

American Indians and Alaska Natives and Diabetes

Diabetes mellitus poses a significant public health challenge for the US. Some 800,000 cases are diagnosed each year, and changing demographic patterns in the US are expected to increase the number of people at risk for diabetes and who eventually develop the disease. Diabetes is a chronic disease that usually manifests as one of two major types. In type 1, which occurs mainly in children and adolescents, the body does not produce insulin, and insulin administration is required to sustain life. In type 2, which usually occurs in adults over 30 years of age, the body becomes unable to use its own limited supply of insulin effectively. (US DHHS, 2000).

Adult-onset diabetes also has **strong physiologic ties to cardiovascular disease (CVD)**. The majority of patients with diabetes mellitus die of complications of CVD rather than of causes associated directly with glucose control. (US DHHS, 2003).

Diabetes is a major clinical and public health challenge among certain racial and ethnic groups in which both the number of new cases of diabetes and the risk of associated complications are great. Vulnerable and high-risk populations include Asian Americans and Pacific Islanders, elderly persons, and economically disadvantaged persons. Factors that account for this chronic disease epidemic include behavioral elements (e.g., increased fat consumption, decreased physical activity, obesity), demographic changes (aging, increased growth of at-risk populations), genetics, cultural and community traditions, and socioeconomic status. The level of patient knowledge and empowerment has a great impact on the disease burden associated with diabetes. (US DHHS, 2000).

Overweight and Obesity

Overweight and obesity are major contributors to many preventable causes of death. On average, higher body weights are associated with higher death rates. Those who are overweight or obese have a substantially higher risk of developing high blood pressure, high cholesterol, type 2 diabetes, heart disease and stroke, gallbladder disease, arthritis, sleep disturbances and breathing problems, and certain types of cancer. (US DHHS, 2000).

- **Incidence and Mortality**
- **Complications**
- **Traditional Health Beliefs and Practices**
- **Risk Factors and Challenges**
- **Strengths and Protective Factors**
- **Adherence Factors**
- **Diet**
- **Complementary and Alternative Medicine**
- **Service Interventions**
- **References and Resources**

Complications

- One study showed a **49% prevalence of diabetic retinopathy in American Indians** in Oklahoma. Pima Indians also have high rates of diabetic retinopathy. (NDIC, 2002).
- From 1987 to 1990, **American Indians with diabetes experienced end-stage renal disease six times more frequently** than did non-Hispanic whites. Especially high rates of diabetic nephropathy (kidney disease) were seen in Alaska Natives and in Cherokee, Chippewa, Navajo, Oklahoma, Pima, Sioux, and Zuni tribes. (NDIC, 2002).
- Among Alaska Natives, **women are more likely to develop end-stage renal disease and are more likely to die of renal failure** than men are. (NDIC, 2002).
- The incidence of **periodontal disease is 2.6 times higher in Pima Indians with diabetes** than in those without it. (NDIC, 2002).

References and Resources

Association of American Indian Physicians. (2001). *Yakama tribal WIC program and Washington State Department of Health WIC Program*. Oklahoma City, OK: Association of American Indian Physicians.

Centers for Disease Control and Prevention (CDC). (1999). Trends in diabetes prevalence among American Indian and Alaska Native children, adolescents, and young adults, 1990–1998. <http://www.cdc.gov/diabetes/pubs/pdf/aian.pdf>. Cited September 12, 2003.

Centers for Disease Control and Prevention (CDC). (2002). Diabetes projects. <http://www.cdc.gov/diabetes/projects/cda2.htm>. Cited September 12, 2003.

Department of the Interior. (2002). Indian entities recognized and eligible to receive services from the United States Bureau of Indian affairs; Notice. *Federal Register*, Friday, July 12.

Diversity Resources, Inc. (2001). *Culture sensitive health care: American Indian*. Blacksburg, VA: Virginia Tech, Office of Multicultural Affairs, Diversity and Work/Life Resource Center. <http://www.multicultural.vt.edu/divresources/indian.html>. Cited July 8, 2003.

Fagot-Campagna, A., Burrows, N.R., and Williamson, D.F. (1999). The public health epidemiology of type 2 diabetes in children and adolescents: A case study of American Indian adolescents in the southwestern United States. *Clinica Chimica Acta* 286(1–2):81–95. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10511286&dopt=Abstract. Cited September 12, 2003.

Glanz, K. (2003). *Cancer in women of color monograph*. Bethesda, MD: US Department of Health and Human Services, National Cancer Institute. <http://cancercontrol.cancer.gov/womenofcolor/index.html>. Cited August 27, 2003.

Ghodes, D. (1995). Diabetes in North American Indians and Alaska Natives. In *Diabetes in America*, 2nd ed. NIH Publication No. 95-1468. Bethesda, MD: National Diabetes Data Group, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. <http://diabetes.niddk.nih.gov/dm/pubs/america>. Cited August 27, 2003.

Good Tracks, J. (1973). Native American non-interference. *Social Work* 18(6):30–35.

Hendrix, L.R. (2002). *Health and health care of American Indian and Alaska Native elders*. Stanford, CA: Stanford University. <http://www.stanford.edu/group/ethnoger/americanindian.html>. Cited August 14, 2003.

Human Resource Services Administration (HRSA). (2003b). *Culture*. Module 3, in draft. Washington, DC: Bureau of Primary Health Care, Institute for Healthcare Improvement, Cultural Competence in the Clinical Care Model Project.

Human Resource Services Administration (HRSA). (2003c). *Complementary and alternative medicine: Issues in serving diverse populations*. Module 5, in draft. Washington, DC: Bureau of Primary Health Care, Institute for Healthcare Improvement, Cultural Competence in the Clinical Care Model Project.

Human Resource Services Administration (HRSA). (2003d). *Pharmacological treatment issues in diverse populations*. Module 6, in draft. Washington, DC: Bureau of Primary Health Care, Institute for Healthcare Improvement, Cultural Competence in the Clinical Care Model Project.

Indian Health Service. (2000). *Trends in Indian health 1998–1999*. Rockville, MD: US Department of Health and Human Services, Indian Health Service.
<http://www.ihs.gov/publicinfo/publications/trends98/trends98.asp>. Cited October 21, 2003.

Indian Health Service. (2001). Diabetes. <http://info.ihs.gov/Health/Health4.pdf>. Cited August 26, 2003.

Kittler, P.G., and Sucher, K.P. (1998). *Food and culture in America: A nutrition handbook*, 2nd ed. Belmont, CA: West/Wadsworth.

Management Sciences for Health (MSH). (2003a). The provider's guide to quality & culture. www.erc.msh.org. Cited July 31, 2003.

Management Sciences for Health (MSH). (2003b). Reducing health disparities in Asian American and Pacific Islander populations: An interactive virtual seminar for providers.

May, P.A., and Gossage, J.P. (2001). New data on the epidemiology of adult drinking and substance use among American Indians for the northern states: Male and female data on prevalence, patterns, and consequences. *Journal of the National Center for American Indian and Alaska Native Mental Health Research* 10(2):1–26.
[http://www.uchsc.edu/ai/ncaianmhr/journal/10\(2\).pdf](http://www.uchsc.edu/ai/ncaianmhr/journal/10(2).pdf). Cited August 22, 2003.

Minnesota Department of Health. (2001). *Health fact sheet*. November 19.

Mutha, S., Allen, A., and Welch, M. (2002). *Toward culturally competent care: A toolbox for teaching communication strategies*. San Francisco: University of California, Center for the Health Professions.

National Diabetes Education Program. (1999). The diabetes epidemic among American Indians and Alaska Natives. <http://ndep.nih.gov/materials/mediakits/am-ind/diabetesamind.pdf>. Cited August 27, 2003.

National Diabetes Information Clearinghouse (NDIC). (2002). *Diabetes in American Indians and Alaska Natives*. NIH Publication No. 02-4567. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases.
<http://diabetes.niddk.nih.gov/dm/pubs/americanindian/index.htm>. Cited August 26, 2003.

National Heart, Lung, and Blood Institute. (2001). *Strong heart study data book: A report to American Indian communities*. NIH Publication No. 01-3285.

http://www.nhlbi.nih.gov/resources/docs/shs_db.pdf. Cited August 26, 2003.

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). (2002). Diabetes prevention study benefits American Indian participants.

<http://www.niddk.nih.gov/welcome/releases/02-06-2002.htm>. Cited August 26, 2003.

National Women's Health Information Center. (2003). Health information for minority women: American Indian/Alaska Native women: Diabetes.

<http://www.4woman.gov/minority/index.cfm?page=181>. Cited August 26, 2003.

Native American Diabetes Project. (2003). Strong in body and spirit.

<http://www.laplaza.org/health/dwc/nadp/index.htm>. Cited August 27, 2003.

Noe, T., Fleming, C., and Manson, S. (2003). Healthy nations: Reducing substance abuse in American Indian and Alaska Native communities. *Journal of Psychoactive Drugs* 35(1):15–25.

<http://www.uchsc.edu/ai/hni/>. Cited August 25, 2003.

Office of Minority Health. (2002). National forum on health disparity issues for American Indians and Alaska Natives, September 22–26.

http://www.omhrc.gov/omh/tribal%20colleges/2pgtcu/plans_tcu_002.htm. Cited February 13, 2003.

Oropeza, L. (2002). *Clinician's guide: Working with Native Americans living with HIV*.

Oakland, CA: National Native American AIDS Prevention Center (NNAAPC).

<http://ewebs.realtimesites.net/ds-Southwestern/sout-j-1/ImagesCust/970037646-10-01-2002-10-56-57e.pdf>. Cited August 25, 2003.

Rainbow Nations. (2003). Smudging. <http://www.rainbownations.com/>. Cited September 12, 2003.

Robinson, B.A. (2002). *Native American spirituality*. Ontario, CA: Consultants on Religious Tolerance. <http://www.religioustolerance.org/nataspir.htm>. Cited July 14, 2003.

Sage, G.P. (2001). Worldview, identity, and prevention in American Indian communities. In Trimble, J.E., and Beauvais, F. (eds.). *Health promotion and substance abuse prevention among American Indian and Alaska Native communities: Issues in cultural competence*. DHHS Publication No. SMA 99-3440. Washington, DC: US Department of Health and Human Services, pp. 67–80.

Smedley, B.D., Stith, A.Y., and Nelson, A.R. (eds.). (2003). *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington, DC: National Academies Press, Institute of Medicine.

US Department of Health and Human Services (US DHHS). (2000). *Healthy people 2010: Understanding and improving health*, 2nd ed. Washington, DC: US Government Printing Office. <http://www.bphc.hrsa.gov/quality/HealthyPeople2010.htm>. Cited August 26, 2003.

US Department of Health and Human Services (US DHHS). (2003). Demographics and health disparities. Draft curriculum module 2 for Cultural Competence in the Clinical Care Model Project. Washington, DC: Health Resources and Services Administration, Bureau of Primary Health Care.

Weaver, H.N. (1998). Indigenous people in a multicultural society: Unique issues for human services. *Social Work* 43(3).