

Coping with diabetes and generational trauma in Salish tribal communities

Renee A. Davis, MA
Antioch University Seattle

ABSTRACT

This essay is a result of a six-month study conducted to gain insight into the gap between the use of plants and practice of culture, and community health. If we can clarify connections filling the gap, I reasoned, then myriad other community health initiatives could draw on this important dimension of the human experience for the tangible improvement of health. For several years I had witnessed the cultural renaissance emerging in Salish country and plants education was at its nexus. In conducting this ethnographic study, I had hoped to gain insight into the transformative potential of ethnobotanical education in practice.

Viewing Indian country through the lense of diabetes, a powerful story unfolds. It's a story of historical trauma, abuse and genocide; of social construction and metaphors of health and illness; and of the role of plants in building connections to habitat, place, ancestry, and culture. Most of all, it's a story of being called home by the place, and reconnecting with the wealth of who we are.

Introduction: Diabetes in Indian Country

In the United States, Type 2 diabetes is rapidly emerging as one of the greatest challenges ever faced by the conventional medical practitioners. Its frequency in the general population is growing, affecting more than 26 million people in the United States and at an expense exceeding \$200 billion each year (Pacific Northwest Diabetes Research Institute, 2012). One out of every ten health care dollars in the United States is spent on diabetes treatment and it is the leading cause of heart disease, blindness, kidney failure, and amputations. The disease is by no means confined to the United States or other economically developed countries. Increasingly being recognized as a disease of economic development, more countries are seeing rises in diabetes incidence rates (International Diabetes Foundation, 2011). Research suggests that by 2050, one out of every two people globally will develop diabetes at some point in their life (Pacific North-

west Diabetes Research Institute, 2012).

Diabetes is a pertinent health issue and American Indians and Alaska Natives continue to be more affected than others. Diabetes is a relatively new disease in Indian country, virtually unseen in tribal communities until the 1960's (Bruyere, 2006; Ferriera & Lang, 2006). American Indians and Alaska Natives (AI/AN) are significantly more likely than U.S. general population to develop diabetes (Ayach, 2010; Center for Disease Control, 2003; Harjo, 2011; Lee, 2002, Rhoades, 2004). As of 2005, American Indians/Alaska Natives (AI/AN) were 2.1-2.3 times as likely to be diagnosed with diabetes as their non-Hispanic white counterparts, and were almost twice as likely to die from diabetes as non-Hispanic whites (Barnes, Adams, & Powell-Griner, 2005; O'Connell, 2008). Some research (Ayach et al., 2005) even suggests a 5-fold increase in risk. American Indians are also at higher risk for secondary conditions associated with diabe-

tes, such as cardiovascular disease (Harwell, 2003; Kapfl, 2006; Oser, 2005; Tann, 2007), end-stage renal disease (Burrows, 2005; Narva, 2008), diabetic eye disease (Silver, 2006), and depression (Bell, 2005; Sahota, 2008; Samhoun, 2008). Age adjusted death rates due to diabetes and its indirect effects have increased since the 1980's in AI/AN populations when compared with White populations (Kunitz, 2008).

Research reveals drastically different understandings of diabetes etiology, diagnosis, and treatment between the biomedical establishment and tribal communities. The biomedical discourse around diabetes focuses on genetic and lifestyle factors. In contrast, narrative and ethnographic inquiry in American Indian and Alaska Native communities reveal a markedly different perspective, largely attributing diabetes to generational trauma and social oppression. The design and development of most diabetes treatment programs is dominated by biomedical understandings of the disease. Mainstream diabetes prevention programs have not been successful in tribal communities because they are developed using non-Native constructs of health, illness, and diabetes. Furthermore, mainstream methods of diabetes diagnoses, treatment, and discourse spur unintended consequences of shaming, blaming, and further marginalizing these populations. Now we ask: "Can diabetes be prevented or better coped with using culturally grounded ethnobotanical education programs?"

In response to the need for culturally grounded treatment, cultural restoration, and

ethnobotanical education programs are emerging in US-based tribal communities. These programs instruct participants on practi-

cal and accessible lessons in health maintenance and also serve to revitalize cultural traditions and collective identity—which many tribal members identify as the root cause of diabetes in AI/AN.

The essay that follows is the result of my study of the Traditional Foods and Medicines Program at the Northwest Indian Treatment Center in Elma, WA. This 45-day inpatient program features a weekly class devoted to traditional foods and medicine education. Through its holistic and culturally-grounded approach to individual and cultural healing, program staff work with patients and participants through relaying useful health maintenance information as well as working on the level of story and narrative to shift the course of this disease in tribal communities.

Methods

In this study I employed several qualitative methods, including literature review, participant observation, and semi-structured interviews.

An extensive review of the existing literature pertaining to diabetes prevention programs in tribal communities, social construction of disease, and relevant narrative theory was undertaken. Keywords used in PubMed searches include: diabetes, Native American, indigenous, native, attitudes, conceptions, traditional medicine, traditional knowledge, ethnobotany, ethnobiology, culturally appropriate care, historical trauma, generational trauma, narrative theory.

Participant observation was conducted on site at the Northwest Indian Treatment Center in Elma, WA one day per week over seven

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weeks. Weekly classes observed consisted of 20-25 patients and three staff members. A three-day course for tribal educators, Diabetes Prevention Through Traditional Foods and Medicines, was also observed.

Semi-structured interviews were conducted with four people who either functioned as a current or former program director, or current or former patient of the center. With current and previous patients, interviews were left open ended and the interviewee prompted only to share their experience in the Traditional Foods and Medicines Program.¹ The current director and program founder were prompted to:

- share stories or observations about the changes have they have seen in patients and the community as more people begin gardening, gathering food, and bringing back traditions;
- reflect on how plants connect to culture; and
- share what surprised them about the development, implementation and reaction to the Traditional Foods and Medicines Program.

A 30-minute group feedback session was also conducted with the center's current and graduating patients, and overall thoughts on the program were solicited in a relatively unstructured manner. Audio from the interviews was recorded, transcribed, and subsequently cited. Throughout the participant observation and interview process, special attention was

1. Given the sensitive nature of the treatment program, it is not appropriate to ask patients direct questions of health condition or status.

given to the role of ethnobotanical education in cultural healing.

Program materials were also analyzed for the case study portion, including Traditional Foods and Medicines Program curricula, Northwest Indian Treatment Center website content, grant reports, and articles by program staff.

The Social Construction of Diabetes

The social construction of health and illness. Concepts of health, illness, and narratives of disease are socially constructed and, to an extent, culturally determined. Social construction refers to a sociological theory of knowledge that considers the methods by which the meanings of phenomena are collectively constructed by a given group. In *The Social Construction of Reality* (1967), Peter L. Berger and Thomas Luckmann argue that all knowledge is derived from and maintained by social interactions. Social interactions assume and reaffirm commonly held notions of reality, which then solidifies into common sense or common knowledge.

What a culture deems an illness is therefore socially defined and constructed (Eisenberg 1978; Young 1982). In *The Anthropologies of Illness and Sickness* (1982), Alan Young describes sickness as “the process through which worrisome behavior and biological signs, particularly ones originating in disease, are given socially recognizable meanings” (p. 270). A culture's conceptions of illness are strands of the fabric that sustains social relations for a given group.

The biomedical construction of diabetes. Western biomedicine functions under the

biomedical model of health and disease, which regards pathologies as organic or physiological malfunctions of the human body. The institution of Western biomedicine emerged from the scientific revolution and is characterized by scientific reductionism, mechanistic thinking, emphasis on cause/effect dichotomies, and a linear orientation to health and illness (Bilton, Bonnett & Jones, 2002; Foucault, 1973). The following assumptions underlie this notion of disease:

- Disease is organic and based in malfunctioning physiology (Non-organic factors are deemed irrelevant).
- Disease is a temporary state of malfunctioning physiology that can be eradicated by medical intervention.
- Disease is experienced by a sick individual, who then becomes the target for treatment.
- Disease is treated after symptoms appear.
- Disease is treated in a medical environment (Bilton, Bonnett, & Jones, 2002, p. 356).

The biomedical model favors physiological explanations for disease. Following trends in scientific reductionism and mechanism, genetic explanations for disease have become extremely popular in recent years (Ferriera & Lang, 2006). Western biomedicine's increased focus on technological interventions and

modernist preference for expertise over tradition have effectively displaced folk medicine traditions. Trends now favor clinical inspection and expert opinion over patient's accounts of their own illness, creating a notable distance between the healthcare provider and patient (Bilton, Bonnett, & Jones 2002).

At present, current mainstream medical discourse on diabetes etiology focuses on genetic and lifestyle factors. The medical community and diabetes industry² publicizes obesity, family history and amount of American Indian ancestry as risk factors for developing the disease (Ferriera & Lang, 2006).³

The genetic explanation for diabetes has dominated discourse surrounding its etiology. The 'thrifty gene hypothesis,' in particular, has become popular among researchers and clinicians. The hypothesis is that there is a gene in some populations that protect the body by retaining fat in times of starvation due to great seasonal fluctuation. However, in contemporary settings and modern patterns of food consumption, this metabolic conservation can become maladaptive (Ferriera, 2006; Neel, 1999; Paradies, 2007).⁴ Diabetes prevention and treatment programs have utilized a number of approaches to curb incident rates in tribal communities. Programs and efforts typically aim to prevent the disease using lifestyle intervention (diet and exercise). Clinical nutrition education programs have had success in lowering blood glucose among participants (Wilson,

2. The term refers to the conglomeration of business entities and medical institutions that meet the demands of diabetes patients and healthcare providers, including diagnostic laboratories, pharmaceutical companies, and marketing firms.

3. Other potential social and political factors are deemed too metaphysical and irrelevant.

4. The thrifty gene theory bears semblance to the 'firewater theory'—that Indians cannot hold their liquor as well as Whites and are therefore more vulnerable to alcoholism.

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2003), though the incidence rates continue to increase. Popular and mainstream approaches to diabetes prevention tend to focus solely on blood sugar reduction through diet restriction and increase in physical activity. The Center for Disease Control directs the National Diabetes Prevention Program and acts as a model for other programs nationwide. Their program overview states:

The lifestyle program in this study showed that making modest behavior changes, such as improving food choices and increasing physical activity to at least 150 minutes per week, helped participants lose 5 to 7 percent of their body weight. These lifestyle changes reduced the risk of developing type 2 diabetes by 58 percent in people at high risk for diabetes...Participants work with a lifestyle coach in a group setting to receive a 1-year lifestyle change program that includes 16 core sessions (usually 1 per week) and 6 post-core sessions (1 per month).⁵

Mainstream diabetes prevention programs typically stress diet and body weight in developing diabetes and target exercise behavior and eating habits for intervention. In contrast, some populations and cultures carry drastically different constructs of the epidemic. While this approach may work for select populations, it's culturally incongruous and ill suited for native participants.

The Indigenous peoples' construction of diabetes. Indigenous peoples' constructs of health and illness starkly contrast that of Western biomedicine. Conceptions of health are fundamentally holistic and are based in the interconnectedness of individual, community, and land (Korn & Ryser, 2009; Krohn, 2007; Turner, 2005). Spiritual patterns, emotions, 5. Center for Disease Control 2012.

and social relationships are believed to play a role in health and disease (O'Connor & Huford, 2001). Spiritual life—and subsequently health—was connected to and inseparable from the land (Turner, 2005, p. 100). Indigenous constructs of health and illness are holistic and grounded in social, spiritual, and ecological relationships.

These beliefs stand in stark contrast to biomedical constructs of diabetes. North American indigenous understandings focus on colonization, historical trauma, and social oppression as the main causes of the epidemic. Native understandings of diabetes are socially constructed from experiences with historical trauma, as well as individual experiences and interpretations of biomedical explanations of the disease. Since the layperson's explanation of their illness has a fundamentally different purpose from that of the clinicians', their personal explanations of illness involve many different types of knowledge—incorporating memories from past events, subjective notions of causality, and patients' own beliefs about their own conditions (Williams & Wood, 1986). The following is a brief history of colonization in Salish coastal communities.

Generational trauma in Salish coastal communities. Northwest coastal Indian communities have weathered numerous and extreme blows to their culture over the last three centuries. Population strength, health, traditional foods, connection to land, and language have all undergone tremendous assault. These events do not remain static in time as a historical artifact; they persist today as generational trauma. Generational trauma is defined as emotional and psychological wounds that emanate from massive group trauma experiences that can persist in subsequent genera-

tions. Far from theoretical and confined to the realm of cultural analysis, generational trauma has concrete and specific effects on long-term psychological and physical health. Dr. Leslie Korn has articulated community trauma as “events that overwhelm a community’s capacities to function in stable and generative ways” (Korn, 2002).

Generational trauma is not confined to Salish communities. It is a global phenomenon that can be experienced and transmitted to future generations by any social group or population. Researchers have documented the presence of generational or historical trauma among the Lakota of South Dakota (Brave Heart, 1998, 1999, 2000, 2003), Indians of Western Mexico (Korn & Ryser, 2005), Jewish holocaust survivors (Kellerman, 2001; Yehuda et al., 1998; Sorscher, 1997), Khmer Rouge survivors (Sack, Clarke, & Seeley, 1995), Aborigines of Australia (Sherwood, 2009), children of women who were present during the Sept. 11 attacks (Yehuda et al., 2005), and Chilean holocaust survivors (Perez-Sales et al., 2000).

Salish peoples have endured a nearly continual onslaught of individual, community, and cultural trauma since European contact nearly three centuries ago. The assaults on individuals, families, and culture suffered during those years have caused an epidemic of generational trauma, and it has only recently begun to be addressed. This kind of trauma and culture wound has laid the foundation for chronic stress and other health issues, including diabetes.⁶

Epidemics. Numberless epidemics ravaged coastal populations and killed at least 80% of the population during the first century of

6. [see *Stress and Immune Function* on page 21].

contact beginning in the 1770s (Boyd, 1990). The wave of small pox epidemics struck Salish coastal populations in the late 1770’s. The first episode spread quickly throughout the region due to its epidemiological characteristics, the flight reaction (rapid fleeing of an area) of virgin soil populations,⁷ close proximity of individuals in pre-contact Salish communities, and their extensive social and economic networks along trade routes. Another smallpox outbreak struck in the early 1800’s on the Northwest coast and was more limited in its reach and rendered fewer casualties than the first (likely due to a decrease in virulence and acquired immunity of coastal populations). In 1824-1825, a plague referred to only as ‘Mortality’ in historic accounts (probably smallpox) struck the Southern coast and Columbia plateau (Boyd, 1990). These were not the only epidemics to affect Northwest coastal communities and Salish longhouses. Syphilis was introduced in 1778 via the Cook expedition, which mainly struck forts and European settlements on the coast. Tuberculosis struck populations in 1793 and reached critical proportions in the 1830’s with sustained European contact. The years of 1835-1847 saw a number of local epidemic outbreaks, including meningitis, smallpox, influenza, mumps, and dysentery. Measles outbreaks spread up to the Washington interior from California, then to the coast in 1848. Smallpox resurfaced again in 1853, and again in 1862 up the entire West coast, this time spurred by the Gold Rush (Boyd, 1990).

As a result, vaccination programs were developed and introduced during the 1860’s. They were originally met with great suspicion and mistrust in tribal communities. The very

7. Virgin soil populations are those that have had no previous contact with a given disease; and therefore no acquired immunity.

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notion of vaccines—the introduction of a pathogen into the body to develop immunity to it—was seen as fundamentally illogical (Boyd, 1990, p. 67). Nevertheless, they were eventually implemented at numerous sites along the coast during 1862. This helped curb the spread of infectious disease for the first time in nearly a century. With vaccination programs, the period of devastating plagues began to wane.

Throughout those years, outbreaks continually violated every aspect of Salish peoples' lives and culture. Social bonds, economic customs, and cosmological constructs were upset (Kirk, 1986; Boyd 1990). In the ensuing crisis, medicine traditions were intentionally disrupted. Indian doctors had no experience with these new plagues, and their practices were viewed as ineffective, leaving longhouse members confused and disappointed (Boyd, 1990; Krohn, 2007a). Moreover, medicine men were held accountable for the health of their people. Their people might have even executed them if they were seen as responsible for the illnesses (Bergeson, Ash, & Hurtado, 1988; p. 65).

Since notions of health and illness are so deeply embedded in constructs of spirit and culture, the cultural shock experienced by these epidemics was severe. Christian missionaries saw an opportunity to proselytize and convert Indians during this period of shock, condemning the 'ineffectual sorcery' of their medicine people and shamans (Boyd, 1990; Krohn, 2007). A 1904 excerpt from the "Quarterly sanitary report of diseases and injuries" of the United States Indian Service (Hoopa Valley Agency) illustrates an example of the explicit intent and initiative to eradicate medicine traditions.

In connection with the sanitary report...

the physician must note the progress the Indians are making in abandoning medicine men and adopting rational medicine methods, the proportional number of Indians who seek his service and those whom he seeks for treatment, what proportion he visits at their homes, and what proportion comes to his office or dispensary...He should do his best, with tact and firmness, to induce the Indians to discard the practices of their native medicine men and to substitute civilized treatment for superstitions and barbarous rites and customs. (Ferriera, 2006, p. 81)

These outbreaks not only severely disrupted traditional life ways; they also claimed many lives. This was not only traumatic, but also disruptive to the transmission of cultural knowledge and traditions (Harmon, 1998; Kirk, 1986). The assault of infectious diseases, evacuations, and resulting changes in cultural traditions during the first century of contact is a traumatic memory, with effects felt as recently as the 1960's. Beatrice Brown and Willie Gladstone of Bella Bella told the following account.

I don't know what the Hudson Bay people did to the Indians when they chased them out of Victoria. They had a big, really funny coat on them and they did something on the bow of the canoes and really chased them out, the Indians. And then there's a whole bunch of them in each canoe and they started off. Not very far, the first man got sick and, a little ways, another got sick...And when they feel ill, they just go ashore and put them in a blanket, you know, like a stretcher, and put them on the beach. They just leave them there till they die. (Boyd, 1990, p.187)

Reservation life. Prior to the establishment of the reservation system in the 1840s, northwest coastal peoples travelled to seasonal hunting and gathering sites (Boyd, 1990; Kirk, 1986). These semi-permanent communities consisted of temporary shelters in which individuals dwelled while gathering and preparing fish, game, and plant foods.

Throughout the 19th century, continued immigrant settlement among Indians strained natural resources in the Northwest and sparked conflicts between Indians and settlers. In 1853, Washington State became the territory of the United States, governed by Isaac Stevens. Stevens pioneered the implementation of the reservation policy of the United States in Washington, which claimed and sold land to westward-bound settlers (Bergeson, Ash, & Hurtado, 1988, p. 65). In 1854, Stevens began drafting treaties (based on formerly negotiated treaties in the Omaha territory) with Washington territory tribes and then people were urged to move to reservations. Many people did move, but most did not. This was a difficult process, as language barriers between Indians and the Americans proved to be challenging.⁸ Furthermore, there were no Indian concepts of land ownership as understood by the Americans or signed deeds. Yet in many instances threatened with hanging or war, Indian leaders and representatives had few alternatives to signing the treaties (Bergeson et al., 2007). The Treaty of 1855 contained seven sub-treaties

drafted with Northwest tribes under which 64 million acres became property of the state of Washington—leaving about 25% of the lands under treaty or later executive orders of the US President. As payment, tribes were promised annual annuities in the form of blankets, clothing, utensils, food and farming equipment⁹ (Harmon, 1998; Kirk, 1986).

After being sent to reservations Indian movement was increasingly restricted. Unable to seasonally travel for hunting gathering of food, traditional lifeways were severed (Krohn, 2007a; Turner, 2005). As an additional assault to culture, traditional ceremonies and gathering on reservations were banned altogether. *Potlach* or ‘giveaway’ ceremonies—a keystone of tribal culture, marker of status, and critical element of Northwest coast native economic structure—were outlawed and punishable by law (Kirk, 1986, p. 32). Nuuchah-nulth Chief Peter Webster describes the outrage felt by these injustices: “The Ahousahts were invited by the Clayoquots, so they went [and] their whole tribe got in jail...Myself, I say ridiculous! That didn’t seem the right way: to punish people and try to banish all what culture we had.”

This wasn’t the only blow dealt to native peoples’ relationship to the land. The US congress enacted the General Allotment Act (also known as the Dawes Act) in 1887 resulting in fragmentation of lands inside reservations with

8. The treaties were originally written in English and translated in Chinook for Indians (Bergeson et al., 2007). Chinook evolved as a common trade language in the Northwest for communication between Indians, settlers and tradesmen. Containing only approximately 300 words, it never became a true language, but remained a pidgin. Treaties written in English and translated into Chinook were therefore frequently misunderstood.

9. While gathering sites and rights were officially guaranteed protection, this was never actually enforced. Resource battles heated up between settlers and Indians, especially with fishing practices (Kirk, 1986; Harmon, 1998; Krohn, 2007a). Government officials erroneously assumed that Salish people would be primarily interested in European agricultural practices and were not prepared to enforce laws that protect hunting, gathering and fishing rites. Fishing rights were not upheld by the state or federal government until the Boldt decision of 1974 (Harmon, 1998; Krohn, 2007a). These promises ended up being severely delayed or unfulfilled altogether (Kirk, 1986).

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individual land ownership eventually allowing non-Indians to purchase lands next to Indian lands. This Act forced Indian family heads to select and individually own 160 acres of land (other individuals were allowed 80) opening the parcels of land for sale to non-Indians at minimal prices. It intentionally destroyed tribalism and delivered the final blow to community ownership of land. Opening reservation lands to purchase by non-Indians led to what became known as ‘checkerboard reservations’¹⁰ and the erosion of power and authority from Indian communities. While the Act was repealed in 1934, the damage to Salish land relations and community fabric had already been inflicted (Harmon, 2003; Kirk, 1986; Krohn, 2007a).

Boarding schools. During the 19th century, the new Bureau of Indian Affairs (BIA) enacted a policy of cultural assimilation through education. This is famously captured by Capt. Richard Pratt’s mantra of “Kill the Indian to save the man.” Indian boarding schools were modeled after 18th century prisons and identified all aspects of cultural life for reformation (Ferreira, 2006b). All cultural signifiers were targeted for modification: diet, clothing, language, and family names. The first American Indian boarding schools in Washington State appeared on the Cowlitz reservation in 1841. Children as young as six years of age were drafted into the schools--intentionally located far from home. They attended school nine months out of the year and visited home only during Christian holidays. Traditional foods were banned; students were stripped of their names and given new ‘white’ ones; speaking

10. Checkerboard reservations are those in which lands owned by tribes, individual Indians and non-Indians are mixed together on the reservation, creating a checkerboard pattern. They are notably prone to jurisdictional challenges (Indian Land Tenure Foundation, 2012).

an Indian language was illegal. Perpetrators faced brutal punishments for any transgression (Krohn, 2007a).

Eventually, the BIA changes its educational strategy and began closing the boarding schools in the 1920’s. By the following decade, most of children were sent to public schools instead. But scars remain from the wounds inflicted by these policies. Elders today remember being taken away from their homes and being subject to the cultural violence of the boarding schools. Mollie Rudd of the Yurok Indian Nation as quoted in Ferreira (2006b) expresses these emotions:

I just can’t get over all the beatings and rapings we went through in boarding school. I have nightmares. The children screamed at night, little children missing their parents. We were beaten up for any little thing we did, even for being hungry. We were kept locked up in a dark room if we spilled anything, slapped in the face for speaking Indian, beaten up if we dared to look the matrons in the eye. It was just horrible. My blood sugars go up just because I am thinking about it. In fact, I got diabetes when I learned that my son was going to be sent to Chemawa. It is just like being sent to prison. (Ferreira, 2006b, p. 368)

Some of the old boarding schools are operational today as juvenile detention centers for delinquent Indian youth, such as Chemawa in Northern California (Ferreira, 2006b).

Commodity foods. Food is a cornerstone of social life and culture in Salish communities. First foods ceremonies, for example, strengthened social bonds while honoring food as a gift from Spirit as well as the land

from which it came (Ferriera 2006b; Krohn & Segrest, 2010). Traditionally, Salish coastal peoples consumed a wide variety of food. The abundant environment provided fish, shellfish, game, wild greens, berries, nuts, and roots (Korn & Ryser, 2009; Krohn & Segrest, 2010). With seasonal changes, families and longhouses travelled to hunting and gathering sites and established temporary settlements. Cultural protocols dictated sustainable harvesting, gathering, and hunting practices to ensure ecological stability.

In the late 1800's, availability of these traditional foods—as well as the social bonds they support—began to decrease as a result of changes in land ownership, reservation life, loss of traditional knowledge, and environmental degradation. Dietary alterations were another method of “civilizing” the American Indian. Commodity foods¹¹ were items that northwest coastal peoples were not accustomed to eating. This kind of nutritional trauma may have a role to play in the development of the diabetes epidemic in tribal communities (Korn & Ryser, 2006; Korn & Ryser, 2009). Bruyere (2006) conducted interviews with members of the Nehinaw of Opaskwayak Cree Nation on their concepts and narratives of diabetes. Out of 22 participants, 20 felt that their diabetes was related to ecological destruction and the eradication of traditional life ways.

Because we eat differently. We eat like the white man. This is what I think. Because

11. Commodity foods are those that are produced, sold, and purchased commercially. They were reinforced in the diets of Salish people in boarding schools and with waves of Westward bound American settlers. Annuity payments to tribes for the land they sold consisted of pig fat, beans, flour, and sugar—none of which were originally in the diet (Krohn & Segrest, 2010).

a long time ago we did not open anything in a can. I remember when I was a child. Everything was grown, or people hunted. This is where we ate from. Today we go and buy everything. We do not know what is in it. This is where it comes from, I think. (Bruyere, 2006, p. 130)

Environmental degradation. In Indian culture and cosmology, health of the individual, family and community is inextricably linked to the health of the land. Environmental degradation by European settlers systematically devalued and annihilated these relationships and connections (Krohn, 2007; Turner, 2005). Specifically, deterioration and pollution of sacred sites and traditional hunting, gathering and fishing sites has been a painful affirmation of the severance of an individual and community's relationship to the land (Krohn & Segrest, 2010; Turner, 2005).

Stress and immune function. These onslaughts to culture, identity, and social structure leave lasting psychological and physical effects. More recent studies elucidate the relationship between social and political oppression, chronic stress, and health. Generational trauma creates conditions of chronic stress, which has been shown to depress immune function in medical students (Glaser et al., 1999), specifically inhibiting T-cells, natural killer lymphocytes, and the development of antibodies (Littrell, 1996). Janet Keicolt-Glaser's research (1996) with the hepatitis B vaccine found that students who self-identified as having low stress and anxiety showed improved immune response (higher antibody and T-cell counts) to the vaccine when compared with higher stress and anxiety students. A study Fagundes et al. (2003) found that women with higher education and satisfactory social sup-

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port had lower Epstein-Barr virus VCA titers when compared with other groups, suggesting a stronger cellular immune response to the latent virus.

Studies are also now linking group trauma (as well as social status and political oppression) to inhibited immune function. Research by McDade and colleagues (2002) identified that changes in social roles and status suppressed immune function in Samoan youth. One notable study investigated the long-term psychological consequences in first-degree relatives of people detained, disappeared or executed during the Chilean holocaust (Perez-Sales et al., 2000). The researchers found that second generation holocaust survivors reacted to adverse events with extreme stress. Finally, Jiang et al. (2008) found a number of psychosocial stresses to be significantly associated with diabetes in two tribal communities.

New developments in neuroendocrinology and immunology further support the connection between stress and metabolism (Sapolsky, 2004). Conditions of chronic stress can result in elevated glucocorticoid levels, negatively impacting blood sugar metabolism and insulin sensitivity (Moberg et al., 1994; Reaven et al., 1976; Rizza, Mandarino, & Gerich, 1982; Unger, 1991), immune cytokine production (Berkenbosch, Heijnen, & Croiset, 1986; Scheiman et al., 1995), and growth factor production (Thakore & Dinan, 1994). Other effects include compromised cognitive (Dantzer, 2002), digestive (Desirato, MacKinnon, & Hissom, 1974; Sapolsky, 2004), and cardiovascular function (Rozanski et al., 1991; Sapolsky & Share, 1994; Wallerath et al., 1999). Medical research corroborates the relationship between generational trauma, social oppression, stress, and physical health, and reveals a more ef-

fective strategy for curbing diabetes in tribal communication.

Socially constructed knowledge in diabetes program design and implementation.

Most of the diabetes prevention and treatment programs in tribal communities are designed and constructed using the biomedical model. Unfortunately, despite the efforts of the medical establishment, diabetes rates in these communities continue to increase. From the years 1990-1998, rates of diabetes rose from 4,534 to 7,736 in American Indians and Alaskan Natives 35 years of age and younger—an increase of 71%. During the same period, the overall prevalence rate for the entire AI/AN population increased by 46%.¹² A marked rise in Type 2 diabetes has been seen in AI youth and adolescents in the last decade (Carter, 2000; CDC, 2006; Lee, 2004). Alarming, the disparity in diagnosed diabetes between AI/AN and white youth has steadily increased from 2001-2007 (Roberts, 2009). Biomedical methods of diabetes discourse, diagnosis, and treatment also have the unintended consequences of further wounding Indian cultural identity and retraumatizing individuals.¹³

Generally, programs and initiatives develop in response to an identified need, problem, or noted deviation from a norm or expectation. The approach of a given program emerges from the developers' existing mental models and functional frameworks. Going further, each step of the design and development process requires creative action that is fundamentally founded in these models and frameworks. These models are socially constructed and therefore yield common understandings of a given phenomenon. Diabetes prevention

12. Source: Center for Disease Control, 2011

13. See page 24

programs that are constructed from a Western biomedicine understanding and approach will then contrast indigenous diabetes programs, which are based in different understandings of the disease.

Conflicting Narratives

Narrative theory can help gain insight into these divergent social constructions of diabetes. The lens and language of narrative can provide researchers and community members with a method of understanding the collective frameworks guiding the social construction of health and illness—and of diabetes in particular.

Narrative theory refers to a set of ideas and principles that identify story and discourse as a method of insight and communication. According to narrative analyst Ismail Talib (2011), narrative has a dualistic nature: a *what* (story) and a *way* (discourse). Narratives occur across scales, ranging from cultural myth and narrative to individual life stories, either of which can be explicit or implicit. Narrative theory elucidates how the stories and narratives by which an individual or culture functions and provides a framework for the meaning-making process. Narratives also embody and relay complex themes and worldviews through their expressed and explicit stories. So shifting one's focus and perception to the functional narratives within a given situation yields important insights. They can therefore function as powerful vehicles for system wide insight and change. The employment of narrative theory to understand the diabetes epidemic in American Indians elucidates its origins and social foundations and guides health workers and community members to leverage points for change. Diabetes program failures in

tribal communities are most likely due to the disparate social constructions of the biomedical establishment and tribal communities.

Mainstream diabetes discourse focuses on genetic explanations for the development of diabetes. The most widely known hypothesis is that of the thrifty gene (Neel, 1999; Paradies, 2007). However, this explanatory construct blames and shames American Indians for their disease by disproportionately focusing on genes and lifestyle. Numerous criticisms have arisen concerning its accuracy and utility in identifying diabetes risk (Speakman, 2008). Ferriera (2006a) conducted a statistical analysis of Yurok tribal members and incidences of diabetes and found a very weak correlation between so-called 'Indian heritage' and risk of diabetes. First, American Indian heritage is not universally defined and it has different meanings across tribal communities.¹⁴ This naturally complicates the attribution of diabetes risk to American Indian heritage. Additionally, severe famines are a rare and relatively modern occurrence. Most populations have experienced only 100 famines in their evolutionary history; decreasing the likelihood that selective pressure favored a 'thrifty gene' (Speakman, 2006).

Beyond discourse of diabetes etiology, receiving a diagnosis and prognosis is sometimes experienced as continued social oppression and colonization of the physical body. Clinically, the disease is diagnosed from a diffuse set of symptoms such as fatigue, weakness, and dizziness. The delivery of a diabetes diagnosis given vague symptoms is often

14. For example, the Pima tribe, Chippewa tribe (Minnesota Chippewa Tribe, 2000), as well as the Blackfeet tribe (Blackfeet Enrollment, 2010) requires 25% 'Indian blood' for enrollment. The Fort Still Apache tribe requires members to have 1/16 Indian blood (AAA Native Arts, 2008). Some tribes have no blood or lineal requirements.

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perplexing to the patient. Some see diagnosis as a curse itself, seen in this story told by Sarah Tsurai of the Yurok Indian Reservation to Marriane Ferriera (2006a).

*That's what the doctors tell me today:
"There's no such things as Indian devils!"
But I think it's just a matter of how you
look at things. Being Indian deviled is like
receiving a death sentence: "You are going
to die." And you do, because you believe in
it. So now the death sentence is: "You've
got diabetes" or "You've got cancer" or
something like that. If you accept the
diagnosis, you're dead. I like to think that
I don't have diabetes. Doctors say they
can prove it. When I think that way, I feel
the sentence. I feel that I've been Indian
deviled, too (Ferriera 2006a, p. 87).*

The perception that diabetes diagnosis and treatment is another form of social control is not uncommon in tribal communities, as biomedical rationale and methods often mimics the ideologies of government policies of early colonialism. In particular, the focus on 'bad blood,' 'bad genes,' and blood scrutiny (glucose screening) evokes painful memories and implicitly suggest helplessness. Sarah Horn tells Marriane Ferriera (2006a),

*At Sherman, they'd line us girls up to
check our [menstrual] pads. They wanted
to know exactly when we had our periods,
so they could control us and know if we
were seeing any boys. Not that we were
allowed to see them, but it was just like...
humiliating... So now you go to the clinic,
you get in line. They prick your finger and
test your blood. You get a number and that
number tells on you. If you haven't been
eating good, I mean, a lot of fat, sugar,*

*junk food, you know, the doctors can tell.
If you haven't been exercising too much,
watching a lot of TV, just sitting around,
they know too, because your blood sugar
goes up. So your blood sugar tells on you.
Don't you see? It's the same thing! (Fer-
riera, 2006a, p. 87).*

Given the current medical discourse on diabetes in Indian country, many tribal members and their communities hear the following tales:

- Indians have diabetes because they eat poorly and don't exercise enough, and many are obese.
- Indians and other tribal peoples are genetically predisposed to diabetes and other diseases.
- Indigenous peoples have a defective gene that becomes maladaptive (Ferriera 2006, p. 14).

Further research by Julia Anderson (2005) using interviews to explore diabetes patients' life conditions and health concepts revealed perceptions that the medical establishment and media portrays members of ethnic minorities as hopeless and helpless. This in turn bred discouragement and feelings of despair. These mainstream discourses relay messages of powerlessness, defeat, and certain doom. If it's in the blood, what can one do about it? Ethnographic research in the Yurok tribal community by Marriane Ferriera (2006a) revealed a connection between perceived risk of diabetes and moral blame as well as body imagery and changing social conditions. Additional ethnography inquiry by Bruyere (2006) produced similar insights. Nehinaw (Cree) conversations

about diabetes focused on power, identity, and social control as causes. One of the interviewees told Bruyere, “Today we are trying to be white men. I do not condone the way we are being looked after today. Ever since the white man controlled me, I am sick” (p. 135). In this context, health is political.

There is a fundamental difference in the medical establishment and tribal communities regarding constructions of the cause, prevention, and treatment of diabetes. Current medical discourse around diabetes attributes the disease to ‘Indian genes’ and lifestyle. Native understandings of diabetes see the disease as the product of generational trauma and colonialism. Nevertheless, at the epicenter of this debate is Indian identity, with individual and cultural narratives caught in the crossfire.

Diabetes programs based on indigenous social constructions. Culturally grounded diabetes programs tend to perform better than mainstream programs. A number of studies support the use of culturally appropriate diabetes education (Castro, 2009; Fleischhacker, 2011; Parker, 2011; Struthers, 2003; Willows, 2009). Brown et al. (2010) observed a tribal and youth-focused diabetes prevention program in Montana that successfully used community-based participatory research methods to identify culturally appropriate strategies to prevent the disease in their rural reservation community. Research by Mbeh et al. (2010) on the Cameroon Burden of Diabetes project suggested greater program efficacy with the involvement of traditional healers. The Waianae Diet Program is a community-based program of the Waianae Coast Comprehensive Health Center designed to address a multitude of chronic diseases among Native Hawaiians. Employing traditional diets and cultural teach-

ings as the core of the program’s philosophy and approach, participants experience significant weight loss (with no caloric restriction) and improvements in blood pressure, serum glucose, and lipids (Shitani, 1994). And where culturally appropriate diabetes prevention programs are lacking, they are desired. In a series of focus groups in Minnesota with African American, American Indian, Hispanic/Latino, and Hmong people with diabetes led by Devlin et al. (2006), participants stressed recommendations for respectful healthcare providers, culturally responsive diabetes education, and broad-based community action.

The Mino-Mijim (Good Food) program of the White Earth Land Recovery Project of the Ojibwe Nation in Northern Minnesota offers an example of a culturally grounded approach to diabetes education and prevention. Program staff delivers traditional foods to elder Anishinaabeg elders suffering from diabetes and prioritize the reclamation of community resources and cultural expression (Omura, 2006). According to project founder Winona LaDuke, “It’s not just a medical program, it’s not just a preventative health program. It’s a cultural restoration program” (LaDuke, 2002). What follows is a case study of a tribal ethnobotanical education program based in Elma, WA that supports community health through cultural restoration and traditional medicine practices.

The Center’s Traditional Foods and Medicines Program

The Northwest Indian Treatment Center (NWITC) is a 45-day inpatient drug and alcohol treatment center located in Elma, WA. The Squaxin tribe created the center in 1994 to address an unmet need for culturally based

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drug and alcohol treatment centers for Indian people who grew up on reservations (Krohn, 2011). Its spiritual name is “*D3WXbi Palil*,” meaning “Returning from the Dark, Deep Waters to the Light.” The center provides residential alcohol and drug treatment to a primarily Native American population from Washington, Oregon, and Idaho. It accommodates approximately 20-25 patients at a time and is operated by 33 staff members.

The center adopts a philosophy of healing in which mind, body, soul and culture are necessary, connected, and integrated. NWITC aims to incorporate activities that address all of these dimensions of recovery. According to founding director June O’Brien, when patients’ traditions are honored in the healing process, recidivism and retraumatization are much less likely to occur (Krohn, 2011). During a patient’s 6-week stay, they participate in a wide range of activities: group therapy sessions, dialectic-based therapy sessions, lectures, life skills education, drum making workshops, and sweat lodges. By NWITC adopting the approach of a culturally grounded, holistic recovery process, they’ve been able to achieve a 60% success rate. This stands in stark contrast to presumed national averages that, while difficult to measure, estimate a 10-20% success rate (personal communication, May 25, 2012). And there’s one activity the patients claim to enjoy to the most: the native plants class, formally known as the Traditional Foods and Medicines Program.

The Traditional Foods and Medicines Program.

We call the plants the first people. They were the first created in our oral tradition before the animals, before the fish, and

their duty was to hold the Earth together and live their life as a teaching for those who would be created in the future. The plants left many things to us as human beings. They left the ones who would be our food, they left the ones who would be our medicine, they left the ones who would be our building material, they left the ones that would be our basketry material, they left the that would be the scent and fragrance of the sacred in this universe, they left beauty and dressed the Earth. The Earth was bare before the plant people were created. –Bruce Miller, Gifts of the First People

The Traditional Foods and Medicines Program (TFMP) was created by the center in conjunction with the Northwest Indian College Cooperative Extension to increase patients’ access to and knowledge of high-quality traditional foods, including berries, wild greens, seafood, and game (personal communication, June 12, 2012). The program holds weekly hands-on classes covering cultivation, harvest, and preparation of traditional foods and medicines. Twice a month, tribal elders, storytellers, and cultural specialists are invited to speak (Krohn, 2011). While the focus is on traditional foods and medicines, cultural activities such as singing, drumming, a sweat lodge, beading, and support from local Native spiritual communities are part of the program and support patients during their recovery. Upon graduation from the treatment program, students receive a certificate of completion that demonstrates the acquisition of marketable skills to assist in gaining employment¹⁵ (Krohn, 2011).

15. One patient graduated from the program to become a gardener for his tribe. He eventually became a teaching assistant at NWITC. Another became a tribal health clinic janitor and helps maintain traditional plants garden in the community (Krohn, 2011).

The Diabetes Prevention through Traditional Plants program. Beyond weekly classes, the Traditional Foods and Medicines Program also presents workshops aimed at training tribal educators to teach the native foods and medicine classes in their home communities. These are known as ‘Train the Trainers’ and are developed for native teens and adults. One particular course focuses exclusively on diabetes prevention. The Diabetes Prevention through Traditional Plants program targets community educators, community members, and caregivers. The curriculum focuses on traditional foods and medicines that may help prevent and treat diabetes and its secondary health effects.¹⁶ It utilizes a variety of engaging and interactive teaching tools, such as prepared lesson plans, interactive class games, slide presentations, student handouts, and accessible teacher and student resources. It’s rooted in Salish epistemology and is easily modified according to the educator’s region. The course consists of four lessons: 1) Introduction to traditional foods and medicines for diabetes, 2) Traditional medicines for diabetes, 3) Native edible berries, and 4) Cooking with native foods (Krohn, 2012). I participated in the Diabetes Prevention through Traditional Plants program and observed occasional weekly native plants classes at NWITC over four months.

On the first day of the class, twelve of us sat in a circle of tables and introduced ourselves over a cup of Labrador tea.¹⁷ We were presented with the first lesson, *Introduction to Tradition Foods and Medicines for Diabetes*. This

16. The program intentionally refrains from physiological aspects of the disease and clinical nutrition guidelines and instead focuses on a culturally grounded and holistic approach to wellness.

17. A boiled tea of *Ledum* spp. leaves. Also known as Swamp tea, Marsh tea, or Indian tea. It is a traditional tea among Salish peoples.

overview of diabetes in tribal communities explored both biomedical and indigenous explanations, including dietary changes, changes in mobility, stress and generational trauma, and environmental toxins. After a short lecture introducing the program, we discussed Western Red Cedar (*Thuja plicata*) bark harvesting practices. Where the whole class was previously reserved, students enthusiastically shared experiences with cedar bark, and the room came to life with stories and hallmarks of cultural tradition. As we continued through the lesson, instructors Valerie Segrest and Elizabeth Campbell, led us outside to give us a tour of the garden. Elizabeth shares an insight for the educators in training, “It’s so important to get people outside, for them to actually see and be with the plants, to get their hands in the dirt. Whenever you can, get people outside and really connected with the plants.”

The following day featured Lesson 2, *Traditional Medicines for Diabetes*. This lesson contained ‘story cards’ which illustrated a particular lesson or insight. One of them, *Getting to Know the Plants* by Elise Krohn, expresses wisdom in cultivating relationships with medicinal plants:

When I first started learning about the plants, I read as many books as I could find. I filled my head with information and started experimenting with myself and then on my family and friends. I bought dozens of types of dried herbs and put them in glass jars, which I labeled with both common and scientific names, where they were from and how to use them. Later, I met a Native elder who was a medicine man. He showed me his plants where were in brown unmarked bags in a giant tub. I asked how he knew what the

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plants were without labels and he looked at me as though I was a young child. "Of course I know these plants. I have prayed over them, harvested them and made them as medicine. I have developed a life-long relationship with them." The elder shared with me that he had been learning plants since he was a young boy. His grandfather, a medicine man, took him out in the woods and taught him about the plants that provided food and medicine. He had to learn how to identify them blindfolded. I could see his vast experiential knowledge and intimate connection to the plants, and knew this was what I wanted. (Krohn, 2012)

The rest of the lesson reviewed basic plant harvesting, drying, storage, and preparation. It also stressed the validation of native sciences and epistemologies. Concepts of cultural property rights and protected knowledge were discussed, including examples of traditional knowledge exploitation. Finally, plants that may be helpful in preventing or treating diabetes were introduced, such as dandelion (*Taraxacum officinale*), hawthorn (*Crataegus spp.*), huckleberry (*Vaccinium parvifolium*), and others. As we continued to discuss the plants, students actively shared their family stories and experiences. The class always becomes enlivened and energized during these conversations. Discussions of traditional foods and medicines, family, and culture and community were clearly enjoyable for the students.

The final day of the program was devoted to Lessons 3 and 4. Lesson 3, *Native Edible Berries*, focused on berry plant identification and culinary uses. To test identification skills, the students played Berry Bingo. To segue into Lesson 4, *Cooking with Native Foods*, the class

made smoothies with blueberries and huckleberries. Throughout the class, the instructors frequently shared examples of transformations inspired by these cultural practices. Elise Krohn said, "Some people go home and make a garden. Some people make medicine with their families, and some teach others how to work with the plants." The class viewed a traditional plants slideshow. Western Red Cedar (*Thuja plicata*) and Cottonwood (*Populus trichocarpa*) are among the first plants discussed. Elise shares a story about how one of her mentors, Ken Smith, witnessed his father bring down a fever with cottonwood bark. Other people then begin share their experiences with the tree. One of the stories skunk cabbage (*Lysichiton americanus*) concerned a friend of ours who ate fresh skunk cabbage root out of curiosity. Containing irritating oxalate crystals, our friend spent a great deal of time in the bathroom rinsing her mouth out. The afternoon is peppered with these anecdotes and stories, and they engaged and energized the entire class.

Over the next few weeks, I was able to observe the weekly native plants class at NWITC. On one particular day, the staff is introducing the Traditional Foods and Medicines Program and teaching about native edible berries. The class began with the history of the Salish people, and of the necessity of plant traditions and cultural knowledge for overall well being. The class then segues into a discussion of huckleberries, a key Salish food with known hypoglycemic properties (Korn & Ryser, 2009). Again, many share their stories about gathering and preparing this important plant as medicine. Cultural teachings about honoring the plants and natural world through prayer and ceremony are also shared.

On another day, the class focused on nettles (*Urtica dioica*) and the preparation of herbal teas. With a lecture on nettles and their mineral content and demonstrations on tea infusion, patients are inspired and encouraged to make tea blends to help cope with stress and improve nutrition. The patients then mix tea blends for the kitchen to use during their stay. During another class on a sunny Spring day, the class departed on a field trip to the prairie where students learned how to dig camas (*Camassia quamash*) bulbs using traditional digging sticks. The weekly classes all proceeded this way; a variety of activities engage students in traditional food and medicine practices. And the classes all contain common themes: they were experiential, rooted in Salish traditional knowledge, provided basic health instruction, and engaged cultural narratives of health.

Towards the end of class one afternoon, we invited patients to share their experience of the program. In this group feedback discussion, patients who had taken the weekly classes offered by the Traditional Foods and Medicines Program reported experiencing transformation and inspiration.

I'd sure like to start a program when I do get out of here. And just taking in what I learned here is going to help. We have a lot of medicinal herbs at home, like Indian tea... and I want to start my own garden. And yeah-we can do it together [gesturing to another patient] (Personal communication, February 14, 2012).

I think the whole plants thing is a cool way to connect with traditions that's different, that everyone's not used to. People know about sweats and pow-wows, fishing...but plants were a big deal, especially for coastal

Natives. And a lot of us don't really think about it. So I think it's a cool way to connect with older generations like elders, to learn their lives, and have the young people learn. It brings families together (Personal communication, February 14, 2012).

It's my opinion that there should be more of this teaching...you know, botanical healing gardens, medicine wheels in different areas of our state to reacquaint the younger generation with the medicinal purposes of the plants, and of food (Personal communication, February 14, 2012).

Unlike mainstream diabetes prevention and education programs, this program is rooted in cultural understandings of health, illness, and human's relationship to nature. It educates participants on health maintenance, disease prevention, and personal care for their selves and families using local, abundant plants. They learn how the act of making tea can help reduce stress, that huckleberry can help regulate blood sugar, and other practical lessons. This program also has a broader reach. The teachings about plants, nature, and Salish cultural history are intended to engage cultural healing and community transformation. June O'Brien shared the story of NWITC and the culturally grounded approach to recovery.

The way I came to the idea of the plant program at the treatment center was through what I through Indian treatment should be. Often, Indian treatment is dominant culture treatment with an Indian add-on. The culture is not integrated into the treatment. Rather, the treatment is not cultural. The attempt to make treatment cultural shows up in programs that are what I call '12-step sweat lodge programs.'

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And maybe a spiritual leader comes in and does a talking circle. And, somehow, that's supposed to make the treatment Indian. And I knew that's not what you bring to a community that has had generations of historic trauma. You can't have dominant culture remedy for dominant culture abuse without it being re-abuse.

I really tried to imagine: what does treatment look like that is cultural? There are lots of threads that you bring into treatment once you're thinking that way. But I got to a point where I knew that something was missing. It just wasn't enough. So through my involvement with Skokomish and because I had been working with plants for a number of years, the light suddenly dawned on me that what we needed to bring in was the foods and the medicines—if we wanted it to be a place of medicine.

It was so much what we needed—to bring in food of a different kind, to bring the medicines...and to integrate them into the gardens so that the medicines are growing on the place. So that they're planted in the place; they're in the pharmacy. You can't walk by without walking by them, or seeing a picture of them, or inhaling their scent. So the plants became infused in the entire place. And the spirit of the place carried what needed to be carried.

And the patients wake up. There is something that happens between the patients and the plants that wakes them up in a way like nothing else does. You could say it wakes up their blood, or it wakes up their DNA, that their ancestors arrive on the scene. That the relationship between their

place, their home, where they come from, what they've related to for tens of thousands of years, wakes up in them. And you can feel their spirit just climb up and shine through their eyes.

Then they remember what Grandma said. And they remember the Indian word for something. They remember the way that something was used. And that is the way that the plants—the medicine of the plants—lift the patients up and reminds them who they are. They're not addicts or whoever it is the dominant culture told me to be. They are beautiful, magnificent people with an ancient relationship to this place and these medicines. And that's what wakes up. And when that does wake up, you can walk. You can find your way into recovery. (Personal communication, June 4, 2012)

Several NWITC patients shared the social and lifestyle changes inspired by the program. One patient from Colville shared his inspiration to revitalize traditional gathering practices in his family:

If [tribal members] knew more about our ways with the plants, trees, everything, there'd be more stuff to talk about, more stuff to do. Instead of 'Okay, our gathering is going to WalMart.' You know? Now I want to take my kid out more and go [huckleberry picking] because it is healing to go out and gather. I didn't realize that because I was so far into my addiction. I didn't know what was good and what was bad. (Personal communication, May 25, 2012)

Another patient interviewed told of the

sense of cultural heritage and healing cultivated throughout the course of the program:

It brings us back to our roots. A lot of us don't really touch base with that nowa-days. But it just goes to show the hard work they put in. We've lost a lot of the tracks that they've set. We veer off of our traditional ways. But that's what we need: to get back on the path. So I've learned about plants and how much healing they do for sickness, for scars. How the process goes about how it heals. (Personal communication, May 25, 2012)

Issues of cultural identity are apparent in these contexts. Stephanie Tompkins, director of NWITC, shared the vision, values, and approach of the center.

I believe that the patients, when they do [plants class], Elise [Krohn] gives them this gift that they get to remember. Somewhere in there, whether they realize it or not, something is coming alive in them. They're remembering who they are, where they came from, and where they're going. I think it is healing. Whether they stay clean and sober is not the issue. It's the seeds that are planted, the spirits that are brought alive. It teaches them pride, it teaches them respect. It starts breaking those chains of the abuse and addictions and low self-esteem and trauma. It's amazing that one little plant can do all that. It does. (Personal communication, May 25, 2012)

Plants, stories, and culture: Keys to community transformation.

Story is at the very heart of human existence, defining, communicating and

preserving cumulative experience, meaning and lesson. To the exact degree that we fail to develop, brand and communicate our story and the story of our group, it will by default end up framed and determined by commentators or authorities from outside.
—Jesse Wolf Hardin, 2011

Developmental psychologist Howard Gardner said, "Stories are the single most powerful weapon in an arsenal." The stories crafted about and conveyed to Salish peoples in the last few centuries have been disempowering. Mainstream diabetes discourse perpetuates this damaging narrative. Tribal community programs that can help transform these ill serving narratives hold tremendous promise for community health.

Cultures coevolved with their habitat over scores of generations. Throughout that time, the plant and animal species of that place become a cornerstone of culture. June O'Brien tells of the central role of plants at NWITC, "The plants infused into a healing setting reminds people of who they are. They wake them up and eases them back into what they come from." Elise Krohn further elaborates, "Plant traditions are not only good for people's health, they are an integral part of cultural knowledge and property" (Krohn, 2012). The messages embodied in stories about plants hold deep meaning. Stories conveying the relationships and fundamental interconnectedness between people, culture, and nature transmit positive messages of wholeness, independence, control, and empowerment.

Developments in positive psychology also contribute to the emerging insights around narrative and posttraumatic growth. Psychologist D.P. McAdams proposed a life story model

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of identity, which asserts that people “provide their lives with unity and purpose by constructing internalized and evolving narratives of the self” (McAdams, 2001). Working at the level of life stories, individuals can positively construct new understandings around traumatic experiences. Jamie Pennebaker’s research with trauma victims and self-disclosure found a correlation between autobiographical storytelling and health (Petrie, Booth, & Pennebaker, 1998; Watson & Pennebaker, 1989). His more recent research found tangible health benefits from identifying and expressing trauma. Subjects in an experimental group who wrote about traumatic events sought less medical care during the following year than the control group (Pennebaker, Kiecolt-Glaser, & Glaser, 1988). The research supports the use of holistic health interventions that engage personal and cultural narratives, stress reduction, plants education, and reconnection with the natural world.

Implications For Community Health Programs

This case study highlights ways that both native and non-native community health programs can glean useful insights into chronic disease prevention and response. The following sections apply to both native and non-native community health programs and initiatives.

Understanding & leveraging narrative.

Leveraging narrative has tremendous implications for creative social change. Narratives and stories not only structure experience—they also guide both social and individual meaning-making processes.¹⁸ Cultural theorists have elaborated on aspects of the guiding influence of myth and narrative on cultures and individuals (Pateman, 1984). Though various mechanisms have been proposed, underlying all the inquiries into the nature narrative reveal

18. See *Conflicting Narratives* on page 24

a common insight: they provide the framework for individual and collective experiences, guiding the process of social construction.

Narrative inquiry can be applied to community health education programs in a number of ways. It serves as a tool for insight as well as a means of communication and change. It can be applied to garner insights into operational frameworks, paradigms, potential trajectories, and system behavior. Used in settings involving generational trauma, social oppression, and chronic disease, narrative inquiry can yield especially valuable insights into underlying patterns of health and illness. In the case of diabetes in Salish communities, we can see the conflicting narratives of diabetes constructs in Western biomedicine and indigenous models. And this provides unique opportunities to shift operating constructs & beliefs in community settings.

Stories and narratives are also profound communication tools. They can convey complex themes, worldviews and paradigms in ways that are personally applicable and actionable. In the context of the Traditional Foods and Medicines Program, stories of traditional foods and medicine practices relay cultural values of interconnectedness, reciprocity, and community. Contained in stories are themes, metaphors, and perspectives that are not easily expressed in a didactic manner. In this context, they are carriers of meaning. Additionally, the multidimensional, transformative capabilities of stories and narrative make them applicable in a variety of social change settings, from political organizing (Polletta, 2006) to organizational consulting.¹⁹

19. smartMeme, a social change consultancy, uses what they call Story-Based Strategy framework to create a common narrative to integrate messaging, media, advocacy and organizing efforts by focusing on type of conflict, characters, imagery and visual metaphor, vision, and assumptions.

Experiential & Participatory Education. Experiential education is an important criterion for this community health programs, and has generated an overwhelmingly positive response from the Center's patients. The Traditional Foods and Medicines Program and the Diabetes Prevention Through Traditional Plants program are engaging, interactive, and highly practical. One patient told me, "I'm more of a visual and hands-on guy. I like to watch a movie or be out there and get my hands dirty." Program staff also utilizes a participatory approach to education and social change. The curriculum is based in native ways of knowing and indigenous epistemologies, and rejects the 'banking model' of education of dispensing information and maintaining dichotomous teacher/student roles (Freire, 1970). In a community health and education setting, this approach would likely be far more effective than a didactic approach.

Central community location. The location of a particular program or event enormously impacts its accessibility to community members. Therefore, hosting the Traditional Foods and Medicines Program and the *Diabetes Prevention Through Traditional Plants* program at a tribal treatment center makes the program easily accessible to tribal members. It's paramount for a program to be offered in an accessible, welcoming, and comfortable location—to meet the people where they are.²⁰

Appropriate outcomes measures. Any program or organization engaged in change work faces the task of measuring and demonstrating lasting and significant change. This

20. The next step for NWITC and TFMP is developing a greater presence on tribal reservations to help support patients after graduation from the program and departure from the center (Personal communication, May 25, 2012).

is especially important when employing a novel approach to individual and community healing, as demonstrated changes in outcomes can greatly strengthen a program's particular case, as well as overall strategy. In qualitative settings, this can pose a challenge. Program developers must deeply consider what they want to measure, and then design methods and practices for obtaining the data. While there are some ways in which Traditional Foods and Medicines Program collects participants' data to measure changes in attitude and lifestyle behaviors, culturally grounded evaluation tools are still in development.

Indigenous design & delivery. Richard Beckhard (1969) said, "People support what they help create" (p. 114). Programs that are designed and developed in alignment with the commonly held beliefs and social constructions of those they aim to serve will be more successful than those with incongruous constructs and models. Diabetes prevention programs that are grounded in cultural beliefs of health and disease better serve their constituents, as they're developed using the appropriate systems of knowledge. Therefore, end-user or community input and engagement is highly recommend for program design and implementation. Tribal programs should be designed and delivered by members of that community.

Conclusion: Reconnecting With the Wealth & Health of Our Spirits

For community health programs operating in multicultural settings, the Traditional Foods and Medicines Program offers broad insights for health maintenance and improvement. Not all insights and directives will be applicable, as community health and improvement efforts should be 'built from the ground up.' One of

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the key lessons of this study is the necessity of attending to cultural understandings of health and illness. This should be considered in discussions on disease etiology, in clinical interventions by examining and displaying sensitivity to a patient's life and culture story, and in attending the narrative strengthened by the presence and actions of a particular program. Like looking under the hood of a car, examining situations in terms of their narrative trajectory can yield rich insights—and point the way to empowering and successful community health initiatives.

Aside from transforming functional narrative, community leaders and healthcare works can introduce plants education in health programs as a means of basic health education and reconnection to the natural world. Connection to social and ecological communities is undoubtedly vital for health. As Elise Krohn stated, “Plants reconnect us with the wealth of who we are,” and to strengthen this connection is to open a world of rich possibilities.

With medical interventions eradicating many infectious diseases, rapid nutrient transition, and the loss of traditional life ways and practices, chronic disease is rapidly increasing. Diabetes is quickly spreading throughout developed and developing countries alike. And ethnobotanical education and community health programs are well suited to prevent its proliferation. Programs like THE TRADITIONAL FOODS AND MEDICINES PROGRAM are inexpensive and tend to several needs at once: basic health education, cultural healing, fortification of social fabric, ecological sustainability, and spiritual wholeness.

And this is perhaps the richest insight of all: the reconnection to place, family, and

community is the path to wellness. Botanical practices call us home—home to our family and ancestry, home to our communities, and home to health. With this approach, communities can truly build health from the ground up and help create a future of sustainability, cultural integrity, and holistic health in communities worldwide.

Acknowledgements

I am forever grateful to Elise Krohn, Elizabeth Campbell, Mandy Dillon, Stephanie Tompkins, June O'Brien, and patients of the Northwest Indian Treatment Center for their welcoming spirits and open hearts—and for their life-changing insights and inspiration. I have been deeply touched by their work. Elise was an especially gifted mentor, and I benefitted not only from her work in diabetes research, but her acuity and sensibilities as an herbalist and educator. Her counsel throughout this study was invaluable and will continue to be a source of inspiration. I also thank my thesis advisor, Dr. Katherine Davies for being a great guide and ally throughout this process, and whose support has meant a great deal to me. I owe many thanks to Dr. Rudolph Ryser of the Center for World Indigenous Studies for grooming me as a researcher, for challenging me, and always being a good friend. I'm indebted to Joyce Netishen for bringing me to the plants, and for her patience, dedication, and skill as a truly great herbalist and teacher. I thank Marriane Ferriera for her permission to reprint the stories collected during her ethnographic work on the Yurok reservation. Finally, my friends, family, and partner have been paramount in supporting me throughout this process, and I am forever grateful for them.

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About the Author

Renee Davis, MA is an Associate Scholar with the Center for World Indigenous Studies, community herbalist & cofounder of the Dandelion Seed Community Health

Project in Olympia, WA. With degrees in environmental anthropology and Whole Systems Design, her professional and research interests include ethno-botany, medical anthropology, and public health. She always wants more time to write, and is an avid tea drinker and proud bibliophile.

Contact

renee@cwis.org

Coping with diabetes and generational trauma in Salish tribal communities

Cite this article as:

Davis, R.A. (2013). "Coping with diabetes and generational trauma in Salish tribal communities." *Fourth World Journal*. Spring. Vol 12 Num 1. pp. 45-79.

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