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Native Americans and Cancer Risks: Moving Toward Multifaceted Solutions

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Native Americans experience some of the poorest health statistics of any people in the United States, including rising cancer risks. If we are to truly understand and address health concerns among Native Americans, we need multifaceted interventions and policy solutions. Much of the current attention to Native American health issues examines behavioral health patterns and related interventions (that is, smoking rates and programs to moderate them). While such programs are necessary, they are not sufficient. It is imperative that the impact of the environment, including toxic waste exposure, be considered when examining cancer risk and moving toward solutions that reduce that risk for Native Americans. This article examines cancer risk factors related to both health behaviors and the physical environment. By examining these two areas, we can begin to understand the risks and move toward appropriate programmatic and policy solutions.

KEYWORDS Native American, American Indian, cancer, health, health disparities

Native Americans experience some of the poorest health statistics of any people in the United States (Bird, 2002; Droste, 2005; Swan et al., 2006). One of the most prominent growing concerns is an increasing risk for cancer among Native Americans (Intercultural Cancer Council, 2002). While these growing concerns are often linked to individual risk factors such as poor diet and an increasingly sedentary lifestyle, many contemporary health problems can also be attributed to historical unresolved trauma, grief, cultural loss, and federal policies designed to promote the assimilation of Native Americans (Nebelkopf & Phillips, 2004).

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Indeed, if we are to truly understand and begin to address health concerns among Native Americans, we need multifaceted interventions and policy solutions. Much of the current attention to Native American health issues examines behavioral health patterns and related solutions (that is, smoking rates and programs designed to moderate them). While such programs and the policies that guide them are necessary, they are not sufficient to make a significant impact in increasing the health status of Native Americans.

The emphasis that the social work profession places on examining the environment as a significant factor in client well-being provides a relevant framework for understanding Native American health issues. Historical trauma has an impact on contemporary Native American health issues (Beauchamp, 2004; Brave Heart, 2004). Likewise, the current climate of racism and oppression supports health disparities (Northridge, Stover, Rosenthal, & Sherard, 2003). In addition to examining the impact of the social environment, it is also critical to understand how the physical environment can pose significant health risks for Native Americans.

While there are many puzzle pieces that must be assembled in order to adequately understand the health risks and factors that support the resilience of Native Americans, this article will examine two of the most significant factors: health behaviors and the physical environment. By examining these two areas, we can begin to understand the risks and move toward appropriate programmatic and policy solutions. In particular, this article uses cancer prevalence, risks (both behavioral and environmental), and interventions such as the Healthy Living in Two Worlds program as a lens for examining Native American health issues.

CANCER AND NATIVE AMERICANS

The burden of cancer for Native Americans has been historically underestimated, and current statistics often suffer from racial misclassification (Puukka, Stehr-Green, & Becker, 2005). In spite of these limitations, cancer is documented as a significant health concern for Native Americans (Paltoo & Chu, 2004; Intercultural Cancer Council, 2002). The number of Native American deaths increased during the 1990s for some types of cancer such as lung, colon, prostate, and breast cancers (Centers for Disease Control, 2002), while cancer rates for the U.S. population as a whole have been reduced or maintained. Hospitalization and mortality rates from several major types of cancer are higher for Native Americans than the nation as a whole (Glover & Hodge, 1999). Five-year cancer survival rates are poorer for Native Americans than for any other ethnic group in the United States (Baquet, 1996; Michalek & Mahoney, 1994). These data are alarming, as 30 years ago cancer among Native Americans was rare.

Cancer Risk and Lifestyle Choices of Native Americans

A significant behavioral health gap exists between Native Americans and Whites (Taylor, Denny, & Freeman, 1999). Trends of elevated cancer incidence and mortality among Native Americans are related to an increase in risk factors, including the consumption of high-fat foods, recreational tobacco use, and alcohol consumption (Baquet, 1996). Smoking prevalence among Native Americans is higher than in other racial and ethnic groups and holds consistently at or near 40% (American Cancer Society, 1998, 1999, 2000, 2002; Healthy People 2010, 2008; Hodge & Struthers, 2006).

Insufficient physical activity and poor diet are the second leading preventable causes of death in the United States behind smoking (Hatcher & Scarpa, 2002). Broussard et al. (1995) found a high prevalence of obesity, identified as a risk factor for cancer, among Native American youth. The assimilationist policy of sending Native American children to boarding schools resulted in a significant shift in Native American dietary practices away from traditional foods toward diets heavy in starch and fat. The impact of these schools persists today in many unhealthy eating practices (Keller, 2002). Ample evidence exists to suggest that increased incidence of stomach and colorectal cancer has a positive relationship with low-income status and the sudden change in dietary practices associated with acculturation, reliance on government commodities, and processed food subsidies (Cobb & Paisano, 1998).

An increasingly sedentary lifestyle contributes to obesity and other health problems. A study of 3rd and 5th grade Native American children revealed that nearly 86% watched television after school rather than engaging in physical activity (Thompson et al., 2001). Conversely, participation in physical activities is associated with a decreased risk of colon cancer (Healthy People 2010, 2008).

Environmental Risk Factors

Native Americans are disproportionately exposed to environmental risk factors for cancer (Northridge et al., 2003). For example, Akwesasne, a Mohawk reservation along the St. Lawrence river, is located less than 100 feet from the General Motors-Central Foundary Division Superfund hazardous waste site. Additionally, the Aluminum Company of America (ALCOA) operates two aluminum processing facilities in the area. Many of the PCBs released into the air from these plants are absorbed into the food chain (Fitzgerald, Hwang, Lambert, Gomez & Tarbell, 2005). Native American communities may have increased exposure to toxins through subsistence diets and greater physical contact with contaminated soil and water through activities such as gathering medicine, farming, trapping, and swimming (Schell et al., 2003). While the Mohawk people of Akwesasne have modified their diets and are eating less

fish in response to warnings, this is contrary to their cultural lifestyle and beliefs about interdependence with the environment (Fitzgerald et al., 2005; Schell et al., 2003).

There are significant challenges associated with measuring unequal environmental health burdens and disparities in health burdens within and across populations. Methodological advances have occurred, including the creation of new measurement instruments, but further work is needed to refine and validate them (Northridge et al., 2003). Additionally, while measurement practices are improving, it is important to do more than just measure proximity to noxious facilities. In particular, more accurate data on cancer incidence in environments with various types of contamination is needed (Northridge et al., 2003).

Holistic models of measuring the impact of environmental hazards and risk assessment must examine more than toxicant burdens (that is, measuring the presence of a toxin in blood or tissue). It is important to incorporate social, cultural, and spiritual implications when assessing a community exposed to toxins (Schell et al., 2003). For example, when the Mohawk people of Akwesasne stopped fishing in response to warnings about contamination, this altered their traditional subsistence patterns, thus impacting traditional cultural practices and maintenance of Mohawk culture. "Avoidance of foods and activities that may expose people to PCBs means that traditional activities are not performed and social bonds forged between generations through the transfer of culture are not created. Additionally, the community has lost a primary source of protein and other nutrients ... further exacerbating chronic diet-related health problems in the community, such as diabetes and cardiovascular disease" (Schell et al., 2003, pp. 960–961).

In addition to simply living in a region with environmental hazards, some Native American people have suffered severe exposure to toxins and increased cancer risk through their work. A prime example of this is uranium mining and the Navajo people. While the health effects of exposure to uranium were well-documented, few health protections existed for miners prior to 1962. After 1962, implementation of regulations was slow and incomplete. "The federal government deliberately avoided dealing with a health disaster among Navajo uranium miners, even though uranium mining was considered very much a federal matter. For up to 2 decades after the harmful effects of uranium mining were known, protective safeguards were not implemented. The position of scientists in the government who were knowledgeable and who often argued for protection was seriously compromised" (Brugge & Goble, 2002, p. 1417).

While it is clear that Native Americans have an increased vulnerability to cancer through environmental exposure to toxins released into the environment by non–Native American corporations, their status as members of sovereign nations leads to an additional wrinkle. As sovereign nations, tribal governments retain some legal rights to environmental regulation. In other

words, they can set some of their own standards for clean water, clean air, and disposal of hazardous waste. These standards may be set at a higher level of environmental cleanliness than the regulations of the states that surround them. High standards, however, become virtually meaningless in small territories when a chemical plant may exist 100 yards off the reservation.

The sovereign right to set environmental standards has also led some Native American nations to make environmentally unfriendly decisions that risk the health of their own people. Many Native American nations are poor. According to the 2000 Census, 25.7% of Native Americans live below the poverty level and this is particularly true of reservation-based Native people (Ogunwole, 2002). Few employment possibilities or opportunities for economic development exist on many reservations, particularly those in remote regions. Native nations such as the Mescalero Apache have been approached by the US ... federal government to serve as repositories for nuclear waste. Indeed, in a controversial move that some termed the "privatization of genocide," the federal government offered $100,000 to any tribe willing to even consider accepting nuclear waste for disposal on reservations (Hanson, 1994). Since Native American nations have the right to make decisions about what is stored on their land, the federal government often finds it easier to approach tribes with lucrative proposals for storage of nuclear waste than to deal with state regulations and the activist voters who reside in those states. Impoverished Native American nations may feel that they have to choose between being able to provide food, shelter, and other basic needs of their members today or risking the health of future members when they contemplate the merits and pitfalls of accepting large sums of federal money and the nuclear waste that accompanies it.

IMPROVING THE HEALTH STATUS OF NATIVE AMERICANS

Significant improvement in the health status of Native Americans requires attention to both individual and environmental issues. Likewise, this involves both programmatic and policy responses. While a comprehensive review of all these aspects is not possible within the space of a journal article, it is possible to give meaningful illustrations that highlight a behavioral health intervention and examine policies that can promote wellness with particular attention to environmental issues.

Behavioral Interventions to Reduce Cancer Risk: The Healthy Living in Two Worlds Program

Health problems are sometimes associated with cultural loss. Conversely, strengthening culture has proven to be a preventive mechanism for a variety

of social and health problems (Skye, 2002; Woods, Blaine, & Francisco, 2002). In order for a culturally based prevention program to be most effective with urban Native American youth, it must take into account that these youth live in two worlds: the Native American community and the larger multicultural context. Youth must develop skills to incorporate traditional values in a contemporary context.

Programs that succeed in promoting healthy behaviors use a multifaceted approach that incorporates psychosocial and behavioral components rather than simply distributing information (Hatcher & Scarpa, 2002). Grounding interventions in Native American culture has proven effective in preventing recreational tobacco use (Botvin, Schinke, Epstein, Diaz, & Botvin, 1995; Schinke, Singer, Cole, & Contento, 1996; Schinke, Orlandi, Schilling, & Botvin, 1990). Prevention initiatives that incorporate culture, include community participation, and focus on behavior change are shown to be more effective with Native American populations than standard models (Joe, 2001).

Culturally grounded education combined with social learning theory has been shown to improve knowledge about cancer among Native American people (Fredricks & Hodge, 1999; Hodge, Fredricks, & Rodriguez, 1996; Hodge, Stubbs, & Fredricks, 1999; Michielutte, Sharp, Dignan, & Blinson, 1994). Culture is a critical element for successful cancer prevention efforts for Native Americans (Burhansstipanov & Dresser, 1994; Joe, 2001; Joe & Young, 1993; Michalek & Mahoney, 1990). Additionally, social learning theory has been successfully incorporated with Native American traditions in culturally grounded prevention programs for Native American youth (Davis et al., 1999; LaFromboise & Howard-Pitney, 1995).

Behavioral health interventions can be an important part of improving the health status of Native American people. One such recently developed intervention is the Healthy Living in Two Worlds program, which targets the dietary practices, recreational tobacco use, and physical activity level of urban Native American youth aged 9 to 13. This intervention is both culturally grounded and based in social learning theory. The program was developed with Native American youth in Buffalo, New York, and is now ready to be implemented and pilot tested at urban sites in various regions of the country (Weaver & Jackson, 2010).

The program includes a variety of culturally grounded physical activities accompanied by discussion of the role of these activities in traditional and contemporary urban Native American lives. Native American youth, particularly those living in urban areas, may have lost touch with traditional beliefs, values, and behaviors that serve as protective factors to enhance their health status. For example, few may be aware of the health benefits of traditional Native American foods and how cultivating, harvesting, and consuming traditional foods fit into indigenous values and beliefs about balance and wellness. The program explores the distinction between ceremonial and recreational tobacco use and examines the health consequences

of recreational tobacco use. Likewise, the curriculum includes lessons on the benefits of traditional foods (for example, corn, beans, squash), critically examines what we think of today as "traditional" foods like fry bread and Indian tacos (foods often made from government commodities), and teaches skills in reading food labels and thinking about the choices we make when eating processed or fast foods (Weaver, 2010).

Native American cultural traditions, particularly those of the local Haudenosaunee people, are emphasized throughout the curriculum, but it is clear that contemporary urban Native Americans live within a multicultural context. The program explores wellness in other cultural contexts including discussions of how cross-cultural wellness activities such as yoga serve as resources to enhance the wellness of urban Native American youth.

The Healthy Living in Two Worlds program emphasizes respect for everyone. Even though youth learn healthy behaviors that are not being practiced in their homes, the program does not focus on pointing out the error of the parents' ways. Rather, the program provides information to family and community members in a respectful way in order to bring about lasting change. Likewise, youth with limited cultural knowledge are supported in acquiring additional knowledge rather than blamed for this deficit. Many youth have multicultural heritage, and the program is careful to avoid shaming them by blaming non–Native Americans for cultural loss and subsequent health problems. The program uses a strengths perspective and focus on striving for balance and wellness rather than dwelling on problems and deficits.

The Healthy Living in Two Worlds curriculum is a newly developed prevention initiative that is the beginning of a project designed to be replicated with Native American youth in urban sites across the country. The next step is to modify the template curriculum for cultural appropriateness for different Native American communities, then test its effectiveness in supporting healthy behaviors in Native American youth.

The Role of Policy in Wellness Promotion

Policy guides programmatic efforts and funding priorities, and it reflects the values and priorities of the people who establish the policies. Although the poor health status of Native Americans is well-documented, current policies do not reflect this as a national priority. Additionally, the limited attention in this area focuses on individual responsibility for behavior change rather than modifying other risk factors. The low level of spending on Native American health and inattention to environmental factors supports health disparities. Indeed, the amount spent on healthcare for Native Americans is about one-third of what is spent on the average American (Droste, 2005).

Very little funding is allocated for the health needs of urban Native Americans. While the majority of Native American people live off-reservation, only 1% of the Indian Health Service budget is earmarked for urban healthcare

(Duran, 2005). Additionally, states assume virtually no responsibility for the health needs of Native Americans living within their boundaries. State and local governments tend to believe that the responsibility for Native American health and social services rests exclusively with the federal government (Duran, 2005).

Current policies and programs have facilitated environmental risks that disproportionately affect poor people and people of color. As members of both categories, many Native Americans are exposed to significant environmental health risks. The distribution of environmental hazards according to race/ethnicity, class, and other factors, as well as their implications for health, is an area that needs further study (Northridge et al., 2003). As some scholars emphasize, "If the inequitable distribution of LULUs [locally unwanted land uses] results from sitting processes that are motivated by racial prejudice and discrimination, then the government can take legal action under the U.S. Constitution and the Civil Rights Act of 1964 or design public policies to encourage more equitable distributions of LULU burdens" (Northridge et al., 2003, p. 212). While this is an important line of inquiry and potential avenue of redress, political will is required to follow this course of action. If, indeed, prejudice led to environmental contamination of areas inhabited by Native Americans and other populations of color, it might be ambitious to believe that original prejudice has disappeared and the political will exists to chart a new course of action. If, on the other hand, the toxic environment is within reservation boundaries, issues of sovereignty are likely to make enforcement of federal or state laws challenging.

Examinations of environmental health risks for Native Americans have often neglected urban Native American populations. For example, because designation as a Superfund hazardous waste site is biased toward sites that pose a threat to drinking water, urban sites are less likely to be so designated (Northridge et al., 2003). In spite of the difficulties with identifying urban environmental risks, a census tract level analysis found that neighborhoods with potentially hazardous sites are more likely to be home to Native Americans than to African Americans or Hispanics (Northridge et al., 2003).

Native Americans have typically been left out of the discussion on environmental toxins. Adding an indigenous perspective to this dialogue has the potential to be enriching, as new definitions and ideas about measuring health and wellness emerge. Grassroots Native American health activists are calling for a community-defined model of health that includes protecting traditional cultural practices (Arquette et al., 2002).

RECOMMENDATIONS

Reducing the cancer burden and other health problems experienced by Native Americans requires a combination of programs that target individual

behavior change, a recognition of the need to redress environmental hazards, and policies that support these efforts. It is necessary to have more programs that incorporate culture as an important aspect of prevention efforts and pay attention to the needs of urban Native American populations such as the Healthy Living in Two Worlds initiative described above. Such efforts need to be tested for their effectiveness with various Native American populations, and effective prevention efforts must be made available in all Native communities.

In order to develop multifaceted and comprehensive initiatives, it is important to have interdisciplinary efforts. Closer integration of public health professionals with urban planners, environmental protection advocates, and civil rights adherents is necessary (Northridge et al., 2003). Only through these interdisciplinary efforts can we seamlessly make a difference in modifying both individual and environmental risk factors.

We must recognize that cancer risks cannot be solely attributed to individuals making bad judgments (for example, smoking, poor diets). Indeed, the prevalence of smoke shops (stores that sell tobacco products free of state taxation) in reservation communities reflects limited economic development opportunities in often poor territories that have retained some aspects of sovereignty. The prevalence of high-fat and sugar-laden foods in the diets of Native Americans reflects dietary practices established in boarding schools, governmental commodities that continue to be distributed, and the comparatively high prices and limited availability of fresh fruits and vegetables in poor communities. Far from poor health status being an individual issue, it results from a complex web of factors that reflect the status of Native people in American society. Solutions, therefore, must include more than just asking individuals to change their behavior.

It is important that adequate funding be available for health interventions in Native American communities that exist in urban areas as well as reservation-based communities. The programs established for Native American people need to reflect the cultures and characters of each community, thus reflecting local control and self-determination. Some of the most effective, holistic health promotion programs are likely to be locally based. Policies must support grassroots initiatives, not just externally developed efforts that fail to reflect the needs of different communities. Indeed, there have been a few very positive private and federally funded Native American community-driven efforts that have targeted improving Native American health. Prime examples of these include the Robert Wood Johnson Healthy Nations Initiative (Noe, Fleming, & Manson, 2004) and the Circle of Care initiative funded by the federal Center for Mental Health Services (Nebelkopf & King, 2004).

We must have policies that support the acquisition of accurate, adequate, and meaningful health-related knowledge. At this time our understanding of the health status of Native Americans is hampered by inadequate

reporting, inaccurate statistics, and data collection efforts that continue to identify Native Americans as "other." There must be ongoing support for meaningful environmental and health surveillance systems (Northridge et al., 2003). Only with accurate information will we begin to understand the scope, nature, and multidimensional aspects of health issues.

Grassroots activist movements have typically been the first to confront and call for reductions in the health disparities resulting from environmental racism and inequity. We must have policies that support and build on this energy (Northridge et al., 2003). It is important to enforce existing environmental regulations and remediation of known hazards. Indeed, we must understand that these health issues are ultimately issues of social justice. Each individual and community should have the right to avoid disproportionate exposure to environmental hazards and the health risks associated with being poor. Policies that support indigenous sovereignty and various forms of economic development will lead to healthier Native American communities that do not feel obligated to make unhealthy choices like accepting nuclear waste.

CONCLUSION

Issues of power and dependency are rarely raised in discussions of health, but without attention to these issues we are likely to see little improvement in the overall health status of Native American people. As indigenous people (that is, people of the land), our health, well-being, and social status is intimately connected to our territories. This connection is clear when we reflect on the Mohawks of Akwesasne, forced to choose between continuing culturally sustaining subsistence fishing or changing their diet to avoid PCB contamination. We must also examine the connections between risk factors and sovereignty. Since people from around the world have come to populate North America, we have lost control of virtually all of our traditional territories and now exert only partial control over comparatively small areas. We cannot control the contamination and pollution that our neighbors expel into the environment.

Today we have only limited control over the remnants of our territories. Our growing populations, limited land base, and limited opportunities for economic development lead us to choices like accepting toxic waste for disposal on our territories, selling cigarettes without applicable state taxes, and operating gambling casinos. The federal trust responsibility that applies to Native people has left us with paternalism, the creation of dependency, and considerable oversight of our activities.

Since we cannot control how our neighbors treat the environment, we are left depending on the federal government for oversight and remediation of risk. We cannot change risk factors in territories that we no longer control.

Likewise, we do not have the exclusive ability to change poverty and the social conditions that contribute to risk factors for cancer and other chronic diseases. Such large-scale change can only come with large-scale federal initiatives and must be backed with the political will to restructure society. I do not see such a radical change coming in the near future. Until then we are left with initiatives that seek to bring about individual behavioral change to improve the health status of Native Americans. While efforts that target individual change are necessary, they will never be sufficient. The importance of culturally based, community-run programs must not be minimized, but they cannot be expected to shoulder all the responsibility. Until we have comprehensive efforts that blend environmental aspects, individual behavior, and social change that are backed by strong social policies and political will, our efforts at increasing the health status of Native Americans will be fragmented and incremental.

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