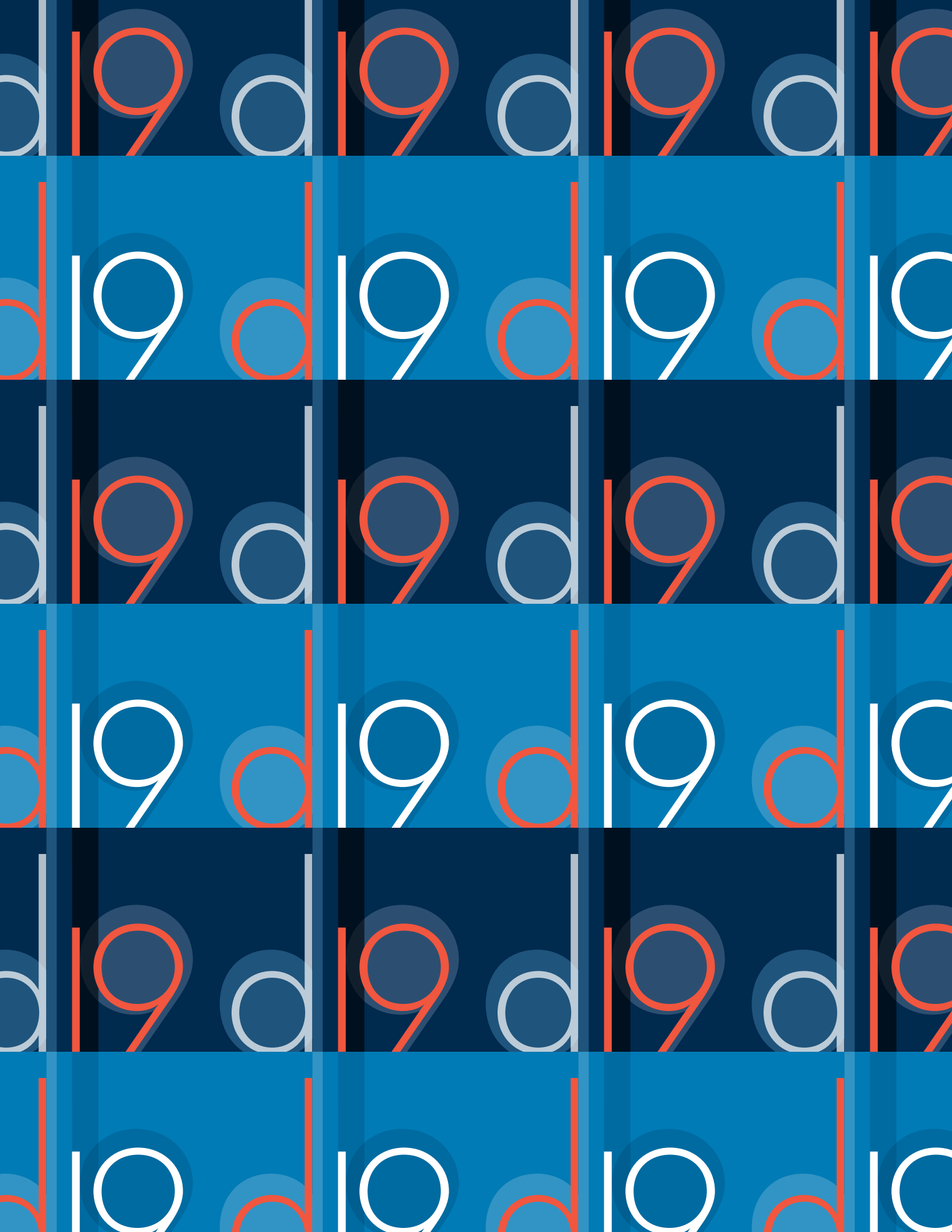




EXECUTIVE INNOVATION LAB IN  
DIABETES AND PREDIABETES

EXECUTIVE SUMMARY  
& HIGHLIGHTS





# d19 EXECUTIVE INNOVATION LAB IN DIABETES AND PREDIABETES: SUMMARY & HIGHLIGHTS

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## WHAT IS D19?

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In June 2019, more than 60 leaders, representing stakeholders in healthcare, community-based organizations, business, media, and policy, gathered in San Francisco for d19.

Building on the work we did with leaders at prior dSeries events, The diaTribe Foundation collaborated with experts to develop a diabetes ecosystem map over six months. Over 100 potential levers were identified during this ecosystem mapping process, reflecting the experiences of

dozens of leaders working in and around healthcare and health broadly speaking. During d19, nine top “levers” emerged—areas that focused effort has the most potential to halt the disturbing trend in type 2 diabetes.

Collective input by all stakeholders along with detailed analysis identified high-interest and high-value areas for aligned action. Participants then worked in small groups to develop a goal and initial strategy for each of the top goals.

## TUESDAY, JUNE 4

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### Keynote by Harvard Business School historian Nancy Koehn, author of *Forged in Crisis*

Nancy Koehn has spent her career studying leaders who made themselves better—more courageous, more effective, more resilient—during crises. The obstacles, turbulence, and crises she has studied are not unlike the diabetes, pre-diabetes, and obesity crises that we are currently facing.



Koehn shared key leadership lessons from leaders like the American abolitionist Frederick Douglass and the environmentalist and author Rachel Carson:

- Don't give up when the problem becomes more entrenched. Really worthy missions always encounter large problems and large obstacles.
- Change tactics as the tide changes even as

the leader commits him or herself even more strongly to the mission at hand. For example, Douglass, who never deviated from his quest to end slavery in America, realized that his initial attempts to attack the institution from a strictly moral perspective were not successful. He then gradually pivoted to an economic and political standpoint over the next thirteen years that proved essential in creating the abolitionist movement.

- The way forward is never to conquer fear—we don't conquer fear—but rather to take the first step into fear and then to realize that once we have walked into that place, we can take the next step and bring others with us.
- All great leadership is about caretaking—embrace that piece of what you're trying to do.
- Leadership is doing your homework across different boundaries. For example, Carson was trained as a marine biologist. When she discovered the huge challenge that widespread use of pesticides presented to the environment, she quickly realized she had to learn other fields in order to tell the story of the importance of environmental protection and citizen awareness and action. In doing this, she had to step outside of her comfort zone, and she and the world were much better for it.
- Keep your friends close, and those who you believe are your enemies, even closer.

Everyone can be a potential ally; everyone can be a potential messenger.

- Courageous leadership is always rooted in an individual's embrace of a mighty purpose.
- Alignment, courage, and momentum break walls down. For example, Beyond Meat, a California based company, produces plant-based meat products. Not believing that the company's product was limited strictly to vegetarians and environmentalists, founder and CEO Ethan Brown took the trojan-horse-approach of placing the company's product in the meat section of grocery stores and enabling everyone who eats meat to believe that they would benefit from "a little less meat." Now, because of Brown's imagination and resilience, Beyond Meat is a \$10+ billion-dollar company and had one of the most successful IPOs in recent history.
- Great leadership proceeds from the inside out—emotional awareness, agility, and resilience are essential.
- Real leaders discover the importance of navigating turbulence, articulating their mission, and transforming older, fixed mind-sets. They lead from their humanity, building trust by constant communication, empathy, and ongoing attention to the process.

### ***A Touch of Sugar* Film and Conversation Tracey Brown and David Lee Strasberg**

*A Touch of Sugar* illuminates the perspectives of people living with type 2 diabetes while exposing the public health challenges that underlie the diabetes epidemic. Through first-person narration by people living with type 2 diabetes and their



family members, viewers hear about the lived experiences—both challenges and successes—of patients across the country. The 30-minute film also discusses the impact of education, food security, stigma, and access to resources on health outcomes. *A Touch of Sugar* reminds viewers that we must fundamentally reimagine the way we support, treat, and advocate for people living with diabetes to tackle this epidemic.

Brown and Strasberg offered these remarks about the moving film:

- "Everyone knows somebody living with diabetes—tell THAT story. It's time we move from the background to the foreground."  
—David Lee Strasberg, CEO and Creative Director, the Lee Strasberg Institute
- "We have tools, technologies, digital and social communities. We are in a position to not only have a healthcare team, knowledge for yourself to make your own choices, and most importantly have your tribe, your community. We need to unleash people so they know they can manage this." —Tracey Brown, CEO, ADA

## WEDNESDAY, JUNE 5

### **The dNetwork: Toward Movement-Level Strategic Action**

#### **Kelly Close, Brooking Gatewood, and Dr. Alan Moses**

Kelly Close and Brooking Gatewood began the meeting by sharing goals for d19:

- Strengthen connections across the diabetes ecosystem and the growing dNetwork. The dNetwork expands beyond the annual dSeries gatherings to organize this evolving community into a force for coordinated change.
- Learn together; focus on Food as Medicine as an example of what can/should be done.
- Align on dNetwork strategic action priorities.



The vision created with the dSeries Steering Committee is that in five years, the dNetwork will be *the* hub for high-impact action to address type 2 diabetes in the US (all future references to “diabetes” should be assumed to be type 2, unless stated otherwise). Our action will be aligned, which means we’re coordinating across groups with shared interests in order to enhance impact for systems change.

Close offered opening sentiments on enabling moonshot ideas (“we are methodical, but not particularly patient...now we want to translate more of our insights into action,”) while Gatewood provided an overview of the diabetes ecosystem map:

- The map was created based on nearly 25 expert interviews by systems strategist Scott Spann covering different views of the diabetes field.
- The **full map** has been reviewed by the steering committee and is composed of 110 key levers grouped into seven thematic groups called “drivers.” The seven groups were:
  - Ability to Design/Structure Systems for Optimal Health
  - Ability to Default to Systems Other Than Optimal Health
  - Quality and Quantity of Understanding Regarding the Fully Human Cost/Benefit Structure
  - Quality and Quantity of Understanding Regarding At Risk Individuals
  - Ability to Design and Activate a Catalytic Social Movement

- Ability to Design and Activate a Catalytic Optimal Health Practitioner Movement
- Ability to Scale the Movement(s)

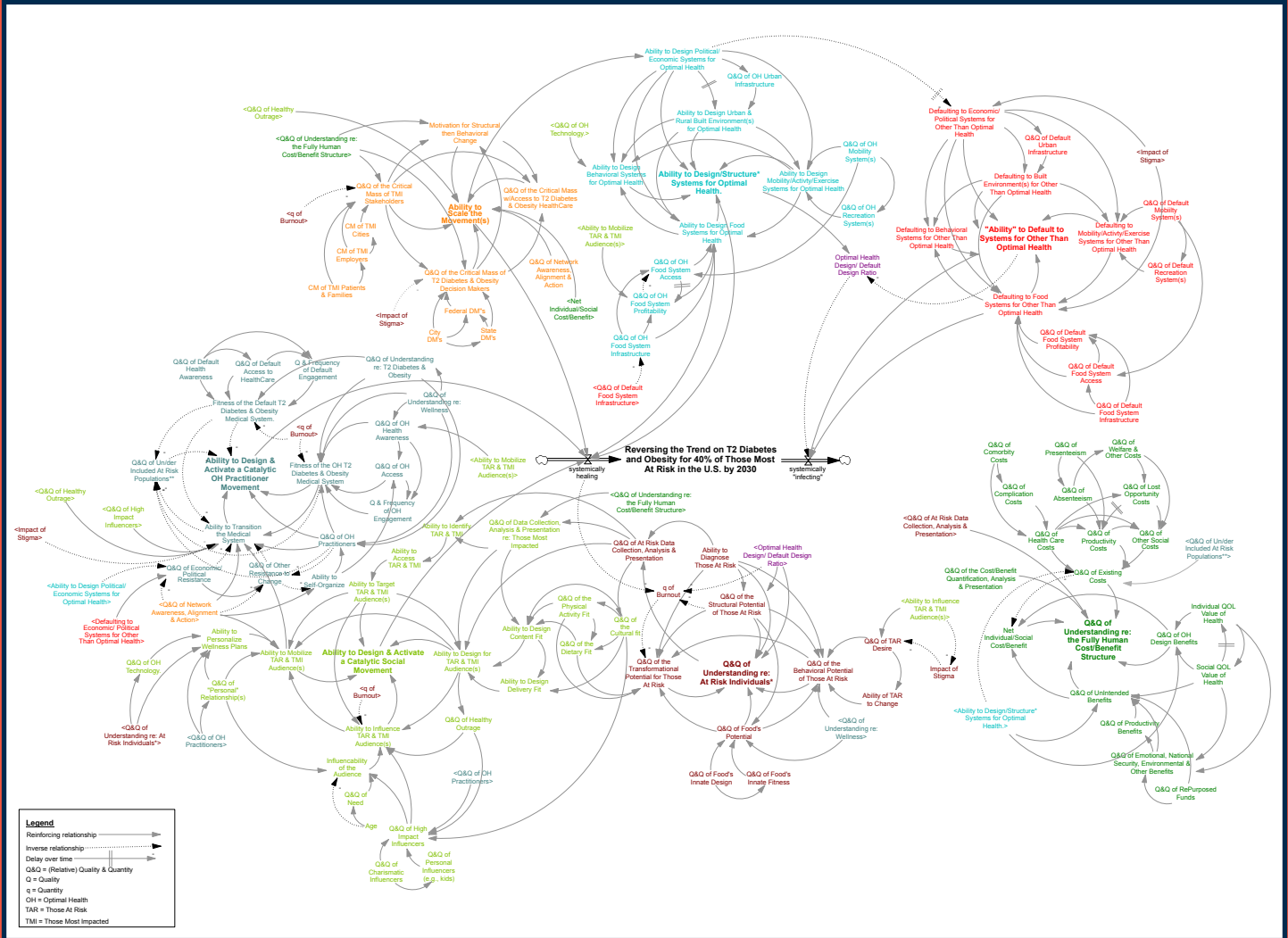
Next, Dr. Moses shared Cities Changing Diabetes data elucidating the scope of the epidemic and what’s needed to make an impact on diabetes prevalence:

- By 2045, 1 in 9 people around the globe will have diabetes, equaling 736 million people, up from about 400 million today (about half undiagnosed). The economic burden from this epidemic is only increasing, which many national economies can no longer bear.
- If current trends continue, there will be an 8% global increase in prevalence of obesity from a very high baseline. It will take a 25% reduction in obesity prevalence to stabilize the diabetes prevalence curve.

Dr. Moses expressed what the dNetwork wants to achieve during the d19 meeting and in the months following:

- Collective agreement on levers that matter.
- Commitment to collaborate for change, across disciplines and commercial interests.
- Develop a dNetwork structure and function to move the work forward. Springboard off our learnings from past dSeries events, including prevention, behavior change, and systems leadership, and move towards acting on the problem for better outcomes.





# Diabetes Ecosystem Map

## Levers for Changing the Landscape of Diabetes in America

Scott Spann



Spann began with an exploration of why an emergent, self-organizing network approach is essential to address the profound complexity of diabetes. Under the following paradigm (adapted from Snowden’s Cynefin Model), there are four types of systems and leadership approaches:

- **Simple systems** are designed to constrain behavior to give you the outcomes you want. They work well with a low rates of change and uncertainty and can be managed by hierarchy.
- **Complicated systems** are an amalgam of simple systems, but changing them relies on expert analysis rather than simple categorization.
- **Complex systems** have high rates of change and uncertainty, and actors and the system are co-evolving. Examples include biological systems, environmental ecosystems, and political systems. Solutions emerge out of the ecosystem—there’s no way to successfully impose a top-down solution. They require self-organizing leadership (like a network model) to both identify and institute change.
- **Chaotic systems** are like Hurricane Katrina and the fires in the California’s North Bay area—leadership style is autocratic in that you “just have to act” in order to address the most immediate concerns before you can step back, assess and think strategically.
- If you don’t know which system you’re in, you’ll end up disordered. Further, if you take a complex problem and try to over-simplify (e.g., three-strike sentencing laws), you’ll push

it into chaos. Diabetes seems to be a complex system with some elements of chaos (though it’s slow-moving chaos).

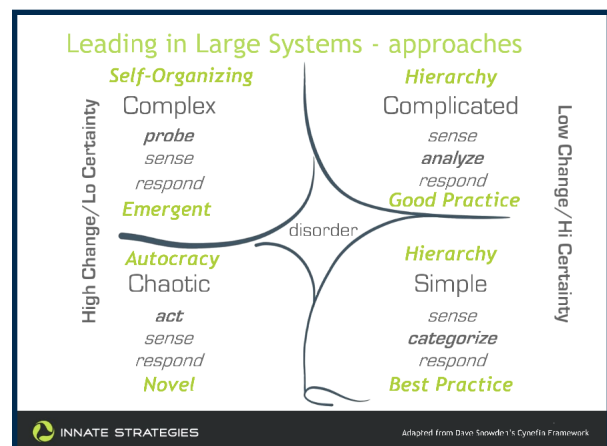
Spann outlined four fundamental questions that drive the mapping methodology:

- What’s the state of reality?
- What’s the structure that causes our reality?
- Where do we intervene in that reality?
- How do we make the structural, then behavioral changes?

The diabetes ecosystem map represents the structure of our reality, and an analysis of the map shows where we should intervene (which levers to start with).

Spann interviewed 20+ individuals to create the diabetes ecosystem map. From there, nearly two dozen individuals from the dNetwork Steering Committee, The diaTribe Foundation Board, The diaTribe Foundation team, and the d19 participant group provided input into analysis of the map leading up to d19.

d19 participants agreed on the map’s goal of “Reversing the Trend of Type 2 Diabetes and Obesity for 40% of Those Most at Risk in the US by 2030.” This goal, eschewing what’s “practical” or “realistic,” assesses what’s *needed* to avoid irreversible loss.



Spann said that for most maps around 15% of the identified variables are the most important for achieving the goal—in this map, that translates to 17 levers (culled from 110 total). This number, helps







to constrain the universe of choices to something manageable. Accordingly, participants each picked their “top” 17 levers on the map and assigned them a minimum of 5 points and a maximum of 20 points (totaling no more than 170 points).

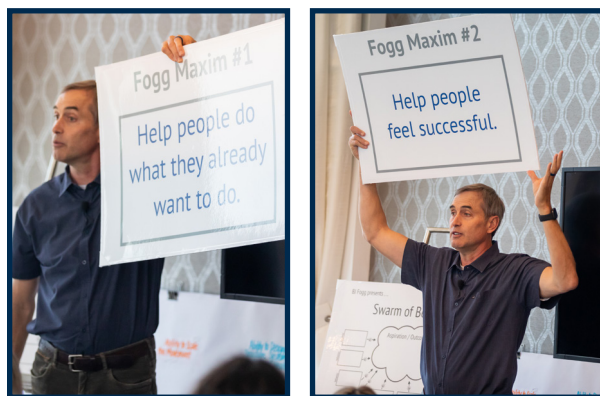
Spann then tabulated results by multiplying the number of people who voted for each lever by the number of points allocated to it, resulting in a combined score. From 17 levers, he narrowed down to nine based on participants’ input and their relationship to the structure of the ecosystem map.

Based on this evaluation, the top nine levers were:

- Ability to Design Food Systems for Optimal Health
- Ability to Design Political/Economic Systems for Optimal Health
- Quality and Quantity of Critical Mass of Type 2 Diabetes and Obesity Decision Makers
- Ability to Influence Those at Risk and Those Most Impacted
- Ability to Diagnose Those at Risk
- Impact of Stigma
- Ability to Mobilize Those at Risk and Those Most Impacted
- Quality and Quantity of Critical Mass with Access to Diabetes and Obesity Healthcare
- Ability to Transition the Medical System

## Healthy Behavior Design

### BJ Fogg and Stephanie Weldy



Fogg and Weldy discussed how, typically, individuals try to change behavior by starting with an aspiration (like eating or sleeping better) or outcome (like lowering their A1C or weight by X%). To complement these aspirations/outcomes, Fogg and Weldy shared two key Maxims in behavior design:

1. Help people do what they already want to do.
  - This is the only thing that works to scale.
2. Help people feel successful.
  - Emotions create habits.

They shared two tools for make these lessons a reality—Focus Mapping and Success Framing.

Focus Mapping:

1. Start with an aspiration or desired outcome.
2. Create a swarm of behaviors—generate a large number of potential methods for achieving the aspiration or outcome.
3. From those behaviors, pick the Golden Behavior. The Golden Behavior has three characteristics:
  - a. Effective at leading to the aspiration/outcome (needs to be impactful)
  - b. Something the person can do (ability factor/the behavior is feasible), *and*
  - c. Something the person wants to do (motivation—aligns with Maxim #1).

Fogg and Weldy guided participants in a customized Focus Mapping exercise developed in collaboration with the diaTribe team and subject matter expert, Dr. Tim Garvey around Behaviors for Healthy Eating. The discussion explored one-time behaviors, stopping behaviors, and creating new habits related to food.

Fogg’s new book, *Tiny Habits: The Small Changes that Change Everything*, is now available for [pre-order at tinyhabits.com/book](https://www.tinyhabits.com/book). Fogg has shared new content on his groundbreaking models and methods in Behavior Design. This is a practical, hands-on book for everyday people that want to live happier, healthier lives.



# BJ Fogg Behavior Design

SHINE

NEW Tiny Habits

Jan 2020

Help people do what they already want to do

Help people feel successful



share photos

Filters

easy looks better

Simplicity changes behavior

emotions drive behavior



automaticity

habit

(Reduce Stress)

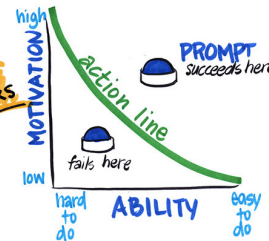
Swarm of Behaviors

Aspiration/outcome (keep carbs < 45 grams)

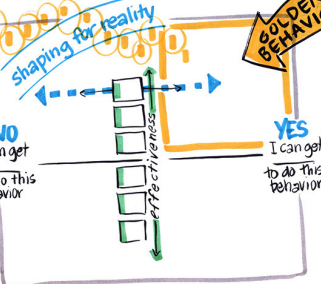
options

We are BAD @ picking the right behaviors

## FOGG BEHAVIOR MODEL



## FOCUS MAPPING



- 1 Behavior needs to be impactful
- 2 Wants to do
- 3 Can do

## SUCCESS MAPPING

Your Excellent Performance

Your Performance Compared to Others

Your Performance when Collaborating



Different Ways we get affirmed

SHINE



June 4-6, 2019

## Levers for Change Strategy Explorations

**Scott Spann**

Participants then formed teams, ranging from three to twelve members, according to their natural alignment with a given lever (what they are working on or what they care most about).

Teams then developed measurable, time-specific goals for each lever along with strategies for achieving those goals—engaging in “cross-pollination” talks, sharing with others from other teams what they found most exciting and most scary about the work so far. Then, they participated in “ritual dissent,” offering feedback on another’s Team’s strategies in order to generate more robust ideas. Groups then recorded and reported their final goal and strategy in preparation for the next day’s work with IDEO.



## The diaTribe Foundation Award for Transformative Impact in Healthcare

Later that evening, The diaTribe Foundation Award for Transformative Impact in Healthcare was presented to the National Minority Quality Forum President and CEO Dr. Gary Puckrein. At The Forum, Dr. Puckrein uses data-driven policies and initiatives to improve health. Under Dr. Puckrein’s leadership, The Forum works toward having all individuals represented in healthcare solutions—which unequivocally means improved solutions.

## Lightning Talks: Food as Medicine

The Creative Director & CEO of the Lee Strasberg Institute David Lee Strasberg introduced five “lightning talks” focused on Food as Medicine. These talks were presented by Healing Our Village Chief Medical Officer Dr. James Gavin, Duke World Food Policy Center Director Dr. Kelly Brownell, Whole Cities Foundation Wellness Educator Dr. Akua Woolbright, San Francisco Department of Health Assistant Health Officer Dr. Rita Nguyen, and Initium Health Principal James Corbett.

**Dr. James Gavin** emphasized the need for a robust solution to reverse the diabetes trend. Given that diets are the main drivers of obesity, he called on food as medicine as a critical tool.

- We are faced with a global “syndemic” (referencing [The Lancet’s commission report](#) published earlier this year) founded on interactions between several pandemics, such as obesity and undernutrition. Climate change is driven by food policies and heavily impacts our ability to foster resilient food systems.
- The fact that beef is a food centerpiece of our society has global implications for the economy, health and medical complications, and climate change.
- The solution involves developing a sustainable food production that will lead to healthier eating patterns. There is an urgency to develop a collaborative, all-of-us mindset and understand that individual behaviors have

# FOOD AS MEDICINE



**Dr. Gary Puckrein**  
President & CEO National Minority Quality Forum

We can control health outcomes



it's predictable - we have the capacity to control these events

**Bold Actions Needed on Food & Food Policy**



**Kelly Brownell, PhD**

who owns it?

create interventions from the community

**Nutrition-led Obesity Avoidance**

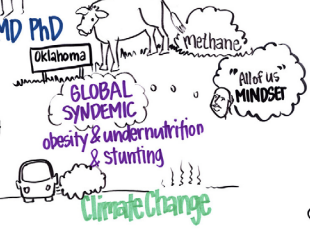
caloric intake + sedentary lifestyle

LOSE hard MAINTAIN harder

**James R. Gavin III MD PhD**

too much: sodium, processed red meat, sugary foods, unprocessed red meat

too few: nuts/seeds, fruits, vegetables



Sustainable Strategy for the COMMON GOOD

**An Empowerment Model: Reassessing Barriers & People's Ability to Change**

What WE BELIEVE they can do

**Akua Woolbright, PhD**

People are strong, resilient

Detroit

Urban Gardens



Go to place for Nutrition Education

**Conflict of Obligation**

**Healthcare Inequities**



**James Corbett, MD, JD**



Learn from: Opioid Crisis (beyond shame)



**Food Insecurity Health & Healthcare: The Potential & the Imperative**



**Rita Nguyen, MD**

Food Insecure



COLLABORATIVE



leverage emotion of DISGUST

treatment of the POOR



an impact on our environment and thus our collective health.

**Dr. Kelly Brownell** discussed the need for organizations across the food system (for example, food insecurity and obesity) to collaborate.

- Understanding the history of how food systems develop is crucial to creating robust solutions.
- Communities that have historically faced injustice and inequality have long-lasting impacts that reverberate through them, many of which include diabetes and health complications.
- Interventions that generate permanent solutions must come from within the community and be owned by the community. It is wishful thinking to assume that outsiders know what is best for them. How can we elevate and give credence to the voices within the community and then design interventions around them?



**Dr. Akua Woolbright** reminded d19 participants of the importance of understanding the people we are trying to help.

- Our best approaches are intuitive, emotional, and real. Instead of top-down solutions, we must remove our biases and assumptions that people don't have certain goals or know how to get inspired.
- People are not their circumstances. People are smart, resourceful, and resilient; we should not underestimate their knowledge and capacity to surpass perceived barriers to food access.
- Whether or not people have the capability to make lifestyle changes is not our decision to make. Our job is to educate, empower, and then support people to make the changes they desire.

- People are ready for us to go beyond a watered-down message of portion control. They want specific information about how to improve their health. We can provide that, as well as ongoing support and inspiration.

**Dr. Rita Nguyen** discussed how empowerment and investment in these communities is key to reversing power dynamics and health inequity.

- To truly optimize health outcomes, healthcare must go beyond prescription medications. The power of food is that it enables people to take health into their own hands, rather than passively receiving recommendations and medications.
- Food insecurity gives birth to a vicious cycle of eating high-caloric, low-nutrition food, chronic health conditions, and lower employability. To reverse this cycle, the food system and health system need to work together.
- There are already some solutions in place to bring food and medicine together: food pharmacies, cooking demonstrations, grocery store tours with nutritionists, and support around the local economy of farmers, to name a few. These resources are also designed by and with patients to adhere to a framework of equity.

**James Corbett** emphasized the role of emotion and language in the narrative of diabetes, and the importance of recognizing bright spots in the field.

- Similar to the opioid crisis, one of the biggest takeaways for the diabetes epidemic is to overcome the notion of shame.
- Solutions will be messy and complicated. For example, while the banning of sugar-sweetened beverages in Boston hospitals decreased consumption by 54%, the beverages were often replaced by artificially-sweetened ones and the situation generated negativity for the cashiers dealing with unhappy customers. The key is to keep fighting and not lose sight of good health outcomes.
- The importance of language cannot be overstated. How we frame our narratives changes the reactions and solutions that mobilize around them.
- We should leverage the emotion of disgust: be disgusted about the way we treat diabetes in this country and use that disgust to fuel our ability to transform the system.

# THURSDAY, JUNE 6

## IDEO Design Sprint

To begin the day at IDEO headquarters, IDEO co-founder Dennis Boyle shared principles of design thinking:

- It's human-centered in its approach, encompassing people, business, and technical factors to create innovation.
- There are inspiration, ideation, and implementation phases that rely heavily on prototyping and telling stories.
- It starts with gaining empathy by connecting with patients, users, and customers.
- Don't ask—observe and participate. For example, IDEO employees admitted themselves to a hospital to understand the experiences of patients there.
- Innovation teams need to understand people on multiple levels, including social and cultural.

Design thinking projects start with a few different questions:

- “How might we...”
- “What if...”
- “What is the future of...”



Boyle offered several concrete techniques:

- Cultivate an awareness of what is good design and what is not, like inverting the Heinz ketchup bottle.
- Look for workarounds—cultivate an awareness of what people around you are doing to solve the problem.

- Watch for signs—signs with tons of explanation often indicate that the product isn't designed well.

Employing IDEO's approach to design, participants then focused on creating some more detailed tactics and strategies for accomplishing the goals generated the previous day, recording their final thinking on large boxes.



# Bending the Curve

GOAL STRATEGY

## Impact of STIGMA



Change the public perception of diabetes from "It's their own fault, so we don't care" to "It is a serious disease, and we need to help"  
by **25%** in **5 years**  
as measured by public opinion polls & surveys

## Create A.D.D. Alliance for Diabetes Dignity

- Social Media Campaign
- a new lexicon/script
- "ACT UP" equivalents
- Media outreach for representation & visibility in corporate environment

## DIAGNOSE Those @ Risk



Cardiometabolic Risk Assessment for EVERYONE  
Age 10 yrs & up  
by **2025**

- Identify those at High Risk for intervention
- Provide information for those who want to use it
- Implementation
  - MOP Office
  - Self-Service Kiosk (collecting data)
- ↳ Output "Friendly Guidance" ● ● ● Indication

## INFLUENCE Those at Risk and Those Most Impacted



By **2021** the dNetwork will identify **100** trusted diverse national regional and community-based leaders/influencers to help promote collectively articulated targets for those at risk or most impacted by diabetes with **personalized** resources

Redefine **LEADERS** to be both trusted Community-Based Orgs. and High Profile Influencers and create an infrastructure for connecting them to each other & to critical info/tools/resources



Optimal Health

## MOBILIZE Those at Risk and Those Most Impacted



In **3 years** **500,000** people impacted have self-identified to change the status quo of **DIABETES**

- Develop platform
- Attract Change Agents
- Test & Learn through Campaigns & Initiatives
- Inform through Market Research
- Retention Plan
- Recruit Partners

We ALL deserve ACCESS to Healthcare

## TRANSITION The Medical System



By **2025** **50%** of all metabolic care will be transitioned to a full risk model w/ focus on integrated care w/ behavioral change & nutrition education

## 2 Sided Innovation approach

- Agree on metrics/outcomes for creation of value-based contracts
- Development, validation & implementation of technology for scale, care integration, access & ↓ friction

diabetes pre-diabetes

Quality & Quantity of CRITICAL MASS of T2 Diabetes & Obesity

## DECISION MAKERS

Create a clear reliable & transparent data source to hold policy makers, industry leaders & other key DMs accountable for decisions impacting T2D & Obesity by **2025**

- Create **SCORECARDS** that Federal, state & local legislatures key votes & legislative activity Large companies rank based on employee wellness & diabetes prevention how their products impact T2D & obesity

Soda will annihilate People

Quality & Quantity of CRITICAL MASS with ACCESS to T2 Diabetes & Obesity

## with ACCESS

By **2025** a majority of patients regardless of zip code affected by obesity & T2 Diabetes will have **FULL ACCESS & continuity** to healthcare products & services

Devise **NEW** essential benefit for those w/ T2 Diabetes or obesity with **full access** to all treatment modalities



## Design Political/Economic Systems for Optimal Health



By **2025** **Universal Access to INTENSIVE EVIDENCE-BASED Lifestyle Change Programs** for Diabetes Prevention Obesity Diabetes

Required **Universal National Coverage** by all payers, including Medicaid, of evidence-based lifestyle change programs for: Diabetes Prevention Obesity Diabetes

## Optimal Health: Design Food System



By **2030** reduce added sugar consumption to **30%** of current levels & improve access to healthy foods in at risk communities

**Tax** **2¢/oz** by **2030** **50%** of population Use at least **50%** of revenue from soda tax to improve access to & lower cost of healthy foods for at risk communities





***At the end of the collaborative working session, teams presented their initial ideas for strategies for each of the nine levers and goals. This work emerged as a first effort for next steps, reflecting the dNetwork's priorities as they currently exist.***

## **LEVER 1** **Ability to Influence Those at Risk (TAR) & Those Most Impacted (TMI)**

### **Working Title**

**dNetwork 100—Leading the Charge for Diabetes Prevention**

### **Goal**

By 2021, the dNetwork will identify at least 100 trusted diverse national, regional, and community-based leaders/influencers to help promote targets for those who are at risk or most impacted by diabetes with measurable outcomes. The dNetwork aims to redefine “leaders” to be both community-based and high-profile influencers, while creating an infrastructure for connecting them to each other and to critical information, tools, and resources.

### **Strategy**

In the first year, the dNetwork will begin a proof of concept in up to three communities, assessing appropriate targets and outcomes for those most at risk. During this year, The diaTribe Foundation will consider a location for d20 that aligns with this project. The dNetwork will conduct a gap analysis around who is missing from the dNetwork. Then, the dNetwork will identify 25 (of the 100 target) leaders, and The diaTribe Foundation will invite them to d20. In years 2-5, the dNetwork aims to have built a sustainable framework that includes funding, recruiting, connection-building, and staffing. 100 leaders should be fully engaged by the end of five years. Key players for this initiative include the National Minority Quality Forum, the Center for Disease Control, and the Robert Wood Johnson Foundation. Potential funders include the Milken Institute, Robert Wood Johnson Foundation, Kellogg Foundation, regional and local foundations relevant to the communities of choice, food companies, large employers with older populations, the AARP, and Wells Fargo. Potential resisters to name include traditional diabetes organizations, deniers of the potential for change, competitive initiatives, skeptics

of The diaTribe Foundation, skeptics of the dNetwork, stakeholders who are burnt out, and the stigma associated with diabetes.

*Group members: Christina Jones, Kristen Williams, Robert Oringer, Chris Barnes, Alan Moses, David Lee Strasberg, Bob Ratner, Laura Feinberg, Kelly Close, Akua Woolbright, Andra Stevenson, James Gavin*



## **LEVER 2** **Quality and Quantity of Critical Mass with Access to Diabetes and Obesity Healthcare**

### **Working Title**

**Access Granted: Essential for Life!**

### **Goal**

By 2025, a majority of patients—regardless of zip code—affected by obesity and T2D will have full access to healthcare products and services. The dNetwork aims to devise new “essential benefits” for those living with type 2 diabetes or obesity, providing full access to all treatment modalities.

### **Strategy**

To create a mechanism for the formulary “fast pass”, the dNetwork can partner with the Alliance for Patient Access. In the first quarter of work, the dNetwork will create an OMB (Office of Management and Budget) scoring report. Within the next year, the dNetwork will aim to coordinate payer alignment and engagement, design a formulary “fast pass”, review results of the OMB report,



and meet with identified champions. Two to five years after starting, the dNetwork will continue to work with selected champions, collect data from early adopters and pilots, and ideally launch a national campaign to expand. Key players include engaging the AHA, ADA, ACP, ACE, and ACC, realigning incentives and identifying lawmakers to champion this effort. Funding and resources will span grants, philanthropy, corporate sponsors, the dNetwork itself, lobbying from DPAC, and public affairs groups.

*Group members: Angela Moskow, Kristen Binaso, Jonathan Naylor*

### **LEVER 3** **Impact of Stigma**

#### **Working Title**

**We Want to ADD to The Conversation**

#### **Goal**

Change the public perception of diabetes from “it’s their own fault, so we don’t care” to “it’s a serious disease and we need to help” by 25% in 5 years as measured by public opinion polls and surveys.

#### **Strategy**

In the first three months, the dNetwork will create a steering committee with Kelly Close, Tracey Brown, and media professionals. The committee will be tasked with developing the ADD (Alliance for Diabetes Dignity) campaign, inspired by GLAAD. During these first three months, the steering committee will develop a pitch deck for the ADD (Alliance for Diabetes Dignity) campaign. By the end of the first year, the dNetwork will deploy the pitch deck for funding alongside a funding plan, develop a clear stakeholder map with a strong leadership base and message. Within two to five years, the dNetwork should have produced a minimum of 2 jointly-deployed campaigns, with continued membership expansion. Through this campaign work, the dNetwork hopes to curate a new lexicon and script to guide individuals on how to change their language. The dNetwork can, equivalent to the “ACT UP” series, create a “World Diabetes ‘Coming Out’

Day,” “Diabetes Dignity” chapters, #MeToo to #MeType2, Million People with Diabetes March. Resources include corporations, corporate social responsibility, media groups, and telecom. In-kind resources include media teams, streaming platforms, and organizations’ corporate social responsibility departments.

*Group members: Carl Rashad Jaeger, Karen Talmadge, Manny Hernandez, Tory Donohue, Virginia Valentine, Karen Jordan, Orville Kolterman, Farhaneh Ahmadi*

### **LEVER 4** **Ability to Diagnose Those at Risk**

#### **Goal**

**Cardiometabolic risk assessment for everyone age 10 years and up by 2025.**

#### **Strategy**

To start, the dNetwork will identify those at high risk for diabetes and most in need for intervention through the development of a risk assessment kit. This kit would output the appropriate steps and guidance around what to do based on risk level. This kit could be implemented in healthcare professional offices using data already collected routinely, in self-serve kiosks (drugstores) collecting blood pressure, fingerstick for blood glucose and lipids, BMI, and a short family history questionnaire. The dNetwork aims to develop a patch to measure all metrics, available to all children by age 10. To spread the word about the kit, the dNetwork would develop age-specific messaging around festivals, school systems, and other community outreach (i.e., faith-based organizations). Funding sources include pharmaceutical, venture capitalist, and diagnostic and device companies. Resources to leverage include retail channels (online and B&R), technology and design, manufacturing, clinical validation, device companies, and professional and patient groups.

*Group Members: Tim Garvey, Jim McDermott, Kristine Roedel, Richard Wood*



## LEVER 5 Ability to Transition the Medical System

### Working Title

Incentivizing and Measuring Health

### Goal

By 2025, 50% of all metabolic care will be transitioned to a full-risk model with focus on integrated care with behavioral change and nutrition education!

### Strategy

In the next quarter, the dNetwork will conduct a literature review on existing models and building consensus within the network. Within a year, the dNetwork will start building consensus externally, engaging diverse stakeholders and beginning to advocate and lobby for the transition. Two- to five-year milestones include the creation of new health metrics, creation of a model for value-based contracting, and piloting of a closed-loop system. Individuals who can help enable this work include patients, advocacy groups, and communities. Resistors include government hospital systems and boards. This innovation approach would be two-sided: 1) agreeing on metrics and outcomes for creation of value-based contracting and 2) developing, validating, and implementing of technology for scale, care integration, access, and reduced friction.

*Group Members: Nichola Davis, Naeem Khan, James Corbett, Paul Sytsma, Deneen Vojta, Brian Levine*



## LEVER 6 Quality and Quantity of Critical Mass of Diabetes & Obesity Decision Makers

### Goal

Create a clear, reliable, and transparent data source to hold policymakers, industry leaders, and other key decision-makers accountable for decisions that impact T2D and obesity by 2025.

### Strategy

The dNetwork will curate scorecards to both hold federal, state, and local legislators accountable for legislative activity impacting type 2 diabetes and obesity and rank large companies based on employee wellness and diabetes prevention (and how their products impact diabetes and obesity). In the first quarter of work, The diaTribe Foundation will research models of score cards and design the card. The diaTribe Foundation will also have conversations with organizations to create buy-in and partnerships. In the first year, the dNetwork will rollout the scorecard and release a questionnaire for endorsements. In the two to five years after starting work, the dNetwork will propose legislation with education along way, form an electoral PAC, and expand impact through increased communication. Funding resources include big donors, Nancy Pelosi, DPAC, and a large communication partner, like Google.

*Group members: Terry Vance, Casper De Clercq, Larry Soler, Jim Carroll, Jennifer Nadelson, Yaron Hadad, Katrina Zalvaney*

## LEVER 7 Ability to Design Food Systems for Optimal Health

### Working Title

SWAP: Soda Will Annihilate People!

### Goal

By 2030, reduce added sugar consumption to 30% of current levels through a \$0.02 tax per ounce. At least 50% of the revenue from soda tax will go towards lowering the cost of healthy food for at-risk communities.

## Strategy

The dNetwork will conduct background research on the soda tax landscape in California for the first year. During years two through five, the dNetwork will recruit public space artists and conduct a soda smash or dump challenge. Other ideas include making water cool and branded, starting a pro-water/sparkling water campaign to support beverage companies, launch a “sugar as an addictive drug” campaign, leverage a celebrity voice to be “sugar free,” paint big soda as the real “nanny state,” include pictures of sugar quantity consumption more widely, and convince pharmacies to stop selling soda, building on their cigarette removal. Key players include voters, policy groups, schools and kids, celebrities, healthcare providers, retail, pharmacies, water companies, social media, and journalists and traditional media. Funding sources can include Bloomberg Foundation, AHA, banks, Robert Wood Johnson Foundation, CA Endowment, University Health Systems, ADA/AAP, and the Ad Council.

*Group Members: Sophie Koontz, Adam Brown, Anders Hvelplund, Kelly Brownell, Deana Zabaldo, Sanjay Trehan, Casey Palmer, Marjorie Sennett, Stefanie Cousins, Stephanie Weldy*

## LEVER 8 Mobilize Those at Risk and The Most Impacted by Diabetes

### Goal

In three years, 500,000 people impacted by diabetes have self-identified to change the status quo of diabetes.

### Strategy

To achieve this goal, the dNetwork will create a landing page, crowdsource from the community to optimize buy-in, and fail-fast to see what sticks. The diaTribe Foundation would develop the main platform, attract change agents, test and learn through campaigns and initiatives, inform the dNetwork through market research, create a retention plan, and recruit partners. In the first three months, the dNetwork would learn the “best ideas” for crowd-sourcing, create the landing page, and conduct an initial round of test

marketing. These first three months would also include initial outreach to partners and funders. After one year, the dNetwork will have signed-on partners, a toolkit for retention, influencers who are spreading the messages on their platform, 100,000 people reached, \$500,000 raised from social impact foundations, and a plan for sustainability.

*Group members: Caroline Pappajohn, Catherine Sullivan, Cherise Shockley, Bradley Atkinson, Lorraine Stiehl, John Close*

## LEVER 9 Ability to Design Political/Economic Systems for Optimal Health

### Working Title

#### Diabetes Prevention for All

### Goal

By 2025, there will be universal access and coverage for intensive evidence-based lifestyle change programs for diabetes prevention, obesity, and diabetes.

### Strategy

The dNetwork will create a comprehensive view of current coverage, collecting success stories and market data, refining strategies for three target groups (Medicaid managed care, Medicare Advantage, and big employers), and identifying groups with aligned interests. Within the next 2–5 years, the dNetwork will identify best practices for Medicare managed care and Medicare advantage. Ideally, 100 of the top 2,000 employers in the United States are both covering and actively promoting lifestyle programs.

*Group Members: Kathy Regan, Lisa Murphy, Michael O'Donnell, K.M. Venkat Narayan, Sandeep Wadhwa, Gary Puckrein*

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## Closing Remarks and Next Steps

### Kelly Close and Brooking Gatewood

There was a near consensus from the group that everyone saw a place for themselves and their existing work in the goals and strategies that were generated at d19.

Close, Gatewood, and participants then identified next steps:

- diaTribe will reflect back ideas and notes to participants in the coming weeks.
- diaTribe will initiate filling the role or responsibilities of a network coordinator who will be responsible for helping stakeholders drive the work forward collectively.
- Chris Barnes will lead development of a Guide to Action based on the ideas generated at d19.
- Participants are asked to consider a 5–10% “lean” in their existing work toward goals related to the dNetwork’s top goals, once those are solidified.
- Participants wrote a note to themselves, which diaTribe will mail to them in two months’ time, encouraging accountability.



# ADDENDUM

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## Ecosystem Map Interviewees

Margaret Anderson  
Cheryl Bettigole  
Adam Brown  
Dr. Kelly Brownell  
Dr. Will Cefalu  
Kelly Close  
James Corbett  
Dr. Faith Foreman  
Jeff Halpern  
Manny Hernandez  
Dr. Irl Hirsch

Dr. James Gavin  
Kathy Regan  
Dr. Alan Moses  
Dr. Dariush Mozzafarian  
Dr. Sam Nussbaum  
Dr. Michael O'Donnell  
Dr. Donna Ryan  
Dr. Urmimala Sarkar  
Dr. Laura Schmidt  
Dr. Prabjhot Singh  
Dr. Akua Woolbright

## d19 Welcome

### Kelly Close

Good morning!



As part of a diaTribe Foundation lectures series, my team and I were recently pondering how to introduce Safi Bahcall, a physicist and entrepreneur who wrote a book about moonshot ideas. And despite all the interesting questions I could've asked him about particle physics, condensed matter physics, or solving world hunger, all I could think about was d19! We have a behemoth, systems-level problem in front of us—one that feels like it needs a moonshot every day.

One key to enabling moonshot ideas requires zooming out from “this intervention” or “that intervention.” There's just no way that a single

solution will fill every need—our thinking has to scale up to the size of the problem. We've selected the people in this room because of your commitment to thinking beyond your area of singular expertise and to seeing this epidemic for the beast that it is.

Don't get me wrong—individual interventions can and do make meaningful progress in addressing diabetes. They are the building blocks for making meaningful change.

For instance, at d16, Laura Schmidt spoke to us about the successful effort to bring the first soda tax to one US city. It affected 121,000 Berkeley residents—most of whom probably already derided soda as a tool of social oppression.

Now, only three years later there are over **4 million** people in **eight** US localities with soda taxes. The growth of this movement is exciting. The dSeries aims to facilitate work like this. Since 2016, it's offered a unique cross-sector forum for executive leadership and learning in diabetes prevention and care.

But the dSeries is more than a gathering every 12 or 15 or 18 months. The depth of the work each of you do, all year long, is why the insights and



community building here are so exciting. We started out at d16 by spreading these insights, then working with BJ Fogg on behavior change and behavior design, developing the Anthology of Bright Spots, which showcases what's working in diabetes prevention. This site launched at d17. And at d18, we leveraged participants' experience to prepare ourselves for the future of diabetes by starting to think even bigger.

And here at the dSeries we are methodical, but not particularly patient. So now we want to translate more of these insights into action. We've created a dNetwork Steering Committee to guide work since d18, invested in a formal and continuously evolving systems-mapping process, and are finding funding for a dNetwork coordinator to help us propel sustained action. Post-d19, we'll be producing a Guide to Action that will highlight concrete opportunities for collaboration and impact.

Plus, we know that learning about promising trends and solutions is part of what draws many of you to the dSeries, and this year's lightning talks and behavior change discussions are focused on "Food as Medicine." We think this topic will have immediate applications for everyone back home, and it has enormous potential to emerge as a key lever for change.



Until now, we've been laying the foundation for collective action. At d16–d18, we elucidated the underlying dynamics driving the epidemic. We've learned new ways of thinking and validated many promising ideas. At d19, we'll be building on that

work to narrow down the levers for change **that we can act on together**. Even if not all of us feel ready, we've got to come up with a place to start, or we'll be waiting forever.

diaTribe will help coordinate systems-level messaging and exchange of information through the dNetwork and beyond, and we most certainly can't do it alone. We'll need an ongoing collaborative model to move the work forward.

This will require leadership and engagement, largely from those already invested in these issues. Rather than adding on to your already overloaded plates, we want this network to inform and enable your existing priorities so that we can all work smarter. We're calling it a 5–10% "lean" in our collective direction.

Talking about this systems work is a jargon minefield, and a system as large as this one takes some work to comprehend, but I think it's worth it. We are doing something that is fundamentally needed.

So, beyond launching the next wave of scalable efforts that can grow just like the soda tax, let's make the **intentional** decision to coordinate. THIS is how we realize the larger vision—not by changing ourselves and our solutions fundamentally, but by reorienting in new ways through strategic collaboration.

The Eiffel Tower wasn't built by throwing all the steel girders into a bag, and Seurat didn't paint with random brushstrokes of pigment. These works—networks if you will!—were carefully constructed to emphasize the relationships among their parts.

Coordinated action will allow us to expand on existing successes instead of unintentionally impeding or duplicating each other's efforts. It won't be perfect—even simple partnership takes capacity and there will still be missteps along the way—but as Nancy Koehn so eloquently captured last night, we, together, are part of a historic moment.

***Onward!***



## The diaTribe Foundation Award for Transformative Impact in Healthcare

### Introduction—Kelly Close

Before we begin our lightning talks, this evening is an important opportunity for us at The diaTribe Foundation to honor Dr. Gary Puckrein, President and CEO of the National Minority Quality Forum. Each year, we give The Transformative Impact in Healthcare Award to an individual who is pushing the field forward in disproportionately effective ways. Dr. Puckrein embodies this goal perfectly.

At The Forum, Dr. Puckrein uses data-driven policies and initiatives to improve health. This may sound simple—but we'd be nowhere if we didn't monitor the health status of communities and track if the interventions we choose actually work or not. Under Dr. Puckrein's leadership, The Forum works toward having all individuals represented in healthcare solutions—which unequivocally means improved solutions. He and his team are doing the work that is making all of us better.

A few months ago, our team attended the National Minority Quality Forum annual summit in Washington D.C., learning about drug pricing's effect on minority communities, the need to diversify genomic research populations, and the importance of holding key institutions,

like hospitals, accountable for addressing the totality of health. What an honor it was to be in community with like-minded individuals, fiercely committed to reducing health disparities. The forum highlighted and recognized 40 under 40 key leaders in minority health—the talent, drive, and success of these individuals was nothing short of remarkable.

During this forum, I crashed a meeting that Dr. Puckrein had pulled together on The Forum's Diabetes Index tool, which maps at-risk diabetes populations by zip code. This tool is a resource to help guide action and target solutions at the community level, promoting diabetes health equity across the nation.

Sometimes there's not a place for everybody at every meeting—but Dr. Puckrein and his group were not like that. He was so welcoming amid all the power players in the room—he kind of invented time for everyone to come together. That's the kind of thing we should all be supporting.

What a gift it is to be able to honor Dr. Puckrein and the work he leads at the forefront of health equity.

### Gary Puckrein—President & CEO, National Minority Quality Forum

So I'm appropriately embarrassed. Kelly, I want to thank you so much, what a great honor. I couldn't even begin to start this conversation without recognizing Dr. Gavin. When I was a pup, he was here helping us, particularly in the space of diabetes. So I want to give a great shout-out to him and thank him for all that he helped us do.

I don't want to talk about myself, I want to talk about you. And I want to talk about our future. And I want to start off by telling you how we think about things and how we might collaborate. We are in the twenty-first century. For those who don't know, my doctorate is in history. And I don't even masquerade as a physician, so Dr. Gavin has trained me carefully about making sure I stay in my lane.

But the point is this. Unlike other generations in the past, we're at a place where we can control health outcomes. So what does he actually mean when he says, "control health outcomes?" I mean—control health outcomes. If we exit the twenty-first century and we have not controlled diabetes, we failed. Absolutely and fundamentally, we failed.

When I started wandering into this space back in 1998, we started collecting health data by zip code. And what brought us there was, there are roughly 38,000 zip codes in the United States where people live. 70% of African Americans live in 2,500 zip codes. So if you're talking health disparities for African Americans, you're talking



2,500 zip codes. 70% of Hispanics live in 2,500 zip codes, and 50% of Asians live in 1,500 zip codes. So there are roughly 7,000–8,000 zip codes in the United States where disparities reside.

And so we decided we wanted to collect the data not just in those minority zip codes but for the whole country. In part because we wanted the comparator, but we decided to set that out. And this is before anybody was talking about big data and analytics and AI and all that stuff. And so we set out to do that. We've been collecting data for 20 years, and now we have 5 billion patient records. We collect data on 100 million lives a year, across 72,000 conditions, and one of them happens to be diabetes.

And one of the things I've learned in going through all of that data for 20 years is that there is no such thing as a random cardiovascular event. There is no such thing as a random case of diabetes. These are all highly predictive events. And that's the reason why Aetna, United Health Care can build systems—because they understand the risk down at the community-level.

The problem is that we don't take that data and use it at the community-level to conserve life. So I'm going to give you my point of departure from the historian's perspective and then end quickly where we are now.

I start the conversation with you with the Declaration of Independence. An odd thing to say, at this moment. But here's the point. When the Declaration of Independence was written, the first draft was written by Thomas Jefferson. And he said the reason why we organize government was to preserve life, liberty, and the pursuit of happiness. But the first line was the preservation of life. The prime directive of our social system is to conserve life. You wouldn't know that from all the noise and conversations that we have today. And we accept that as our mission. To contribute and take that on.

And so in aggregating those 5 billion patient records, we're not doing that just for the sake of collecting data. We're doing it because we know that these events are highly predictive, and we have the capacity to control them. It is our legacy

to the future, is to control these events.

Recently, I've wandered into the space of looking at life expectancy, down at the census track level. And what I found was: we have census tracks around the country where life expectancy from birth is 59 years old. 59 years old, and we're in the middle of the twenty-first century. That is an abomination! We have to accept—not moral—fundamental responsibility for that because our mission, by our founding fathers, is to preserve life.



So what we did was, we began to aggregate that data by congressional or state legislative districts because we thought members of Congress ought to know, fundamentally, what is happening to the constituents that you are responsible for. Fundamentally, you have to understand that.

And so, what have I enjoyed today and learned, because I'm always learning because I'm meandering in spaces where I don't even belong but I find so much interest in, is that—habit. We can learn habit. And the thing I took away from the meeting this afternoon was, you can form habits with people who want to go in that direction. Habits with people who want to go in that direction.

So the point is, as you're thinking about your elected officials, as you're thinking about how you organize yourself in the future, and one of the things that excites me about Kelly Close and the group that she's organizing—we don't have to teach them that, they want to go there, they're trying to build that. And it is that deep collaboration that opens the door for us as we march into the twenty-first century.

And I'll say this in ending, from the historian's mind eye. So my doctorate, I looked at classical medicine. I was into Aristotle and Hippocrates and Galen and blood-letting and leeches and God-knows-what else they were doing to each other. But they were trying! I mean, at the end of the day, they were trying. We know, we actually know, but we've decided to withhold. Right? To withhold the treatment and the therapy. And we call it an access problem. Right? That's what we're doing. We are recreating the past deliberately because we think it's too expensive, too inconvenient, don't want to pay taxes, and guess

what? I don't even care what my neighbor's health care looks like.

So the power of the diaTribe and what Kelly is doing is taking us into the twenty-first century. Deep into the twenty-first century. And helping us lay the foundation so that we have the capacity to actually do something that generations can't even imagine to do in the past.

So I thank you very much for this honor. It is tremendous, and I look forward to working with you.

## Lightning Round “Food as Medicine” Talks

### Introduction—Kelly Close

If, like me, you're a relatively new to the “Food as Medicine” movement, you might wonder: what do people really mean when they use the phrase? Like all great titles—Beyond A1C, social determinants of health, “silos”—it's catchy enough to elicit immediate agreement but general enough to be co-opted for almost any purpose. Luckily, we have five Food as Medicine leaders here to get specific and to key us in to the movement.

It's beyond doubt that food is at the core of taking on the diabetes epidemic and building a healthier society. Optimizing what we eat, after all, is a fundamental approach to diabetes management. I'll be listening closely to understand how we can think about food in new and better ways to improve outcomes.

To lead us through this portion of the evening, I'd like to welcome an irreplaceable advisor and a guide to me personally and to our Foundation—David Lee Strasberg, creative director and CEO of the Lee Strasberg Institute.

### Dr. James Gavin—Chief Medical Officer, Healing Our Village

Thank you so much, David. I'm appropriately embarrassed. And all I can say is that being a living legend certainly beats the alternative. When Gary, my colleague and mentee, who's escaped before I could get back at him, talked about when he was a “pup” that means that I was an old dog at the time. But congratulations to him.

### Introduction—David Lee Strasberg— Creative Director & CEO, Lee Strasberg Institute

I don't think it's possible to introduce Jim Gavin with a list of titles and positions without severely undervaluing the contributions that he's made to the field. But I will share one award that he was given, a title; he was given the title of “living legend” by the ADA. Now, what do you have to do to get that title? Right? But how do you get that title, Jim? I'll tell you, you get it by not caring what titles people give you or what awards are being handed out. You get it by showing up. Every day. And doing the work. Whether you feel like it or not, whether they're handing out medals or not, you show up. And Dr. Jim Gavin has certainly showed up for the diabetes community. And in particular, here, as a mentor and guiding light for this growing and budding dNetwork. He has made his contribution found here. So please welcome, everyone, Dr. Jim Gavin

When Kelly asked me to give a Lightning Talk, I was really under stress. You know, for an old Southerner like me, it takes me five minutes just to say “Hi, y'all.” So let me try to do what I can on this. So this issue of food as medicine. It really is part of the quest for wellness and diabetes prevention. We really need to think seriously about



nutrition-led obesity avoidance. And I want to focus on the fact that the stakes are now global. And I apologize in advance for only being able to skim the surface of an enormously dynamic and complicated area of discourse, but that's the penalty of a Lightning Talk.



There is no question—and you've already been introduced to this—that the obesity epidemic constitutes the shoulders upon which the diabetes epidemic rides. And the most direct approach to the obesity epidemic really comes by way of our caloric intake. It's a diet-induced issue, coupled with sedentary lifestyle. Notwithstanding all of the genetic and environmental influences, the most direct pathway to what we know as obesity, with all of the downstream consequences including diabetes, is from our diet. And there's little question that obesity has emerged as a chronic disease that adversely affects health in many ways.

We have celebrated the issue of type 2 diabetes, but we don't need to stop there. We just don't have time to detail all of these other conditions, including increased mortality and the fact that it is much more difficult to treat many of these other chronic diseases in the presence of obesity. Now, the fact is that there are a few well-documented findings that support the critical need for food as medicine.

If you think about the fact that if diet and the way we eat and what we eat constitutes the drivers of the obesity epidemic, then it stands to reason that the way back from there involves using food as a tool, as a strategy, as medicine, to walk us back from the crisis that we are in. So, a few findings that really lend support to this.

One of which is that nearly half of the deaths from heart disease, stroke, and type 2 diabetes each year are attributed to eating too much sodium, processed meat, sugary beverages, and unprocessed red meat. Too few fruits, nuts, seeds, seafood omega-3's and so forth. A Mediterranean-style diet has been shown to cut heart attacks and deaths by 70%. Associated with a decreased risk of stroke, dementia, and Alzheimer's. That becomes a lot more interesting to me as I stay a living legend.

The DPP diet. Now most of us are familiar with this, this was a diet that didn't have a name! But yet it was one of those powerful interventions that we've had in diabetes prevention. It was characterized by lower calories, less saturated fat, fewer simple sugars, combined with moderate physical activity—reduced the risk for progression from IGT to type 2 diabetes by almost 60%. And then emerging data showed that ultra-processed food diets are associated with greater caloric intake and weight gain versus the ingestion of unprocessed food.

Now, this relationship is well-known to all of us. In your adult years, the amount of weight that you gain, as an adult, and these data come from people where the weight gain pattern was followed from the time of their age 21 up through ages 40 through 75. What you see is, there is a direct and powerful relationship between the amount of weight that you gain and the risk that you have for developing diabetes.

And we've tried to reduce this to simplistic formulations. The energy equation that if we can somehow or another affect one of these two buckets—energy in versus energy out. As if we had the prerogative to manipulate one versus the other. Maybe if we just burn up more energy, we could sort of restore balance and get back to a more normative body weight. Well it's not that simple at all.

In fact, what we know is this. If you look at the most important issue with respect to defeating obesity, it's not only to lose the weight but to maintain the weight that's lost. Almost every other person in this room is familiar with how hard it is

to lose weight. But the fact of the matter is it's even harder to maintain weight that's lost. Twenty percent of people who are successful in losing weight, only twenty percent or so, are successful in maintaining the weight that is lost. And the fact of the matter is that you cannot, by manipulation of the energy output side of that equation, exercise your way out of the obesity epidemic. We simply physiologically cannot do it. It's a far more complicated calculus than that.

And in fact—I'm sorry to Scott—this is the nature of the map that really defines what we're dealing with complications. I'd much rather have Scott's maps, okay? But the fact of the matter is we see what the complexities are. There are numerous areas where we have to have important touch points, if we are going to address the complexity that is involved in the generation and maintenance of obesity. This is a complex problem.

Now, I had a moment of epiphany that was relevant to this discussion. Not long ago, when I was in Oklahoma—I was in northeast Oklahoma, I spent some time in Oklahoma as a professor. But I had not spent much time in northeast Oklahoma. And it was a beautiful area. I mean, pastoral beauty. Big, wide, open pastoral fields, filled with animals. And while we were driving along, passing area after area, the driver commented, "There are more cows in Oklahoma than there are people." And this was a jarring statement to me; it was a jarring reality. Because it dawned upon me that we are immersed in a culture whose dietary centerpiece was beef. Whose economic engine, certainly for that portion of Oklahoma, is fueled by beef. Whose highest levels of feast and celebration are anchored in beef. In fact, where do we go to celebrate? Where did the glitterati go? Where do you go? To celebrate important milestones? Delmonico's, Del Frisco's, Morton's, Ruth's, Larry's, and so many others!

In fact, a compelling case is required if we're going to effect changes in culture. And that's underscored by the presence of economic incentives. Those people are not about to give up their cows easily. Because it's the economic engine of that region of the world. And it's how they enjoy themselves! It is a common theme of the festival—let's

eat some cows. While that's a set of local issues that I was reflecting on, it dawned on me that, you know what, we've gotten to a point where there are global implications here because this dynamic, in terms of its health and medical implications, has now gone global.

In parts of the world where obesity and type 2 diabetes have not long been a major problem, we are beginning to see the emergence of these same dynamics. In Japan, what we see are data like these. And they continue to rise, that the increase in obesity prevalence—that's been the shoulders on which the increased prevalence of type 2 diabetes has risen.

So now, we are in the midst of a different narrative. We are now confronted with the need to think about syndemics. What in the world? Well, syndemics represent a situation where two or more diseases interact in time and place, but negatively affect each other and have common economic, societal, or environmental drivers. Like intravenous drug use, shared needles with HIV and Hepatitis C infections. Chronic obesity and type 2 diabetes.

The global syndemic that we are now faced with means that the interactions of pandemics of obesity and undernutrition—these two don't sound like they should coexist, but they do! We have got a whole new science of the developmental origins of health and disease which predict that exposure to undernutrition in utero—famine, for example—predicts that many of those same children will end up adults with obesity.

Climate change, a major driver in changing food production patterns—these diseases affect each other. Climate change must be considered as a pandemic. This is driven by food policies. We are doing clearing, and we're burning, and we're generating greenhouse gases. And we're changing urban design so that we're seeing more emissions that contribute to greenhouse gases and poor land use systems. And these now have to be population, rather than individually, focused. So examples of syndemic interactions that have relevance to what we are concerned about. We are seeing obesity and stunting of children in



the same population. These are issues related to quality and quantity imbalances. Disparities! We're seeing low birth weight and adult obesity driven by the same kinds of disparities. In utero exposure to malnutrition and undernutrition, poor food policies, resulting in both extremes being expressed. More car use, more inactivity, more greenhouse gas emissions: CO<sub>2</sub>, carbon dioxide, nitric oxide, and for those of you who are chemically challenged—CH<sub>4</sub>—methane. All of those cows and hooved animals create a whole lot of methane, we know it by other means, by other terms, but these are the things that affect the environment in which we now have to develop sustainable food sources.

It's no longer simply a local or provincial concern. We have to find ways to manage agricultural production and food nutrients, especially in marginal areas where we've developed processes that develop on food supplies that are harmful to the environment. The harm that's being done to the environment impairs our ability to develop sustainable production of foods to match the needs of the growing global population. This is a huge and growing issue. It requires actions from all actors. We have to think in global, syndemic terms and understand the common causes and seek common solutions. We have to create win-wins. What is the approach that we're going to use to ranchers in Oklahoma? In Texas? What are we going to say to people who are challenged to do crop rotations that may not be as profitable for them? How can we create a win-win for sustainable food production and changes that would lead to healthier eating patterns?

We need to create collaborative platforms across the existing silos to implement double- and triple-duty solutions. There is an urgency for us to adopt an all-of-us mindset. Individual decisions about eating behaviors now must be considered as having an impact on basically the health of the planet. Just think about that! It's a new way of thinking about what we're doing as individuals and how that affects sustainability of our planet.

Strategies that are necessary: we need to invest in infrastructure for public and physically active transport, so we can reduce emissions; build urban food systems for resilience—what can we

do to reduce the load of certain fertilizers? The burden of land clearing for agricultural purposes? We are overfishing all of our oceans. We have to generate environmental sustainability. And we need to join international networks of cities to share resources and innovative strategies. What is demonstrated to be successful in one area, we have to model that and replicate and scale those programs. And then we need to nurture community coalitions, to foster grassroots change and advocate for supportive solutions.



This is basically simply a representation of a triple-duty action strategy that might be required here. And this simply points to reduced red meat consumption. You heard Nancy Kohen talk about last night that creation of the win-win is not going to be to try to jump on people to get them to stop eating meat. They're not going to stop eating meat! If they have been eating meat, and that's now embedded in their culture. But they may very well be persuaded to eat less meat, if they can buy in to the notion that this is a solution that's going to benefit all of us.

Healthier diets, not for obesity but for other noncommunicable diseases. Better policies for land use and generation of sustainable agriculture. Climate change is important, and it affects our ability to develop sustainable, healthy food supplies. Lowering of greenhouse gases, lowering of emissions from agriculture—absolutely important. So this is a new narrative that we are engaged in. There is an urgency to adopt the mantra of food as medicine. We really have to engage this! The path to successful prevention of diet-related chronic diseases, like we've been talking about, requires strategic use of food as real medicine.

And there is an increasing global urgency for food as medicine due to all of these interrelationships, things that we are just now beginning to understand more clearly.

Our challenge will be to align competing interests and create a sustainable framework for the greater good. The question to all of us- can we create the required win-win to really make this happen? Thank you.

### **Introduction—David Lee Strasberg, Creative Director & CEO, Lee Strasberg Institute**

Our next speaker has been a policy advisor to some of the most influential policymakers on the planet and is also the director of the World Food Policy Center at Duke University. He is thoughtful and polite, but don't let that fool you. He's an agitator, for sure. He said to me, 'I'm someone who's just consistently unsatisfied with the status quo.' I think that's a good place to be. He tells me he spent thirty years working on the soda tax

issue. So do you think now, with all the momentum behind that, do you think he's happy? No. I don't think so. Actually just a couple of hours ago, he set out a really ambitious goal for the continued success of that movement. So I think if you ask him, he would tell you, no he's not happy, we're just getting started. Please everyone, welcome Kelly Brownell.

### **Dr. Kelly Brownell—Director, World Food Policy Center, Duke University**

Thank you very much David, that's very kind. Well I hope you all have enjoyed today's meeting as much as I have. One of the things that happened to me is that I've had a question that I've long had answered which is really nice. And that question is—what is the world's smallest font? And then Scott delivered that map, and now I know! But no, and then Jim shows that map with even smaller font. So Jim, thank you, you are a living legend.

I'd like to discuss for a few moments some lessons that I've learned. And some lessons that have humbled me in very important ways. At Duke University, we've created a World Food Policy Center that is meant to work at the intersection of four fundamental areas of food concerns. Food insecurity, hunger, malnutrition, stunting is one cluster. Obesity, overnutrition, chronic disease is the second cluster. Agriculture and environment—which is a very large cluster—is the third. And food safety and defense issues is the fourth. We entered this enterprise with a hypothesis that some of the magic that can occur will occur at the intersection of those areas. But the world hasn't been able to experience that magic because people are working in segmented areas. And people working in one area tend not to interact with people in other areas. And a classic example of that is people working on food insecurity haven't interacted historically with people

working on obesity. But those two problems are connected, as Dr. Gavin said, by a common set of social drivers. They have a common biology in some ways. And so that lack of connection has created real problems.

One can see many examples where the lack of connection is creating issues. For example, USDA policy that dumps commodity crops into schools, like butter, for example, might be a win for the dairy farmers, but not so good for the kids. And one can have a very long list of these sort of things. So at the intersection of these areas resides some very interesting possibilities for moving forward, and you tend, if looking at these areas together, you tend to look at things that you might not have otherwise looked at. So issues like food waste, for example, all of a sudden becomes interesting. Because if you can successfully deal with the food waste issue and food loss issue, you can simultaneously address food insecurity, obesity, and environment. And that would create a number of wins at the same time.

And part of our work is to look at big global and national policies, but also to work very locally. And in that local work, we're working with a moderate size urban area—Durham, North Carolina—and a very poor rural area in North Carolina—Edgecombe county—to create model food communities.



And the hope is, within these communities, you can try to get everything right regarding food to the extent humanly you can—that will create win-wins across these different areas.

So as we've entered these communities, we've learned some very important lessons. And one of the most important lessons that I'd like to convey tonight is about ownership. In the rural North Carolina county, Edgecombe county, which I mentioned is very poor—of the 100 counties in North Carolina, it has the 98th worst health indicators—I met a man named Reverend Richard Joiner, a remarkable individual who's become a very dear friend. He's an African American pastor in a very small church—the whole church is 29 families—that sits across from a cotton field in Edgecombe County, North Carolina. Reverend Joiner has told me several stories that I've found very moving and have been very enlightening to me. One is that he grew up on a farm with a mother and father who didn't read or write, they rented land from a white landowner and worked very hard, he had twelve siblings, and he worked very hard on the farm just to scrape by and make a living. He was telling me one story of the white landowner and how racist this man was, and one of the ways that this was expressed in how the white landowner would allocate mules to the different families that were farming the land. And he would take the most run-down, sickly mules and give them to the black families.

Now Reverend Joiner was saying when he and several of his brothers were teenagers, they were given an especially sickly group of mules, and he and his brothers were very angry, and they wanted to go hurt the farmer. And what their father said was instead of me giving you some way to go hurt the farmer, I'm going to give you a brush and a pail of water, and I want you to go give those animals a bath. And I want you to make them feel good. I want you to treat them as if they're your brothers and sisters. And in a short period of time, those mules came back and became some of the most vital ones on the farm because they were well-treated.

So this gives you a sense of the heart of the father of the man that I know. Now that father and the mother, with the thirteen children, finally saved

enough money to buy a piece of land from the white landowner. After years and years of work to buy a small piece of land, they went to sign the contract, and the white farmer had written the contract so that he kept the land and took the money from the family. Reverend Joiner has talked about the deep despair and poverty that this thrust that already-poor family into. And the generations of pain and trauma and ways that this one event that occurred at a moment in time created for that family. In part of the outcomes that have now lasted several generations has been diabetes and other health-related concerns.



So Reverend Joiner, we were in touch with him because he was becoming very concerned after presiding over funeral after funeral of essentially young, black men who were dying of the complications of diabetes. Now, the default would have been to have approach Duke University in North Carolina, some other academic institution, and say, 'Come help us with this problem.' What would have occurred then, and this is the kind of default, the way these things occur, the experts would've come in and said, 'Ok, we know what's going on. A product of diet and physical inactivity, we'll design an intervention for you, we'll do some sort of a trial, and hopefully things will get better.'

Now, in this exchange is a lot of symbolism. The symbolism of mainly white people telling black people, "We know what's wrong, and we have the answer for you." Wealth gets exchanged in this interaction because somebody benefits from it. But who benefits? It's the researchers who are getting publications, getting grants to do the



work and things like this. And very little is left behind in the community.

Reverend Joiner, an enormously wise man, decided not to use the default approach and instead what he did was he created a farm. He got some land donated, and on that farm, youth in the community work. They sell CSA boxes to the local hospital, they get food in the local schools, and they feed a number of local people through this farm. And there is some wealth being generated from this, but it remains in the community. Because the idea was owned by the community. The wealth remains in the community, and it becomes a much more permanent solution than what generally happens.

So what I'm urging us to think about in our own work is: who owns things? Who owns the land? Who owns the process where the food gets created and gets to people? And can we understand that system and the history of that system that goes way back in America? Take redlining for example, redlining created neighborhood where people couldn't get credit and buy property. So it created this system where people were not able to accumulate wealth and therefore were behind the ball from the very beginning.

Well, redlining also created credit deserts where people can't get credit to do things like start new businesses to help address some of these food-related issues. So to assume that one can go into a community and create an intervention that's not owned by the community, not generated by the community, and to expect for that to have permanent effects is wishful thinking, in many ways.

One more example of this. Something that's common in a number of places around the country are to create things like veggie vans, where you might buy a truck, outfit it to sell fruits and vegetables, and take it into food deserts to help get people better access to fruits and vegetables. A very well-meaning effort, to be sure. If these are studied, the results are probably positive. But again, what does it symbolize to do something like this? Generally, it might be an NGO that gets money from a foundation, the NGO then hires people to drive the veggie van, it goes into the

neighborhood, it leaves the neighborhood at night. The wealth that gets created from this goes to the people employed by the NGO and is not owned by the neighborhood.

Wouldn't it be better if some entrepreneur in the community were able to get credit to buy the veggie van, outfit it, drive it, hire people to run it, and whatever wealth is created remains in the community. So that issue of understanding the history of how food systems develop is so important, and it leads us down some very different roads than what we might have gone otherwise. So instead of us, or anybody, coming from the outside and telling the community what might be good for them, can we hear the voices in the community? Can we elevate those voices? Can we give credibility and credence to those voices so we can learn what are the realities of a broken food system. How can we develop interventions based on that? And how can we leave something behind so that the parallel of Reverend Joiner's family losing land doesn't get replicated in the way we try to address food systems going forward.

I've learned a lot about issues of race, of history, that many of you already know, but it's been very illustrative to us. And it's completely changed the way that we're approaching these issues. So we believe that working at the intersection of these areas has a lot more promise than just working on obesity in isolation of the other problems. But then in order to do that, we need to learn from the people who live in the communities who are dealing with the problems. Thank you.



## **Introduction—David Lee Strasberg**

If you think of the dSeries, the dSeries really is built on passionate exchange of ideas and a really rigorous conversation. A rigorous and passionate exchange. Given that, our next speaker Akua Woolbright, she's fitting right in. She's in the place where she belongs, and I'm so glad that she's joined us now. As the wellness coordinator at Whole Foods headquarters and also through work

with the Whole Foods Foundation, she is a fierce voice for communities that historically have been missed by the current delivery systems. And I think actually in hearing some of what she's saying also, not just missed in terms of deliverable, but actually mis-understood by the current system. And I look forward to hearing what she's going to challenge us with tonight, Dr. Akua Woolbright.

## **Dr. Akua Woolbright—Wellness Educator, Whole Cities Foundation**

Thank you, everyone. So the Lightning Round kind of made me nervous too. I don't normally have notes, but I'm going to rally rely on my notes tonight because I tend to be very long-winded, and we don't want to be here for another hour and a half just listening to me speak. So I'm going to try to keep myself really honest.

So I am just going to share some really rapid-fire information about my background, the work that I'm engaged in, and some observations that have come from that work. A lot of that you will be already familiar with, but I'm just going to share some of my stories and observations. So we are all here for the same reason—to explore the possibility of curating a systematic approach for reducing diabetes. I am excited to be back in this type of space because, frankly, I intentionally abandoned systematic approaches to addressing chronic disease over a decade ago. Now, granted, the national government, public health, academic and policy work I was involved in wasn't this. Conversations and interventions that come out of some of those spaces to me felt too restrictive and constrictive.

Even when I'm in the most progressive, thought-forward settings, I still sometimes feel like something is missing. The ideas and recommendations that come forth can be so high-level and top-down that they are disconnected from how everyday people communicate, connect, emote, share information, feel inspired, and receive and adopt new ideas. The work must be intuitive, emotional, and real. I believe that our best approaches come not just from the headspace but also from a knowing heart or soul-space. To get there, it helps to have shared life experiences. In the absence of that, we can easily misread what people know, how they feel, and what they can do. We might assume that they don't have certain goals or know how to set them, that they don't feel inspired or know how to frame success. But is it them, or is it us? We might have to examine our biases, our models, and our research to tap into them and help them to identify these things within themselves.

When you are part of a community, there is a certain familiarity, comfortability, and lens that influence our work. When it is us working with and for us, there is sometimes a different interpretation of the barriers, problems, and potential solutions. When I first started my work in Detroit with Whole Foods Market and Whole Cities Foundation about 8 years ago, I was cautioned that a plant-based message would not work there. I was informed that the city was too improved, and that the people were too lacking in personal and community resources to adopt major lifestyle changes. I quickly learned that Detroit residents are not their circumstances.

People are strong, resourceful, smart, determined, resistant, resilient. The people who came to my



classes already had advanced knowledge of a whole foods, plant-based lifestyle; supplements; natural remedies; superfoods; gardening; and food myths. They were empowered and already talking about food as medicine. They challenged my opinions about their health beliefs and behaviors. I was prepared to talk to them about food deserts, but instead, they spoke to me about their favorite urban gardens or fresh produce stands. They have found a way and were already taking their health into their own hands. They challenged my opinions about perceived barriers to food access.

I started teaching about the benefits of a plant-based diet anywhere someone would have me: barber shops, beauty salons, churches, schools, government offices, police stations, women's shelters, family services organizations community centers, and people's homes. The interest quickly grew to the point I couldn't accept all the invitations I was receiving, and we started inviting people to our center for weekly classes. Our location hosts 110 people, and we had to start offering some classes multiple times a week to accommodate everyone. Over 800 attend our larger events, and thousands participate in our annual, 28-day, healthy eating challenges.

Classes cover a wide variety of health and wellness topics, such as: the myths about protein, dairy, and fats; a completely different way to read food labels; the potential dangers and benefits of nutritional supplements; superfoods; biological mechanisms behind food cravings and how to turn them off; how to stop dieting and start eating; replacing traditional breakfast foods with beans, grains, and other nutrient-dense options; how to stabilize blood sugar; selecting quality meats and seafood; eating on a budget; fermented foods; sprouted grains; making a lifestyle plan that sticks; nutrigenomics; epigenetics; functional medicine; herbal and natural healing; healthy weight loss; constructing a healthy plate; and a wide variety of cooking demonstrations and hands-on cooking classes.

Our mantra is "whole foods plant strong." And we teach people how to use food to nourish, health, rejuvenate, and repair the body. Our systems, organs, cells, and DNA. But not only by eating more produce but also focusing on the vibrant

rainbow of colors in plant-based foods. And adding in some natural supplements: superfoods, herbs, and spices. Then, our food becomes micro-nutrient-dense. It's like we're supplying our bodies with our very own Navy Seals! Our disease assassins! Our food becomes medicine.

We recently launched a five-week intensive culinary certificate program so community leaders can learn to teach cooking classes to their own groups. I can't go everywhere and be everything to everybody. We are launching a nutrition certificate program in the fall, where I am also turning over my entire nutrition curriculum to the community. Weekly classes have expanded to Chicago and Newark, and we have periodic classes in other cities across the country. Now, each of these cities do not have the same level of preparedness as Detroit, so the work does look different from city to city. I created a stages of change tool that assesses a city's readiness to adopt a plant-based message, and I adapt my programming accordingly.

In each of these cities, people are coming off medications and losing weight. Doctors have taken notice, and they now attend my classes or invite me to read charts and consult with their patients. I provide training to medical students at two universities and teach non-traditional nutrition classes to dietitians at a third institution. Yet, after all of this success, I still receive pushback from individuals in public health and health care who will not accept the fact that people can make major lifestyle changes.

I have been told that since those people are not compliant with their daily pill regimen, routine doctor's visits, and annual exams, they cannot possibly adopt such major lifestyle changes. That may or may not be true. But it's not up to us to decide. It is our job to tell people the truth about certain foods' ability to either harm or help the body and to then try to inspire them, support them, in whichever changes they desire to make.

We know the issues are multifaceted. But I believe that one of the reasons that we are not making enough progress in this area is because our recommendations don't go far enough. We don't



believe, we may not want to change. Our recommendations are often limited by what we believe we can do, and we may impose that one what we believe others can do. I believe that people want something different. People are ready for us to go beyond a watered-down message of portion control, “everything in moderation,” “simply eat more fruits and vegetables,” “drink more water,” “get more sleep,” to more specific messages and recommendations that empower them to take full control of their health.

One of my colleagues said that the people are ready to become their own doctors. They want specific and detailed information about how to improve their health. They want to heal, but they need support. They’re not getting enough time and information from their doctors. We, all of us here, are trying to fill that gap. We offer the good news that a life without meds is possible, even if sometimes it seems to be the norm. At my center, we offer a combined approach that emphasizes three things: information, inspiration, and support.

We provide the latest, evidence-based scientific evidence for disease prevention and control from both within traditional and alternative modalities. We seek to be the go-to place for sound

### **Introduction—David Lee Strasberg**

So this next speaker, Rita Nguyen, I actually need to read a moment because I’m gonna quote. I like people to tell me how they like to be introduced. In her case, I took this straight from her Twitter bio. So this is what she had to say for her Twitter bio: “Design-thinking, nutrition-promoting, food-insecurity-slashing, nunchuck-wielding, hospitalist and social justice junkie.” Hard to beat, right? Hard to beat. But don’t get distracted by the whimsy, alright? This is someone who is

### **Dr. Rita Nguyen—Assistant Health Officer and Chronic Disease Physician Specialist, San Francisco Department of Public Health**

Thank you, and I just have to say I’m so impressed to be with such an esteemed panel of speakers. As you can kind of see from the other speakers, the definition of food as medicine is quite broad. For my talk, I guess the frame that I’d like to put

nutrition advice. That’s the information. We host fun, dynamic events, with music blasting, t-shirt tosses, comedians, rap artists, block parties, DJs, great food, people are running across the state, giveaways, and energetic motivational speakers. Inspiration. We offer upbeat weekly nutrition, culinary, and wellness classes. That’s the support. Ongoing support.

It is a little less like Catholic mass, and a lot more like black Baptist church. There’s some structure, but when things will happen during this programming, but in between all of the structure, we go a little bit off the rails, and there’s some magic. People line up for up to three hours for what they have coined ‘A Dr. Akua Production.’ It’s true. They will. In the cold in Detroit! In the snow! And you really don’t see that anywhere on a consistent basis for a medical talk or a plant-based discussion. We’re off script, we’re having fun, and we’re inspiring change.

So, what does all of that mean for us and our work? How does any of that inform our goal of a systematic approach? I don’t know. I said all of that, but I really don’t know. But I do believe that we should continue looking to the people we serve for the answers.

fighting really hard to fight against inequity in underserved communities, and actions speak louder than words. She is someone who, as a founder of the Pacific Free Clinic with Stanford and as the medical director of the Healthy Foods Initiative at Zuckerberg San Francisco General, all that while she oversees chronic disease and cancer prevention for the city and county public health departments here in San Francisco. So please welcome Rita Nguyen.

on it is one of health equity. When I think about the epidemics of diabetes and obesity, that is an epidemic that is disproportionately born on the backs of low-income communities and communities of color. And these are the same communities



that have the highest rates of food insecurity, so I will frame my talk around food insecurity and health, and how the concept of food as medicine applies in that space.

But at the same time, I also recognize that my spin on food as medicine is very specific to the health care system. As a public health professional, I very much so believe in the investment in communities. And when you're looking at upstream social determinants of health, and you want to go even beyond that, you're looking at inverting paradigms, as Dr. Brownell said. That we need to empower communities and reverse the power dynamic.

But what I'm going to focus here, with this hat on, is specifically the role of health care. And I know not all of you are healthcare practitioners, but in one realm many of you are, even if you are in the digital health space or work with pharma. In some respects, you are in the healthcare space. And I'm hoping that some of these ideas might permeate your work.

So how I came to this work—I'm a physician, and I see patients at our hospital now, but when I had a primary care panel, I would often see patients with high blood pressure and diabetes. And I would do as I have been trained to say, "Take your medications, here is the prescription. But this is half of the equation. The other half is diet and exercise. And here's the diabetic diet." And I remember one of my patients came back and said, "It's really stressful to me when you say that because it's not as if I don't want to eat well. It's not easy for me to afford whole foods and fresh fruits and vegetables. And I don't really have ready access to a grocery store in my neighborhood."

And I thought, "That's really tragic... Here's another prescription for another medication." Because that's all I had equipped, that's all I could do as a doctor. And it was just crazy-making to me, that how is it that with our health care system, that if we're really trying to optimize health outcomes, all I can do is say, "Here's another prescription." And so, I've always thought that we just need to do better by our communities if we're actually going to get people healthy, if we're actually going to change the curve on diabetes. It

can't just be about medications, although that is part of it.

And so for me that is where the concept of "food as medicine" comes in. I think it comes from this idea that folks are really seeing food as the solution. That is can enable and empower people to take health into their own hands and actively pursue health, rather than just passively receive recommendations from the health care system. So that's where I see the power of food and linking it with health care.

As a bit of background, "food insecurity" may be a term that some of you are unfamiliar with. It is defined as a lack of consistent access to enough food for an active, healthy life. Nationally, it's about 12% of households that are food insecure. And depending on your client's or your patient population, it may vary. For us at the public health department, we have about 14 primary care clinics—it's closer to 65% of our patients are food insecure. So you can imagine why I can't control people's A1c's when all I'm doing is giving insulin and medications.



There is strong scientific backing as to why there is this link between food insecurity and poor health outcomes. As you can imagine, if you are not sure where your next meal is coming from, consistently, you have natural coping mechanisms. It's not about willpower or laziness or just not being motivated enough to eat well—natural coping mechanisms is to eat high-calorie-dense foods that are low in nutritional value. This inevitably worsens chronic disease like diabetes and obesity, which leads to more health care expenditures, you're less employable, you are earning less,

and it just becomes this vicious cycle where more food insecurity begets worse health outcomes. The research is very clear that food insecurity is associated with poor health and behavioral outcomes in kids, and certainly among adults with health outcomes and health care use.

Specific to diabetes, it's actually associated with increased risk of developing diabetes. So those who are food insecure are more likely to become diabetic than those who are not. And when you're looking at folks who already have diabetes, if you're food insecure, you're not going to be able to control your diabetes as well. You're going to go the hospital more and have more physician encounters per year. In 2017, the American Diabetes Association for the first time wrote food insecurity into their guidelines for diabetes care, sort of highlighting the fact that food insecurity has to be addressed for diabetic patients.

And I like this quote by the writer and author Wendell Berry, who says, "People are fed by the food industry, which pays no attention to health. And are treated by a health industry, which pays no attention to food." And I find this to be so true! And I particularly work in the health care sector, and so I just think that it makes no sense for our two sectors to be so separate. And we heard some of these themes earlier, that food systems and health systems need to be talking to each other if we're really going to uplift the health of communities, and food has to be part of the solution.

When I think about the way we frame food as medicine in San Francisco, it's really in that space in between health care and food. And health care is bolded because—food systems are working, there's a lot that needs to happen in food systems—but health care needs to have a role in that. Health care can be a powerful agent, it is well-funded; we spend a lot of our GDP on health-care, there is potential there.

And I think about a spectrum of interventions. And so, I can start from, even just from a very clinical level, screening for food insecurity. So you just Google "hunger vital signs," it's a two-item screening, you ask two questions and you can just find out whether or not people are food insecure.

Then there's food programming, and in thinking about sustainable new funding sources and policy change. So thinking about payers, insurance companies, pharma, employers—paying for food to keep people well. So getting a little more specific in terms of examples along this spectrum. So again, I mentioned screening and referring in health care settings, starting to think about programming, about bringing food to health care and bringing health care to food. And I'll give you some specific examples.

In the healthcare space, you've probably seen this in the news or heard about it in your communities, about food prescriptions and vouchers and teaching kitchens and food pharmacies. And these are just ways in which health care are taking a stake in the issue of food insecurity. And saying that this is not just a problem for the food system, for nonprofits to be working on. You can also think about how you bring health care to food. So, there are instances of diabetic food boxes at food pantries, and food pantries staff referring people back into clinics. I also went into Safeway once, where it was a diabetes device company who was actually sponsoring walks with nutritionists through the grocery store. So there are other ways you can bring health care to food.

And so specific in San Francisco, we have a food as medicine collaborative. It's a multi-sector collaboration that involves health care, private sector, public sector tackling this idea of how do we promote food as medicine, how do we get health care to have a stake in this. Sort of our work is three-pronged: we support food insecurity screening in health care. The programmatic elements of what we do here are food pharmacies, and so it's a five-pronged model of education, access, skills, tools, and referrals. Because I agree with previous speakers, it's not just about getting food, it's about ways of empowering patients.

And so we have food, it's farmers markets, so people just take whatever they want, they are prescribed to come to the food pharmacy. There's nutrition education happening there along with a nutritionist who's actually giving a cooking demonstration, so enabling people to actually pursue behavior change. We have tools, so we



give out cutting boards, measuring cups, and crock-pots to those who don't have kitchens. And finally referrals, so connecting back to the food systems so that people are accessing things like SNAP and food stamps and WICK (?) and other resources. We're also working more and more with food suppliers. So that we are supporting the local economy of farmers and having more local and sustainable food. And developing a policy roadmap for sustainable funding sources. So that's thinking again about payers.

And right now, California actually has a 6 million dollar Medicaid pilot that is paying for food to see whether or not that will lead to decreased health care use and hospitalizations. So there's actually a lot of movement in this space. For our food pharmacies, we are now expanding to eight, as of this summer. We'll probably have nine by the end of the year. What's great about that is that that will represent four different health systems in our city that have championed this idea of food as medicine, that we will take a stake in this, this is a problem that health care needs to own, or be part of, at least.

So just some outcomes from our work. That 96% of the patients have increased access to healthy food and adapted healthier eating practices. This

### **Introduction—David Lee Strasberg**

You know, I was speaking with James Corbett, our next speaker, our final speaker of the night, and I asked him to tell me about himself and describe himself to me and he said, "I was a kid from Queens with a fifth-grade education who becomes a bioethicist and wants to change the world." It's a good start. You know, minus the nunchucks, he's doing really, really great. He also tells me he's a Mets fan. So you know, I'm thinking: Mets fan, diabetes epidemic—he's just basically in

### **James Corbett—Principal, Initium Health**

Thank you. So many years ago, I worked in a hospital on the East Coast, and a patient walked in to our ER. That patient was exhibiting erratic behavior, yet we chose to discharge that patient from our ER, and that patient walked in front of a train. I

is of those that have been surveyed; we survey about 1,000 individuals a year, not everyone fills out our survey. The great benefit of being tied to a health system is we can actually see the health outcomes. We're seeing that 65% of the patients who come to three or more of our food pharmacies actually have statistically significant decline in their blood pressure. And it's worth noting that I started off this talk giving the framework of equity, so our food pharmacies are actually designed by our patients, with our patients, particularly to serve our black, African American patients in San Francisco, where there is this great disparity gap with hypertension control.

We had first started with diabetes, and we're trying to move the system back to address diabetes. But their thing right now is hypertension. My takeaway ask of this group and audience is: what can you take back to your work around food insecurity? How are you accounting for food insecure individuals among your clients, among your patients, among the folks who are accessing your services? Are you asking about food insecurity? Are you tailoring your services and thinking about how food insecurity might be affecting their ability to control diabetes? So that would be my ask of the group. Thank you for your time and attention.

constant crisis and enjoys it, I think. Sorry, did I not mention I'm a Yankees fan? I left that part out. But he's also been, along the way, a fellow at Harvard Medical School and at Harvard Safford Center for Ethics; he has worked in a variety of health care environments, and I look forward to how he challenges us to rise to meet the demands—the urgent demands—of this epidemic. James Corbett, everyone.

often think about my role in that patient's demise. You see, I was in charge of our psych units across our system. And I was charged with increasing revenue and decreasing costs, and this patient was uninsured. So we chose not to admit him.



I've come to think about that time in my life and that experience as a conflict of obligation. Not a conflict of interest, but a conflict of obligation. The obligation we had, and I had, in my corporate identity. And the obligation I had as a person of God, as a dad, as a husband. I would argue we all experience similar conflicts of obligation in our roles, and that if we take this challenge on seriously, we will experience more conflicts of obligation. As we come up against our corporate roles and the charge that this gathering has for us to take on. My name is James Corbett, I'm happy to be in front of you today. I am a Mets fan, I am from Queens, and I am an odd duck, of sorts.

I have both a law degree and a Master of Divinity. And whenever I tell people that, they kind of look at me the way you're looking at me. They inevitably chuckle, and then the next question I get is, "What'd you do first?" As if they can peer into my soul. So for the record, I went to law school first, and then divinity school. And I'll leave it to you to decide if I've been ruined or reformed.

So lightning round, I'm going to go quick. I'm a New Yorker, I talk fast. Why am I starting with something about opioids and substance abuse when we're here to talk about diabetes and chronic disease? Because I think there's lessons there for us. I believe that our population will be known as the opioid generation. I think that we will be looked at, and history has its eyes on us, and they'll say, 'What did you do? How did you let it happen?' Right now, 115 people die a day from the opioid crisis. In fact, this time next week I'll be in Dayton, Ohio with representative from Google and Alexandria Real Estate equities, where they decided to dump a large amount of money into Dayton, Ohio to address this issue. Corporations can step up if properly challenged under the premise of corporate social responsibility or enlightened self-interest.

And I think there's a tremendous opportunity for us to take the learnings from what's happening in opioid, and bring them to diabetes. In a similar vein, many of us know that the AIDS epidemic helped to inform public health. So let's take those lessons. One of the biggest lessons that we can take is to realize that we have to get beyond this

notion of shame when we think of diabetes. This book talks about shame and the punitive nature of shame, and how it impacts us much to the chagrin of the patients we serve.

I'm going to speak a little bit about this sugar-sweetened beverage program I had in place in Boston, Massachusetts about six years ago now. And then I'll talk about food as medicine. And then I'll wrap it up in true lightning format. So, six years ago, Boston had a great program where they asked all the hospitals to come together, they said, 'If we're going to address sugar-sweetened beverages and hopefully impact diabetes, unlikely we'll be able to get a tax at that time, happy to say that we are moving in that direction now. But they decided to fund hospitals in order to reduce sugar-sweetened beverages. So they brought us all together, some of the best hospitals in the country—Mass General and others—and I was at the time representing six hospitals in Boston. And they said, "Will you guys, if we fund you, help us to address sugar-sweetened beverages? Will you stop selling them in your cafeterias in order to impact the issue?"



And I can tell you that it went over like a lead balloon. People said, "Why would we do that? They're going to go across the street. And oh, by the way, do you know how much money we make on sugar sweetened beverages?" But I was crazy enough to take it on, I like a challenge, I like a good fight. And we actually had great success, so much so that we shamed the other hospitals into taking it on similarly. So let's talk about the story.

And I'll go through quickly, and I'll give the slides to everyone. Red, green, yellow. We came up with



this campaign to show the importance of thinking about sugar-sweetened beverages under the framework of red, green, and yellow. An intuitive stop; the middle is artificially-flavored beverages, and we had some great outcomes in six hospitals in Massachusetts, for a for-profit system. And the for-profit owners kind of let me do this, but they made it clear that this wasn't my job, my job was to bring revenue somehow to the institution. And that if I was going to do this, I was going to do it on my own.

To make a long story short, it's a very complicated issue. At Carney hospital, the CEO was a former FQHC president—Bill Walczak—he said, "I'm going to take this on." He banned it. And he got a lot of flack. As did the front-line staff who were the register-keepers, who people were yelling at like, "I want my sugar-sweetened beverages." So when you do these programs in place, you have to think about what it means for those on the front lines who are often going to be experiencing the negativity of our great beliefs and theories. At St. Elizabeth's hospital, we were able to reduce sugar-sweetened beverages by 54%. You'll notice that in some of these areas, the yellow beverages—you know, the artificially flavored ones which are not good for you, for your cardiovascular health—went up. And it's complicated.

And why I think that this is a great story is that, you know, it's not easy when you're doing this type of work. And the culture will eat your strategy, and so it's important to think that it's going to be messy and complicated, but keep the fight and focus on it in a way that can have great outcomes.

When I think of food as medicine, there are a myriad of efforts and things that are happening in a similar way at the same hospital. I was able to get us to deliver healthy, low-sodium foods to patients that were at risk of readmission. The powers-that-be recognized that if we're going to get penalized, maybe it's okay to spend money on something like that. We also did prescription farmer's markets at that same institution. But in the midst of the work that I was doing for both sugar-sweetened beverage reduction and farmer's market vouchers, the hospitals were in the midst of opening a Dunkin Donuts at that same hospital.

John Beauford talks about the ten-year battle that he had to get a McDonald's out of his hospital. So it's one step ahead, and one step back. I will say I learned valuable lessons in working with the distributors because we all when the [indistinguishable] of supply chain management in these hospitals and the cost of saving is potentially very high. And they didn't want any part of sugar-sweetened beverages reduction, they thought that they were making a lot of money. They were convinced subsequently that they could take this on. And they realized that they would make money on selling the water because what I did was I took the price of Cokes and sugar-sweetened beverages, and I increased it, I doubled the price on that—basically an internal tax. I used that to subsidize the price of water. So the price of water was a buck. The price of sugar-sweetened beverages was like three dollars. We put the water eye-level, we put the sugar-sweetened beverages on the ground level. So bend over and pay three bucks for a coke, or take the water from the eye level.

So we reversed what's happening now in grocery stores with unhealthy foods. And we were able to win with that narrative. I'm going to close by saying that the importance of words and rethinking narratives cannot be overstated. There's a gentleman—Frank Luntz—who's a political theorist. He uses words in important ways. Instead of "global warming," he uses "climate change." Nobody wants to be warmed, but climate change—it happens every season anyway, right? He took the words of "estate tax"—benign—and he turned it into "death tax"—and it got people upset and angry. Who wants to be taxed on their death? Think about that. So in the ways he used those words, I would argue that the emotion of disgust is what he was seeking to drive. So if you watch a certain political channel, you might be disgusted by the "welfare mom" who's taking advantage of the system. If you watch another political channel, you might be disgusted by the "billionaire" who's spending money. So what I say for this group is, let's leverage that emotion of disgust, and let's leverage it for good will. Let's leverage it to address the diabetes challenge. Let's be disgusted that if you have diabetes and you're on commercial insurance you can get continuous glucose



monitoring to impact that issue. But if you're on Medicaid, "Fuck you, you're not getting continuous glucose monitoring. You take what you get, you deal with the pricks." In the same vein, if you have substance abuse and you have suboxone—as we all know, blocks the inhibitors and prevents you from getting high. Right now, if you're on commercial insurance, you can get a 30-day shot, slow-release. It'll block your inhibitor, it'll ensure that you don't get high, and that you get off opioids. But if you're on Medicaid, "Fuck you. They're not paying it."

## Closing Remarks

### Kelly Close

Audacious change is both exciting and challenging, and—let's not forget—possible! We have seen time and time again that success can be achieved in large scale social movements from marriage equality to the eradication of polio.

I'm sad to say this kind of systemic change isn't the outcome of the proverbial silver bullet.

Nevertheless, our research has led all of us at diaTribe—with all the amazing support of all of you to commit to pursuing large scale, swing-for-the-fences change, by:

- Building a shared understanding of the diabetes problem and its ecosystem through the convening of the dNetwork
- Designing human-centered approaches that will work on a massive scale as we have begun here at d19
- Setting winnable goals and hold each other accountable for achieving them
- Honing a compelling message and driving demand for change
- Being flexible and willing to course correct collectively—the most effective networks are the ones that learn and adapt together.

I'm asking you all today to re-commit to ending the diabetes epidemic as partners in this effort.

I'm asking you go back home and get back to the amazing work each of you do with my eternal gratitude, but to do that work as part of the dNetwork—to find a way in the work you and your

I'm saying that word to be provocative. Because that's what I think we're saying to the poorest of the poor. And the morality of the society, I believe, is defined by its treatment of the poor and the underserved. So let's be disgusted about the way we treat diabetes in this country, let's be disgusted about the current circumstance, and let's rally that notion of disgust to transform the system. Godspeed.

colleagues do to "lean in" to our shared understanding. Not to add to your work but to enhance your collaborative approach.

And I'm asking you to help us find a way to support the work that needs to be done between now and d20. To find the right person in your organization who will willingly invest in moving the needle now, and in the years to come.

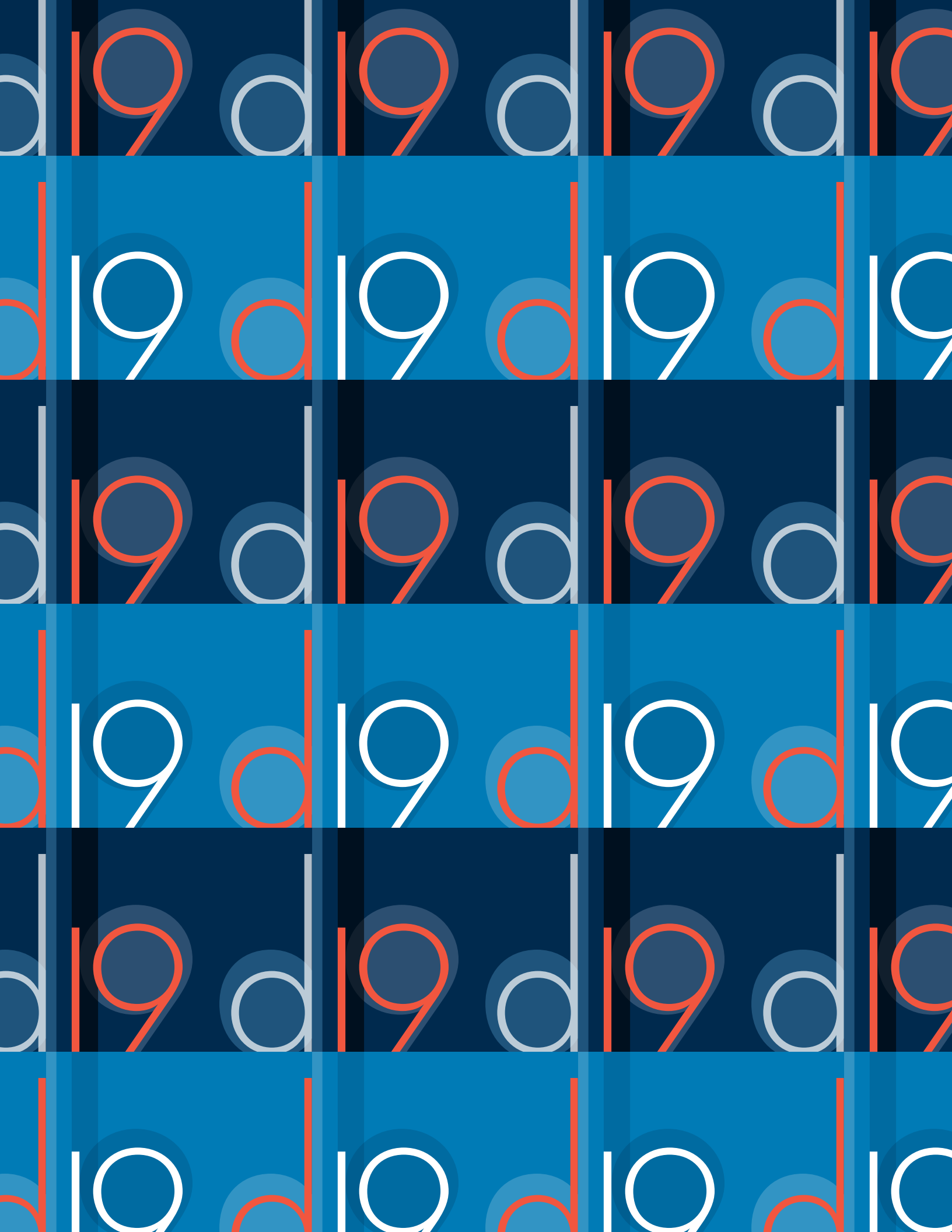
As we have learned from other successful movements, shared funding can be such a powerful driver of change. I'm convinced more than ever that we need someone 52 weeks a year, 40 hours a week dedicated to this Network. To drive the work we've discussed here today, to enroll key allies and communicate about that work with clarity and power in the way that someone like Chris Barnes can help us to do—these things will help us catalyze impact at the pace and scale needed to address this epidemic. And these things require investment so that positive change can take root and grow.

You can create that change by supporting diaTribe with your strategic contribution of time and money. No gift is too large!

And lastly, I'm asking you to leave here with the knowledge that I honor and recognize your extraordinary generosity and welcome your help in the months and years to come as we work together.

Thank you!







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