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Peer reviewed

# Applying Medical Anthropology: Developing Diabetes Education and Prevention Programs in American Indian Cultures

**BROOKE OLSON**

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## INTRODUCTION

American Indians currently face many challenges to their survival. Struggling against racism, substance abuse, and impaired health and striving for sovereignty, economic self-determination, and land rights have not only burdened many Native populations, but also provided a context for American Indian communities to meet these challenges with resources both old and new. One problem exemplifying the need for multiple solution strategies is diabetes, a disease affecting American Indian populations at higher rates than any other population in the world. A closer examination of diabetes among American Indians reveals that it is not just a disease of the body; it is a problem which needs to be understood within the context of Native history, culture, and experience.

Medical anthropology is a discipline that has much to offer in attempts to identify the broader contexts of American Indian health problems.<sup>1</sup> Medical anthropologists often focus on the sociocultural parameters of health, which includes an analysis of the influence of cultural beliefs on health and the manner in which social inequalities can negatively impact access to health care. This perspective highlights the extent to which ethnicity, acculturation, history of prejudice, and social position affect the experience of a health problem and the overall quality of health and health care. These are essential factors to consider in order to more fully understand diabetes and why American Indians are experiencing the disease disproportionate to other populations.

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In addition to providing a broader contextual framework, medical anthropology is beneficial in a number of ways. Medical anthropologists act as culture brokers between biomedical personnel, local health planners, and members of Indian communities.<sup>2</sup> Within this framework of cultural dialogue, medical anthropologists can help identify the junctures between biomedical and American Indian discourses. In addition to this, medical anthropologists have experience with collaborative projects, not only in the sense of working on multidisciplinary teams, but also in the sense of collaborating with members of the community so that the needs and concerns of intended populations are best met.

### DIABETES IN AMERICAN INDIANS: AN OVERVIEW

Diabetes is one of the most significant health problems facing Native peoples today.<sup>3</sup> The most prevalent type is referred to as late-onset diabetes, Type 2 diabetes, or what has been termed non-insulin-dependent diabetes mellitus (NIDDM). Diabetes has been described as epidemic for many American Indian tribes.<sup>4</sup> The Pima Indians of Arizona have the “highest recorded prevalence and incidence of NIDDM of any geographically defined population.”<sup>5</sup> The challenging physical burdens of diabetes come primarily from the secondary complications, which occur among American Indians at very high rates, and include blindness, kidney failure, limb amputations, impaired blood circulation, coma, depression, and death.<sup>6</sup>

Managing Type 2 diabetes is not a simple matter of regulating blood sugar levels—many of the secondary complications result from the impaired circulation that accompanies high blood sugar.<sup>7</sup> Think of blood sugar particles (glucose molecules) in the circulatory system as logs going down a river—the more logs in the river and the faster they come, the slower the river flows and the more it becomes clogged. The glucose needs to be transferred, with the help of insulin, from the bloodstream into the cells, where it will be consumed as energy. When this process becomes hampered, the glucose backs up in the bloodstream and impairs circulation, which can lead to infection, gangrene (often in the feet where circulation is the poorest), and limb amputations, among other complications. Accompanied by prevention measures and lifestyle changes, these debilitating conditions can be avoided with early detection.<sup>8</sup>

### HISTORICAL, EPIDEMIOLOGICAL, AND GENETIC CONSIDERATIONS IN AMERICAN INDIAN DIABETES

#### **Historical Perspectives: The Role of Acculturation and Stress**

Historical and epidemiological perspectives are essential in understanding the complex causal factors associated with diabetes and how to minimize these factors in education and treatment programs. One significant factor which needs to be highlighted is the role of acculturation. Huttlinger, in reference to the Navajo, notes that

Although the relationship between diabetes and postcolonialism has not been clearly substantiated, the author contends that the diabetic disease process in the Navajo appears to reflect conditions of historical change and the resultant domination of the Navajo by Anglo groups.<sup>9</sup>

Before the 1940s and 1950s, diabetes was rare in Indian populations. Diabetes is in large part a disease of acculturation. Native peoples have become accustomed to an industrial, Western lifestyle in which people are sedentary and rely on machines and store-bought foods.<sup>10</sup> This acculturation has increased in the last fifty years, as Weidman documents in a detailed case study of the Oklahoma Cherokee.<sup>11</sup> Weidman describes

the technological developments which happened concurrently with the first detrimental symptoms of type II diabetes mellitus among the Cherokee. Ethnographic, historic, and archaeological evidence documented the Cherokee's rapid cultural change from an agricultural to an industrial economy in a matter of ten years, from 1936 to 1946. This infrastructural change resulted in nutritional and lifestyle changes which contributed to obesity and the onset of detrimental diabetic symptoms.<sup>12</sup>

The stress of the acculturation process can in itself create imbalances in the body. Dressler describes stress as the difficulties that can arise in the process of adjusting to the physical, social, cultural, and historically produced environment; when adjustment is difficult, there is a breakdown in the system and disease may result.<sup>13</sup> The importance of this definition is that it does not reduce stress to a purely physical or mental state, but it includes cultural and social factors (perceptions of what is stressful). Studies have shown that some Native peoples living a Western lifestyle (the Dogrib) may experience more stress, and more difficulty in adjusting to different lifeways, thus making the body less capable of regulating blood sugar levels, a condition that, if prolonged, can lead to diabetes.<sup>14</sup>

### **Epidemiological Concerns: Age and Gender**

Epidemiological research supports acculturation theories of the complex etiology of American Indian diabetes; thus far, studies have indicated that the triggers of diabetes include obesity, lack of exercise, high fat/high sugar diets, and stress, all concomitants of industrialized, Western lifestyles. Age and gender also are important epidemiological considerations; Type 2 diabetes usually afflicts non-Indian peoples when they are in middle age (the forties and fifties). In many American Indian groups, Type 2 diabetes appears in a person's twenties or thirties, and in recent years there has been an alarming increase in diabetes in Indians under the age of twenty.<sup>15</sup> In the past ten years, there has been a two-fold increase in Indian diabetes for those under the age of sixteen years.<sup>16</sup>

In addition to the risks associated with younger people, American Indian women face diabetes and its secondary sequelae with much greater frequen-

cy than men. A 1991 report from the Department of Health and Human Services states that a “review of the current literature reveals that Indian women suffer disproportionately from lifestyle related diseases and premature deaths.”<sup>17</sup> The two most significant threats listed are cancer and diabetes. The report also asserts that “The health of Indian women is integrally tied to the overall health status of the general Indian population.”<sup>18</sup> Consequently, an analysis of Indian diabetes needs to be placed not only in a sociocultural framework, but a gendered one as well.

### **Genetic Theories of American Indian Diabetes: The Thrifty Gene**

Genetics also may play an important role in the development of diabetes. In addition to the hereditary genetic effect of diabetes, it has been suggested that Native peoples have what is called a “thrifty genotype,”<sup>19</sup> which purportedly developed as an adaptation to hunting and gathering lifestyles. In this situation, subsistence patterns including cycles of feast and famine would have promoted the body to store fats quickly when food was available; thus, periods of food scarcity could be survived by using stored body fat. Although this bodily adaptation would have been very efficient in traditional pre-Colonial lifestyles, after contact with Europeans and the concomitant changes in lifeways, the thrifty gene seems to have been maladaptive. Many Native peoples have experienced not only territory reduction or change, but have also been given rations of lard, sugar, and coffee. Now Natives have access to other such foods high in sugars and carbohydrates which are deleterious to maintaining proper nutrition and weight and antithetical to the benefits of a “thrifty gene.”

### **DIABETES HEALTH EDUCATION IN NATIVE COMMUNITIES: DEVELOPING TREATMENT AND PREVENTION STRATEGIES**

Education has been singled out as the most important factor in the prevention and management of diabetes.<sup>20</sup> Anthropologists have been raising awareness about culturally relevant and culturally sensitive education programs in order to achieve improved health status in specific populations.<sup>21</sup> When this caution is not heeded, however, the possibilities for program failure are numerous. Both overt and more implicit factors need to be considered, from the content of the educational message to the delivery of that message. For example, learning strategies may differ cross-culturally.<sup>22</sup> One basic distinction has been made between direct and indirect learning. Direct learning is didactic and non-participatory, as in a lecture style. This happens when a doctor or nurse dictates biomedical facts to a patient, usually resulting in a one-way flow of information. Direct learning is associated with western European, American, and Canadian cultures. Indirect learning is a somewhat different mode, in which life examples, stories, metaphors, myths, and experiences are used to teach important concepts and ideas. This type of teaching and learning has traditionally been used in Native cultures. Consequently, health education programs that adopt only a direct learning style—just telling people the facts—may not have the impact that a combined approach would have.

In addition to differences in learning styles, the culture and lifestyles of specific groups need to be assessed in order to develop culturally relevant diabetes education messages.<sup>23</sup> American Indians themselves have commented on the inadequacy of existing diabetes education campaigns in relation to their cultural beliefs and lifeways.<sup>24</sup> The mitigating effects of culturally related health beliefs should always be considered in program designs:

The information an individual or group will learn regarding health depends in part on the orientation of the culture to such issues as whether human nature is good or evil, how independent of nature humans can be, whether the basic orientation is present, past, or future, whether an individual's cultural role is primarily active or passive, and how the individual is bound to other individuals.<sup>25</sup>

The matter of including cultural considerations in health education is a sensitive undertaking.<sup>26</sup>

The question of whether health education should try and change a belief based on a person's wider belief system or religion involves ethical as well as epidemiological considerations. In any case such beliefs are extremely difficult to change. It is better to adapt the program to fit in with communities [*sic*] existing practices and beliefs.<sup>27</sup>

### **The Need for Ethnographic Research**

The level of understanding needed to construct appropriate health education programs requires in-depth research on particular tribes and cultures.<sup>28</sup> This type of ethnographic research has heretofore been scant in regard to American Indian diabetes, while biomedical reports of rates and incidences of Indian diabetes have been numerous.<sup>29</sup> At the 1995 Third International Conference on Diabetes and Indigenous Peoples in Winnipeg, Canada, a consensus emerged that there was a dearth of descriptive research on the experiences of Native peoples living with diabetes. Weller and colleagues<sup>30</sup> concur that most studies of beliefs and knowledge of diabetes have focused on whites. They further assert that "these studies do not focus on descriptions or explanatory models of diabetes (that is, symptoms, causes, and treatment of diabetes)."<sup>31</sup> Instead, previous literature has focused on sociological models of health beliefs and how such beliefs may impede or facilitate biomedical treatment of diabetes. Laudable exceptions include the work of Linda Garro, Joel Gittelsohn and colleagues, Rebecca Hagey, Russell Judkins, Gretchen Lang, and Diane Weiner.<sup>32</sup>

Many of the insights and program designs that have emerged from this handful of researchers, many of whom collaborated with community members, resulted from comprehensive explorations of how cultural beliefs affected the ways in which people conceptualized diabetes and responded to intervention programs. In this research, it is evident that there are some general questions and culturally influenced areas which should always be considered before diabetes education and prevention programs are implemented. For

example, implicit types of cultural knowledge should be considered; many diabetes programs developed for the mainstream population (primarily whites) emphasize competition, deferred gratification, and a linear model of thinking, which may not always be appropriate models to employ in American Indian cultures.<sup>33</sup>

Another formative consideration should be the extent to which biomedical and scientific models will be utilized in the program, and how such perspectives can be balanced or integrated into traditional ideas and themes. One of the factors in trying to achieve such balance is the extent of diversity in the intended population, and the extent to which people adhere to traditional cultures and lifeways. As a way of assessing the range of beliefs and behaviors that may exist, the following themes should be explored in ethnographic and participatory research: local/cultural conceptualizations of foods, health beliefs (including etiologies and metaphors of diabetes), and conceptions of the body and how it works.

### **Foods**

An essential question in this area is: "What kinds of foods are eaten in this tribe/group/community?" It is hard to believe, but some diabetes educators have never thought to ask this simple question when dealing with Indian diabetics. Among the Zuñi in New Mexico, an early diabetes program advocated that people eat foods good for their diabetes, like tuna fish and cottage cheese—foods that the Zuñi normally did not eat.<sup>34</sup> They ate tortillas and beans and other types of southwestern foods, which left them wondering if their traditional foods were beneficial or harmful for their diabetes. More recent programs at Zuñi (such as the HELP Program) have incorporated culturally relevant types of foods into comprehensive and community-based programs.<sup>35</sup>

Another blunder, reported by Lang,<sup>36</sup> occurred within the Dakota Nation. Diabetes educators said that traditional foods were good for diabetes, but the Dakota considered commodity or store-bought foods like lard and fry bread as traditional—they had, after all, been eating them for a long time. This was also an issue deeply intertwined with cultural identity. In the Dakota community, food is considered a unifying community symbol. If diabetics reject foods viewed as traditional, they may be seen as challenging community solidarity.

The idea that food is a powerful symbol of cultural identity was reiterated by the majority of Native speakers at the 1997 Fourth International Conference on Diabetes and Indigenous Peoples in San Diego. A key task in diabetes programs, highlighted by these discourses, is to have members of the community define what is meant by traditional food, and then incorporate these emic definitions into program designs (such initiatives have been taken among the Kahnawake, Mohawk).<sup>37</sup> A number of Native foods (beans, wild game, roots, herbs) are excellent for managing diabetes, but many health practitioners are not very knowledgeable about these. Medical anthropologists can facilitate the identification of culturally salient and diabetically appropriate foods, taking on the culture broker role between biomedical practitioners, local health planners, and the community.

## Health Beliefs

Investigating indigenous health beliefs is a critical endeavor in any Native diabetes program. A basic approach that can be used as a starting point in assessing health beliefs is to investigate lay etiologies and discourses on how and why people get diabetes and what they should do about it. In many Indian communities, diabetes is referred to as the “sugar disease,”<sup>38</sup> which may reflect and influence people’s conceptions of the cause of diabetes as eating too much sugar. Elucidating such explanatory models<sup>39</sup> of diabetes should be sensitive to intra-group variability and the effects of interactional dynamics, or how people may co-construct meanings about illness with others, such as friends, family, and health workers.<sup>40</sup>

What this type of analysis likely will reveal are the disjunctures between biomedical conceptions of diabetes as a disease and American Indian conceptions of diabetes as an illness and a historically and culturally situated text. For example, Weiner<sup>41</sup> examined lay versus biomedical understandings of diabetes among the Luiseño Indians of Southern California. She found that biomedical practitioners focused on genetic and dietary understandings of the disease, whereas Luiseños stressed the historical, cultural, and social components of the illness.

In another interesting case of non-biomedical etiologies for diabetes, Huttlinger recounts the story of a colleague who worked for the Indian Health Service among the Navajo for many years. Although diabetes did not seem to be a big problem until the 1970s,

She did recall, however, that in the 1980s there was an “outbreak” of diabetes in one particular area. In fact, she related that one of the trading posts almost went out of business because it was believed that if you “stopped in Dilcon [a small community on the Navajo reservation] you would ‘catch diabetes.’”<sup>42</sup>

Both Lang and Judkins have explored cultural conceptions about diabetes and its treatment among the Dakota and Seneca, respectively.<sup>43</sup> They have reported that diabetes often is viewed as a “white man’s disease.” The disease and biomedical treatments were viewed as yet another intrusion of white culture into their lives.<sup>44</sup> There are a number of potential outcomes of these beliefs: refusal to seek biomedical treatments (“white man’s medicine” may further oppress them), reluctance in seeking biomedicine (suspicions exist along with a recognition that such medical treatments may be powerful), active seeking of Western medicine (“white man’s medicine” for “white man’s disease”), seeking indigenous remedies (from herbalists, shamans, and other ritual experts of healing), and any combination of these options.

These cases indicate that in many instances, issues involving diabetes are not confined to the individual (as in the biomedical model) but must be understood from cultural, social, and historical perspectives as well. Most education and treatment programs for Indian diabetics that I have visited and reviewed thus far need to pay significantly more attention to these broader issues.

The importance of this was highlighted several years ago, when I was con-



ducting an assessment of an Indian Health Service clinic in New York State; I had interviewed some of the staff members in charge of diabetes management and education about how well they thought people understood the technical/biomedical aspects of diabetes, whether they perceived any cultural issues to be at play, and what kinds of secondary complications there were. As a medical anthropologist, I was dismayed at the responses I heard. The staff members did not believe culture to be a factor. They believed that people seemed to understand the biomedical information about diabetes just fine and thought that there were hardly any secondary complications in the population they served. Shortly after this encounter, I was asked by a staff member in social services (not in the health department) if I could offer some assistance to a diabetic Indian woman who suffered from severe secondary complications. I gave her a ride to a specialized clinic where she was supposed to go for regular check-ups, although this was difficult for her as the clinic was an hour away. She was crippled from impaired circulation in her legs (and determined to keep her foot, although the doctors said it should be amputated) and renal dialysis was imminent. What I witnessed was a major disjuncture in the health clinic staff's perception of Indian diabetes and the experiences of the people suffering with the illness.

### **Body**

Central issues to be explored here include an assessment of beliefs about the body, especially notions of ideal body size and perceptions of obesity and moderate overweightness. In many Native populations in the world, a large body has been viewed as a sign of health, wealth, and sexual attractiveness. For example, in rural Jamaica, cultural importance is placed on reciprocal relations with kin, which includes the sharing of food: "cultural logic has it that people firmly tied into a network of kin are always plump."<sup>45</sup> Once this prevalent cross-cultural norm is appreciated,<sup>46</sup> it is not surprising that there may be adverse reactions to advocating weight loss (the unwritten text here is that they should perhaps aspire to look like skinny whites, an understandably dubious suggestion when viewed from within a cultural perspective). Non-Native health educators may not be aware of these differences in such body-related issues as food consumption, health, and body beliefs and may wonder why Native peoples are not more responsive to initiatives involving exercise and diet changes to reduce body weight. As Gittelsohn notes for the Ojibway-Cree of northern Ontario, "While dietary linkages to diabetes are recognized, physical activity as a means of controlling obesity and decreasing the risk for diabetes, is not part of the local ethnomedical model."<sup>47</sup>

In my research with American Indians in New York State, I have come across some newly developed diabetes programs which need to take a deeper look at some of these issues I have been discussing. Aerobics classes provide a good example of a health initiative that can be easily altered to better fit Native experiences and expectations. If aerobics classes, targeted at Indian women, are run by thin, non-Native, well-toned instructors, it may be difficult for the Indian women to identify with this ideal. Also, some of the Native

health programs I have visited advertise their aerobics classes with pictures of thin white women in specialized and expensive exercise attire. Frankly, many women, Native or not, may be intimidated by super-fit aerobics instructors because the average woman usually does not live up to the idealized cultural body image that instructors often possess.

#### THE IMPORTANCE OF CULTURE: INCORPORATING TRADITIONAL WISDOM THROUGH COMMUNITY COLLABORATION

Research and experience have proven that the most successful diabetes health interventions are those that are sensitive to local cultural concerns and that involve the community in their development and implementation.<sup>48</sup> For example, medical anthropologists, health personnel, and locals at Zuñi developed a community-based diabetes program that built upon the cultural history of the Zuñi as long-distance runners.<sup>49</sup> It was recognized that the Zuñi's cultural propensity for exercise could be developed in ways that stressed traditional identity, rather than an imposed outside ideology. The program has been very successful in facilitating weight loss among the Zuñi, and many diabetics have decreased or even eliminated the need for insulin—they are able to manage it through diet and exercise alone.

The Zuñi also started an aerobics program. At first, it was not so successful due to the ways in which it was described and promoted. The key feature of a revamped program was the use of average Zuñi women's pictures. But more than this, they trained local women as the instructors, who often were fairly overweight (according to outside norms). Newer initiatives among the Zuñi include incorporating traditional music into exercise programs to encourage elders to increase their participation in the wellness campaigns on the reservation.

Among the Navajo in Arizona, educational materials about diabetes have been translated by Navajos into the local language, accompanied by pictures, as part of their campaign to deal with the rapidly increasing rates of diabetes on that reservation.<sup>50</sup> Other successes in diabetes care have built on familiar traditions in Native cultures. For example, the oral traditions in many Indian groups emphasize storytelling as an important cultural activity. For Canadian Natives, this has proven to be an effective way to communicate ideas about diabetes and how to prevent or manage it without overwhelming the listener with biomedical terminology, models, and jargon.<sup>51</sup>

Other innovative programs that I have heard about, at conferences or while visiting various Indian nations, incorporate traditional ideas and wisdom.<sup>52</sup> This is especially important because behavior change necessitates that educational messages convey meanings that are relevant both personally and culturally; it often is not effective in any population when unknown doctors or nurses dictate that people change their lifestyles.<sup>53</sup> If health messages about lifestyle changes come from the perspective of that culture and have support and reinforcement from the community (or at least the family) there is a much greater chance of having an impact—of getting people to improve their eating and increase their exercise in an effort to manage or avoid diabetes.

What follows are some other areas of indigenous wisdom and tradition

that tribes, nations, and health programs should consider when constructing diabetes education and prevention initiatives.

### **Native Games**

There are many ways to incorporate Native games into different health programs for preventing diabetes and other health problems. The Haudenosaunee, or Iroquois Confederacy, support young people in lacrosse leagues, a game that originated with the Haudenosaunee. The Haudenosaunee also used to partake in a game called snow snakes, described by Morgan, an early anthropologist,<sup>54</sup> which involved making a long trench in the winter snow and throwing a stick that represents the snake to see how far it can be thrown.

Many traditional games that are part of tribal cultural histories could be revived to promote cultural revitalization,<sup>55</sup> while at the same time encouraging exercise and activity to assist in diabetes care. As discussed previously in regard to the Zuñi, attempts to control diabetes through exercise have incorporated indigenous notions of physical activities, such as the traditions of long-distance running.<sup>56</sup> The successful outcomes for individuals with diabetes in this program has relegated the Zuñi program as a model for other American Indian communities.

### **Native Foods**

Many nations now have programs for people to get involved in learning about and growing traditional, healthy foods (such as the Three Sisters—corn, beans, and squash—programs seen in some Iroquois groups).<sup>57</sup> Another strategy is the development of educational videos. The Native American Research and Training Center (see Appendix A) developed a video in conjunction with the Tohono O’Odham in Arizona entitled *Diabetes and Desert Foods: Examples from O’Odham Traditions*. This video, designed for health practitioners, O’Odham people, and the interested public, explores the cultural significance of desert foods. The Indian narrator describes the transition in foodstuffs from the time of Spanish missionaries, when lard, beef, and sugar were introduced, to World War II, when the O’Odham diet significantly shifted to a reliance on store-bought and commodity foods. Before this diet shift, diabetes was unknown among the O’Odham people. The video stresses that desert foods such as cactus pads, beans, and desert fruits and seeds not only are culturally important, but may also help to control and prevent diabetes. There is also a “how to” segment which describes how store-bought foods can be modified to make them healthier, such as draining the fat off cooked beef and straining or rinsing canned fruits (if they are packed in a syrup). What is especially important in the video is its emphasis on tribal- and self-empowerment—the narrator advocates that communities take more control in ordering commodity foods, growing traditional foods (through the help of organizations that promote the preservation of indigenous seeds, like Native Seeds Search), learning from elders, and revaluing and teaching each other about traditional and other types of foods that promote wellness.

### **Referral Systems for Traditional/Alternative Healers**

Diabetes education, treatment, and prevention programs could focus much more on the issue of collaboration with indigenous healers and other practitioners who may have a lot to offer in terms of dealing with the many physical, psychological, spiritual, and social facets of chronic diseases like diabetes. While referrals to traditional healers are primary, it is also important to include other non-biomedical practitioners (better described as complementary practitioners)—acupuncturists, herbalists, massage therapists, and so forth. Because stress is a factor in diabetes and many other health problems in any population, stress reduction techniques like meditation, massage, acupressure, and acupuncture may be very effective means of facilitating illness management. As part of this endeavor, health care personnel (doctors, nurses, health aides) should be educated about the importance of traditional healing for total well-being. A sense of partnership, not a hierarchy, should be developed between biomedicine and more culturally sensitive and holistic forms of medicine.

### **Talking Circles**

Talking circles with talking sticks (to allow everyone the power to express themselves) have been used in some American Indian groups as a strategy for dealing with many problems. Often, when someone is diagnosed with a chronic illness, issues of self-image, identity, and coping figure prominently in concerns about diabetes.<sup>58</sup> Talking circles provide an excellent opportunity to encourage discussion about some difficult emotions and to meet with others who are facing the same challenges. As Burhansstipanov points out, talking circles should be demarcated as nonceremonial so that ideas expressed in the circle can be shared with others more easily.<sup>59</sup> At the recent diabetes conference in San Diego, several presenters focused on how to incorporate the traditional talking circle into American Indian diabetes programs.<sup>60</sup>

### **Using and Adapting Local Myths, Stories, Legends, Heroes, and Heroines**

Drawing upon Native myths and stories is an effective method of educating about problems such as diabetes, especially when considering how easily doctors can overwhelm diabetics with unfamiliar biomedical jargon and scientific concepts.<sup>61</sup> Using culturally appropriate stories can make an immense difference in helping people understand their disease. In southern Ontario, an innovative program developed by Rebecca Hagey and her colleagues used Nanabush, a mythic Ojibway teacher, in a story to tell about how diabetes had come to Native peoples.<sup>62</sup> The story they developed is called “Nanabush and the Pale Stranger” and it has greatly facilitated understanding diabetes in more accessible ways for lay people.<sup>63</sup>

## **CONCLUSION**

There is, of course, no one formula for developing health education and prevention programs. Each tribe and group will have different practices, beliefs,

and stories from their culture that will prove most appropriate for dealing with diabetes and the many other health problems facing Native peoples today. It should be stressed that if the goal is to promote wellness, research and program development in this area need to be ethnographic, collaborative, and sensitive to diversity within populations.

Another serious issue that also must be addressed is the nature of intra-tribal conflicts and the extent to which they are impeding health and wellness for group members. For example, in one study among the Navajo, Miller found that employing Navajo staff members at the local health clinics could be an impediment to health care because of people's clan affiliations, fear of local gossip by other Navajos, and potential associations of Navajo clinic personnel with witchcraft.<sup>64</sup> In my research with the Iroquois in New York, I have witnessed the divisions between the "progressives" (pro-gambling contingents) and the "traditionalists" as having a profound influence on not only health care politics, but also on interactions and conflicts in day-to-day life.

As a final recommendation, an emphasis should also be placed on networking to promote communication links with other Indian nations, diabetes programs, and those working in the field of American Indian wellness (see Appendix A). This kind of climate has been fostered in recent years by the International Conferences on Diabetes and Indigenous Peoples, which usually draw several thousand participants in an eclectic exchange of information from Native peoples, anthropologists, nutritionists, nurses, physicians, traditional healers, and others concerned with diabetes and wellness in Native populations.

APPENDIX A

REFERENCES FOR NATIVE DIABETES PREVENTION/  
EDUCATION PROGRAMS

**Indian Health Promotion**

This organization, at the University of Oklahoma, sponsors conferences on Indian health, such as the Native Wellness and Women conferences. For information, contact

Health Promotion Programs  
The University of Oklahoma  
555 Constitution Street  
Norman, Oklahoma 73037-0005  
tel. (405)-325-1790  
fax: (405)-325-7126

**Native American Research and Training Center (NARTC)**

This is an excellent organization at the University of Arizona in Tucson that sponsors research on Native health issues, often directed and organized by Native peoples. It has many monographs and videos that can be used in education programs.

Native American Research and Training Center  
Department of Family and Community Medicine  
University of Arizona  
Tucson, AZ 85719  
tel: 520-621-5920

**Centre for Nutrition and the Environment of Indigenous Peoples (CINE)**

Begun in 1993, this organization was developed at McGill University “in response to a need expressed by Aboriginal Peoples for participatory research and education to address their concerns about the integrity of their traditional food systems. Deterioration in the environment has adverse impacts on the health and lifestyles of Indigenous Peoples, in particular health and nutrition as derived from food and food traditions. CINE is a university-based endeavor to assist Indigenous Peoples in dealing with their concerns related to traditional food systems, nutrition and the environment” (taken from the CINE Two-Year Report 1994–1996). CINE puts out a newsletter available to everyone on issues such as cancer, diabetes, environmental hazards in Native territories, comparing traditional foods to market foods, etc. CINE’s governing board has representatives from the Assembly of First Nations, Council for Yukon Indians, Diné Nation, Inuit Circumpolar Conference, and Métis Nation of the Northwest Territories.

Centre for Nutrition and the Environment of Indigenous Peoples  
MacDonald Campus of McGill University  
21,111 Lakeshore Road  
Ste-Anne-de-Bellevue, Quebec  
H9X3V9  
tel: (514)-398-7544  
fax: (514)-398-1020

### **Canadian Diabetes Association**

The CDA published a comprehensive issue in fall of 1994 in their *Diabetes Dialogue* magazine on "The Silent Epidemic: Diabetes in the First Nations." This issue looks at the problem from a Native perspective and talks about the many innovative programs being tried to halt the rapid spread of this disease. It provides information on the Native SUGAR group, the Northern Food Tradition and Health Kit, the Atlantic First Nations Diabetes Coordinator, and the "Nanabush and the Pale Stranger" story. To get a copy of the magazine contact:

Canadian Diabetes Association  
15 Toronto Street  
Suite 1001  
Toronto, Ontario  
M5C 2E3

### **National Aboriginal Diabetes Association**

(204) 775-3625

### **Internet Resources**

Internet resources on American Indian health have burgeoned in the last several years. Any inquiry with a general search engine (such as Lycos, Infoseek, or Netscape) is likely to yield many references. For example, if you type in "Native American health" on Infoseek, 14,650 results come up (although not all of these actually relate to Native health). Here are some productive sites in which to explore internet information:

Native American Health Resources on the Internet  
<http://www.hanksville.phast.umass.edu/misc/nahealth.html>

Native American Diabetes Project  
<http://www.laplaza.org/dwc/prof/nadp>

The Pima Indians:Pathfinders for Health (with a main focus on diabetes)  
<http://www.niddk.nih.gov/health/diabetes/pima/index.htm>

Native Web

<http://www.nativeweb.org/>

Minnesota Indian Women's Resource Center (with links to a number of different health sites)

<http://www.nnic.com/miwrc.html>

## NOTES

1. The frameworks used in medical anthropology specifically address sociocultural issues and the experience and management of ill-health. Of particular relevance are the distinctions made among disease, illness, and sickness. Disease refers to the biomedical model of a physical problem in the body, while the concepts of illness and sickness index phenomenological and sociocultural issues. Illness refers to subjective understandings of health problems, including how people feel about ill health conditions, what their experiences have been, and how they should cope with ill health. The concept of sickness specifically refers to the cultural and social understandings of ill health, such as different cultural conceptualizations of bodily disorder with spiritual, physical, and/or emotional etiologies. See Arthur Kleinman, *The Illness Narratives: Suffering, Healing and the Human Condition* (New York: Basic Books, 1988); Ronald Frankenberg, ed., *Time, Health, and Medicine* (Newbury Park, CA: Sage, 1992).

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