Looking Upstream

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For many, the phrase “looking upstream” is a familiar term related to preventive health care. It was used by John McKinlay in an address to the American Heart Association in 19741 to describe his frustration with medical practice. He used the analogy of a rapidly flowing river to represent illness and said that physicians are so caught up in constantly rescuing victims from the river that they have no time to look upstream to see who is pushing their patients into the water. He further discussed frustration with what he termed the “downstream endeavors,” which he characterized as short-term, problem-specific, individual-based interventions, and challenged health professionals to refocus and look upstream, where the real problems lie.

I would like to share some thoughts I have about upstream thinking in terms of diabetes and diabetes educators.

Diabetes Education and Downstream Endeavors

When I think of the downstream endeavors of diabetes educators, I do not look at them as a negative because we do rescue people, often from lack of education about self-care, or from fear. We provide hope and a means for improved health through self-management and empowerment. We also help people with diabetes understand their disease, teach them what they need to do to manage it, and motivate them to follow treatment regimens. And, we are present to listen to concerns and offer support. Diabetes educators make a difference in people’s lives.

We also carry out upstream endeavors, through secondary prevention. We help prevent people from falling into the river that flows toward diabetes complications and heart disease. We do this by ensuring that people get their screening examinations and helping them control their diabetes, blood pressure, and lipids. Recently, our role as diabetes educators has expanded as the diabetes community has begun to look upstream to diabetes prevention. We know from the Diabetes Prevention Program2 that lifestyle change can prevent or decrease the risk of developing diabetes.

Health Promotion and Diabetes Prevention

Diabetes educators often look upstream on a more individual level. For those of us who see people with diabetes every day, our role in prevention arises when a patient’s son, daughter, or sibling brings the patient into the clinic. We may notice a physical resemblance and recognize that perhaps this family member also has risk factors for diabetes. At that point, we can begin some risk factor counseling, or we can teach the patients with diabetes so that they will, in turn, teach their families how to decrease their risk of developing diabetes.

When we see patients individually or even in groups, we educate and motivate them to change their unhealthy behaviors. We expect that people will take personal responsibility for their health. Is that wrong? Of course not. Ultimately, it is personal behavior change that is a major determinant in the development of diabetes and cardiovascular disease.

Sometimes, though, we don’t always step back and see the larger picture. Sure, we perform risk factor assessments and intervene with counseling and behavioral strategies, but what I am talking about goes beyond this. I am talking about diabetes prevention and health promotion on a grander scale.

Of course, many in public health have been discussing and doing this for years, and there are numerous health promotion programs in which diabetes educators participate. Nevertheless, what is needed to promote health and prevent diabetes is that we take a public health approach.

In order for us to consider health promotion on a more global level, health, healthy behavior, and unhealthy behavior must be viewed in context.3 To do this, as many in public health have advocated, it is important that we focus on modifying economic, political, environmental, and social factors that have been shown to be precursors to poor health.1,3–6

Barriers to Health Promotion and Diabetes Prevention

To explore this further, I would like to discuss a few of the many barriers to health promotion and diabetes prevention, and then imagine how diabetes educators can have an impact, because we can influence change in some of these areas. The barriers to health promotion and diabetes pre-
vention include health disparities, health and the social environment, personal and social responsibility for health, and money spent on health and health care.

**Health disparities.** Several large epidemiological studies have determined that low socioeconomic status is related to increased disease morbidity and mortality. The Institute of Medicine published a report in 2002 titled, “Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.” It found that racial and ethnic minorities tend to receive a lower quality of health care than do nonminorities, even after controlling for access-related factors, such as patients’ insurance and income level. Some of the reasons cited for these disparities were health care provider prejudice, racial stereotyping or bias, and the time-pressured health care environment.

Think about the importance of multiculturalism and population diversity. According to the U.S. Census Bureau, diversity in this country is growing significantly. Ethnic population growth from 1990 to 2000 has been significant among Hispanics (57.9%), African Americans (16.2%), Native American and Alaska Natives (15.3%), and Pacific Islanders (9.3%). The highest-risk groups for developing diabetes are also the fastest growing populations. This is especially impressive when you compare the 3.4% change among whites during the same time period. This underscores the importance of working towards developing strategies to address the problems of health disparities.

The role of diabetes educators in addressing these health disparities begins with awareness. Awareness gives rise to cultural sensitivity and, ultimately, to cultural competence. Cultural competence is more than just awareness of cultural differences; it is a process whereby we examine our own thoughts, values, background, and environment, and we remain open and flexible to differences. We learn how to communicate effectively with people who are different from ourselves. We respect and accept differences and commit to appreciate the values, beliefs, and problem-solving strategies of others. Diabetes educators who have worked in multicultural environments can provide education to enhance cultural competence. And we must speak out when we encounter stereotyping and raise consciousness about it.

**Health and the social environment.** We live in a culture in which people are seduced and induced to adopt unhealthy behavior. Our environment has been termed obesogenic. The mean BMI in 1990 was 24.5 kg/m², and that increased to 26.5 kg/m² in 2000. The most pronounced increases occurred in those over age 40 years and among 18- to 29-year-olds, which is believed to reflect the problem of childhood obesity. Liburd and Vinicor have discussed health and the social environment as the “social production of diabetes.”

What does this mean? We are constantly bombarded with advertisements. Children who watch Saturday-morning cartoons see > 10,000 TV commercials a year. Those commercials promote unhealthy foods, such as sugared cereals, soda pop, and candy. All of us are faced with advertisements that promote excessive food consumption and with all-you-can-eat restaurants that offer “bargain” meals. For many, fast food is quick, affordable, always accessible, and, often, it tastes good. Perhaps we should consider fast food offerings to be the true weapons of mass destruction!

The food industry spends huge amounts of money on marketing, much more than the government spends on nutrition education. According to the Center for Science in the Public Interest, McDonald’s spends $1 billion a year on advertising, and the government spends about $4 million a year on the “5 A Day” campaign to promote consumption of fruit and vegetables. Healthy food is often expensive. In some low-income neighborhoods, there are no supermarkets at which to purchase healthier food.

Our society also promotes physical inactivity with computers, cell phones, and a built environment that is more conducive to sitting and taking elevators than to walking. Dr. James Hill, director of the Center for Human Nutrition at the University of Colorado, was recently quoted as saying, “We have engineered physical activity out of our lives so that we no longer even have to be physically active to get through the day.” There is a huge push toward using vehicles and driving instead of walking when there is a choice.

In studies regarding barriers to physical activity, people identified numerous issues: lack of sidewalks and pavement for walking, no safe areas to walk, no employer-supported programs, lack of affordable child care, difficulty balancing multiple roles (for women, being a wife, mother, cook, housekeeper, sister, daughter, community member, and breadwinner), lack of past experience with exercise, unsafe neighborhoods, poor lighting, unsafe parks, and fear.

In a study from South Carolina in which community members talked about barriers to walking, there was a general lack of awareness of existing walking trails in the community. Satterfield et al. conducted focus groups to examine perceptions about diabetes prevention. They found issues related to lack of social support, and the perception that diabetes prevention activities were inconsistent with cultural or historical values. Others have noted lack of time in a very fast-paced and stressful society.

When we discuss healthy eating in an environment that promotes fast, cheap, fat-laden food and lots of it, or exercising regularly in an environment that promotes a sedentary lifestyle, we may be fighting against social norms. Asking people with limited income to spend more of their money on food and requiring them to travel outside of their community for healthier food can be problematic. When we advise exercise for people who have no access to safe recreational facilities, perhaps all we do is promote frustration.

Although there are programs to fight obesity in children and physical activity programs for communities, participating in these is not always an option. If you are struggling with a full-time job, children, or other family responsibilities, you cannot always attend programs. We need to promote health in schools by holding programs and demanding physical activity programs for children. We need to promote health on the job by urging work sites to create and support environments conducive to good health.
A recent study reported on how changing the work environment promoted physical activity. Office stairwells were painted and their lighting was improved, artwork was hung, and music was piped in. After about 3 months, stairway use increased by ~9%.

Many health care professionals work long hours without breaks, sometimes skipping lunch or taking little time for it. We may ourselves have almost no time for healthy meals and exercise. We would have difficulty recommending our own lifestyle for our patients and would probably try to problem-solve with them about finding time to sit down and eat a healthy meal in a relaxed environment. We should do as much for ourselves.

Diabetes educators can advocate and support legislation to create safe recreational areas, well-lighted paths, paved sidewalks, and more walking or biking trails. We can encourage employers to support healthful environments, such as getting rid of high-calorie, high-fat foods in cafeterias, hospital lobbies, and school vending machines. Diabetes educators can publicize ways for people to live a healthier lifestyle while still maintaining their cultural and traditional foods. We need to be role models for our patients.

**Personal and social responsibility for health.** We are all acutely aware of the role that individual behavior plays in promoting illness and health. We use psychological and behavioral theories to help explain and predict health care behaviors. But when we see poor adherence, people not keeping their scheduled appointments, or reluctance to participate in their own care, we tend to blame it all on lack of motivation and say such patients have a bad attitude.

A colleague of mine recently said that, although she was pleased to see more publicity surrounding the problems of obesity because it supported efforts aimed at diabetes prevention, she was fearful that such efforts would put more emphasis on blaming the victim, thereby creating more depressed, guilt-laden, and shamed people. Unfortunately, as diabetes educators, we have all seen patients like this.

By overemphasizing personal responsibility, we do not address issues related to social responsibility. I do not think it is all about personal choice. Of course, ultimately, it is individual lifestyle and behavior change that makes the difference. But we do not live in isolation, nor do we live in a vacuum. Our environment and the people around us influence our thoughts, values, and behavior. You cannot isolate people from their social, cultural, and economic contexts. Lifestyle and behavior changes are not solely an issue of free choice. Diabetes educators need to broaden our focus beyond the individual and family.

Consider a patient whose circumstances are unfortunately familiar to many health care professionals. Ms. Jones is a 55-year-old woman who is caring for her three teenaged grandchildren. She lives in a house in a low-income neighborhood with high crime. She works one full-time job as an aide at a nursing home from 6:00 a.m. to 4:00 p.m. She also has a part-time job as a caregiver on the weekends. She wants desperately to make sure her grandchildren don’t get involved in drugs, as her daughter did. She wants to be involved in their homework, school, and social life. She does all the cooking for her family as best as she can, but sometimes they just grab whatever is available. She can barely make ends meet, she is exhausted, her health insurance is expensive, and she has just discovered that she has diabetes.

We talk to Ms. Jones about eating more healthy foods, such as more fresh vegetables and grains. We tell her that it would be helpful to lose some weight, perhaps by eating smaller, more frequent meals, and exercising at least 20–30 minutes about 5 times a week. We teach her to monitor her blood glucose levels and suggest that she test her levels one to two times a day. Perhaps she requires anti-hyperglycemic medications along with her antihypertensive medications, and we emphasize the importance of taking the medications as prescribed and not missing any doses.

One wonders how she could possibly do it all! As diabetes educators, we might try to get some sample test strips or medications for her and refer her to social services to see if she is eligible for assistance. However, we are only dealing on an individual level, and we are only applying a band-aid.

We must consider what her incentives for change are. Everything in her life is pulling her away from healthy behavior; it becomes just another burden. When her need to adopt a healthy lifestyle is incongruent with her current life needs and priorities, her behavior may be extremely difficult to change and may not change at all. We need to include empathic understanding and propose questions about her incentives, priorities, and motivations.

It is difficult, if not impossible, to help Ms. Jones, and that is truly the point. Looking upstream is looking at what we can do on a large scale to demand better, safer, healthier living environments for populations of people like Ms. Jones. Factors to consider are a culture that supports healthy choices, more affordable housing, employment laws that mandate living wages, safer communities, better public transportation, and more recreation areas.

**Money spent on health care.** We, as individuals and as a nation, tend to deal with health care after illness strikes instead of addressing causes of illness. Approximately 95% of the money we spend on health in our nation goes to direct medical care services, with only about 5% allocated to public health activities and population-wide approaches to health improvement. This certainly seems unbalanced when you realize that most early deaths and chronic illnesses are attributable to behavioral patterns, environment, and social circumstances. In a recent article, the leading causes of death were noted to be attributable to behavior. In fact, poor diet and physical inactivity may soon overtake tobacco use as the leading cause of death.

However, it is more difficult to do prevention because there are multiple targets for intervention, and the cost effectiveness may not be seen early on. It can take years to see the effect of health-promoting interventions. Many in government, industry, and insurance do not want to wait that long. But just throwing more money into health care is not a fix.
Global Strategies
The government has recently taken some positive steps. On 9 March 2004 the U.S. Department of Health and Human Services introduced a series of public service announcements designed to inspire Americans to adopt healthier lifestyles to prevent obesity and its associated health risks.

The World Health Organization29 just approved its “Global Strategy on Diet and Physical Activity.” This document emphasizes the need for countries to develop national strategies to make healthy choices a preferred alternative individually and at the community level. It encourages efforts such as urban planning for walking and cycling trails and provision of fruit and vegetables in schools. In addition, the document calls on the food industry to limit levels of salt, sugar, saturated fats, and trans fatty acids in products and to practice more responsible labeling and marketing, especially to children.

However, the actual adoption and enforcement of such measures is not universal. A prevailing attitude in some countries, such as the United States, is that individuals must be responsible for their own behavior and that it is not the government’s responsibility to enable behavior change.

Roles for Diabetes Educators
Have we, as diabetes educators, ever considered that we could be persuasive in policy-making? Perhaps some have, but many of us, including myself, tend to do our work in smaller, individual ways. There is nothing wrong with that, because we can “think globally and act locally” on multiple levels, starting with our own work sites, neighborhoods, communities, cities, states, and countries. Diabetes educators can move into the grander scale of health promotion and get involved in developing health promotion on a policy level. As Hillary Clinton recently wrote, “It comes down to individual responsibility reinforced by health policy.”23

Diabetes educators together have a strong and persuasive voice. When we band together, we can be heard. Remember, it was diabetes educators who united to get Medicare to reimburse for diabetes education and supplies. Speaking as one voice, we were heard in Congress, and we made an impact.

Health Promoting Agendas
Looking upstream as diabetes educators is health promoting. We can put pressure on fast-food restaurants (and other restaurants) to offer and advertise healthier food and to limit serving sizes. Already, they are beginning to take notice. Some fast-food restaurants are offering more salads and give out pedometers with meals. This is helpful, but it will take more than that to promote healthy eating and healthy lifestyles. We need to be speaking out when we see inequality and injustices and advocating for more sidewalks, trails, and safer environments. We could be putting pressure on businesses and work sites to promote healthy work environments and conducting research into how populations of people make behavior changes and problem-solve. By speaking out, we can stimulate discussion and debate on a variety of health issues, and this can only lead to improvements.

Rather than a health care agenda, we need a health-promotion agenda. I believe that diabetes educators can and should be involved in this movement. These ideas are not mine, nor are they new. They have been put forth by many thought leaders over the past 30 or more years. Numerous people have called for the need to address the broader environment.

Conclusion
Diabetes educators and diabetes clinicians have the expertise, the voices, the numbers, and the power to effect change, because people—especially our patients and the public—listen to us. We can play a pivotal role. We can raise awareness about prevention and improved quality of life. We need to find creative incentives for populations of people to engage in healthier eating and more physical activity.

I was recently reminded of the philosopher Thomas Kuhn, who talked about scientific revolution as a model of social change through paradigm changes.30 He explained that a paradigm is shared knowledge, commitments, methodologies, and values that exist among a professional group.

When facts can no longer be explained by the paradigm, or the paradigm can no longer provide solutions to problems, an anomaly exists. When the profession can no longer ignore the anomalies, Kuhn said, extraordinary investigations begin, which lead the profession to a new basis for practice, and perhaps a new paradigm.

We are moving from a paradigm of looking downstream to one of looking upstream. Diabetes educators not just can be and should be, but rather must be a major part of that movement.

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