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# 'Sharing wisdom': Lessons learned during the development of a diabetes prevention intervention for urban American Indian women

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**Abstract**

We examine the lessons learned from the exploration of 'cultural appropriateness' during the development and evaluation of a diabetes prevention program for American Indian women living in an urban area of the Southwest United States. The authors, evaluators and program designers, together attempted to assess the cultural appropriateness of the intervention. In doing so, we confronted our own assumptions about 'culture' and 'tradition.' These assumptions were influenced by our respective generational and disciplinary differences. In this manuscript, we reflect on the attendant process of navigating our diverse and sometimes conflicting conceptualizations of 'culture.' We also call attention to unexpected events and changing team dynamics that affected the process. This reflection leads us to consider the role of evaluators, program designers, and participants in assessments of cultural appropriateness of public health interventions and the consequences of such involvement. The lessons learned also concern the need to fully articulate theoretical ideas about how 'culture' can interface with program elements to develop interventions that are contextually responsive to the unique social worlds of participants.


*Keywords:* Cultural appropriateness; Type 2 diabetes; Formative evaluation; Health promotion; Prevention; Native American

## 1. Introduction

As public health professionals attempt to address health disparities among underserved populations, we encounter the difficulties of developing and adapting interventions that are 'culturally appropriate.' There are many excellent examples of how this process can take place (Kreuter & McClure, 2004; Wright, Naylor, Wester, Bauer, & Sutcliffe, 1997), and how multi-cultural collaborations among interventionists, researchers, and community partners can be nurtured (Council of National Psychological Associations for the Advancement of Ethnic Minority Interests, 2000; King, Nielsen, & Colby, 2004; Klein, Williams, & Witbrodt, 1999; Lindenberg, Solorzano, Vilaro, & Westbrook, 2001; Sullivan et al., 2001). We offer a critical examination of the unexpected challenges we faced and the assumptions we had to reexamine as we sought to design, implement, and evaluate a health promotion program for urban American Indian women. Despite our extensive experience living and working in American Indian communities, these challenges were not easily overcome or predictable. These challenges, however, may represent commonplace dynamics that influence the development and evaluation of health promotion programs.

Within health research, 'culture' often has been portrayed in static terms, as a coherent phenomenon that is divisible into discrete and measurable elements, such as language, values, beliefs, and traditions (Dreher & MacNaughton, 2002; Guarnaccia & Rodriguez, 1996). While a growing literature aims to problematize such portrayals of culture (Kumanyika, 2003), in practice these elements may still be conceived as enduring and consistent within a population. The drawback to such conceptualizations is that they can hinder consideration of the multi-variate ways in which culture in its most mundane manifestation intersects with daily life.

Given increasing calls for 'culturally specific,' 'culturally competent' or 'culturally appropriate' public health programs

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and services (Cooper, Hill, & Powe, 2002; Institute of Medicine, 2002; Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003; Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999; Resnicow, Braithwaite, DiIorio, & Glanz, 2002; Shaw-Taylor, 1999), it is imperative for public health professionals to critically examine the approaches that they use to incorporate a consideration of culture into their everyday practice (Dreher & MacNaughton, 2002). However, such an undertaking is far from clear-cut, as we explain in our discussion of a formative evaluation of a curriculum-based diabetes prevention program for urban American Indian women in the Southwest United States.

In this conceptual paper, we present an overview of the curriculum-based program in which the authors served as evaluators (CW, DH) and designers (JT) on the intervention team. We then describe the process that resulted in the articulation, design and implementation of the program's cultural content. The intervention team worked in a participatory manner throughout the process on all facets of the program's design and its evaluation. This process, however, was affected by unexpected events and changing team dynamics that could not have been anticipated at the outset of the overall project.

The program's larger evaluation plan was comprehensive. The plan consisted of process and outcome measures and indicators, including pre-post quantitative assessments of diet, exercise, and healthful lifestyle behavior, observations of curriculum implementation, and in-depth qualitative exit interviews with program participants. The evaluators were tasked with assessing the 'cultural appropriateness' of the curriculum and developing measures of 'traditionalism' to assess acculturation among participants. In response to recent calls for evaluators and interventionists to engage in critical self-examinations of the values and assumptions that inform their own work (SenGupta et al., 2004), we describe our efforts and the lessons we learned from these assessments.

We also discuss the constructive strategies that were employed by the intervention team to resolve dilemmas emerging from the assessment of cultural appropriateness. Reflection of these dilemmas leads us to argue that programs intended to be culturally appropriate and evaluations of cultural competence must account for the broader social context in which the program participants as well as curriculum designers and evaluators are immersed. In our case, this context included a shifting organizational environment in which differences based on race and ethnicity, age, and professional background profoundly affected working relationships, occasionally leading to conflict in the intervention team. This context also encompassed the program participants' own living arrangements, family relationships, and constructions and enactments of American Indian identity.

## 2. Overview of program

Diabetes is a major health problem among American Indians, with prevalence and mortality rates increasing at an alarming pace. Approximately 61% of the almost 2.5 million self-identified American Indians in the United States live in an urban setting (US Census Bureau, 2000). Although a substantial amount of research has been conducted over the past 30 years concerning the effects of type 2 diabetes in American Indian communities, there are very few community-based lifestyle interventions available to prevent this disease (Satterfield et al., 2003). With its specific focus on Albuquerque, the largest metropolitan area in New Mexico, the diabetes prevention program described here is intended to fill this void. Developed by American Indian and non-American Indian physicians, health researchers and health educators, this curriculum-based program is built upon a biomedical model of disease risk and causation and is designed to empower young urban American Indian women to change lifestyle behaviors without having to utilize intensive intervention strategies.

In 1999, the program designers undertook six focus groups with young urban American Indian women, both current and future mothers, to inform the goals, objectives, and outcomes of the program. The 38 participants were residents of urban areas, between the ages of 18 and 40 years, did not have diabetes, and were enrolled in federally recognized tribes. These women represented the intended participants of the program because of their own high risk of diabetes, particularly gestational diabetes. One purpose of the focus groups was to determine what young American Indian mothers and future mothers wanted to learn about type 2 diabetes. We then prioritized those topics that they believed were important to reduce diabetes risk. Most topics identified as important by the participants were consistent with those identified in the biomedical literature as modifiable risk factors for type 2 diabetes.

The focus group participants requested a culturally appropriate healthful, less intensive lifestyle intervention [in comparison to the Diabetes Prevention Program Study (Diabetes Prevention Program Research Group, 2000)] that encouraged wholesome eating and regular physical activity. The program's lifestyle behavior content and the outcome measures (e.g. increasing physical activity and reducing obesity) reflected a combination of scientific evidence about type 2 diabetes and specific strategies to reduce modifiable risk factors. The selected strategies were designed to address the barriers and facilitators to diabetes prevention described by the focus group participants. Primary outcome objectives included decreased fat in the diet, increased vegetable consumption, and increased engagement in physical activities. Secondary outcome objectives included decreased weight, body fat, and insulin levels (HOMA model of insulin resistance) and improved physical fitness.

Results of the focus groups suggested that young American Indian mothers in urban areas played pivotal roles in their families, above all as the primary purchasers and preparers of food and caretakers of children. In our grant application to the National Institutes of Health, we drew upon these results to present a model of how young American Indian women without diabetes could be important recipients of diabetes prevention activities. The women would then serve as role