. Participant biographies are available at **d16.diatribe.org**.

d16: Executive Innovation Lab Participants

Jennifer Aaker
John Agos
Becky Bausman
Savi Baveja
Adam Brown
Kelly Brownell
Curtis Carter
Paul Ciechanowski
Andy Cunningham
Abdallah Daar
Dave deBronkart
Sean Duffy
Esther Dyson
Faith Foreman
James Gavin
Phil Gilbert Sr.
Kevin Hagan
Jennifer Hahamian
Jeff Halpern
Brad Harmon
Lee M. Kaplan
Christopher Kay
Orville Kolterman
Bon Ku
Allison Kurian
Niels Lund
Kate McLean
Sarah Mummah
David Napier
Shepard Nevel
Riccardo Perfetti
Rita Nguyen
Branden Powell
Kathleen Regan
Joni Saylor
Alex Slater
Laura Schmidt
David Strasberg
Virginia Valentine
Terry Vance
Michael Warburg
Richard Wood
John Yee

WHY IS DIABETES A PROBLEM?

★ *90 - 95% of diabetes cases are type 2 diabetes*

OVER 30 MILLION PEOPLE IN THE US HAVE DIABETES.[2]

1 IN 7 US ADULTS HAS DIABETES[1]

2 IN 5 US ADULTS HAVE PREDIABETES

8 IN 10 US SENIORS HAVE DIABETES OR PREDIABETES

"I lost my insurance and cannot afford a doctor...I no longer have access to a blood glucose meter and strips so I cannot monitor. I have severe neuropathy in my feet and am barely able to walk compared to last year."

DIABETES COMPLICATIONS IN THE US

140,000

ANNUAL HOSPITAL DISCHARGES DUE TO DIABETIC KETOACIDOSIS EACH YEAR[4]

280,000

ANNUAL ER VISITS DUE TO HYPOGLYCEMIA EACH YEAR[5]

ADULTS WITH DIABETES ARE 2-4 TIMES MORE LIKELY TO HAVE A HEART ATTACK OR STROKE[6]

DIABETES CAUSES A LOWER LIMB AMPUTATION IN THE US EVERY 7 MINUTES[7]

48 PEOPLE WITH DIABETES GO BLIND EVERY DAY[9]

SOMEONE WITH DIABETES BEGINS TREATMENT FOR END-STAGE KIDNEY DISEASE EVERY 11 MINUTES[8]

TWO OUT OF THREE PEOPLE WITH DIABETES EXPERIENCE SOME FORM OF DIABETIC NEUROPATHY[10]

FILLING AN URGENT NEED IN THE COMMUNITY

Recent data revealed that **one in seven** US adults has diabetes, **two in five** US adults have prediabetes,[11] and **eight in 10** seniors have diabetes or prediabetes. More than 30 million people are at risk of major health complications, and these largely preventable diseases are costing the US nearly **$245 billion** per year in direct and indirect healthcare costs.[12] Indeed, one in five healthcare dollars in the US is spent on diabetes.[13]

How could we as a society have failed at combatting the largest public health crisis of our time while spending such astronomical sums on it each year? Part of the reason, in our view, is that too many of the funds invested in addressing this epidemic have been used to relieve symptoms, focusing on treatments and reactionary "Band-Aid" solutions, rather than prevention, behavior change, and proactive, cross-sector solutions.

We need more holistically-designed approaches that identify root causes of the diabetes epidemic and offer innovative, scalable solutions. At d16, we responded to that need: after breaking down the diabetes ecosystem into seven key fields and examining the causes of diabetes in each of these areas, d16's group of experts identified patterns across the board and ideated new solutions that could be impactful, scalable, and investable.

At d16, we analyzed the diabetes ecosystem and identified bright spots and gaps: what is currently successful in diabetes, what needs improvement, and what could be scalable? Many of the ideas below are not new. What is new is the way of thinking regarding how they are connected to other approaches, and how various components of the diabetes ecosystem can work together to implement and scale the ideas. These innovative solutions address the underlying causes of diabetes across the ecosystem, beginning the conversation on how to break down the silos that have long stunted progress in diabetes. We hope the result will be greater impact, which includes both a strong return on investment for funders, and the improved health of our communities.

1 IN 5 US HEALTHCARE DOLLARS IS SPENT ON DIABETES

$245 BILLION (2012)

41% INCREASE FROM 2007

PROJECTED TO DOUBLE BY 2034

PROGRAM OVERVIEW

DENNIS BOYLE

IDEO and Introduction to Design Thinking

d16 kicked off on Wednesday, January 13, 2016 at IDEO, the premiere design firm based in the heart of Silicon Valley. Dennis Boyle, co-founder of IDEO and the head of its healthcare practice, led a tour of IDEO to demonstrate the value of **design thinking** and its applications to healthcare and diabetes. He followed the tour with a design thinking workshop, where he led attendees through IDEO's approach to generating ideas for diabetes prevention initiatives.

System Analysis and Idea Generation

1) Introductions

This introductory activity prompted attendees to discuss the biggest challenges, as well as key areas of opportunity, in diabetes.

2) Understanding the System

This exercise helped give participants a better understanding of the scale of the problem and the components of the diabetes ecosystem, which was organized into seven broad areas:

(i) food and beverage
(ii) built environment
(iii) media, culture, and mindsets
(iv) healthcare delivery and payment
(v) technology and data
(vi) research and development science
(vii) individual factors and behaviors.

Within small groups, participants analyzed some of the largest factors influencing the diabetes epidemic in each area. Participants then reconvened as a full group to identify patterns and points at which where there might be opportunities to intervene.

3) Bright Spots

Teams worked to identify "bright spots" in the diabetes ecosystem. "Bright spots" refer to efforts that demonstrated impact and are replicable, innovative, solutions-focused, and results-driven. This exercise served to identify what is already working and what is scalable with additional investment.

4) Idea Generation

Diverse groups of participants generated ideas for programs and initiatives to reduce the societal burden of diabetes. Participants used design thinking to generate both "moonshot" ideas as well as "small bets" that could be implemented on a smaller scale in the near term. After each group presented their top moonshot and small bet ideas, participants chose a set of ideas to analyze further.

The final session served to discuss next steps for implementing ideas generated by the participants.

The following pages outline some of the insights and ideas that generated the most enthusiasm at d16.

KEY INSIGHTS, THEMES, AND "AHA" MOMENTS

There were several key insights, or "Aha" moments, into the diabetes ecosystem that influenced the later ideas:

1. American healthcare is designed for acute care.

An underlying theme participants identified is that the American healthcare delivery system is designed to most effectively address cases of acute disease care, and it has failed to adapt to the growing need for chronic disease management. Reimbursement and payment policies provide perverse incentives to providers and other medical professionals that result in the focus on treating symptoms instead of underlying causes of disease and prevention. This system of perverse incentives also creates silos within the provider community as opposed to encouraging team-based care, a model that has proven to be effective in diabetes and other chronic conditions. With people living longer, coupled with the rapid emergence of type 2 diabetes and obesity in the US over the last several decades, there is an urgent need to enhance the way care is delivered to those with chronic conditions. This shift in how healthcare is delivered will require changes in reimbursement in areas across the system.

2. Information does not equal insight.

Individuals have access to more information than ever before through electronic health records, genome sequencing, and mobile health apps. In the diabetes field, patients can receive enormous amounts of data through devices such as continuous glucose monitors, glucose tracking mobile apps, and more. Access to data is no longer the problem, but information itself does not improve patient outcomes. Individuals and patients must have the tools to translate and interpret that data, and the information contained in the data must be leveraged to drive insights into an individual patient's behavior or into trends within a population to develop effective interventions or prevention strategies.

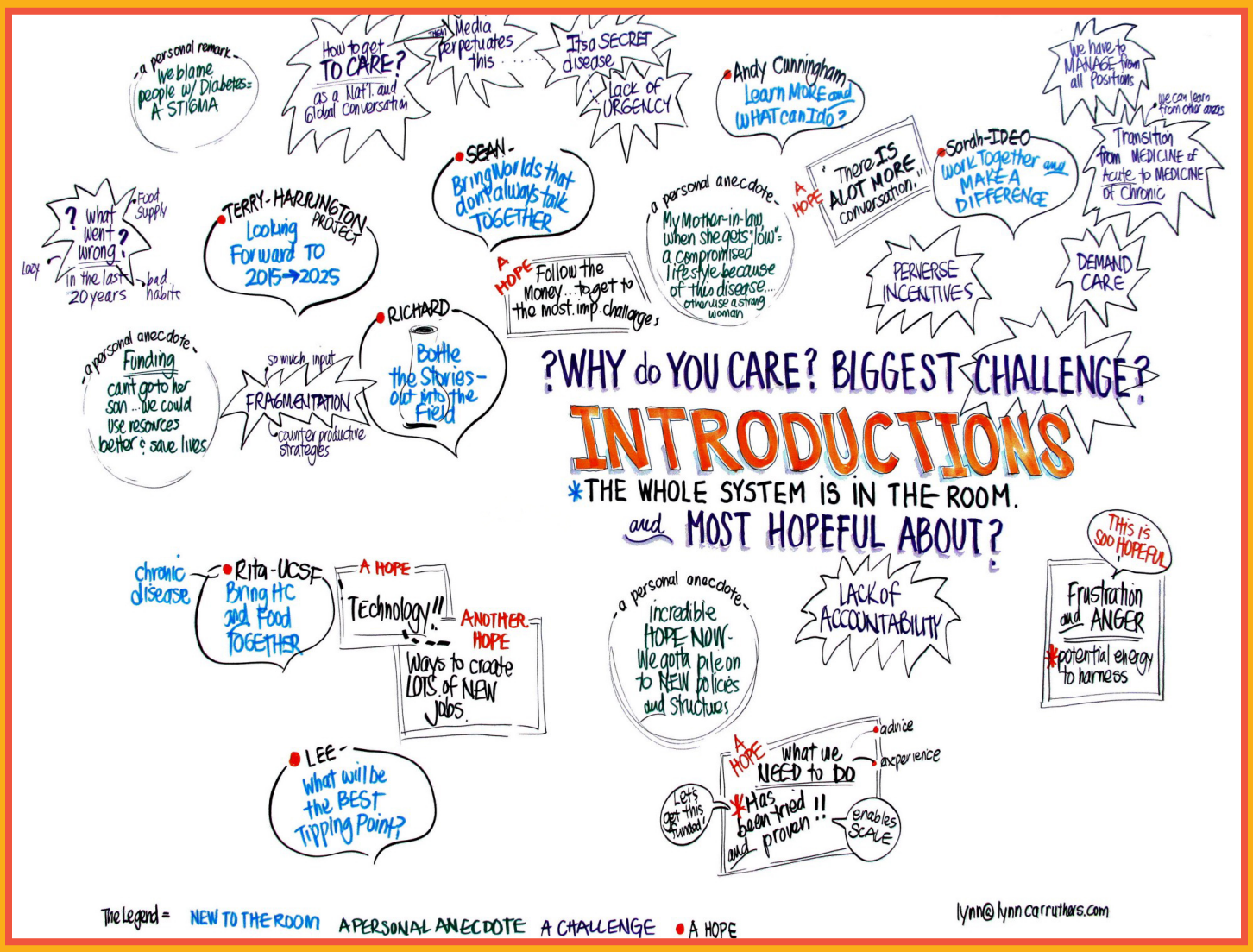
3. Root causes of diabetes are directly connected to many disease areas.

Several d16 attendees noted that two of the fundamental underlying factors behind type 2 diabetes and obesity—diet and physical activity—are also major risk factors for a host of other medical conditions, including cancer, heart disease, and even Alzheimer's. Strategies and initiatives to prevent and alter the course of diabetes will have a direct impact in these other disease areas. Thus, members of the diabetes community have a lot to gain from partnering not only across diabetes, but also across other disease areas. This recognition creates tremendous opportunities to involve both a larger patient population and practitioners across disease areas, and to chip away at the stigma that significantly impacts the quality of life of people diagnosed with type 2 diabetes.

4. Overcoming stigma requires a large-scale societal movement.

According to the Institute of Medicine, diabetes is one of the most stigmatized diseases.[14] Diabetes stigma arises out of misplaced blame on patients for causing their own diabetes. This stigma leads patients to feel as if they failed or have created an undue burden on the healthcare system, when in reality they are succumbing to increasingly unavoidable trends that subject us to significantly increased risk of diabetes.

This stigma plays a direct role in many of the key factors influencing diabetes outcomes, including poor dietary habits, lack of exercise, therapy adherence, and the lack of type 2 diabetes patient voices in policy and regulatory conversations. In designing and implementing strategies to overcome stigma, there is much to be learned from the experiences within other


a personal remark
We blame people w/ Diabetes = A STIGMA
How to get TO CARE?
as a Natl. and Global Conversation
then Media perpetuates this
It's a SECRET disease
Lack of URGENCY
Andy Cunningham
Learn MORE and WHAT can I do?
We have to MANAGE from all Positions
We can learn from other areas
Transition from MEDICINE of Acute to MEDICINE of Chronic
Sordh-IDEO
Work Together and MAKE A DIFFERENCE
A HOPE
"There IS ALOT MORE conversation."
SEAN-
Bring Worlds that don't always talk TOGETHER
? What went wrong ?
Food Supply
Lazy
In the last 20 years
bad habits
TERRY-HARRINGTON PROTECT
Looking Forward TO 2015→2025
a personal anecdote
My Mother-in-law when she gets "low" = a compromised lifestyle because of this disease... otherwise a strong woman
A HOPE
Follow the Money... to get to the most. imp. challenge;
PERVERSE INCENTIVES
DEMAND CARE
RICHARD-
Bottle the Stories - out into the Field
a personal anecdote
Funding
can't go to her son ... We could use resources better & save lives
so much input
FRAGMENTATION
counter productive strategies
?WHY do YOU CARE? BIGGEST CHALLENGE?
INTRODUCTIONS
*THE WHOLE SYSTEM IS IN THE ROOM.
and MOST HOPEFUL ABOUT?
chronic disease
Rita-UCSF
Bring HC and Food TOGETHER
A HOPE
Technology!!
ANOTHER HOPE
Ways to create LOTS of NEW Jobs.
a personal anecdote
incredible HOPE NOW - We gotta pile on to NEW policies and structures
LACK of ACCOUNTABILITY
This is SOO HOPEFUL
Frustration and ANGER
*potential energy to harness
LEE-
What will be the BEST Tipping Point?
A HOPE
What we NEED to DO
*Has been tried !! and proven
Let's get this funded!
enables SCALE
advice
experience
The Legend = NEW TO THE ROOM A PERSONAL ANECDOTE A CHALLENGE • A HOPE
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disease communities, such as the HIV/AIDS and epilepsy communities: two diseases in which stigma was and/or is also a defining characteristic. HIV/AIDS activists, in particular, were able to create a movement, the core elements of which included public awareness, proposed solutions to identified problems, leadership (from patients, policymakers, and regulators), and a core group of patients who became smart enough to propose solutions and to sit at the table with decision makers to discuss them and hold them accountable. To this day, there are ongoing efforts to reduce the stigma associated with a diagnosis of HIV/AIDS. A similar movement is needed to reduce the significant stigma that is attached to type 2 diabetes: one that is bigger than just those with the disease. And it begins with broad-based education and awareness.

CONCEPTUAL INITIATIVES, PILOTS, AND OTHER BRAINSTORMS GENERATED AT D16

Summarized below are the twelve ideas that came out of d16 that we believe are the most investible, scalable, and impactful. They are not finalized project proposals, and we welcome any and all feedback to further develop and improve upon them.

Idea #1

WORKING TITLE: National Diabetes "Show Up" Day

SUMMARY: The majority of people with diabetes experience stigma related to their disease, and this contributes to many negative consequences, including: patients 'hiding' their diabetes from their friends, family, peers and employers; the perpetuation of this stigma in the media; an absence of type 2 diabetes advocates or a strong patient voice to influence policy and funding; and negative psychosocial impacts that affect quality of life and patient outcomes.

The LGBT community, in particular, offers many lessons in how to address stigma from which the diabetes community can learn. d16 participants created the concept of National Show Up Day, inspired by the LGBT rights movement's "Coming Out" Day. This day is about a sea change in public perception, behavior, and conversation about type 2 diabetes. It is about providing a safe place for people with diabetes to talk about their disease and about demonstrating that they are not alone. It is an annual day set aside each year for individuals to speak publicly or to their family and friends as people living with type 2 diabetes and for their community—loved ones, employers, caregivers, government, nonprofits, and shops and restaurants—to show people with type 2 diabetes that they are supported in all areas of their lives. This day would be coupled with mechanisms to keep the conversation ongoing, from small efforts like design icons for vendors and restaurants to display to show their support, to larger details like an annual awards program to recognize businesses and individuals who have truly "shown up." It is backed with a sound partner strategy (i.e., Nike creates a custom "Show Up" shoe, Walgreens gives free A1c tests on Show Up Day, etc.) and a go-to-market plan. While the movement may start with a single "Show Up" day, over the long-term it could evolve into a broader movement surrounding health and wellness in our day-to-day lives.

SYSTEM IMPACT: d16 identified "stigma" and the lack of a strong, visible type 2 diabetes patient advocacy community as root causes influencing and perpetuating the scope of the epidemic. When patients and their communities don't talk to each other about type 2 diabetes:

- Misinformation is more easily spread;
- Patients feel more isolated, which can lead to cycles of poor mental health and health behavior;


UNDERSTANDING the SYSTEM
FOOD and BEVERAGE
HEALTHCARE DELIVERY and PAYMENT
RESEARCH and DEVELOPMENT SCIENCE and INEQUALITY
INDIVIDUAL BEHAVIORS and FACTORS
MEDIA, CULTURE MINDSETS
BUILT ENVIRONMENT
TECH/DATA
"This IS the PERFECT Storm."
"Information DOES NOT EQUAL insight."
"ONE BIG THEME is MONEY."
The people who PAY are not the people who BENEFIT
Help them understand INVESTING
The WHOLE issue of the ECONOMICS of the Disease."
"The Patient as an Employee."
We need to ENGAGE the Funders
Deaths in the US. At the CORE is - inactivity - nutrition
"All a shot-across-the-bow of a culture WE have nurtured and exported to the ROW."
LOOK AT - what's achievable - where heavy lifting is needed.
EDUCATION... a REMARKABLY CROSS-CUTTING THEME
It's HARD to rally cross-functional activities. Perhaps create A Lead Team
FYI: chronic non-communicable diseases - conditions - risk factors
*ALL modifiable
It's ALL linked together!
There MUST BE all kinds of other things happening.
People are HIDING, and They have NO power.
A HUGE OPPORTUNITY!
Should we SIN tax diabetes?
THIS is a PROBLEM for the OLD
dl6 DAY TWO-January 14-2016
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- Businesses, researchers, government officials, and others do not understand the urgency, breadth, depth, and nuances of the problem, and how it impacts their constituents, and;
- Communities will continue to blame patients for their disease, failing to rally to address the root causes of the diabetogenic environment.

National Show Up Day mobilizes the entire type 2 ecosystem to "show up" together to combat the root cause of stigma, help eliminate the shame associated with diabetes, put the need to address diabetes at the forefront of people's minds, and encourage those with type 2 diabetes to become advocates. In addition to addressing stigma, National Show Up Day would aim to transform the conversation to focus on the root causes of the epidemic and free people from self-blame and shame.

Idea #2

Working Title: Anthology of Bright Spots ("What's Working")

SUMMARY: Various efforts throughout the US and abroad have been shown to significantly improve outcomes related to diabetes, but many of these models have not been scaled or replicated on a systemic level, due in part to a lack of information-sharing. An opportunity identified at d16 was to create an accessible "anthology" of existing work that has been demonstrated to be effective in improving outcomes for people with type 2 diabetes. The size and scope could be expanded over time. Such an anthology could also include insights from other disease areas that could be applied to diabetes. This could be an evolving anthology with regular updates, and it could be available through multiple platforms (an annual report, a website, etc.). The anthology could include resources for each model including primary contacts, accessible publications or data reports, and other information to help people replicate successful efforts in other networks. On a broader scale, the Anthology of Bright Spots could further highlight those efforts that have impacted the field of diabetes through an awards program or through a national convening event to connect those interested in either contributing resources, scaling existing projects, or in learning about those models.

SYSTEM IMPACT: The diabetes ecosystem is fragmented, resulting in a lack of knowledge sharing across people in different sectors. These include those involved with academia, local grassroots efforts, policy initiatives, clinical research, and more. There are several consequences to this fragmentation:

- Resources are wasted when leaders in the field cannot effectively learn from each other;
- Models of success on the local level are not replicated or scaled to the fullest extent they could be;
- Different stakeholders in diabetes remain working in silos;
- And potential funders do not have information about how to invest their philanthropic dollars in ways that will have the greatest impact.

An Anthology of Bright Spots would serve to increase transparent information sharing in diabetes, highlight successful efforts in diabetes that can be scalable, and allow for cross-sector collaboration.

Idea #3

Working Title: Diabetes Screening—Meeting Patients Where They Are

SUMMARY: Of the more than 29 million people with diabetes in the US, over eight million of them are undiagnosed. Moreover, 90% of the 86 million Americans with prediabetes don't know they have it.[15] Early diagnosis of diabetes and prediabetes allows for early intervention, treatment, and prevention efforts, hopefully lowering the rates of diabetes complications and significantly altering the patient journey that can often result from prolonged hyperglycemia.

d16 participants examined the underlying causes of this problem. Part of the challenge is a lack of

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education, and another factor is that screening has not been integrated into mainstream society. Once again, the diabetes community can learn from successful efforts in other areas such as annual flu shots, blood pressure cuffs in super markets, regular mammograms, and regular STI testing. Contributing factors to these examples resulted from public and provider education about the impact of these efforts, guidelines from professional societies, and partnerships with industry groups.

SYSTEM IMPACT: Inadequate screening for diabetes and prediabetes has several consequences for the healthcare system:

- Treatment for diabetes is delayed, with many patients requiring medication therapy at the time of diagnosis (as opposed to only requiring diet and exercise changes for those diagnosed at very early stages of progression).
- Complications of diabetes—including retinopathy, neuropathy, nephropathy, and more—are more common, as patients have sustained hyperglycemia for longer periods of time. In addition to the health consequences of complications, the financial consequences are significant, as 53% of the lifetime medical costs to treat diabetes are due to complications. Moreover, the US spends over $69 billion annually on the indirect costs of diabetes: loss-of-productivity costs, work absenteeism, etc.
- A healthcare environment that does not stress proper screening reinforces the social perception of diabetes not being an urgent crisis.

This program would not only enable more diagnoses of diabetes and prediabetes, allowing for earlier intervention, but it would also raise awareness of the critical need to "know your number" and to be regularly screened for diabetes.

Idea #4

Working Title: A "Carbon Taxes" Health Code for Food Distributors

SUMMARY: How might we create a standard set of nutrition guidelines for all food distributors (manufacturers, restaurants, vending machines, etc.) with a corresponding score or "award" for those who meet the guidelines? The idea stems from carbon taxes, in which the government will decide what the threshold for nutritional foods offered must be for any given food distributor, and those who meet that threshold would receive some form of tax reduction or other financial incentive. Moreover, these places would also receive a very visible, easy-to-understand stamp of approval. For instance, restaurants who meet the threshold would have to put a green stamp on all their menus (and perhaps are also then rewarded financially, i.e. tax subsidies), those who are middle-tiered would put a yellow stamp, and those that very poorly address the guidelines receive a red stamp (and perhaps are also then punished financially, i.e. increased taxes).

SYSTEM IMPACT: Across the diabetes ecosystem, many incentives currently in place enforce a "diabetogenic" environment. As one d16 participant said, American culture and society have created a "perfect storm" for creating a diabetes epidemic. By providing financial incentives for food distributors to offer more nutritious foods, the quality of food commercially available will be more likely to improve, thus making "the healthy choice the easy choice."

The goal of this program would be to incentivize food distributors to offer increased selections of healthier food, and to provide a clear and visible marker for consumers as to where they can eat that provides nutritional foods.

Idea #5

Working Title: A Nationwide Tax on Sugar-Sweetened Beverages

SUMMARY: Sugar-sweetened beverages, or SSBs, include soda, sweet tea, sports drinks, juices, and other beverages with high levels of added sugar. These drinks are high in calories but low in nutritional value, and have been estimated to be the number one source of added sugar and excess calories in the American diet, accounting for 7% of all calories consumed on average.[16] The average American drinks 44.7 gallons, or nearly 500 cans, of carbonated soft drinks every year.[17] And one Gallup poll found nearly half of Americans drink at least one soda a day, with 7% drinking over four cans daily.[18] Sugary drink intake has been linked to weight gain, obesity, and type 2 diabetes.[19] This nationwide tax would be designed to discourage the production and sale of SSBs and reduce overall sugar consumption by people in the US.

Such taxes have already been passed on a national level in Mexico in 2013, which reduced purchases of sugary drinks by 12 percent in one year, with the biggest reductions among low-income populations.[20] In addition, purchases of untaxed beverages increased 4%[21] (36 ml/capita/day), which was mainly driven by growth in the purchases of bottled water.

In 2016, Britain announced plans to enact its own soda tax, with the hopes of instating the tax by 2018. In November 2014, Berkeley, CA became the first city in the US to approve a soda tax, and San Francisco and Philadelphia are actively working to have a soda tax passed as well. In Berkeley, early positive reports show a 16% reduction in sugar-sweetened beverage consumption post-tax.[22] Scaling the SSB tax effort up on a national scale is one example of a "quick win" using policies that can affect a lot of people in a short period of time and at a relatively low cost.

SYSTEM IMPACT: Passing a nationwide tax on sugar-sweetened beverages would help to address our current "diabetogenic" society on a systems level by focusing on the environmental factors that perpetuate the development and progression of diabetes and its complications, increasing awareness and shifting public perceptions of the harmful health effects of sugar-sweetened beverages, and could open the door to move aggressive policies down the road once public support has increased. In the past, taxes on cigarettes have been successful at reducing smoking among Americans,[23] and the hope is that a nationwide tax on SSB can also reduce soda consumption and move the needle on public health.

Such policies could have a large-scale impact on prevention of not only type 2 diabetes, but also obesity, high blood pressure, heart disease and strokes. Scientists at UCSF estimated that a nationwide penny-per-ounce tax on sugar-sweetened beverages would prevent nearly 10,000 cases of heart disease, 8,000 strokes, and 26,000 deaths over the next decade, as well as 240,000 cases of diabetes per year. It would save $17 billion over the next decade on healthcare spending related to diabetes and obesity and its complications, and would generate $13 billion per year in direct tax revenue that could be further invested in other areas such as prevention or education.[24]

Some opponents of SSB tax efforts claim that it would disproportionately affect low-income consumers economically. As Dr. Tom Farley, author of *Saving Gotham: A Billionaire Mayor, Activist Doctors, and the Fight for Eight Million Lives* stated in the New York Times, however, "...the poor are disproportionately suffering from obesity and type 2 diabetes as a consequence of sugary drinks. They drink more sugary drinks now than people who have more money. Because people with lower incomes are more price-sensitive, they will disproportionately benefit from efforts to reduce sugary drink consumption."[25]

**NOTE: Three members of The diaTribe Foundation (Kelly Close, Christie Auyeung, and Nicole Kofman) are currently enrolled in an online class through the Harvard Kennedy School of Public Policy called "Leadership, Organizing and Action: Leading Change." With a focus on community organizing and leading social change, the class is helping The diaTribe Foundation strengthen its understanding of successful movements and putting its leadership skills to practice. The Foundation has chosen to pursue "A*

Nationwide Tax on Sugar-Sweetened Beverages" for the required "organizing project," and anticipates that the class will provide structure and support to help us contribute to the ongoing efforts to pass a soda tax in San Francisco.

Idea #6

Working Title: Increasing Diabetes Representation in Film and Television

SUMMARY: Diabetes is a disease that is largely ignored, misunderstood and stigmatized by the general public. While this is due to a complex set of factors, one contributing factor is that there is very little representation of the diabetes patient experience in film and television. Just as the gay rights movement benefited tremendously from shows such as Ellen, Glee, and Modern Family, or as the environmental movement benefited from An Inconvenient Truth, we believe that providing more visibility for diabetes in entertainment and media would help to both build a sense of urgency around addressing this public health epidemic as well as help to educate the public and reduce the stigma associated with the disease. One example from outside of diabetes that can serve as a model is Google's work with film/television producers to create female characters with computer engineering backgrounds.[26] With funding support, a backbone organization could encourage film and television writers to include characters or families with diabetes. This effort could expand into a broader patient movement, in which people with diabetes get involved through signed petitions, a shared hashtag, or other initiatives to publicly call upon film/media executives to include characters with diabetes and remove inaccurate portrayals of diabetes (i.e., diabetes as a punch line).

SYSTEM IMPACT: Stigma and the lack of public understanding about type 2 diabetes deter companies, governmental bodies, or the general public from giving the disease proper attention. Increased visibility of type 2 diabetes through outlets that reach millions of viewers would enhance public health literacy, generate public empathy for patients, and help transform public opinion of diabetes from a shameful or non-serious condition to a major health crisis that impacts society.

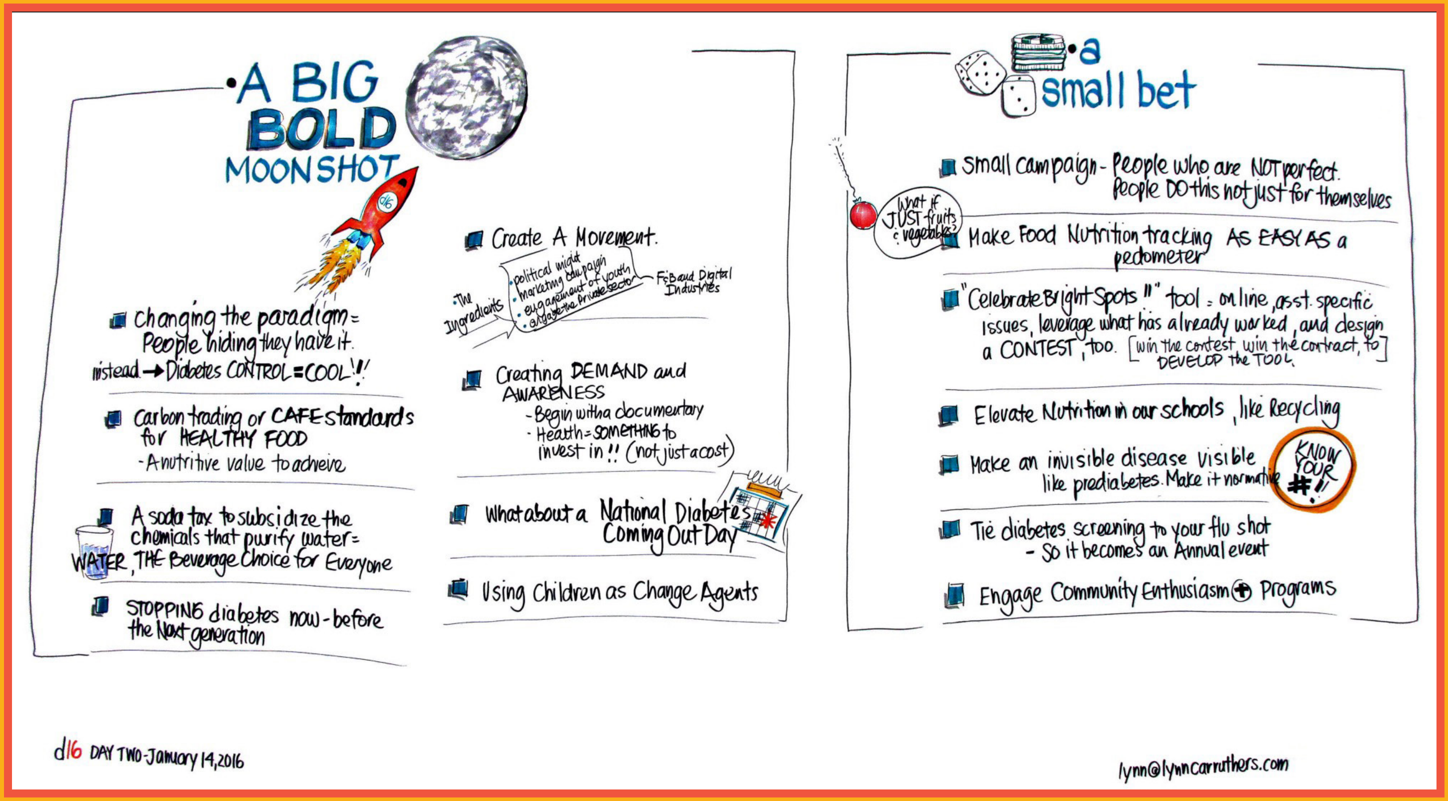
Idea #7

Working Title: Investing in the Healthcare Team of the 21st Century

SUMMARY: The healthcare system in America was developed as an acute care management model—with a primary focus on diagnosing and treating symptoms and illnesses. However, diabetes, obesity, as well as many other chronic conditions, require a shift in the way individuals and their conditions are addressed—with greater participation of the person with the condition and a greater emphasis on daily management or self-management. The Affordable Care Act (ACA) has created unique opportunities to shift our healthcare delivery system to better match the daily needs of the growing segment of our population living with chronic conditions.

According to research by the Commonwealth Fund,[27] the ACA encourages three core approaches for improving healthcare delivery: testing new models of healthcare delivery, shifting from a reimbursement system based on the volume of services to one based on the value of care, and investing in resources for system-wide improvement. Accountable Care Organizations (ACOs) and patient-centered medical homes (PCMHs) are two such examples of evolving care models influenced and/or supported by the ACA. The Centers for Medicare and Medicaid Services also offers a "menu of options"[28] for healthcare systems to improve care, increase care access, and lower costs through better care coordination.

A critical component of this shift is a transformation of the patient's healthcare team. The typical primary care model in which patients spend less than 20 minutes with their doctor a few times a year does not provide: adequate continuity of care for people with diabetes; the time physicians need to adequately address the complex nature of diabetes and related conditions; and the clinical staff needed to ensure all of the medical, behavioral and psychosocial needs of a person with diabetes are being met. Several models in the U.S. have successfully leveraged care providers in addition to physicians—pharmacists, nurse practitioners, health educators, case managers, social workers,


A BIG BOLD MOONSHOT
Changing the paradigm = People hiding they have it.
instead → Diabetes CONTROL = COOL!!
Carbon trading or CAFE standards for HEALTHY FOOD
- A nutritive value to achieve
A soda tax to subsidize the chemicals that purify water = WATER, THE Beverage Choice for Everyone
STOPPING diabetes now - before the Next generation
Create A Movement.
The Ingredients
political might
marketing campaign
engagement of youth
engage the Private sector
F&B and Digital Industries
Creating DEMAND and AWARENESS
- Begin with a documentary
- Health = SOMETHING to invest in!! (not just a cost)
What about a National Diabetes Coming Out Day
Using Children as Change Agents
a small bet
Small campaign - People who are NOT perfect. People DO this not just for themselves
What if JUST fruits & vegetables?
Make Food Nutrition tracking AS EASY AS a pedometer
"Celebrate Bright Spots!!" tool = online, asst. specific issues, leverage what has already worked, and design a CONTEST, too. [win the contest, win the contract, to DEVELOP the TOOL.]
Elevate Nutrition in our schools, like Recycling
Make an invisible disease visible like prediabetes. Make it normative
KNOW YOUR #!!
Tie diabetes screening to your flu shot
- So it becomes an Annual event
Engage Community Enthusiasm + Programs
d16 DAY TWO - January 14, 2016
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and more—to cost-effectively provide ongoing team-based support for people with diabetes.[29] It is now necessary to identify care models that have proven to improve outcomes, care access, and quality and scale those programs.

SYSTEM IMPACT: To provide greater access to a more comprehensive, continuous, and individualized care team for people with diabetes, ultimately driving down costs and improving health outcomes.

Idea #8

Working Title: Kids as Change Agents

SUMMARY: Many powerful social movements have originated in schools—D.A.R.E. and recycling are two examples. How might we create a similar movement among school-age children to become change agents for better nutrition and increased physical activity? It would originate first on a local level within a specific school or school district, and successful programs or pilots would be scaled on a broader level. These efforts should be in addition to larger, national efforts to improve school lunch offerings and mandated physical fitness curricula. For instance, pilots could include:

- Schools implementing mandatory nutrition courses in their school curriculum.
- Students could have homework assignments to take their families for a walk or to eat fruits and vegetables.
- Schools could bring back revitalized "home economics" courses that teach kids how to cook healthy and convenient meals, which they could then bring home for their families to eat.
- Rather than school buses, schools could have "walking buses" or "biking buses" with supervised walking or biking groups to school in the morning.

SYSTEM IMPACT: The goal is to make kids passionate about nutrition and exercise in a way that will not only affect the way they behave, but also that will impact their parents. Just as kids compel their parents to recycle, wear seat belts, quit smoking, etc., they would be aware of what constitutes healthy eating and physical activity and encourage it at home.

Idea #9

Working Title: Diagnosis Support Groups

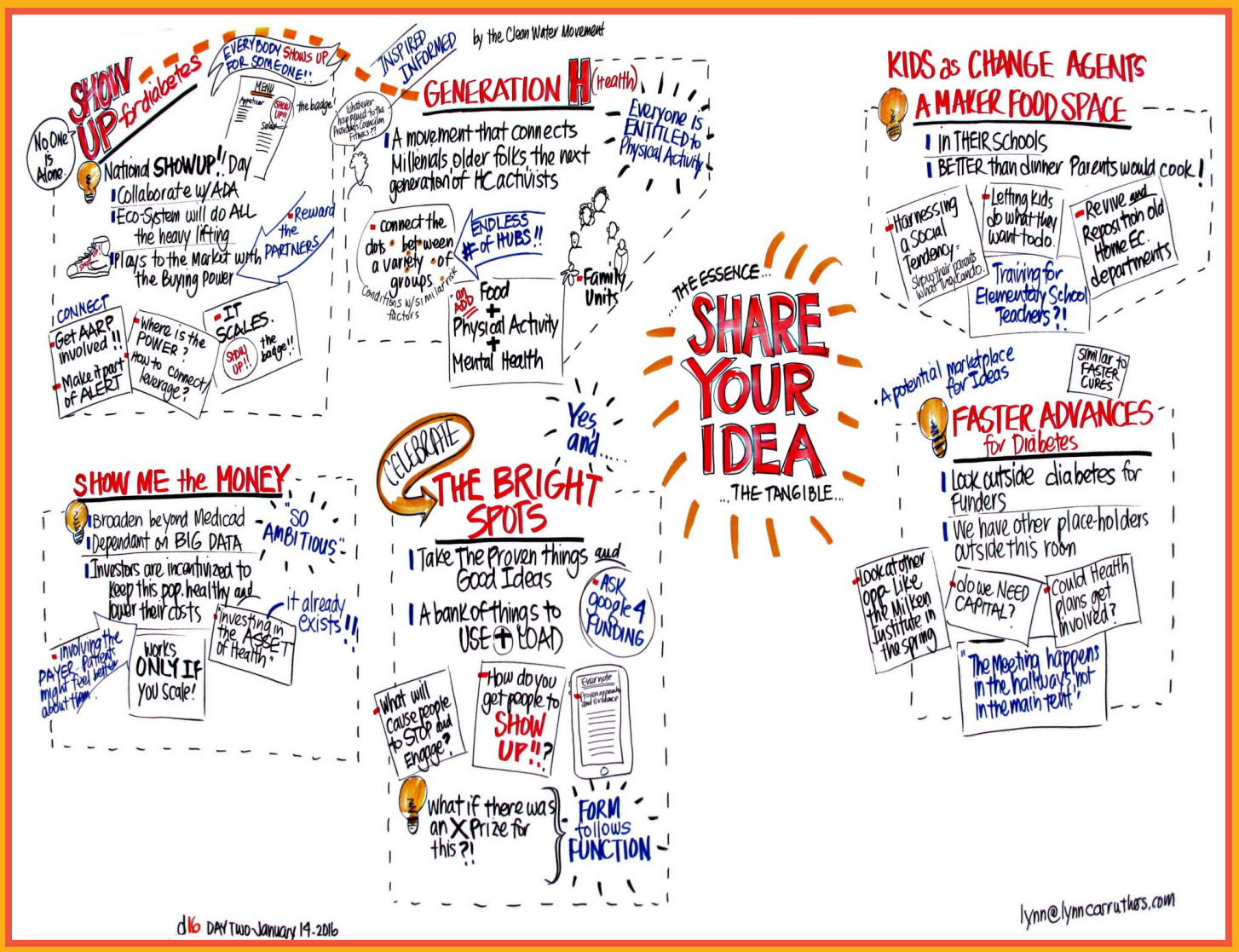
SUMMARY: Access to peer support upon diagnosis of a disease and/or chronic condition can dramatically impact patient outcomes and quality of life. With advances in technology, access to such support no longer needs to be in-person. This is evidenced by the tremendous growth in online patient communities that provide information and support to individuals and/or caregivers sharing a similar diagnosis. Such communities exist within the diabetes community, but many of these communities are large, overwhelming and intimidating for people recently diagnosed when there is so much to learn and adopt. This initiative would create a community, or sub-communities within existing communities, for people based on their date of diagnosis.[30] The goal is to group people together that are processing information, learning, and beginning their patient journey at the same time in a single, safe place. As diabetes often comes with significant levels of stigma, having a social support network can be critical—particularly as many patients find it challenging to talk about their diabetes with friends or loved ones.

SYSTEM IMPACT: This program would ensure that nobody feels alone living with diabetes, helping to decrease feelings of stigma felt by patients. It would also help build up a diabetes patient community connected by shared experiences that feels empowered to take action.

Idea #10

Working Title: Diabetes Shark Tank

SUMMARY: The "Diabetes Shark Tank" would entail a conference in which people are invited to submit and defend proposals for diabetes "moonshots," or programs/interventions that could make wide-scale impact on the lives of people with diabetes. The Epilepsy Foundation[31] and the American Heart Association[32] have launched 'Shark Tank' initiatives to spur investment in ideas to help their patient populations. While both of these programs are relatively new, they may yield important insights that would be helpful as we think about a similar


SHOW UP for diabetes
No One is Alone
EVERYBODY SHOWS UP FOR SOMEONE!!
MENU
SHOW UP!
the badge!
National SHOWUP! Day
Collaborate w/ ADA
Eco-System will do ALL the heavy lifting
Plays to the market with the Buying Power
Reward the PARTNERS
CONNECT
Get AARP involved!!
Make it part of ALERT
Where is the POWER?
How to connect/leverage?
IT SCALES.
SHOW UP!!
the badge!!
by the Clean Water Movement
INSPIRED INFORMED
GENERATION H (treath)
Whatever happened to the President's Council on Fitness?!
A movement that connects Millenials, older folks, the next generation of HC activists
Everyone is ENTITLED to Physical Activity
connect the dots between a variety of groups
Conditions w/ similar risk factors
ENDLESS # of HUBS!!
Family Units
Food + Physical Activity + Mental Health
THE ESSENCE...
SHARE YOUR IDEA
...THE TANGIBLE...
KIDS as CHANGE AGENTS
A MAKER FOOD SPACE
IN THEIR Schools
BETTER than dinner Parents would cook!
Harnessing a Social Tendency
Show your parents what they can do.
Letting kids do what they want to do.
Revive and Repost/train old Home Ec. departments
Training for Elementary School Teachers?!
A potential marketplace for Ideas
Similar to FASTER CURES
FASTER ADVANCES for Diabetes
Look outside diabetes for Funders
We have other place-holders outside this room
Look at other opp. like the Milken Institute in the spring
do we NEED CAPITAL?
Could Health plans get involved?
"The Meeting happens in the hallways, not in the main tent."
SHOW ME the MONEY
Broaden beyond Medicaid
Dependant on BIG DATA
Investors are incentivized to keep this pop. healthy and lower their costs
"SO AMBITIOUS"
it already exists!!
Involving the PAYER patient might feel better about them.
Works ONLY IF you scale!
Investing in the ASSET of Health
CELEBRATE
THE BRIGHT SPOTS
Yes and.....
Take The Proven things and Good Ideas
A bank of things to USE (+ LOAD)
ASK google 4 FUNDING
What will cause people to STOP and Engage?
How do you get people to SHOW UP!!?
Evernote
What if there was an X Prize for this?!
FORM follows FUNCTION
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program in diabetes. Such an initiative would create an innovative and exciting marketplace bringing together bright minds to create and invest in the future of diabetes prevention and treatment.

SYSTEM IMPACT: Funding for diabetes, both at the federal and private philanthropic level, is very low relative to the population impacted. Only 3% of NIH funding goes to diabetes,[33] a disease that affects the entire US population to some extent. Moreover, funding for innovation in health services in delivery, which examines access, care quality, and population health amounts to just 0.3% of total healthcare expenditures and roughly one-twentieth the sum that goes into science research.[34] Under current funding:

- There is a lack of innovation within the critical areas of public health, access, behavior change, and other social or mental health fields.
- The brightest minds are not attracted to diabetes, as it receives less funding and prestige than other areas such as oncology or surgery.
- Our system is designed to focus on pharmaceutical and technological advances, rather than solutions that affect the root causes of diabetes on a societal level.

This program would encourage more focus and innovation on projects that could make scalable impact and address the societal causes of diabetes, rather than focusing on treatment of symptoms. Moreover, it would create a new funding stream and could attract new investors focused on impact into diabetes.

Idea #11

Working Title: Accessibility of Healthy Food in Low-Income Communities

SUMMARY: The past decade has seen a "healthy lifestyle" movement in America; however, this focus on healthy living has largely been concentrated in higher-income, mostly white communities. Examples include organic food markets, boutique exercise studios, or even farm-to-kitchen or chef-to-kitchen food delivery services such as Blue Apron.[35] The idea for this program is to adapt these models for low-income communities, or to scale up programs that have shown effectiveness already around the country. One example is local non-profit grocery stores that bring nutritious food to people at affordable prices. Other ideas would include a mobile "produce truck" in low-income neighborhoods, a low-cost "Blue Apron" product, providing nutrition education inserts at all grocery stores in low-income neighborhoods, and more. These ideas could be piloted in local communities and then, for those that demonstrate effectiveness and feasibility, could be scaled to reach additional communities.

SYSTEM IMPACT: Studies consistently show that low socioeconomic status is one of the most significant risk factors for type 2 diabetes.[36] These populations already are the most disadvantaged when it comes to treatment options, as drug prices continue to rise and the most advanced diabetes medications are not yet generic. Thus, altering the built environment and increasing the offerings and affordability of nutritious foods may have a significant impact on reducing diabetes risk in these groups.

Idea #12

Working Title: Investing in the Health of People, Companies, and Cities

SUMMARY: How might we create a model built upon currently existing employee wellness programs and other initiatives that provide financial incentives for people to improve their health? How might we create healthier communities, companies, and cities by investing in health?

EMPLOYEE WELLNESS PROGRAMS

In the case of diabetes prevention and treatment, improving one's health could mean losing weight, lowering A1c, or even improving mental health through yoga, meditation, or other efforts. Several programs that could be initiated include:

- Providing additional paid vacation days for employees who reach pre-set health goals.
- Providing a paid bonus for those who can show proof of regular physical activity.

- Providing a bonus for people with every tracked 100 miles they walk.
- Some other cash reward for every percentage point reduction in A1c.

As examples, Aetna's wellness program currently pays employees $25 for every 20 nights they get at least seven hours of sleep,[37] and IBM offers up to $500 in gift cards for employees and their children to exercise regularly.[38] Piloting these programs in more businesses and scaling them up across the country could be impactful towards building a culture of health and decreasing overall health expenditures. Indeed, tracking outcomes of existing wellness programs has demonstrated a substantial return of interest; Johnson and Johnson leaders estimate that their wellness program saved the company $250 million on health care costs over the past decade.[39]

Another example of how employers could directly influence the health behavior of their employees is UCSF's campus-wide "ban" on soda,[40] eliminating the sale of sugary beverages on campus to reduce sugar consumption by students and employees. Such efforts to create healthier work and learning environments, encouraging students and employees to reduce sugar consumption, could be replicated and scaled at other universities or companies.

INVESTING IN HEALTH: THE WAY TO WELLVILLE AND A CULTURE OF HEALTH

How might we shift capital and outcomes to produce health upfront rather than try to recover it after illness occurs? How can we bring Silicon Valley thinking to health to help communities reduce obesity and diabetes, foster a healthy food supply and provide better access to care? Several initiatives are making headway on this front, and scaling up these investible ideas could move the needle on public health.

For example, a nonprofit called the Health Initiative Coordinating Council (HICCup), is leading a collaborative effort titled "The Way to Wellville" a five-year effort giving five small (<100,000 population) communities expert advice on capacity building, development of local leaders and sustainable business and financial models, access to capital and partners, and help with data collection and analysis so that they can meet and measure their goals for health.[41] The "Wellville Accelerator" borrows from startup accelerator models in Silicon Valley, where emerging companies are incubated and mentored by experts. In Wellville, communities are the startups, HICCup is the accelerator, and better health is the return on the investment. Way to Wellville goes beyond pilots and helps communities apply well-known techniques in sustained initiatives and through institutions that are accountable, measurable, and ultimately fundable.

The Robert Wood Johnson Foundation has also partnered with The Reinvestment Fund as part of their Culture of Health program to work closely with cities to use data to better understand the needs of their most at-risk neighborhoods—and then invest in new initiatives that can revitalize housing, health, transportation, education, and other assets that help communities to become stronger and healthier. They've launched Invest Health, which will give up to 50 mid-sized cities $60,000 each to work across sectors and start to map out the kinds of changes they want to make.[42]

SYSTEM IMPACT: This idea positions health as a return on investment at the level of the workplace or city. For employers, diabetes poses a major economic burden, largely due to medical costs and loss of productivity costs. The incremental cost of diabetes among employees has been estimated at over $4,000 annually per person, with 30% of costs to employers attributed to medically-related work absences and disabilities.[43] While prevention efforts and employee wellness programs may present initial upfront costs to employers, the long-term costs saved could offset them, particularly if there were a financial benefit incentivizing employers to implement these programs. Furthermore, organizations are finding promise in bringing Silicon Valley thinking to health, using data to map out goals based on successful models, working collaboratively across sectors to implement them, and making financial investments in communities and cities. If we can scale up examples of these programs that we know work, this idea presents an impactful, investible, and scalable approach to preventing diabetes.

WHO WE ARE

The diaTribe Foundation is dedicated to improving the lives of people with diabetes and advocating for action. Our team is focused on making people smarter about diabetes and obesity. We understand the patient experience and are proud that we are viewed as a highly credible resource. Our free publication, diaTribe, provides the most up-to-date and accurate resources, tips, and news on products and research in diabetes and obesity. We also serve as a voice for patients in advocating for healthcare and regulatory change.

For more information about d16, please visit **d16.diatribe.org** or contact **Kelly Close at kelly.close@diatribe.org**.

A SPECIAL THANK YOU TO OUR SPONSORS

The diaTribe Foundation would like to thank d16—Sanofi, Novo Nordisk, and AstraZeneca—for their support. Their dedication to bringing new and pioneering solutions to those living with diabetes continues to improve the patient experience and outcomes. As fellow innovators in the diabetes space, we are proud to have them as partners in fomenting new opportunities to support the diabetes community. Thank You!

Sanofi US is committed to patients and public health. Sanofi US is proud of achievements and recognition in areas including scientific innovation, patient advocacy and workplace environment. Sanofi combines over a century of experience in the pharmaceutical industry, and has been highly innovative in addressing the changing needs of patients.

Novo Nordisk, headquartered in Denmark, is a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given Novo Nordisk experience and capabilities that also enable them to help people defeat other serious chronic conditions: rare bleeding disorders, growth hormone-related disorders, and obesity.

AstraZeneca believes the best way to help patients is to focus on breakthrough science to address the mechanisms of disease and develop novel, targeted therapies that interact with them. AstraZeneca's focus is on the following: Cardiovascular and Metabolic diseases; Oncology; Respiratory, Inflammation and Autoimmunity; Infection and Neuroscience.

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REFERENCES

1 jama.jamanetwork.com/article.aspx?articleid=2434682

2 jama.jamanetwork.com/article.aspx?articleid=2434682 quickfacts.census.gov/qfd/states/00000.html

3 cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf, "Estimates of Diabetes and its Burden in the United States"

4 cdc.gov/diabetes/statistics/dkafirst/fig1.htm

5 cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf

6 diabetesprevention.pitt.edu/index.php/for-the-public/diabetes-and-related-conditions/cardiovascular-disease

7 cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf, "Amputations"

8 cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf, "Kidney Diseases"

9 allaboutvision.com/conditions/diabetic.htm

10 niddk.nih.gov/health-information/health-topics/Diabetes/diabetic-neuropathies-nerve-damage-diabetes/Documents/Neuropathies_508.pdf

11 jama.jamanetwork.com/article.aspx?articleid=2434682

12 care.diabetesjournals.org/content/36/4/1033.full

13 care.diabetesjournals.org/content/early/2013/03/05/dc12-2625

14 nationalacademies.org/hmd/Reports/2012/Epilepsy-Across-the-Spectrum.aspx

15 cdc.gov/features/diabetesprevention/

16 "Dietary Sugars Intake and Cardiovascular Health. A Scientific Statement from the American Heart Association." Circulation. August 2009

17 huffingtonpost.com/2011/06/27/americans-soda-beer_n_885340.html

18 gallup.com/poll/156116/nearly-half-americans-drink-soda-daily.aspx

19 hsph.harvard.edu/nutritionsource/healthy-drinks/soft-drinks-and-disease/

20 fortune.com/2016/01/08/mexico-soda-tax/

21 bmj.com/content/352/bmj.h6704

22 time.com/3552008/soda-tax-san-francisco-berkeley/

23 cbpp.org/research/higher-tobacco-taxes-can-improve-health-and-raise-revenue

24 ucsf.edu/news/2012/01/11267/how-many-lives-could-soda-tax-save

25 well.blogs.nytimes.com/2016/04/20/dr-thomas-farley-takes-on-big-food-and-big-tobacco/

26 usatoday.com/story/tech/2015/03/18/google-abc-disney-pair-up-to-promote-images-of-girls-and-computer-science/24903551/

27 commonwealthfund.org/publications/issue-briefs/2015/may/aca-payment-and-delivery-system-reforms-at-5-years

28 cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO/downloads/ACO-Menu-Of-Options.pdf

29 samepagehealth.com/

30 pewinternet.org/fact-sheets/health-fact-sheet/

31 epilepsy.com/accelerating-new-therapies/shark-tank-competition

32 imedicalapps.com/2014/11/american-heart-association-hosts-physician-shark-tank-annual-meeting/

33 jama.jamanetwork.com/article.aspx?articleid=2089358&utm_campaign=social_011715&utm_medium=twitter&utm_source=@jama.201#jsc140009f5

34 academyhealth.org/files/publications/fundingreport.pdf

35 blueapron.com/

36 ncbi.nlm.nih.gov/pmc/articles/PMC2848262/

37 statnews.com/2016/04/08/aetna-sleep/

38 statnews.com/2016/04/08/aetna-sleep/

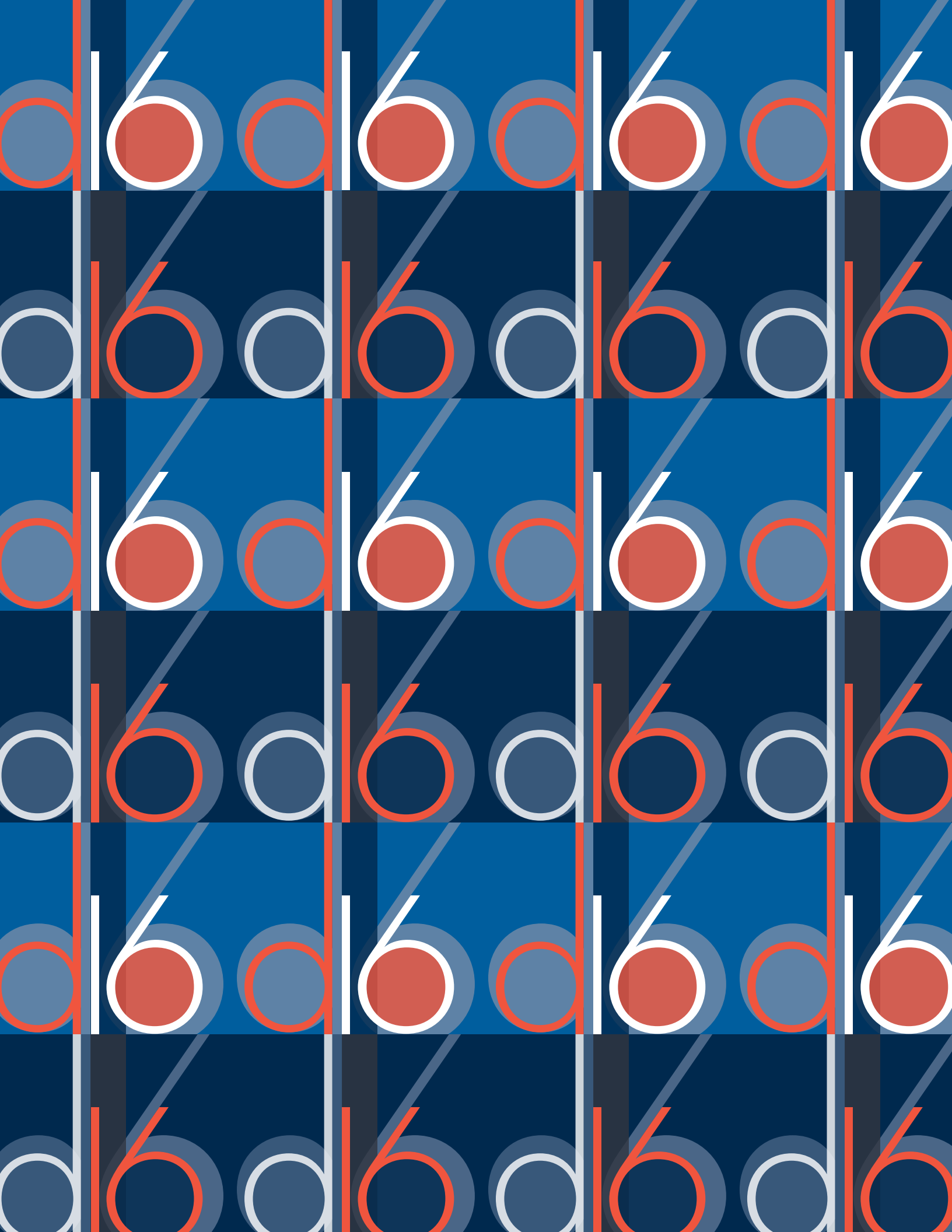
39 hbr.org/2010/12/whats-the-hard-return-on-employee-wellness-programs

40 ucsf.edu/news/2015/05/129901/ucsf-launches-health-beverage-initiative

41 hiccup.co/news/blog/the-way-to-wellville-the-journey-begins/

42 rwjf.org/en/how-we-work/grants/grantees/invest-health.html

43 care.diabetesjournals.org/content/25/1/23.full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EXECUTIVE INNOVATION LAB
ON DIABETES AND OBESITY

POWERED BY

THE diaTribe FOUNDATION

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