

# The Obesity and Diabetes Epidemics: How Do We Turn the Tide?

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Statistics related to the growing prevalence of obesity and diabetes were cited frequently by speakers at the American Diabetes Association (ADA) 71<sup>st</sup> Scientific Sessions, which were held on June 24–28, 2011, in San Diego, Calif. And soon after the meeting, a new report released by the Robert Wood Johnson Foundation (RWJF)<sup>1</sup> echoed concerns expressed throughout the health care community that more than two-thirds of adults (68%) are overweight or obese,<sup>2</sup> and rates in children and teens are also rising.<sup>3</sup> Adult obesity rates grew from 15% in 1980 to 34% in 2008.<sup>2</sup> Adult obesity rates rose in 16 states during the past year and did not decrease in any states.<sup>1</sup> Diabetes rates also increased significantly between 1995 and 2010 in every state.<sup>1</sup>

To address these concerns, numerous sessions at the ADA Scientific Sessions focused on expanding the reach of programs through the use of technology and peer support, building collaborative partnerships through community-based participatory research, and translating interventions based on the Diabetes Prevention Program (DPP) and the Finnish Diabetes Prevention Study to various settings to reduce the incidence of type 2 diabetes.<sup>4,5</sup> We know that key behaviors for weight loss and weight maintenance include paying attention to nutrition, getting adequate physical activity, and self-monitoring weight, eating habits, and physical activity.<sup>6</sup> But how do we harness technology, affect social networks, improve the environment, and change our health care systems to make choosing healthier lifestyle options the norm

and thereby help to prevent both obesity and diabetes?

In a session titled “Technology and Behavior Change Across the Lifespan,” speakers discussed how “smart” phones are changing consumers’ technology behaviors. Thirty-five percent of American adults own a smart phone, and one-fourth of them use their phone for online browsing.<sup>7</sup>

People spend ~74 minutes/day browsing the Internet and 81 minutes/day using “apps” (smart phone applications). For the iPad, there are 84 apps, and for the iPhone, there are 322 apps just for diabetes. One-fourth of adults use apps and one-fourth also report using an app to track weight, nutrition, exercise, or health care. Given that most adults own a cell phone or have access to the Internet, it seems plausible that we can use technology for a variety of purposes, ranging from texting messages to patients, creating apps to track behaviors necessary for managing weight or diabetes, and maintaining some face-to-face contact between visits (e.g., through Skype, a software program that allows users to make voice and video calls over the Internet).

Technology can also be used to affect social networks, which are a crucial element to address in the growing obesity and diabetes epidemics. Research suggests, for example, that obesity can be spread through social networks.<sup>8</sup> One study that followed individuals’ social networks for 32 years found that a person’s chance of becoming obese increased by 57% if he or she had a friend who became obese.<sup>8</sup> Having a sibling or spouse who is obese also

increased a person's likelihood of becoming obese. The researchers in this social network analysis found that geographic distance did not matter; the spread of obesity was more tied to closeness of friendship than to physical proximity.<sup>8</sup>

Broadband and mobile Internet access have made geographic distance less of a barrier because they afford people both the ability and the habit of sharing what they are doing (e.g., tracking workout routines, posting comments on medical routines, or raising awareness of medical conditions such as diabetes).<sup>9</sup> Peer support is also changing. Although doctors, nurses, and other health care professionals continue to be the first choice for people with health concerns, online resources that include advice from peers is also a significant source of health information.<sup>9</sup>

Increasingly, adults in the United States who use the Internet are using social network sites to find health information, memorialize other people who have suffered from a certain health condition, and seek advice from friends' personal health experiences to try to improve their own health.<sup>9</sup> Social networking sites are also a source of social support. In a recent survey by the Pew Internet & American Life Project, it was observed that Facebook users tended to get more social support than other people in the survey regardless of whether they used the Internet or other social networking sites.<sup>10</sup>

Technology and peer support appear to be important elements in interventions designed to turn the tide of the obesity and diabetes epidemics. Structured behavioral-change programs that integrate technology and peer support and address key behaviors crucial to preventing obesity and diabetes are needed. An ADA Scientific Sessions presentation titled "Translating DPP Weight Control Interventions from the Research Setting into the Community: 2011 Update" focused on the challenge of providing research-based lifestyle change programs that are cost-effective and aligned with the current health care systems to at-risk populations.

Encouraging results of recent translations of these interventions to various settings were briefly highlighted and included programs held in conjunction with YMCAs,<sup>11</sup> cardiac rehabilitation programs,<sup>12</sup> church-based programs,<sup>13</sup> and programs in primary care settings.<sup>14-18</sup>

A recent article in *Diabetes Care*<sup>19</sup> also addressed a novel means of translating the DPP through community health workers. In this study, called the Healthy-Living Partnerships to Prevent Diabetes Project, participants were randomized to enhanced usual care or a DPP-type, group-based lifestyle and weight loss intervention. The intervention was delivered by community health workers in community-based settings and was supervised by registered dietitians employed by a local diabetes education program. Those in the intervention group experienced significantly greater reductions in blood glucose, weight, and BMI ( $P < 0.001$ ) compared to those receiving enhanced usual care.

A variety of DPP translation programs appear to be effective. The key is to find ways to systematically implement them in the existing health care system to ensure that they are integrated with care delivery, cost-effective, and broadly supported.

Based on these and other presentations at the recent ADA Scientific Sessions, as well as on the recent RWJF report,<sup>1</sup> it is evident that there is no one single solution to slow or reverse the obesity and diabetes trends. Rather, multiple changes within the environment, the health care system, and our social networks will be needed to have a significant impact. At the environmental level, adults need access to high-quality, affordable foods through new or improved grocery stores and healthier corner stores and bodegas, improved built environments that support active lifestyles, and both incentives and disincentives to promote the purchase of healthier foods.<sup>1</sup> At the health care system level, we need more systematic approaches to identification, outreach, and implementation of interventions that can provide indi-

viduals the tools they need to begin the process of health behavior change and maintain healthier behaviors at home, at work, and within the community. At the personal level, it is important that individuals have the social support they need to make healthier eating and a more active lifestyle easier. This must come from friends and family members who are also choosing to lead healthier lifestyles.

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