
Managing Diabetes Prevention with Online Applications

*An interview with Sean Duffy,
Co-Founder and CEO of Omada Health*

By Elena Castañeda

The predicted volume and cost of diabetes-related care is staggering. According to UnitedHealth Group's Center for Health Reform and Modernization, more than 130 million Americans with diabetes or pre-diabetes are expected to spend more than \$500 billion on diabetes-related medical care by 2020. Diabetes very well may test the solvency of private and government payors, even as it lowers the quality of life for a large and growing percentage of the population. Because the causes of the disease are closely linked with deeply ingrained lifestyle choices, successful preventive efforts have been difficult to implement.

Sean Duffy of Omada Health met with the Pulse to discuss operationalizing an evidence-based approach based on the National Diabetes Prevention Program (DPP). The DPP curriculum, which focuses on diet, physical activity and behavior modification, has been shown to reduce the incidence of diabetes by more than 50% (New England Journal of Medicine, 2002). Omada brings the DPP curriculum online through its first web-based product, Prevent. Prevent is for people with pre-diabetes that can't or don't enroll in brick-and-mortar programs. The product is based entirely on the landmark DPP clinical trial. Participants are divided into small online support groups, mailed a wireless scale and pedometer and assigned a professional telemedicine health coach.

PULSE: *How did you get the idea for Omada Health?*

Sean Duffy: Our company started a little under two years ago when my co-founders and I were exploring opportunities in disease prevention given the changes we saw coming related to the increasing chronic disease burden and Affordable Care Act. We felt that a lot of the web-based behavior modification products out there weren't based on solid clinical evidence, and we wanted to change that. Our goal for Omada is to create beautifully designed software applications and programs for people with various diseases, leveraging evidence-based processes.

Very early on we caught wind of an innovative effort at the Centers for Disease Control and Prevention (CDC) called the National Diabetes Prevention Program (DPP). The goal of this effort is to bring evidence-based lifestyle programs to individuals at risk for diabetes; thereby helping people reduce the likelihood that their condition escalates to diabetes. There are 79 million people in the US with pre-diabetes and by 2020, it's estimated that half of the US population could either have pre-diabetes or type 2 diabetes. It's really quite tragic. Thus far all of the efforts to implement the DPP have been through classes at brick-and-mortar locations, and we felt that the opportunity was ripe for a web-based complement that could reach a broader audience.

PULSE: *Time Magazine recently quoted Dr. Jun Ma of the Palo Alto Medical Research Foundation, who led a trial exploring the use of online tools to implement the DPP program, as saying "we know there are huge numbers of patients out there who need intervention. We just don't have the manpower and resources to deliver [them]." Would you like to comment on the national conversation related to employing behavior modification to prevent diabetes?*

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Sean Duffy: It's been fantastic to watch the whole space evolve over the last year. Large corporations, often in partnership with innovative payors like United Healthcare, are now rolling out prevention programs. In the beginning of January there was a front-page spread in the Los Angeles Times about the increased prevalence of DPPs ("Rx for diabetes not pill, but will," January 9, 2013). These efforts are absolutely needed and very welcomed given the recent trends in type 2, specifically among younger people.

PULSE: *Why are we seeing these programs receive so much attention now? Evidence on the effectiveness of the National Diabetes Prevention Program has existed for nearly a decade.*

Sean Duffy: The initial trial evidence wasn't enough, because rolling out DPP's is a logistics challenge and the right channels for potential reimbursement or payment were not yet negotiated. It really took a combination of federal initiative, private partners and increasing acknowledgement of the growing type 2 diabetes crisis.

PULSE: *To what extent do you think technology and the rise of mobile online access helps accelerate behavior modification for people with pre-diabetes?*

Sean Duffy: Any intervention with a shot of working has to involve real human relationships and real human touch. If you look at the original DPP trial, it was very effective because it was an all-hands-on-deck approach to the patient that participated in it.

My feeling is that technology will enable authentic human relationships of the sort needed to effect behavior change at a larger scale. I view technology as the framework that allows the social relationships to form. These relationships are the key drivers for behavior change.



We're bringing a fresh new perspective to disease prevention.

Technology has opened up a new frontier of disease prevention, and Omada Health is leading the charge. We aim to make groundbreaking behavior-change programs accessible to everyone, by designing tailored experiences that are intuitive, enjoyable, and achievable.



PULSE: *You are an alumnus of Rock Health. To what extent do accelerators and incubators help entrepreneurs get a company off the ground?*

Sean Duffy: Accelerators can be helpful in a number of ways; one is simply to provide a reason to take the leap into the startup world in the first place. In a funny way, it feels safer to quit your job and jump into an accelerator than to quit your job and jump into your friend's apartment. There's an ecosystem there with support and structure. Additionally, especially on the health side, it's great to have access to people that can help fill in gaps in knowledge and form partnerships. There is a great deal of camaraderie in the healthcare entrepreneurship world.

PULSE: *To what extent do you still interact with people you met through Rock Health?*

Sean Duffy: I made so many friends through Rock Health. When you're in digital health, even in San Francisco, you're bound to see Rock Health alumni or staff there, and you kind of feel like a family. Rock Health continues to support Omada in whatever way they can.

PULSE: *What advice do you have for people that may be thinking about starting their own healthcare business?*

Sean Duffy: I would say that any aspiring entrepreneur at Wharton who is looking to build a company in healthcare should really work to understand how the dollars flow in the US Healthcare system.

Building a company is very hard work, and I would argue that building a business in healthcare is even harder. I would imagine that the average successful healthcare entrepreneur is likely older, and has more established industry relationships, than founders in other industries. Fundamentally, healthcare is an incredibly partnership-driven segment of the economy.

Coming from Wharton can be a big advantage. Wharton has an incredibly good healthcare program – one of the best in the world. Whether you're just starting at Wharton or are already an alumni, don't forget how amazing the network is. Take advantage of it!

Profile



Sean Duffy
Co-founder and CEO of Omada Health

Mr. Duffy co-founded Omada Health, a Silicon Valley startup that has brought evidence-based diabetes prevention to the web. He withdrew from Harvard's joint MD/MBA program and is passionate about creating new health care delivery tools and systems through software technology. He has previously worked for both Google and IDEO, is an editor at Medgadget.com, and was recently named as one of the "40 Under 40" top Med Tech innovators by MDDI.

The cost of diabetes and pre-diabetes reached an estimated \$218 billion in 2007. This includes \$153 billion in higher medical costs and \$65 billion in reduced productivity. Among people with diagnosed diabetes, average medical costs are 2.3x higher at nearly \$10,000 per year.



Source: Health Affairs, "The Economic Burden of Diabetes." (2010)