The Future of Diabetes: What Is There Besides New Medicines?

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Sometimes—if one gets a chance—it can be refreshing to step back from the daily demands of medical management of diabetes and think about what opportunities lie ahead, in addition to new medicines, that could help reduce the diabetes burden. Certainly, over the past few decades, we *1*) have learned much about diabetes; *2*) are generally doing better for people with diabetes (although we still have a ways to go); and *3*) have become aware that more and more people with diabetes are going to need health care. What is out there to think about? While important and exciting research continues, listed below and briefly discussed are 10 other challenges for the diabetes community over the next few decades.

1. Continuing the Improvements in Diabetes Care

Most recent studies have documented that diabetes care is gradually getting better.[1] Whether measured by preventive behaviors of patients and/or health professionals, laboratory results, or other outcomes, there has been steady improvement in both diabetes management and the consequences of that management.

Certainly, not all people with diabetes are experiencing these benefits. We always have to be careful about "publication bias" (i.e., only positive results are published), and the glass is not completely filled (although it does seem to be filling up). The last 30% or so of the "diabetes care glass" may be more difficult than the first 70%, because we may have influenced the so-called early adopters (i.e., tackled those challenges that require some, but not complex management strategies and worked mainly with those people with diabetes who have the resources, jobs, education, and so forth to more easily benefit from our efforts).[2] But we have gained ground and need to continue these efforts, both to achieve improved outcomes and to document that improvement.

2. Recognizing and Addressing the Complexities of Diabetes Management

Although controlling glucose metabolism has been a persistent goal over the years, it seems like the "metabolic challenge" has become more complex. With advancement in diabetes science, we now know that cardiovascular risk management also makes a large difference in the lives of people with diabetes.[3,4] Awareness of the interactions of diabetes and mental health adds to the complexity.[5] We have more, but better, medications; more, but improved, glucose testing equipment; greater complexity (and confusion?) about nutrition; less simplicity about diabetes classification (what is type 2 diabetes among youth or latent autoimmune diabetes of adults [LADA]?).[6] All of these issues add further to the usual complexity of diabetes.

And at an even more fundamental level, people with diabetes are first and foremost "human" (i.e., they are not protected from usual nondiabetic conditions such as cancer or flu). They must receive appropriate preventive measures for these challenges on top of the usual demands of diabetes.[7]

3. Improving the "System of Care"

As so clearly articulated by the Institute of Medicine's report, "Crossing the Quality Chasm: a New Health Care System for the 21st Century,"[8] there is no real system of care in the United States, and what systems of care exist, were primarily designed for infectious/acute diseases. Where deficiencies in quality of care exist (and they do), it is usually a problem with the design and workings of the health system—rather than failures of individual health professionals—that eventuates in both poor quality of care and "medical errors."

As individual health professionals, we nevertheless have responsibilities to make things better. Increasingly, this means redesigning health systems for chronic disease management.[9] This is possible, and indeed a necessity, if we are to fill the "diabetes care glass" fully.[10]

4. Broadening the Definition of the "Office"

Given that people with diabetes spend so much more time outside the office/clinic—at home, work, or play—than in direct contact with health professionals, we need to find ways to extend educational and management efforts initially provided in the office into the real world. Community health workers, Internet information, telecommunications, automated phone calls—these are some of the present efforts to expand the traditional office, to bring medical information to the patient, to design a sort of 21st-century house call.[8,11,12]

5. Addressing the Dual Impact of the Diabetes Epidemic

Given the epidemic of type 2 diabetes in the United States (and the world),[13] two

challenges must be recognized : *1*) maintaining efforts to improve the management of those with diabetes when there will likely be more patients with type 2 diabetes and hence less time per patient to manage an increasingly complex condition called "diabetes"; and *2*) developing and implementing primary prevention programs, usually outside the office, for those at high risk for developing type 2 diabetes. All of this in a situation of limited resources, time, and experience. How can we both reduce incidence and improve quality of care? Yet, we must!

6. Recognizing and Dealing With "Non-Health Forces" on Diabetes Prevention and Control

Health care is not immune to the impact of powerful factors outside the medical office that affect our abilities to prevent and manage diabetes well. Large governmental deficits at both the state and federal levels, a poor economic situation, governmental attention to other important areas such as foreign policy—all will affect commitments to diabetes research, availability of improved pharmacological interventions/programs, and extent of health insurance.[2,14] Within a world of limits, health can deteriorate because of the power and dominance of these types of factors that are typically viewed as "outside the medical office."[15]

7. Taking Special Opportunities for Health Professionals

Health professionals are given remarkable power and trust by society.[16] And that power and trust extends beyond the office and the provision of medical care per se. It allows us to influence well beyond our sheer numbers issues that ultimately affect health. We certainly need to maintain that trust and power provided by the people,[17] but also become involved in important health issues that occur outside our offices, such as school nutrition and activity programs and issues of the uninsured.[15]

8. Empowering Patients for More Than Good Self-Care

Increasingly for chronic disease prevention and management, individuals with or at risk for the condition are viewed as central to improved health.[18] Although empowerment is now an important approach to diabetes self-management,[19] our expectations of our patients should be more; we should help them speak out about important issues that could affect the health of others. It has worked for the HIV community, and it should work for diabetes. The voice of the people can influence policymakers, politicians, and other decision makers, perhaps more than we can ourselves.[20] People with diabetes and their families have a right and an opportunity to speak out, not only for their own health, but for that of their community.

9. Achieving a Balance Between Individuality and Community

Our country was provided "operational guidance" by the U.S. Constitution, and although this document certainly articulates the benefits of individuality, it also addresses the vital importance of community.[21] On balance, we have benefited by facilitating individual creativity. In health, however, and within a world of limits, a "communitarian" viewpoint also has merit. Perhaps some will have to give up what they want so that all or at least more can have what they need.[22] Making decisions as a community is ethical and reasonable and likely to be very helpful for all people with or at risk for diabetes.

10. Accepting and Embracing Globalization

We generally think of globalization in terms of economics. But more than metaphorically, if China sneezes, the U.S. catches a cold.[23] Not only is the epidemic of type 2, and perhaps type 1, diabetes occurring worldwide,[13,24] but also the exporting of our "goods"—be they cigarettes, food, or physically inactive lifestyles—can further spread the diabetes epidemic. In addition, we can learn from other countries regarding approaches to diabetes prevention and control. We are part of an ever-shrinking world, and we need to think about more than our own office, city, state, or country.[25,26]

Conclusion

In summary, although I am sure there are other important forces, opportunities, and challenges associated with diabetes in the near and distant future, and although I know there are only 24 hours in the day, I firmly believe that consideration of the above 10 issues as future challenges and opportunities will allow some progress to be made. People with or at risk for diabetes will be better off. We will have made a difference.

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