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Health Promotions 2.0: The Future of Wellness Programs in America

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Policy Brief

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Policy Brief

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In no small part because of technology, the way we live and work is being transformed. I believe that those of us who are interested in health policy can play an important role in guiding that transformation.

I submit to you that unhealthy living is a social issue; that conditions such as obesity and diabetes are social diseases and that their prevalence is a social problem. If we have a social problem, then we need a social solution. I believe part of that solution can be found in the worksite health promotion and wellness programs that have taken root across the country and around the world. Let's consider what might be achieved in the future through these wellness programs—what I call Health Promotion 2.0.

Introduction

When I was a medical student at Brown University in Providence, Rhode Island, I became very interested in prevention and particularly in the prevention and reversal of obesity. I started medical school in 2005, right around the time that we, as a nation, woke up and began to realize that we were really struggling with a weight problem, and that obesity had become an epidemic.

At that time, you couldn't go a few days without seeing Governor Mike Huckabee and Bill Clinton on television talking about this issue. I remember thinking, "Well, this is really interesting, a Republican and a Democrat and they agree upon something." And what they agreed upon was that we have a problem. We have an obesity epidemic, and experts are starting to predict that we may—for the first time in American history—see a generation of Americans who live a shorter life span than their parents did.

So I decided that if Bill Clinton and Mike Huckabee could agree on this, maybe it was something I should pay attention to. I started to do research and I realized that obesity has doubled over the past 30 years across the country. Meanwhile, I began to see patients in the clinic as part of my medical training, and I realized that most of those patients were struggling with how to lead a healthy life: How do I lose weight? How do I stay physically active? How do I eat a healthy diet? And underlying all those specific questions was a larger concern: How do I find time, despite my busy schedule and all the demands of my life, to be healthy and pursue this healthy living that my physician is telling me to pursue?

As a physician, it was clear to me that although many people were trying to undertake this healthier way of living, most were failing. So we would counsel patients quite specifically. We'd say, "You know, you have to join a gym." "Why don't you try a weight loss program?" "You know your blood pressure's creeping up." "Your cholesterol is going in the wrong direction, and if you don't make a change, we're going to have to put you on medication."

In most cases, our patients would go out and in earnest try to make a difference. They would go on a diet. They would join a gym. And we had high hopes for their success—but invariably they

would come back three, six, twelve months later having fallen off the wagon. And coming back, we would take their measurements again and look at their biometrics and say, "It looks like we may have to put you on medication."

When we repeated this pattern with patients, it seemed to me that we had resigned ourselves to this fate, that we would tell them something and they wouldn't be able to do it. They were going to fail, and then we'd have to put them on medication. Ultimately, we were going to be simply managing chronic conditions instead of preventing them in the first place. To me, that seemed all wrong. There had to be a better way.

There also had to be a reason why everybody was failing. I assumed the failure was on the part of our healthcare system, not on the part of individuals, because all these people couldn't possibly be failing at something as easy as following doctor's orders, right? But my assumption was only half right. The healthcare system was indeed failing these people—but it turns out that what we were asking them to do is not easy at all.

What is wrong with the approach that healthcare professionals take? If I tell a patient to go and lose weight and give him or her some tools to go do that, why is that so difficult? What I came to realize is that these problems that people are facing—the lifestyle issues, obesity, unhealthy diets—are actually not individual problems. They're social problems. These problems aren't born out of one individual's actions, they're born out of a culture. They're born out of influence. They're born out of social norms. And so, we were trying to tackle a social problem with an unsocial solution. We were trying to make individuals change their own health behaviors and lifestyles, without taking into account how dramatically those behaviors were influenced by the people around them.

I began to form this theory after watching people fail at health improvement. But it really came into focus when I talked to the few people who succeeded at it.

"I didn't do it alone"

Once in a while, patients whom we had advised to lose weight would come back to the office and say something like, "You know, doc, I lost 20 pounds and I'm feeling better and I'm exercising on a regular basis." We would take these people's measurements and not only had they shed pounds, but their blood pressure was coming down and their cholesterol was coming down. In some cases, they had diabetes that was now so well-controlled that we could take them off their Metformin anti-diabetic drug. To these patients, we would say, "Wow, what did you do? What did you do differently that helped you succeed when everybody else is failing?" And they always gave the same reply. They said it in different ways, but the answer essentially was, "I didn't do it alone."

"I had an exercise buddy and we motivated each other to go to the gym," one patient said. Another told us, "My spouse got involved in this and we went walking every day after dinner and we started to cook healthier food at home and I started taking my family grocery shopping and we were picking out healthy foods in the grocery store." And others said they joined a Weight Watchers group and had that social support at work to hold them accountable. What did this prove? That the people who were leveraging their trusted social networks were the people who were succeeding. Modern medicine has been sending the message that health is private, and your weight is private, and it's up to you on your own to change your lifestyle. But meanwhile, the people who were trying to do it alone continued to fail.

So I began to think a lot about social approaches to behavior change. They do exist. It's not a novel concept. If you think about Weight Watchers, that's a social approach to weight loss. Alcoholics Anonymous is a social approach to helping people stay sober; Narcotics Anonymous is a social approach to helping people stop using drugs, and so forth. We already had some really good models for social behavior change programs. What we didn't have was a way to employ them as a kind of preventive measure. You don't go to Alcoholics Anonymous because it's fun or because you really want to. You go there when you're at the end of your rope, as a last resort to address a problem that already exists.

So, the goal is to foster social behavior change that can prevent health problems, instead of trying to treat them once they've developed. How do we get people participating in this type of social group model to prevent weight gain, to stay physically active, to maintain a healthy lifestyle? As I was strategizing about that, NBC began airing a television program that some of you may have seen, called "The Biggest Loser." On this show, trainers coach overweight contestants as they compete against each other to lose weight.

The show became a craze—and that gave me an idea. I thought, what if we took "The Biggest Loser" and we mashed it up with Weight Watchers? It would be a competition to lose weight, connected to some element of group support. And drawing on my medical experience, I made certain it incorporated a clinically-sound, evidence-based approach to weight loss. So, I took some inspiration from "The Biggest Loser" and some from Weight Watchers, and the result was a program called Shape Up Rhode Island.

During my first year of medical school in Providence, I launched this program locally to try to help some of my patients exercise, lose weight, and do it together. It took off like wildfire,

spreading through word of mouth. In no time, 200 people had signed up to be team captains and had formed teams by recruiting their friends, relatives and colleagues. Then they started competing – and they started shedding pounds. And we began getting calls from some of these participants' physicians saying, "What's happening? How are my patients losing weight?"

We got calls from employers saying, "Hey, we heard some of our employees were doing this and it was hugely successful. Can we roll this program out to our corporation?" We got calls from Blue Cross & Blue Shield of Rhode Island saying, "We're interested in what's going on here and want to think about making this available to our members." And that's when we realized that we had tapped into a really powerful phenomenon: the potential of technology and the internet to scale a group-based behavior change program.

It turns out that people were ready to change.   They simply needed help and structure, a social model to affect change—and we gave them that model. That's what I've been working on since 2005. ShapeUp is now a company that does this full time, around the world. I'm very passionate about this work. And I'm excited to tell you more about it.

I have two goals for this brief:

1. I want to share some examples with you about innovation in health and wellness programs. Among these may be solutions that some of you already are leveraging today. If not, they may be ideas you could adopt personally, or use with the constituencies you serve, the students that you teach, and the patients that you see.

2. I want to offer my thoughts on health policy changes. How, for those of us interested in health policy, can we understand what's happening? Can we support it? And can we ensure that

this transformation, and how wellness programs work within it, is successful?

Health promotion

Let's start with a definition, one that I think is pretty easy to understand and that maybe we can all agree upon. What is health promotion? Health promotion is a process of enabling people to increase control over their health and its determinants, and thereby improve their health. That's what I think of when I think of health promotion, and that's what I want to talk about today.

While health promotion can encompass a lot of facets of our health, I'm particularly interested in the areas of wellness and prevention. That's the spectrum of health that I'm going to be talking about—less on disease management and treatment, more on the wellness and prevention side of the spectrum.

Now that we've defined our terms, the next question is: Who does health promotion? When we're talking about health promotion, who is this conversation relevant to?

Certainly it's relevant to government. At all levels, branches of government do quite a bit of health promotion. Federal government entities spend a lot of money promoting health and wellness, promoting healthy habits, promoting smoking cessation, promoting vaccination. First Lady Michelle Obama has taken it upon herself to promote physical activity among youth across the country. State and local governments do quite a bit of health promotion. So what we're discussing is relevant at all levels of government.

Health promotion is a relevant topic for employers. What I do is largely focused on corporations, and helping those corporations take their employee populations and make them

healthier. Employers have been in the game of health promotion for a couple of decades now, and a lot of the innovation in this realm is coming from the workplace. So it really is important for us to understand what's happening in the private sphere and how that's relevant to the health of our country.

Insurance companies are involved in health promotion. That's increasingly the case with the Patient Protection and Affordable Care Act (PPACA) and the transformation in how health care is delivered, how health care is funded, and who holds the risk for patients when they get sick. We'll talk more about this, but insurance companies are increasingly involved in health promotion and they're an important stakeholder here.

Finally, providers. Certainly providers treat people when they get ill, but hospital systems and providers also keep people healthy and well. As we move more to a situation where we're leveraging the Accountable Care Organizations (ACO)—groups of physicians, hospitals and other health care providers that form networks to coordinate care and keep costs down—those ACOs are nothing more than mini insurance companies, holding risk for a population of people. Increasingly, they're going to be charged with keeping that population of people healthy. They're going to be doing health promotion, they're going to be rolling out wellness programs, and they're going to be interested in some of what we're going to be talking about.

I love health promotion because it's been very successful, and it's always great to be in a field where there's a body of success that you can build on. I'll give you a couple of examples of the success of health promotion to date.

Vaccination has been a dramatic success across the world. Think about the diseases that we've eradicated, or nearly eradicated, through vaccination: small pox, measles, rubella.

We're working on HPV now. We've got vaccines for pneumonia. Vaccines weren't always popular, and people weren't always willing to have them administered to themselves or to their children. But on the whole, we're seeing that vaccination has been a truly great success.

Smoking cessation is another example. In this country, we have cut the rate of smoking by more than half over just a few decades. That's a dramatic change and it's absolutely a testament to the success of health promotion.

In the process of focusing on health promotion, we have built a pretty significant body of research on how best to pursue it—what works and what doesn't; what are clinically sound interventions to help people lose weight, eat healthier, extend their life, and fend off disease. That's another thing I think we can point to as a great success in health promotion.

On the flip side, there also has been quite a bit of failure in health promotion. Some efforts haven't gone so well.

Physical activity has been declining; 90 percent of Americans don't exercise on a regular basis and don't get the level of exercise recommended by the Centers for Disease Control (CDC). At every turn, we are figuring out ways to eliminate physical activity. Instead of getting up to change the channel on our TV, we have a remote control. It's not enough that we're eating junk food—we're too lazy to get out of our cars to go inside to get the junk food, so we pull up to the drive-thru and they hand it to us through the window of our car. We have figured out every possible way to avoid moving. And that's a failure of health promotion.

Obesity is an epidemic. Two-thirds of all Americans are overweight or obese, and the number is continuing to rise. Obesity is translating to our children, and increasingly, so is diabetes. This

phenomenon is absolutely a case of health promotion's failure, or at least its low reach. Very few people engage in programs that are made available. There's a lot of promotional messaging out there, but it's not reaching people, clearly.

The U.S. government spends something like 5 to 10 million dollars a year on healthy eating campaigns such as More Matters, encouraging people to eat five or more servings of fruits and vegetables a day. Meanwhile, McDonald's spends $500 million a year on advertising in the U.S., telling us they love to see us smile. Think about the reach that the federal government has with healthy marketing, compared to a single corporation that's spending 50 to 100 times what the government's spending.

And then of course, we could say that failures of health promotion play a role in rising health care costs. I'm reluctant to kick that hornet's nest—but there's quite a bit to be said about the impact of behavior and lifestyle on those rising health care costs.

Earlier I posed the question: Are we going to have a generation that we've failed because they live shorter life spans than their parents? That prospect is scary, and I've described some failures already that could be cause for gloom and doom. But I am actually very hopeful about where we're headed, and I'll tell you why.

I'm hopeful because corporate wellness is on the rise. A lot of people get access to wellness programs through their employers. Half of Americans work in small and medium-size businesses, and another large fraction of Americans work in big corporations. These are all entities that are adopting wellness programs (and we'll talk more about some of what's driving that). So, corporate wellness is a way that we're reaching people.

Insurance companies increasingly are investing in wellness. More and more, I'm seeing insurance companies saying, "It's not

just our job to process your claim when you get sick or to deny your claim. It's also our job to keep you healthy in the first place." And that's a significant mentality shift.

The PPACA is significantly boosting the focus on wellness, with its incentives for wellness, focus on prevention, and coverage for prevention. That gives me hope for the future.

I'm also very heartened to see research coming off the shelves into the real world. This is something that's always been frustrating for me. There's so much good research that's done and it sits on the shelf. There haven't been a lot of incentives for people to take that research and bring it out into the real world—but I'm seeing that happening now and I'll give you some examples of that.

What I think I'm really most excited about is this: There's a consumer wellness revolution underway. People across the country aren't sitting around waiting for their employer or their insurance company or their government to help them get healthy. They're taking control of their own health and they're doing that with their friends and their family.

Technology and the future of wellness

So, how will the future be different? I'm going to focus on four ways. I believe there's going to be a change in the way we approach people—the engagement model is changing. Advances in technology are changing the way we engage people in wellness, making the approaches more effective and the programs more accessible.

This is happening in part because we're getting a better understanding of behavioral science.

How do people behave, how do the people around them affect how they behave, and what does that mean for health and

wellbeing? And then finally, we'll talk about how the future will be shaped by consumer innovation. So these are the themes that we'll consider, as we explore why I believe the future of health promotion will be different than the past.

Health promotion engagement models

Let's jump in and talk a little bit about engagement models. Engagement models are shifting. Basically, the old engagement model for health promotion and wellness programs was, "Let's take a population of people, let's look at their risks—have them fill out a health risk assessment or let's look at their medical claims— and then let's stratify them." It's a common term, risk stratification.

In the old model, we would stratify people into different buckets and then focus all of our effort on the sickest buckets—the people who have the highest utilization of care, the people who are at the highest risk for the most expensive conditions. That's really how health and wellness promotion has been done. We target. And it turns out that that fails.

The Old Model
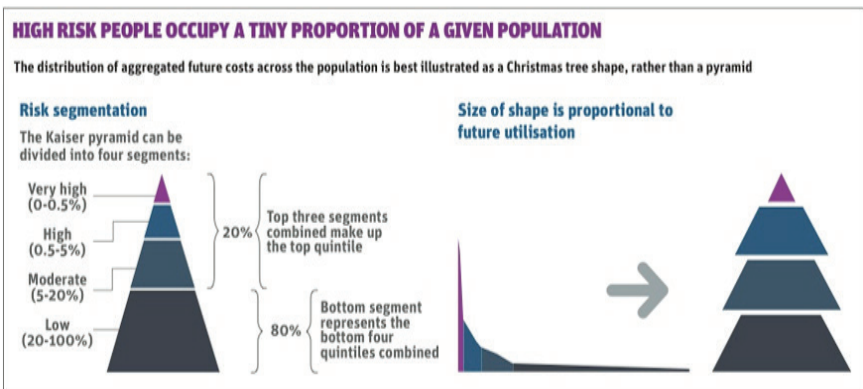
That does not work for a lot of reasons. One is, nobody likes to get a phone call during dinner saying "Hi, I'm calling from your employer. Your health assessment shows you're at high risk and you need to have a telephonic coach. And every day during your dinner time I'm going to call you and remind you to take your diabetes medications." Nobody's going to want to do that, right? Nobody wants to be stigmatized. Nobody wants to be singled out and nobody wants to be targeted. This model has failed to give people what they actually may want. It has not found a way to provide help to those patients who are struggling with their lifestyle, to provide something of value in their personal lives.

Well, the model is shifting—and as I'm sure is clear by now, I believe the new model is a social model. It's the idea that we don't have to target individuals, we can target entire groups of people. And we can leverage individuals and their connections to each other to get people engaged in wellness programs. Let's talk a little bit about that.

For anyone who hasn't heard of the Framingham Heart Study, (1948-1998) this is a famous study, and I think of it as The Study that Keeps on Giving—we keep finding new insights and amazing value from this single study. The Framingham Heart Study was conducted in Framingham, Massachusetts, a quaint little town near where I live in Rhode Island. Researchers from the National Heart, Lung and Blood Institute and Boston University studied the town of Framingham for more than 30 years in an effort to better understand cardiovascular disease. And over that period of time, they tracked thousands of residents of Framingham and they tracked every aspect of their health. They tracked their biometrics. They tracked the medications they were taking. They knew everything about these individuals.

In the course of the study, one of the things that researchers did was ask every participant to list their emergency contacts: Who are your family members and who are your closest friends? It turned out that a lot of those emergency contacts were also folks in the study because it's a very small town and the study involved a lot of people. Then the researchers were able to take those pieces of paper—this wasn't done electronically, this was all done on paper—and put that into a database and basically map the social network of the town of Framingham. They found out how all these participants in the study were connected to each other, and therefore they could watch how trends and health spread across this network from person to person over a period of time.

Dr. Nicholas Christakis of Harvard, who was the head researcher, put out a report on the study. (Christakis, 2007) And when *The New York Times* wrote about it, the headline said, "Obesity is contagious." (Kolata, 2007) Christakis and his colleagues showed that when somebody gained weight in Framingham, their friends and their family and their colleagues were much more likely to gain weight.

Some people concluded that the take-away was, "Hey, maybe I need to go find some new friends." There was a bit of a facetious aspect to it. But it turns out that the impact was dramatic. If a friend of yours became obese during the period of time that the Framingham study happened, you were 171 percent more likely to become obese too. It wasn't that obesity itself was spreading, but the behaviors that lead to obesity—the attitudes, the actions—were spreading. They were contagious, because we all model what we do on the people around us and we all influence each other. And in the Framingham Study, it turned out that the impact held true up to four degrees of separation away, so a friend of a friend of a friend had an impact on you. Even if that friend was 300 miles away, that person still had an impact on your health. It was an eye-opening study.

Social Contagion

Increased risk of an individual becoming obese when a person in your social network becomes obese:

+37% Spouse

+40% Sibling

+171% Mutual friend

SOURCE: New England Journal of Medicine
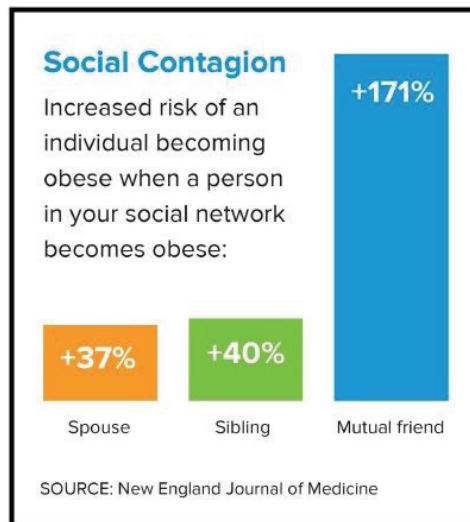
What Dr. Christakis hypothesized was that this might go both ways—that healthy behavior might also be contagious. That although, as a country, we've all kind of made each other overweight and obese over the past 30 years, perhaps we can

exploit the network phenomenon to reverse this. He followed up very quickly with a study on smoking cessation—and what he showed was that in fact, in the Framingham population, smoking cessation was contagious too. When one person quit smoking, a whole pocket of people they were connected to quit smoking as well. So if your spouse quit smoking, you were 67 percent more likely to quit; if your friend quit smoking, you were 36 percent more likely to quit, and so forth.

Another study that Dr. Christakis did showed that this holds true for mental health. For example, if a person in your network became happy, you were more likely to report being happy as well. So mental health was actually spreading from person to person in this population.

The findings were clear: Both unhealthy behaviors and healthy behaviors can spread through social networks. And that has profound implications for health promotion.

Exercise & weight loss spread too

Study of the Day: Like Obesity, Weight Loss Can Be Contagious

MAR 2 2012, 8:00 AM ET ● 4

Teammates in a dieting challenge significantly improved each other's outcomes, suggesting that shedding pounds can have a ripple effect.
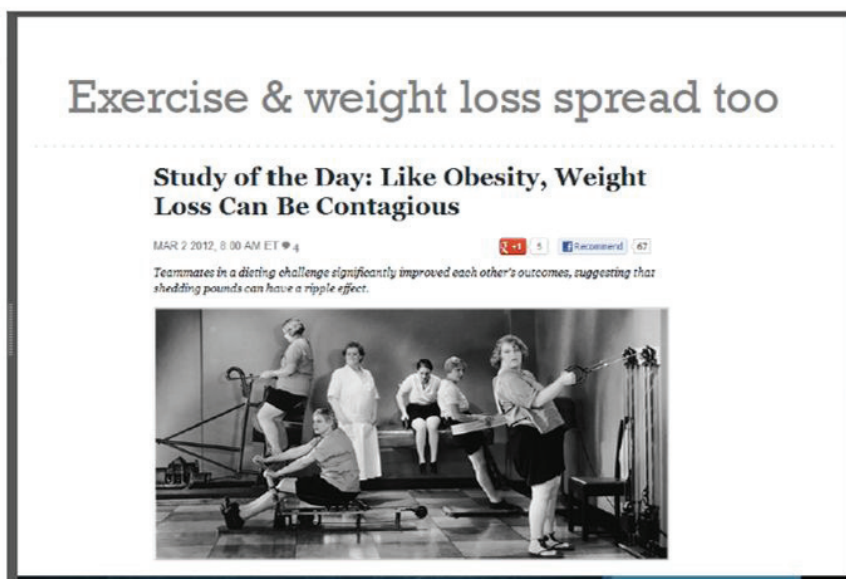
At ShapeUp, we did a study in Rhode Island on exercise and weight loss. What we found was that exercise is contagious. This is somewhat intuitive. You would assume that if I'm very active and I start pulling my friends in, they're going to become active too; that if I associate with people who are more active, then I'll be more active. Still, it's interesting to see it play out in the numbers. And it wasn't because people who were healthier were gravitating toward other people who were healthier. It wasn't simply association; it was actual spread of the behavior from person to person. The findings from our study got reported by quite a few news outlets, because they say a lot about how we might change our approach to health promotion.

Mindful of those findings, instead of targeting individuals, we're inviting people to recruit their friends and family, and to do this together. This results in people saying, "You know, it's not that the CEO of my company or the First Lady of the United States is telling me I need to be healthy and therefore, I'm going to be healthy. It's because the person who sits in the cubicle next to me, or who works down the hall from me, or lives in the house next to me is saying "Hey, let's lose the weight together." Or, "I heard of this local fitness competition and I want you to be on my team, let's compete!" Or, "I heard of this game," or, "Here's an app that I'm using. You want to join me on this app and we can track our progress together?" This is a bottom-up approach versus a top-down approach to engagement. And it's happening all across the world.

For example, consider an online platform called MedHelp. This is the largest health social network in the world, where people are crowd-sourcing answers to each other's health questions, helping each other, and motivating each other to change their behavior.

For another example, consider the tracking devices, such as a Fitbit device or a Nike Fuelband. I wear one. This is a device like a wrist watch; it tracks your physical activity, and it buzzes when you hit your goal for the day. There are some that will nudge you if you're sitting for too long—or if it gives you an electric shock, then you'll know you really need to get moving! With these devices, you can track your steps and without any effort you can actually measure your progress against other people. I'm competing in a challenge with some other local CEOs of technology companies in Providence, and it's hugely motivational for me, every Monday to see that, hey, I got beat over the weekend—I've got to step up my game!

So we're harnessing the power of competition. We're also harnessing the power of accountability. For example, there's a website called Stickk.com where you can make a goal for yourself and then you can appoint a referee, a friend or family member, to hold you accountable to meeting that goal—and you can actually put money at risk. So you have an independent referee to say

whether or not you met the goal, and if you didn't, the money would go to charity. (You could even pick some charity you don't like, so you have more motivation to try to reach your goal.) With approaches like this, people are asking their friends and their family to hold them accountable, which is a pretty dramatic change from the past where we didn't want to talk about our health and wellbeing. I think we're realizing we're all in the same boat and so we have to address it.

Health promotion through technology

As I've described wellness and fitness programs and how they're changing, you're seeing a theme emerge. In the old model, you might go to a Weight Watchers meeting and weigh in and hear a lecture. This still exists and it's a good program, but it doesn't really reach enough people. Or, in the old model, you might pay a ton of money to get a fitness instructor or a trainer, and to work out with them, you've got to go to the gym where the person's yelling in your ear. People still do that—I have a trainer—and maybe it works. But in my view, this is the old model.

The new model is doing this through technology.

You may have read articles about how Weight Watchers as a company is struggling because free mobile apps are putting it out of business. Lose-It, MyFitnessPal—these are apps that allow people to set goals, track every single thing they eat, get some automated messaging and coaching, and track their health. If they use these tools, people don't need to go in person to a site to weigh in. They can actually do the same things from their phone. Tens of millions of people across the country are downloading these apps and leveraging them. And research is coming out to say "Hey, they actually do work."

As you all know, most phones sold today are "smart phones" that can access the Web. This puts wellness tools in the palm of your hand that truly are remarkable, and more appear every day. You can track your weight and progress toward your weight loss goals right from your phone. You can even do training: There's an application called You Are Your Own Gym, so you don't have to go to a gym or be near a gym or pay money for a gym.

There is an application where you can take a picture of your food, share it with your friends and your colleagues and your family, then they can tell you how healthy that food is and rate it. This provides accountability and it's actually becoming something that we celebrate, healthy eating, which is tremendous. If any of you are on Facebook, perhaps you have seen people brag about the beautiful salad they made or the healthy meal they just cooked at home. It's amazing what we can do, leveraging technology to make the most of resources we have for nutrition or fitness, right in front of us.

As part of this new era of health promotion through technology, let's talk about gamification. Games, obviously, are age-old; all different kinds of games have been around since the beginning of time. We all know that electronic games have become popular, but when you look at some of the numbers, the particulars may surprise you. Forty-two percent of all adults, in their home, own a video game console. The average social gamer, contrary to what the teen-gamer stereotypes suggest, is a 43-year-old woman. Again, if you're on Facebook, think about Farmville and similar games. Some of us don't use those; I don't play video games online. But a lot of people do and that is changing the way we may need to think about things.

Gamification

Games—Everybody Plays

Games have existed since 2600 B.C., according to Wikipedia. Since then, they've continued to gain traction.

- 42% of all adults own a video game console (47% own an iPod or MP3 player)
- One in five Americans plays games on social networks
- Americans now spend more time playing games than watching movies
- The average social gamer is a 43-year-old woman

Sources: Pew, VentureBeat, Mashable and The NPD

47% of all adults own an iPod or MP3 player

Specifically in health care, there's quite a bit of interest around gaming for health. This could be a way to make health and wellness more fun, to make it social, and to motivate people and thus make it more effective. There are games for cognitive and emotional health, such as the challenges at Lumosity.com designed to keep your brain sharp. In the realm of participatory health, there are games that will remind you to take your medication, and award points toward a reward every time you take your medication to build that habit. There are physical activity games to play on the Nintendo Wii and other systems. There are even medical training games, some of which we used in medical school. As a category, health games are on the rise.

Another trend in health-related gaming is virtual fitness training. Through a company called FitOrbit, you can go online, fill out a profile and be matched with a virtual trainer, based on your personality type, how you like to be motivated and what your goals are. This is not a computer-generated trainer but a real

human being, working with you via Skype. This person's going to coach you in your living room, and help you to stay active and to stay fit. We may not all be ready to embrace it yet, and some of us may never be sold on it—but it's happening, and I believe it's the future of health and wellness. I believe it will allow us, in a more effective and a more cost-effective way, to reach people wherever they are.

Let's contrast this kind of online health promotion with something that's been around for years: telephonic health coaching, which today is a billion-dollar industry in America. In large call centers around the country, trained nurses and coaches spend their work days calling people to remind them to do certain health-related things, to check whether they've done those things and to try to help motivate them. These callers' job is to remind people, to nudge them. This system has been around for quite a while, but it turns out it doesn't really work very well. Why not? Because it's not engaging. Many people don't want to communicate on the phone any more. Folks in my generation, many of us don't have landline phones, and we try to keep our cell phone numbers out of the hands of telemarketers. So, where people might once have done more of their communicating by phone, they're now opting for different forms of communication.

Now we're moving to using newer technology. You can Skype with your doctor or your fitness coach. You can connect with them on your mobile apps. Through an app called SugarMinder, people who are trying to reduce their consumption of sugar can "talk" to their coach, send pictures of what they're eating to their coach, and track their intake in a place where the coach as well as their social network can follow along.

Here's another advance in coaching, almost a paradigm shift: We are realizing that it doesn't take an expert to be a coach. I've seen a number of studies recently that show that your

friends are actually better coaches than trained experts, in terms of results. Knowing this, people are opening up more to the idea of peer coaching. Forms of peer coaching have been around in medicine for quite a while, in community clinics and so forth. Now, we're starting to think about how it might apply across the country, and across the healthcare system. We don't always have to rely on trained individuals. A lot of this is about motivation and accountability, and peers can help you do that. We're seeing better outcomes in many cases from peer coaching than from professional coaching. So we're back to a central question: What does motivate change in health-related behaviors?

Behavioral science and health promotion

There's no secret that a lot of money is spent trying to get people to be healthy, by providing financial incentives. We've failed at getting them to change their behaviors, so we've said, "Okay, we have to pay people. Let's bribe them." Or, "Let's put financial penalties in place." And it's become quite a hot topic. This year, across the country, the average employer will spend $650 per employee on financial incentives for wellness programs—health assessments, biometric screenings, going to your annual physical, participating in a fitness program, smoking cessation and so forth. That's $650 per employee in incentives, while on average they are spending just one-tenth of that on actual health-enhancing programs. So, $65 per person on the programs, $650 to pay those people to use the programs.

This old model of incentivizing people is not designed in any way based on behavioral economics. It doesn't take into account anything we know about how to motivate people using money. And by that I mean, most of the programs have a structure like the proverbial pot of gold at the end of the rainbow. The programs tell participants, "We're going to ask you to do 10 things

this year, and if you do all of these things, next year we'll reduce your health premium. Next year, we're going to give you this pot of money." And it turns out that that's a really ineffective way to motivate people.

A couple of years ago in the New England Journal of Medicine, a team of physicians and behavioral economists published a great article called "Redesigning Employee Health Incentives." (Volpp, et al. 2011) It developed some concepts that I think we as a healthcare system need to think about, and that we at ShapeUp are starting to apply. One is called "unbundling," and it works like this. Suppose I am giving you an incentive. If it is relatively small and it is included as part of a larger payment, you may not recognize that you got that incentive. So if I give you your paycheck, which is usually $1000, and I give you a $100 reward in the same check for a paycheck total of $1,100, you might not notice it much, or at all. On the other hand, if I handed you a crisp, clean, $100 bill, that might register as an unexpected windfall.

We've seen many examples that tell us this is true. You may remember the tax credit President Obama put into place in his first term: When it was paid over the course of a week or two in paychecks, it was such a small amount of money that many people didn't even realize they got it. It was bundled. In healthcare we do that all the time; we bundle things into premiums, where they're largely obscured. If I want to motivate healthy behavior by giving you an incentive you'll notice, why would I bundle it into your paycheck? So that's one thing ShapeUp has learned: It's better to "unbundle" it.

Here's another lesson we've learned about incentives: To make them work, you need to be paying people for progress— rewarding them not just for outcomes, but for the actions that lead to the outcomes. Too often in healthcare we've said, "Okay, if

you're obese, once you get to a healthy weight, we'll reward you." Or, "Once you quit smoking, you'll get a reward." But you know what? There's a lot of hard work that happens between where you are today and where you want to get to. Imagine if you had a dog you were trying to train and the dog did a trick and you gave that dog a treat three weeks later. It wouldn't register, right? In this regard, we humans are no different.

Research has shown it will be much more effective to reward you in real time for making the behavior changes that are going to lead to the desired outcome, which is still some distance down the road. At ShapeUp, this means we place less emphasis on future payments, and we put a premium on payments now— rewarding people for progress, in real time. We take the larger amount of money that might once have been doled out at a final outcome, chop it up into smaller pieces and give them to people the moment they do something positive, to reinforce that behavior change.

To encourage participating in health and wellness efforts, we're also starting to experiment with loss aversion. If you want to motivate people to act, it turns out that it's much more effective to give them something they value and then threaten to take it away, as opposed to just promising to give them something for some action later on.

Here's an example. ShapeUp's interactive wellness program is being incorporated into a new Blue Cross health plan available through a state health exchange. It's a low-deductible, low-premium plan designed to be very affordable. To qualify for this plan, you have to go to your doctor and get health assessments and if you are overweight or obese, you have to participate in a physical activity program. Once you enroll, the health plan will send you a Fitbit tracking device. You have to connect it to the ShapeUp platform and you have to walk 5,000 steps a day

throughout the course of the year. Two and a half miles, that's not bad. The average American walks between 3,000 and 4,000 steps; this plan requires a bit more than that. If you don't do the required number of steps in any three-month period, your premium and your deductible will be increased.

That's the principle of loss aversion: The provider gives you benefits and says, "If you do these things, you'll keep the benefits, but if you don't, we'll take them away." We might argue about whether that's humane or whether that's fair, but experience has shown that it certainly is effective. I think this insurer is going to find that the people on that plan change their behavior in more significant ways than people not on that plan.

Communication and health promotion

Another thing that's changing about health promotion is the way we communicate with people about it. The old way was to put up really boring posters with headlines such as "Take the Stairs," "Eat an Apple," and "February is Cholesterol Month." They featured Microsoft clip art, and a bunch of text that most people won't read; that was the way a lot of the health promotion communication materials were done. Today, that's changing because we're taking a few more risks and becoming a little bit more edgy with marketing.

For example, consider the New York City subway ad that shows packets of sugar pouring into an overflowing soft drink cup. In boldface type, it says, "YOUR KID JUST ATE 26 PACKS OF SUGAR." But if you look closely, that's not soda in the cup—it's fat, oozing down the side of the cup. It's a disgusting and effective way to make the point that's printed alongside: "All those extra calories can bring on obesity, diabetes and heart disease."

Then there's the ad that shows progressively-larger, "super-sized" soft drink cups—and a man who lost one leg below the

knee as a result of uncontrolled diabetes. The message is blunt: "Portions have grown. So has Type 2 diabetes, which can lead to amputations. Cut your portions, cut your risk." These are the types of messages and images being used to communicate about health and wellness today. Some of them may make us flinch, but I think they also will make us pay attention and examine our behaviors.

Wellness advocates also are leveraging video technology to get their points across. Perhaps you have seen the video on YouTube called "23½ Hours," written by Dr. Mike Evans. It's an animated video lecture where Dr. Evans talks about all the research around physical activity and he poses a challenge to America: "Can you limit your sitting and sleeping to just 23½ hours a day?" Meaning: Can you exercise for 30 minutes a day? It's a really effective video, and has had almost four million views on YouTube alone. This is a way to leverage viral marketing and viral video technology to promote health and wellness.

In a similar vein, let's talk about environments that promote wellness. The old way of creating this environment was to build infrastructure; a company, for example, would build an on-site fitness facility to encourage workers to be physically active. Well, here's the new way: We're building virtual maps on top of the existing world, maps for fitness activities. For example, there's an app called RunKeeper that allows people to map their runs using nothing more than their phone – as they run, the phone is tracking their route. To get exercise and benefit that they can measure, these people don't need a gym or running track. They can use the real world, but tailor it to their needs. So, we're creating new wellness environments by superimposing virtual reality on top of the real world.

Research and health promotion

The way we do research for health promotion is changing. As an example of the old model, I give you a really famous study, the Diabetes Prevention Program (DPP). (National Diabetes Information Clearinghouse 2013) Funded by the federal National Institutes of Health, it was a landmark study that showed you could reduce the five-year risk of diabetes by 58 percent by getting people to lose and keep off 8 pounds of weight. You took a diabetic population through the traditional paces of a study—you know, lifestyle management, physical activity, healthy-eating education—and people lost small amounts of weight but it had an outsized impact on their health. This has become the gold standard.

But although the DPP has been around for quite a while, and even though we've known for many years that it was highly successful, it's only now starting to get traction and gain leverage. Why? The problem with the DPP is that it sits on a website with a bunch of links; it's basically research on the shelf.

Under the new model, we're taking this research and we're bringing it out into the real world.

A friend of mine founded a company called Omada Health. This company is taking the DPP, putting it online and scaling it across large populations. So if you want to participate in a diabetes prevention study, instead of having to go to a government research center to weigh in to be a part of the study, you can actually do it online. And as an added incentive, you can do it with people that you care about.

We're just starting to understand how to do research around social networks. I've talked to you about the role of social influences in smoking cessation and weight loss and so forth, and it turns out that from studying social networks, we can learn some

interesting things. Let me give you an example—it's a case study from a corporation conducted by a firm called Activate Networks, but I think it's highly relevant for those of us who are thinking about health promotion.

An oil and gas drilling company was very interested in understanding those who were influential in their employee population—who are the true leaders here at our company and who are the people that we need to retain? They looked at a traditional org chart and they said, "According to this org chart, probably the most important people are at the top, the senior VPs, the department heads and so forth." Then what they did was, they analyzed email traffic in their workforce over the course of a year. They looked at who was emailing whom, who was being copied, blind carbon copied, who was responding and so forth. They didn't look at any of the content of the emails, just the headers. With that information, they were able to create a map of the social network and how communication flowed.

Who did they find at the nerve center of the network, in a pivotal position for communication? Some guy named Mitchell. When they had looked at their standard org chart, the company's executives thought, "Hey, Mitchell's not very important; if we lose Mitchell, we're going to be just fine as a company." Well, guess what? It turns out that Mitchell was in the center of this company's network. An examination of the email traffic showed that nothing happened in this company that didn't go through Mitchell. He was an expert. He was an influencer. He was a gatekeeper. Independently, the folks at the top had no idea what was happening; Mitchell was the conduit. If this company lost Mitchell, it would be in a lot of trouble.

Now let's imagine that this company wanted to promote health and wellness in its workforce. Do you think that they should have Senior Vice President Mares be the guy promoting it? No,

they should have Mitchell being the guy who is saying "Hey, I'm doing this—join me!" Leadership doesn't always come from the top down. It also comes from the bottom up, and we're starting to realize that there are influencers in our society, in our population who can help us spread the word. In Malcolm Gladwell's book The Tipping Point, he talks about how there are these influencers among us, the connectors who know everybody and like putting people in touch. The mavens who are the experts, who have a lot of knowledge so people rely on them. The salesmen, the popular people who are highly influential. We need to figure out who these people are in our society so that we can leverage them to help us engage others and spread health and wellness.
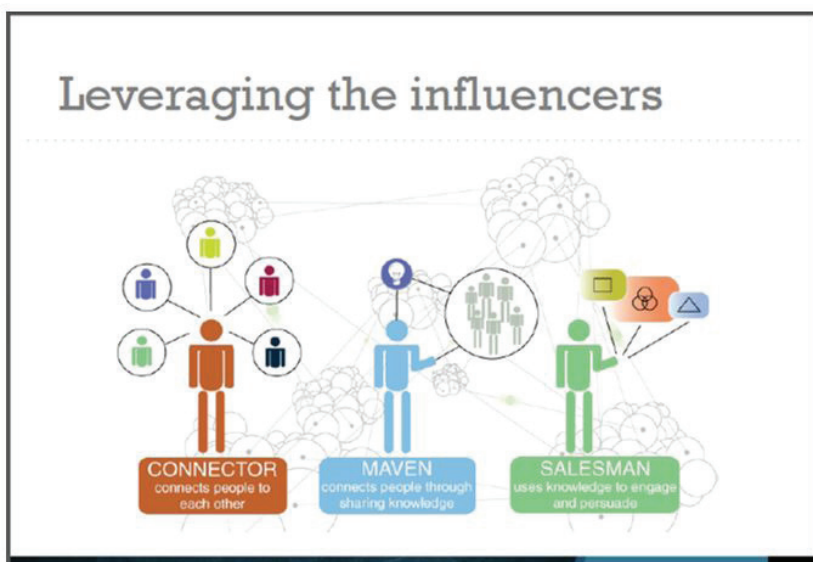
Here's another example. A company mapped out its workforce social network through email traffic of 5,000 employees—and then superimposed the body mass index (BMI) of all of these employees right on top of that social network map. They found what you might expect: that the healthy-weight folks were in the

center of the network, the unhealthy-weight folks tended to be at the periphery, and that people were kind of connected in these clusters. Now this company is trying to understand how it can leverage the central, influential people, those they call the Kevin Bacons (as in Six Degrees of Kevin Bacon, that game about extreme interconnectedness). The company wants to use the Kevin Bacons to reach the non-participants, the less-connected people they call the Steve McQueens. I'm a little embarrassed to say that when I first saw this paradigm, I didn't know who Steve McQueen was—so I'm showing my age a little bit, but I quickly learned! The point is: How do we use the centrally-located people to reach the folks who are too cool for school, who are a little bit on the periphery, who are not as connected?

Assessment is another aspect of research that is changing, as technology enables us to be better at assessing people's health and then guiding them. Consider the University of Michigan health assessment, long the gold standard in health assessment. You take this survey about your health, it's hundreds of questions long, and then you get a report. The report tells you the same thing it tells everybody: You're not physically active enough, you don't eat healthfully enough, and if you're smoking you should probably quit. And if you're not wearing your seatbelt, you should probably do that too. The recommendations are quite generic—and there's a lot of research showing that this health assessment doesn't change behaviors, it simply gives you the data.

There are health assessments that do change behavior, though. You may have heard of one called the Real Age. Created and promoted by Dr. Mehmet Oz and Dr. Michael Roizen of the Cleveland Clinic, the Real Age is a health assessment done online. Instead of giving you a generic report, it gives you a highly personalized report. And based on your health traits and behaviors, it generates a number and it says "Hey, you know what,

chronologically you are 50 years old, but because you're so healthy your 'real age' is 36." You feel so good about it, you start bragging to all your friends and family. Or, you're told that because of poor health traits and behaviors, your "real age" is 63, and you feel chastened and motivated to make positive change.

The assessment gives you not only that "real age" number, but it gives you very personalized recommendations, things you can do right away. Here are programs you can sign up for. Here are tools you can leverage. Here's educational material right for you. This is a much more effective way to do health assessment than the old model. It's engaging for me as a consumer. It gives me something that's relevant to my life; I can make sense of it. If you give me a score of 82 out of 100, I don't really know what that means. If you tell me I'm physically five years younger than my birth certificate says, I know what that means. Or if you tell me I'm physically 20 years older, that really motivates me.

Measurement and health promotion

Let's talk briefly about measurement. It used to be that the only way we could get biometrics was through the doctor's office. The new model of measurement is a biometric tracker worn like a bracelet. People are wearing these devices, and there is a multi-billion dollar market for them already. Samsung just came out with a smart watch. Apple's new iOS 7 operating system has a co-processor inside that tracks your physical activity. It tracks when you're standing, when you're sitting, when you're running, when you're biking—all that can be tracked now on your iPhone.

We call this the Quantified Self Movement, where people are now getting access to data about themselves and its giving them insights into their behavior and what they can do. People are starting to be able to get this data right at their fingertips, right in

their pocket. There's a whole ecosystem that's built up around this, apps and devices that can pull in data about how you're sleeping, about your stress, about all types of physical activity. There are wireless weight scales where you can weigh yourself. All of this is coming together, people are getting into it. As a result, there will be more and more people who are tracking and using this data to understand their bodies and understand their lives.

Now in some cases this could go a little bit too far. I've seen reports of a scientist who created men's underwear with an electronic biosensor in the waistband that could measure vital signs such as heart rate and blood pressure! Interesting things are happening at the cutting edge, where people are leveraging technology to make tools that are cheaper and more accessible. Pretty much anybody that has a smart phone—which soon will be everybody in the country, regardless of socioeconomic status—will have access to this kind of sophisticated technology. This futuristic, biosensor underwear provides a good transition to our next topic: the future of health promotion and health policy.

How health policy can drive health promotion

I'm not a policy expert, so when I was asked to give this talk, I thought I should probably figure out what health policy really is. To begin, I did what probably most of you would do: I Googled it. And this is what Wikipedia said about health policy.

It defines a vision for the future.

And so I said, alright, I can get behind that. I'm a vision guy. I think we can do that.

It outlines priorities and the expected roles of different groups.

Basically, this means health policy tells people what to do. I can do that; I'm pretty good at that, too. At this point, I was thinking, "Wow, folks in health policy have a pretty easy job. They get to think in terms of really big visions and then they get to tell people what they should be doing."

Then I got to the third bullet point in the Wikipedia description and I realized that it's actually quite a big undertaking:

It builds consensus.

That, I think, is the big challenge that we have here. How do we build consensus around health promotion and how do we use health policy to drive health promotion? This strikes me as a rather daunting task for those of you who are working specifically on health policy. But while we're here today, let's see if we can maybe move toward consensus.

I have some recommendations about how we can leverage health policy to make health promotion more successful. As I said at the outset, the way we live and work is undergoing a transformation. I offer these ideas in hopes of creating some guardrails, if you will, so that as all this transformation is happening, it doesn't go totally out of control and off track.

In no particular order, I have nine recommendations I want to share.

Recommendation #1: We need to better promote the use of behavioral economics. The ACA dramatically increases the dollar amounts that employers can use to motivate employees to participate in wellness programs, either as incentives or as penalties. Right now it's 30 percent of premium dollars that can be spent on wellness, for wellness incentives. In the future, at the discretion of Health and Human Services Secretary Kathleen Sebelius, it can actually be increased to 50 percent.

That's quite a lot of money. But there are no guidelines; there's no evidence for people that are designing these programs on how they should do it. And frankly, so far, they're doing it pretty ineffectively. You may have heard of the controversy surrounding a wellness program that Penn State put out for all its employees. Those employees were told, "If you don't get your health assessment or get a biometric screening, you're going to get fined $100." It was structured as a penalty. That flies in the face of what behavioral economics research tells us, which is that humans respond positively to rewards and they don't really like penalties. At Penn State, not surprisingly, there was an outcry. Thousands of faculty signed a petition, and the university's leaders had to walk back that policy, they removed it. And they got a lot of bad press in the process.

This tells me that we need some better education here. We need to connect behavioral economics professionals with health promotion professionals to explain the wisdom of really limiting the use of penalties. Research has confirmed that penalties are not the way we're going to get people to change their behavior. Behavior change is hard enough, it's a sensitive topic—and when we try to incentivize health behaviors by using penalties, we're not going to be motivating people.

Recommendation #2: We need to modernize health interventions. The FDA approves medical interventions, medical devices, medical apps. I think we should add a requirement that, if a medical or health intervention is going to be on an electronic or online platform, that it be also made for the mobile platform. Frankly, mobile will reach more people than something that's web-based or desktop-based. So I think we need to require a mobile app or mobile web compatibility for health interventions in the future. Just as we assisted providers in adopting electronic medical records and other technology in hospital systems and clinics, we

need to assist providers in adopting virtual communication to reach patients.

I recall hearing recently of a physician who was fined for dispensing medical advice to a patient seen only over Skype. Obviously, the healthcare community will need to develop guidelines around such innovations. We need more research to establish that these online and mobile interventions are just as good as the in-person interventions, or good enough, or good enough based on what they cost. But if we can create some rules around these new approaches, I think there's a really huge opportunity for doctors to reach people anywhere they are.

Recommendation #3: We need to encourage the use of biometric devices. In promoting wellness, measurement works. Studies by ShapeUp and others have proven that. If you can't measure something, how do you know what you're doing and whether or not it's going in the right direction? Because we know that measurement works in health promotion, I propose subsidizing personal health monitoring tools. These devices can be pretty expensive; not everybody can afford them on their own. But bear in mind, if you're a diabetic, glucometers are covered. If you need certain medical equipment for a condition, that's generally covered. Similarly, maybe a weight scale should be covered. Maybe a Fitbit or Nike Fuelband or Jawbone Up should be covered. Maybe we should mandate that insurance companies do that, or that the government or insurance companies subsidize it.

The government subsidizes electric vehicles or hybrid vehicles. Why? Because the government wants lower dependency on oil and wants a healthier environment. We want to lower the dependency on junk food and we want less diabetes and lower healthcare costs. Maybe we should be subsidizing these types of tools for people. I believe it's something we should think about.

Recommendation #4: We need to clarify rules on health apps. Today, there are very few regulations and rules around these health apps on which people are connecting and sharing information that often is protected health information. There was an article recently about apps running into privacy snags over sharing data, and people not understanding where their health data is being shared on the so-called "back end." We certainly need to create some ground rules for how this is going to work so that people feel comfortable and that their privacy and their data are protected.

Recommendation #5: We need to rate and certify new interventions. Just as we do in a lot of other areas of health care, we need to start creating some order out of chaos. There are 40,000 mobile health apps, and if you're an individual consumer, how do you pick and choose? What is good? What is gold, and what is garbage? It's hard to tell. It would help if we had a process for curation, certification, and the like. Earlier this week, Cigna launched an online app marketplace called GoYou, where experts will be rating Cigna-approved health and wellness apps and tools for Cigna subscribers. I think we need to work on something like that for broader use.

Recommendation #6: We need to expand tax incentives for wellness. Currently, the incentives for employers to sponsor wellness programs focus mostly on small and medium businesses, and are only for those that are doing it for the first time. I think there is a strong argument for increasing that. Today and in the future, wellness programs will be increasingly expensive as technology plays a bigger role. Expanded tax incentives would help employers sustain their commitment to these programs.

Recommendation #7: We need to invest in social network science. I've talked a lot about this area of inquiry so you know I believe in it. I think it's still in the early stages and we're just scratching the surface of what's possible, so we definitely should

be funding continued research. We also should be leveraging data from other social networks, to see what we could learn there that would apply to what we call social wellness efforts. It's already starting to happen in the private sector. For example, from Twitter and Facebook, we're getting health insights: We can tell when a flu outbreak is happening just by what is tweeted and where geographically those tweets are located. Over time, we can leverage really powerful data from social networks, and we need to actually have funding and grants available for that.

Recommendation #8: We need to commercialize quality research. Remember the landmark study I discussed, the Diabetes Prevention Program? A researcher who is a friend of mine, Dr. Rena Wing, was the lead author on the DPP. Through the years as I've worked with her, I've talked to her about all the research that she's done, most of which sits on a shelf. She tells me, "Well, as researchers we're incented to publish, and that's the finish line for us. Everything that we do is structured around getting published. And once we're published, we're done and we're on to the next study." How do we give incentives to researchers to change this? How do we connect researchers and entrepreneurs who are going to take this research and get it out? What good is doing the research if it's not actually implemented in the real world?

As I mentioned, the DPP is a great example because it's finally getting out decades after it was completed. I mentioned the private company that is putting the DPP online. Now, the YMCA has is going to start rolling out the DPP for use by people in its centers all across the country. That initiative will have a pretty tremendous reach, even in rural areas. This evidence-based, sound program to assess a grave and growing health issue is going to be delivered right through the YMCA. That's remarkable. Imagine if we had that happening across lots of different programs addressing lots of health and wellness issues.

Recommendation #9: We need to de-stigmatize obesity. I think this may be the most important one out of all of them. We absolutely must de-stigmatize obesity. Imagine if I asked each of you to turn to the person sitting next to you and tell that person how much you weigh. Probably not a lot of you would do that, right? And if you did it, you'd feel really uncomfortable. Now, imagine if I asked you to turn to the person next to you and tell them your height. You probably wouldn't care. It doesn't make you feel as uncomfortable. Why?

I can look at you and kind of guess what your height is. I can also look at you and kind of guess what your weight is. But we've been taught and told that weight is something that's private and, in many cases, something we should be ashamed of. And it turns out that it's not.

Struggling with weight is something that the great majority of us have in common. We all try to maintain a healthy weight—but two-thirds of us are not in the right place, where we need to be. When we start to understand that truth and break down these barriers and de-stigmatize this issue, it becomes much easier for us to have a conversation. And once that conversation starts, it becomes much easier for us to leverage the power of social networks to be able to change our behavior and sustain that over time. Because also it's about cultural change, and it's about societal change.

We did that with smoking cessation. We changed the culture. It became not socially acceptable to smoke in front of your kids, to smoke in a public setting, to smoke in a restaurant, to smoke on an airplane. And we had taxes for it. We had all kinds of campaigns for it. Ultimately, it was the social piece that promoted change. People didn't want to be the ones standing out in the cold while everybody else was inside. They didn't want to be the ones getting the dirty looks or the comments when they walked

down the street. I'm not suggesting that that's the way we should change behavior and attitudes around obesity. But we do need to de-stigmatize obesity in a social way so we can actually change behavior.

Let me end on that point, with this take-away message. We talk a lot about technology—and I certainly did just talk a lot about it. But the transformation underway is not really about technology. It's about what technology is enabling, which is a way for us to work together to tackle our health issues. We can all join together to help each other promote our own and each other's health and wellness, and that's truly the single most effective way to do it.

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