

Cancer in Amrica Research Literatures

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Abstract: Cancer is the general name for a group of more than 100 diseases. Although there are many kinds of cancer, all cancers start because abnormal cells grow out of control. Untreated cancers can cause serious illness and death. The body is made up of trillions of living cells. Normal body cells grow, divide, and die in an orderly fashion. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries. This article introduces recent research reports as references in the cancer in America related studies.

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1. Introduction

Cancer is the general name for a group of more than 100 diseases. Although there are many kinds of cancer, all cancers start because abnormal cells grow out of control. Untreated cancers can cause serious illness and death. The body is made up of trillions of living cells. Normal body cells grow, divide, and die in an orderly fashion. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries.

The following introduces recent reports as references in the related studies.

Abernethy, A. D., T. R. Houston, et al. "Religiousness and prostate cancer screening in African American men." *J Psychosoc Oncol*. 2009;27(3):316-31. doi: [10.1080/07347330902979036](https://doi.org/10.1080/07347330902979036).

This study was designed to examine the relationship between religiousness (organized, nonorganized, and intrinsic) and religious problem solving (collaborative, deferring, and self-directing) in prostate cancer screening (PCS) attitudes and behavior. Men (N = 481) of African descent between the ages of 40 and 70 participated. Hierarchical regression analyses revealed that religiousness and self-directed problem solving were associated with PCS attitudes. Intrinsic religiousness was associated with PCS attitudes after controlling for health and organized religiousness. Religiousness was not associated with PCS behavior. Intrinsic religiousness may be an important dimension of religiousness to be considered in tailoring cancer interventions for individuals from faith-based communities.

Adams, E. K., N. Breen, et al. "Impact of the National Breast and Cervical Cancer Early Detection Program on mammography and Pap test utilization among white, Hispanic, and African American women: 1996-2000." *Cancer*. 2007 Jan 15;109(2 Suppl):348-58.

Prevention, including routine cancer screening, is key to meeting national goals for the elimination of death and suffering due to cancer. Since 1991, the U.S. government has invested in programs such as the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) to detect breast and cervical cancer early among uninsured low-income women. A concomitant goal is reducing racial disparities in screening and early detection, and the NBCCEDP program targets low-income women who are more often racial and ethnic minorities. This paper analyzes data to test for effects of the NBCCEDP and other determinants of screening across racial/ethnic groups. We used data from the Behavioral Risk Factor Surveillance System (BRFSS) for 1996 through 2000. These data indicate that gaps in testing for breast and cervical cancers between African American and non-Hispanic white women aged 40-64 years have closed but remain for Hispanics. Multivariate findings indicate that the longevity of free screening sites through the NBCCEDP significantly increased both tests for non-Hispanic white women. The data do not confirm this effect for other racial and ethnic groups. Analysis did indicate that public insurance, or Medicaid, was equal to private insurance in promoting increased testing for African Americans and Hispanics, but not for non-Hispanic whites. Assuring that Medicaid remains available for women in this nonelderly group and increasing access to free screening sites can lead us closer to national screening goals, yet policies still need to address racial/ethnic disparities in insurance and service delivery. *Cancer* 2007. (c) 2006 American Cancer Society.

Becker, T. M., D. K. Espey, et al. "Regional differences in cervical cancer incidence among American Indians and Alaska Natives, 1999-2004." Cancer. 2008 Sep 1;113(5 Suppl):1234-43. doi: 10.1002/cncr.23736.

BACKGROUND: Reports from limited geographic regions indicate higher rates of cervical cancer incidence in American Indian and Alaska Native (AI/AN) women than in women of other races. However, accurate determinations of cervical cancer incidence in AI/AN women have been hampered by racial misclassification in central cancer registries. **METHODS:** The authors linked data from cancer registries participating in the National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program with Indian Health Service (IHS) enrollment records to improve identification of AI/AN race. NPCR and SEER data were combined to estimate annualized age-adjusted rates (expressed per 100,000 persons) for the diagnosis years 1999 to 2004. Analyses focused on counties known to have less racial misclassification, and results were stratified by IHS Region. Approximately 56% of AI/ANs in the US reside in these counties. The authors examined overall and age-specific incidence rates and stage at diagnosis for AI/AN women compared with non-Hispanic white (NHW) women. **RESULTS:** Invasive cervical cancer incidence rates among AI/AN women varied nearly 2-fold across IHS regions, with the highest rates reported in the Southern Plains (14.1) and Northern Plains (12.5); the lowest rates were in the Eastern region and the Pacific Coast. Overall, AI/AN women had higher rates of cervical cancer than NHW women and were more likely to be diagnosed with later stage disease. **CONCLUSIONS:** The wide regional variation of invasive cervical cancer incidence indicates an important need for health services research regarding cervical cancer screening and prevention education as well as policy development regarding human papillomavirus vaccine use, particularly in the regions with high incidence rates. Cancer 2008;113(5 suppl):1234-43. Published 2008 by the American Cancer Society.

Bennett, C. L., T. J. Stinson, et al. "Evaluating the financial impact of clinical trials in oncology: results from a pilot study from the Association of American Cancer Institutes/Northwestern University clinical trials costs and charges project." J Clin Oncol. 2000 Aug;18(15):2805-10.

PURPOSE: Medical care for clinical trials is often not reimbursed by insurers, primarily because of concern that medical care as part of clinical trials is expensive and not part of standard medical practice. In

June 2000, President Clinton ordered Medicare to reimburse for medical care expenses incurred as part of cancer clinical trials, although many private insurers are concerned about the expense of this effort. To inform this policy debate, the costs and charges of care for patients on clinical trials are being evaluated. In this Association of American Cancer Institutes (AACI) Clinical Trials Costs and Charges pilot study, we describe the results and operational considerations of one of the first completed multisite economic analyses of clinical trials. **METHODS:** Our pilot effort included assessment of total direct medical charges for 6 months of care for 35 case patients who received care on phase II clinical trials and for 35 matched controls (based on age, sex, disease, stage, and treatment period) at five AACI member cancer centers. Charge data were obtained for hospital and ancillary services from automated claims files at individual study institutions. The analyses were based on the perspective of a third-party payer. **RESULTS:** The mean age of the phase II clinical trial patients was 58.3 years versus 57.3 years for control patients. The study population included persons with cancer of the breast (n = 24), lung (n = 18), colon (n = 16), prostate (n = 4), and lymphoma (n = 8). The ratio of male-to-female patients was 3:4, with greater than 75% of patients having stage III to IV disease. Total mean charges for treatment from the time of study enrollment through 6 months were similar: \$57,542 for clinical trial patients and \$63,721 for control patients (1998 US\$; P = .4). **CONCLUSION:** Multisite economic analyses of oncology clinical trials are in progress. Strategies that are not likely to overburden data managers and clinicians are possible to devise. However, these studies require careful planning and coordination among cancer center directors, finance department personnel, economists, and health services researchers.

Brown, L. M., G. Gridley, et al. "Low level alcohol intake, cigarette smoking and risk of breast cancer in Asian-American women." Breast Cancer Res Treat. 2010 Feb;120(1):203-10. doi: 10.1007/s10549-009-0464-4. Epub 2009 Jul 12.

Studies have shown that breast cancer incidence rates among Asian migrants to the United States approach US incidence rates over several generations, implicating potentially modifiable exposures such as moderate alcohol use that has been linked to excess breast cancer risk in other populations. The goal of this study was to investigate the effect of alcohol intake, primarily low levels, on breast cancer risk in Asian-American women and explore whether smoking and alcohol contributed to the breast cancer incidence rates observed among Asian migrants to the United States. Study subjects in

this population-based case-control study included 597 incident cases of breast cancer of Chinese, Japanese, and Filipino ethnicity living in San Francisco-Oakland, Los Angeles, and Oahu, Hawaii, and 966 population controls frequency matched on age, ethnicity, and area of residence. The fraction of smokers and drinkers was significantly higher in women born in Western compared with Eastern countries. However, breast cancer risk was not significantly associated with smoking (odds ratio (OR) = 1.2, 95% confidence interval (95% CI) = 0.9-1.6) or alcohol drinking (OR = 0.9, 95% CI = 0.7-1.1) in this population of low consumers of alcohol (median intake among drinkers in grams per day was 0.48 for cases and 0.40 for controls). These data suggest that low alcohol intake is not related to increased breast cancer risk in Asian-American women and that neither alcohol nor cigarette use contributed to the elevated risks in Asian-American women associated with migration patterns and Westernization.

Campbell Jenkins, B. W., C. Addison, et al. "Association of the joint effect of menopause and hormone replacement therapy and cancer in African American women: the Jackson Heart Study." Int J Environ Res Public Health. 2011 Jun;8(6):2491-504. doi: 10.3390/ijerph8062491. Epub 2011 Jun 23.

Cancer is the second leading cause of death in the US and in Mississippi. Breast cancer (BC) is the most common cancer among women, and the underlying pathophysiology remains unknown, especially among African American (AA) women. The study purpose was to examine the joint effect of menopause status (MS) and hormone replacement therapy (HRT) on the association with cancers, particularly BC using data from the Jackson Heart Study. The analytic sample consisted of 3202 women between 35 and 84 years of which 73.7% and 22.6% were postmenopausal and on HRT, respectively. There were a total of 190 prevalent cancer cases (5.9%) in the sample with 22.6% breast cancer cases. Menopause ($p < 0.0001$), but not HRT ($p = 0.6402$), was independently associated with cancer. Similar results were obtained for BC. BC, cancer, hypertension, type 2 diabetes, prevalent cardiovascular disease, physical activity and certain dietary practices were all significantly associated with the joint effect of menopause and HRT in the unadjusted analyses. The family history of cancer was the only covariate that was significantly associated with cancer in the age-adjusted models. In examining the association of cancer and the joint effect of menopause and HRT, AA women who were menopausal and were not on HRT had a 1.97 (95% CI: 1.15, 3.38) times odds of having cancer compared to pre-menopausal women after adjusting for age; which was attenuated after

further adjusting for family history of cancer. Given that the cancer and BC cases were small and key significant associations were attenuated after adjusting for the above mentioned covariates, these findings warrant further investigation in studies with larger sample sizes of cancer (and BC) cases.

Cardenas, V. M., M. J. Thun, et al. "Environmental tobacco smoke and lung cancer mortality in the American Cancer Society's Cancer Prevention Study. II." Cancer Causes Control. 1997 Jan;8(1):57-64.

Environmental tobacco smoke (ETS) has been classified as a human lung carcinogen by the United States Environmental Protection Agency (EPA), based both on the chemical similarity of sidestream and mainstream smoke and on slightly higher lung cancer risk in never-smokers whose spouses smoke compared with those married to nonsmokers. We evaluated the relation between ETS and lung cancer prospectively in the US, among 114,286 female and 19,549 male never-smokers, married to smokers, compared with about 77,000 female and 77,000 male never-smokers whose spouses did not smoke. Multivariate analyses, based on 247 lung cancer deaths, controlled for age, race, diet, and occupation. Dose-response analyses were restricted to 92,222 women whose husbands provided complete information on cigarette smoking and date of marriage. Lung cancer death rates, adjusted for other factors, were 20 percent higher among women whose husbands ever smoked during the current marriage than among those married to never-smokers (relative risk [RR] = 1.2, 95 percent confidence interval [CI] = 0.8-1.6). For never-smoking men whose wives smoked, the RR was 1.1 (CI = 0.6-1.8). Risk among women was similar or higher when the husband continued to smoke (RR = 1.2, CI = 0.8-1.8), or smoked 40 or more cigarettes per day (RR = 1.9, CI = 1.0-3.6), but did not increase with years of marriage to a smoker. Most CIs included the null. Although generally not statistically significant, these results agree with the EPA summary estimate that spousal smoking increases lung cancer risk by about 20 percent in never-smoking women. Even large prospective studies have limited statistical power to measure precisely the risk from ETS.

Carey Jackson, J., V. M. Taylor, et al. "Development of a cervical cancer control intervention program for Cambodian American women." J Community Health. 2000 Oct;25(5):359-75.

Southeast Asian immigrants have lower levels of Pap testing than any other racial/ethnic group in the US, and are particularly unfamiliar with western culture and biomedical concepts of prevention. We completed an ethnographic study (N = 42) focusing on

cervical cancer screening among Cambodian American women. We also conducted a community-based survey (N = 413) to examine the generalizability of our qualitative results. This report summarizes the results, and describes how we used our findings to influence the content of a multifaceted intervention program targeting Cambodian immigrants. The following constructs were found to be barriers to cervical cancer control: a traditional orientation to the prevention, causation, and treatment of disease; lack of familiarity with western early detection concepts; low levels of knowledge about cervical cancer; concerns about the Pap testing procedure; and health care access issues. In general, the quantitative results confirmed our ethnographic findings. The intervention program, which is delivered by bicultural outreach workers, includes home visits, presentations at small group meetings, barrier-specific counseling, use of a Khmer-language video, and tailored logistic assistance (e.g., transportation and medical interpretation). Both the video and presentation provide cultural context while simultaneously addressing multiple barriers to screening (e.g., women's fear of surgery and preference for female providers). Outreach workers are trained to counsel women about 10 potential barriers including avoidance of biomedicine, perceptions that gynecologic exams are embarrassing, and lack of English proficiency. Our results reinforce the importance of considering health problems within the context of a population's traditional belief systems and daily routines.

Consedine, N. S., C. Magai, et al. "Breast cancer knowledge and beliefs in subpopulations of African American and Caribbean women." Am J Health Behav. 2004 May-Jun;28(3):260-71.

OBJECTIVE: To examine breast cancer belief and knowledge deficits among previously unstudied African and Caribbean subpopulations and to consider the particular knowledge and belief components that are most lacking in each group. **METHODS:** 1,364 African American, US-born white, English-speaking Caribbean, Haitian, Dominican, and Eastern European women were recruiting via stratified-cluster sampling. Participants provided demographics and measures of beliefs and knowledge. **RESULTS:** There were between-group differences in cancer knowledge and beliefs and within-group variation in terms of which particular knowledge and belief items varied. **CONCLUSIONS:** Studying how cognitive factors relate to screening in well-defined minority groups will capacitate interventions suited to the knowledge and belief deficits that characterize populations of diverse women.

Dussel, V., K. Bona, et al. "Unmeasured costs of a child's death: perceived financial burden, work disruptions, and economic coping strategies used by American and Australian families who lost children to cancer." J Clin Oncol. 2011 Mar 10;29(8):1007-13. doi: 10.1200/JCO.2009.27.8960. Epub 2011 Jan 4.

PURPOSE: Financial concerns represent a major stressor for families of children with cancer but remain poorly understood among those with terminally ill children. We describe the financial hardship, work disruptions, income loss, and coping strategies of families who lost children to cancer. **METHODS:** Retrospective cross-sectional survey of 141 American and 89 Australian bereaved parents whose children died between 1990 and 1999 and 1996 to 2004, respectively, at three tertiary-care pediatric hospitals (two American, one Australian). Response rate: 63%. **RESULTS:** Thirty-four (24%) of 141 families from US centers and 34 (39%) of 88 families from the Australian center reported a great deal of financial hardship resulting from their children's illness. Work disruptions were substantial (84% in the United States, 88% in Australia). Australian families were more likely to report quitting a job (49% in Australia v 35% in the United States; P = .037). Sixty percent of families lost more than 10% of their annual income as a result of work disruptions. Australians were more likely to lose more than 40% of their income (34% in Australia v 19% in the United States; P = .035). Poor families experienced the greatest income loss. After accounting for income loss, 16% of American and 22% of Australian families dropped below the poverty line. Financial hardship was associated with poverty and income loss in all centers. Fundraising was the most common financial coping strategy (52% in the United States v 33% in Australia), followed by reduced spending. **CONCLUSION:** In these US and Australian centers, significant household-level financial effects of a child's death as a result of cancer were observed, especially for poor families. Interventions aimed at reducing the effects of income loss may ease financial distress.

Escobedo, L. G., S. D. Rivas, et al. "Prostate cancer mortality in Connecticut, Iowa and New Mexico African American men." Cancer Detect Prev. 2004;28(5):375-80.

We sought to assess trends in prostate cancer incidence, treatment and mortality in African American men by means of analysis of prostate cancer data from three states, Connecticut, Iowa and New Mexico, all participants in the Surveillance, Epidemiology, and End Results (SEER) Program. Compared with levels before prostate specific antigen

(PSA) testing, prostate cancer incidence increased in all three states after widespread testing. For men diagnosed with localized or regional prostate cancer, the respective increases in radical prostatectomy in Connecticut, Iowa, and New Mexico were 3.2, 2.3, and 4.9 times pre-test levels. Age-standardized mortality in Connecticut and Iowa increased slightly; in New Mexico the 104.7 deaths per 100,000 in 1979-1986, 62.1 in 1987-1990, dropped to 47.6 in 1991-1998, an amount of decline that was statistically significant. Introduction of PSA testing influenced early detection and treatment of prostate cancer in all three states. Although decline in prostate cancer mortality in New Mexico over time may be linked with use of the PSA test and definitive therapy, the relationship among these factors, and thus the proper treatment for the early stages of this condition, is unclear on the basis of these data.

Eyre, H., R. Kahn, et al. "Preventing cancer, cardiovascular disease, and diabetes: a common agenda for the American Cancer Society, the American Diabetes Association, and the American Heart Association." CA Cancer J Clin. 2004 Jul-Aug;54(4):190-207.

Collectively, cardiovascular disease (including stroke), cancer, and diabetes account for approximately two-thirds of all deaths in the United States and about 700 billion US dollars in direct and indirect economic costs each year. Current approaches to health promotion and prevention of cardiovascular disease, cancer, and diabetes do not approach the potential of the existing state of knowledge. A concerted effort to increase application of public health and clinical interventions of known efficacy to reduce prevalence of tobacco use, poor diet, and insufficient physical activity—the major risk factors for these diseases—and to increase utilization of screening tests for their early detection could substantially reduce the human and economic cost of these diseases. In this article, the American Cancer Society, the American Diabetes Association, and the American Heart Association review strategies for the prevention and early detection of cancer, cardiovascular disease, and diabetes, as the beginning of a new collaboration among the three organizations. The goal of this joint venture is to stimulate substantial improvements in primary prevention and early detection through collaboration between key organizations, greater public awareness about healthy lifestyles, legislative action that results in more funding for and access to primary prevention programs and research, and reconsideration of the concept of the periodic medical checkup as an effective platform for prevention, early detection, and treatment.

Filippi, M. K., A. S. James, et al. "Views, barriers, and suggestions for colorectal cancer screening among American Indian women older than 50 years in the midwest." J Prim Care Community Health. 2013 Jul 1;4(3):160-6. doi: 10.1177/2150131912457574. Epub 2012 Aug 14.

OBJECTIVE: Although colorectal cancer (CRC) mortality rates in the US population have shown a decline, American Indian (AI) CRC mortality rates appear to be increasing. CRC screening rates of AIs remain low when compared with other ethnic groups. The research team explored women's perceptions toward CRC screening, existing barriers, and suggestions to promote education and screening among AI women in Kansas and Missouri. **METHODS:** Using a community-based participatory research approach, the authors conducted 7 focus groups with AI women older than 50 years (N = 52) to better understand their perceptions of and attitudes toward CRC screening. **RESULTS:** Women recognized barriers to screening, such as embarrassment, privacy issues, fear, insurance, and cost. They countered perceived barriers through inventive suggestions for education and awareness via social support systems and intergenerational relationships. **DISCUSSION:** CRC screening interventions for AI must be culturally tailored.

Foote, M., J. Matloub, et al. "Improving cancer incidence estimates for American Indians in Wisconsin." WMJ. 2007 Jul;106(4):196-204.

OBJECTIVES: The purpose of this study was to improve the measurement of cancer incidence among American Indians in Wisconsin and compare incidence rates with state and national incidence rates. **METHODS:** The Wisconsin Cancer Reporting System (WCRS) entered into a data linkage project with CDC and the Indian Health Service (IHS) to improve classification of American Indian cancer cases in Wisconsin. WCRS data were linked to IHS patient registration files to identify American Indian cases that were misclassified as a non-Indian race for the years 1998-2002. American Indian age-adjusted rates and rate ratios for major cancer sites were compared before and after the linkage, and with statewide and national rates. **RESULTS:** The age-adjusted incidence rate for all cancer among American Indians increased from the pre-linkage rate of 386.3 per 100,000 to the post-linkage rate of 471.7 per 100,000, a statistically significant increase. The post-linkage rate was over twice the comparable Surveillance Epidemiology and End Results (SEER) national rate among American Indians at 233.6 per 100,000. Post-linkage American Indian incidence rates for male colorectal and female lung cancers were higher than those for the state average. **CONCLUSIONS:** In contrast to earlier data,

the linkage results show that American Indians had similar cancer incidence compared to the general population in Wisconsin, and over twice as high as national SEER American Indian rates. Post-linkage rates resulted in more accurate site-specific and geographically focused cancer incidence rates to help target the national and state priorities of addressing disparities among American Indians.

Gimotty, P. A., J. Botbyl, et al. "A population-based validation of the American Joint Committee on Cancer melanoma staging system." J Clin Oncol. 2005 Nov 1;23(31):8065-75.

PURPOSE: A major revision of the American Joint Committee on Cancer (AJCC) stages for melanoma was implemented in 2002 after its validation in multinational cohorts including patients from cancer centers and cooperative groups. This staging system has not been validated in a US population-based cohort. **PATIENTS AND METHODS:** We used 41,417 patients with primary invasive cutaneous melanoma diagnosed between 1988 and 2001 from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) cancer registry to validate the revised AJCC staging system. Survival rates computed from stage-specific Kaplan-Meier curves (time to melanoma-specific death) were compared with the survival rates from 17,600 patients in the original AJCC validation study. **RESULTS:** In the SEER cohort, 65% of reported melanomas were ≤ 1.00 mm in thickness and 8.7% were more than 4.00 mm compared with 39% and 10% in the AJCC cohort ($P < .001$), respectively. AJCC stages were able to discriminate among SEER patient groups with different prognosis. However, SEER survival rates were significantly higher than those in the AJCC study and notably so in patients with T1a lesions (≤ 1 mm without ulceration). This population-specific effect remained significant after controlling for lesion thickness in all substages except stage IIA. **CONCLUSION:** Although this national population-based study validates the most recent revision of AJCC stages for melanoma, it emphasizes that survival rates are population specific and found them to be generally higher for SEER compared with AJCC patients. Population-specific survival rates should be used in study designs and decisions about patient-specific interventions.

Hamblin, J. and P. D. Connor "Cancer screening guideline preference surveys: physicians' perceptions of the American Cancer Society." Tenn Med. 1998 Jan;91(1):17-20.

OBJECTIVE: The primary objective of this study was to assess cancer screening guideline preference by Tennessee internists and family

physicians. **DESIGN:** A one-page, 14-item survey was mailed to 580 internists and family physicians followed by a reminder postcard and a second survey within six weeks of the original mailing. The survey addressed physician practice characteristics, specific preferred cancer screening guidelines used, and self-evaluation of cancer screening and detection practices compared with the practice of coronary artery disease risk and prevention, depression, and obesity/adult-onset diabetes mellitus. **SETTING:** Internal medicine and family physicians in Tennessee. **RESULTS:** The overall survey response rate was 57% ($N = 300$). Of respondents, 83.4% were male and 16.6% were female. Eighty-three percent were board-certified, 30% had subspecialty training, and 62% practiced in a solo practice or a single-specialty group. There were few differences in guideline preference between generalists and subspecialists. Approximately 52% of respondents cited American Cancer Society (ACS) guidelines, 1.7% used US Preventive Services Task Force (USPSTF) guidelines, 34% cited a compilation of various guidelines, and 10% used no guidelines. More physicians rated their treatment of depression (22.9%) or obesity/diabetes mellitus (22.0%) as poor or needing improvement than rated their screening of cancer (16.3%) and coronary artery disease (12.5%) as poor or needing improvement. Survey respondents suggested that the ACS could be most effective in lobbying against tobacco and in providing patient education pamphlets. **CONCLUSIONS:** Most physicians report using ACS screening guidelines, rate their cancer screening practices as good or very good, and recommend that the ACS lobby against tobacco and provide patient pamphlets. This study reflects physician preference of various cancer screening guidelines. Further research is needed to determine factors influencing physician preferred guideline use as well as actual practices.

Hausauer, A. K., T. H. Keegan, et al. "Recent breast cancer trends among Asian/Pacific Islander, Hispanic, and African-American women in the US: changes by tumor subtype." Breast Cancer Res. 2007;9(6):R90.

BACKGROUND: Recently, unprecedented drops in breast cancer incidence have been reported for populations of mostly White European descent. Incidence patterns in non-White racial/ethnic groups are less described. Therefore, we examined population-based breast cancer incidence trends separately for US Asian/Pacific Islander, Hispanic, African-American, and non-Hispanic White women by etiologically relevant tumor subtype characteristics, including hormone receptor status, histology, size, and in situ behavior. **METHODS:** We obtained breast cancer data from 13 Surveillance, Epidemiology, and End Results (SEER) cancer registries to calculate age-

adjusted incidence rates and trends, stratified by race/ethnicity and tumor subtype for the period 1992-2004. Detailed analyses were limited to women 50 years old or older. Joinpoint regression was used to assess incidence trends by annual quarter of diagnosis. RESULTS: Between 2001 and 2004, incidence rates of invasive breast cancer in women 50 years old or older declined appreciably among Asians/Pacific Islanders (-8.5%) and Hispanics (-2.9%) and were stable in African-Americans (+0.5%), reductions substantially lower than those observed among non-Hispanic Whites (-14.3%). In Asian/Pacific Islander women, perceptible but statistically nonsignificant decreases were observed for hormone receptor-positive, lobular, and small tumors only. Rates of hormone receptor-negative tumors increased among African-Americans (26.1%) and Hispanics (26.9%) during 2001-2004. Incidence trends in most groups, except African-American women, peaked between 1999 and mid-2002. Rates of in situ cancer remained stable in all groups. CONCLUSION: Recently reported reductions in breast cancer incidence varied considerably by race/ethnicity. These patterns are consistent with documented racial/ethnic differences in the prevalence and discontinuation of hormone therapy (HT) after July 2002 but do not correspond as well to patterns of mammography use in these groups. The data presented in this analysis provide further evidence that population-level HT use is a major influence on population-level rates of particular breast cancer subtypes, especially receptor-positive tumors.

Hedeem, A. N., E. White, et al. "Ethnicity and birthplace in relation to tumor size and stage in Asian American women with breast cancer." Am J Public Health. 1999 Aug;89(8):1248-52.

OBJECTIVES: This study examined whether Asian American women with breast cancer have tumor characteristics associated with delayed detection of their disease. METHODS: Breast cancer size and stage were examined in relation to subjects' ethnic group and birthplace, on the basis of Surveillance, Epidemiology, and End Results program data. RESULTS: Asian-born Asian American women with breast cancer had a greater proportion of tumors larger than 1 cm at diagnosis (79%) than did US White women (70%) ($P < .001$). In contrast, the proportion of tumors larger than 1 cm among Asian American women born in the United States (67%) did not differ significantly from that among US White women. CONCLUSIONS: Lower utilization of breast cancer screening by Asian-born Asian American women is probably responsible for their greater proportion of tumors larger than 1 cm relative to US White women in the study population. Interventional measures should be taken to increase the use of

mammographic screening by first-generation Asian American women.

Henderson, J. A., D. K. Espey, et al. "Prostate cancer incidence among American Indian and Alaska Native men, US, 1999-2004." Cancer. 2008 Sep 1;113(5 Suppl):1203-12. doi: 10.1002/cncr.23739.

BACKGROUND: American Indian and Alaska Native (AI/AN) men experience lower incidence of prostate cancer than other race/ethnic populations in the US, but racial misclassification of AI/AN men threatens the validity of these estimates. To the authors' knowledge, little is known concerning prostate-specific antigen (PSA) testing in AI/AN men. METHODS: The authors linked cancer registry data with Indian Health Service enrollment records to improve race classification. Analyses comparing cancer incidence rates and stage at diagnosis for AI/AN and non-Hispanic white (NHW) men for 6 geographic regions focused on counties known to have less race misclassification. The authors also used Behavioral Risk Factors Surveillance System data to characterize PSA testing in AI/AN men. RESULTS: Prostate cancer incidence rates were generally lower in AI/AN than in NHW men for all regions combined (rate ratio of 0.68). However, regional variation was noted among AI/AN men, with incidence rates (per 100,000 population) ranging from 65.7 in the Southwest to 174.5 on the Northern Plains. The rate of distant stage disease was somewhat higher among AI/AN (7.8) than NHW (6.2) men. Nationally, AI/AN men were less likely than NHW men to have undergone recent PSA testing (48.4% vs 58.0%), with prominent regional variation in screening rates noted. CONCLUSIONS: Prostate cancer incidence rates and the proportion of men with recent PSA testing were lower for AI/AN men than for NHW men. However, incident rates and rate of distant stage varied by region more for AI/AN than for NHW. Further research is needed among AI/AN men to evaluate strategies for better understanding the causes of the regional variation in prostate cancer incidence.

Hickner, J., S. Kent, et al. "Physicians' and patients' views of cancer care by family physicians: a report from the American Academy of Family Physicians National Research Network." Fam Med. 2007 Feb;39(2):126-31.

BACKGROUND AND OBJECTIVES: There has been little research describing the role of family physicians in the care of patients with an active diagnosis of cancer. METHODS: Using qualitative methods, we interviewed 15 family physicians and 15 of their cancer patients. We asked physicians about care of cancer patients in general and of the specific patient included in this study. Patient interviews

focused on the role their family physician played in their care and their satisfactions and frustrations with that care. RESULTS: The physicians reported coordinating referrals, providing general medical care, helping with decisions, and providing emotional support. Their involvement was more intense at the time of diagnosis and near death. The patients gave similar responses and also said they valued clear explanations and spending time with and feeling comfortable with their family physicians. CONCLUSIONS: Family physicians fulfill a number of important roles in caring for their patients with an active diagnosis of cancer. More research using representative samples is needed to determine the generalizability of these findings, but this study gives us some preliminary insight into the role family physicians play in cancer care.

Hodgson, M. E., B. Newman, et al. "Birthweight, parental age, birth order and breast cancer risk in African-American and white women: a population-based case-control study." Breast Cancer Res. 2004;6(6):R656-67. Epub 2004 Sep 22.

INTRODUCTION: Much recent work has focused on hypotheses that very early life exposures influence adult cancer risk. For breast cancer it has been hypothesized that high in utero estrogen exposure may increase risk. METHODS: We used data from the Carolina Breast Cancer Study, a population-based case-control study of incident breast cancer in North Carolina, to examine associations for three possible surrogates of high prenatal estrogen exposure: weight at birth, maternal age, and birth order. We also examined paternal age. Birthweight analyses were conducted for white and African-American women born in North Carolina on or after 1949 (196 cases, 167 controls). Maternal age was analyzed for US born participants younger than 49 years of age (280 cases, 236 controls). RESULTS: There was a weak inverse association between birthweight in the highest tertile and breast cancer overall (odds ratio [OR] 0.7, 95% confidence interval [CI] 0.4-1.2), although associations differed by race (OR 0.5, 95% CI 0.2-1.0, and OR 1.0, 95% CI 0.5-2.1 for African-American and white women, respectively). For maternal age there was an approximately threefold increase in risk in women whose mothers were older than 22 years of age, relative to 19-22 years of age, when the women were born. After adjustment for maternal age, older paternal age increased risk in the oldest and youngest age categories (relative to 23-27 years of age at the woman's birth: OR 1.6, 95% CI 0.8-3.1 for age 15-22 years; OR 1.2, 95% CI 0.7-2.2 for age 28-34 years; and OR 1.5, 95% CI 0.7-3.2 for age 35-56 years). There was no association with older paternal age for

white women alone. After adjustment for maternal age (265 cases, 224 controls), a birth order of fifth or higher relative to first had an inverse association with breast cancer for women younger than 49 years old (OR 0.6, 95% CI 0.3-1.3). CONCLUSION: Although the CIs are wide, these results lend support to the possibility that the prenatal period is important for subsequent breast cancer risk, but they do not support the estrogen hypothesis as a unifying theory for the influence of this period.

Johnson, F. E., K. S. Virgo, et al. "How tumor stage affects american urologists' surveillance strategies after prostate cancer surgery." Int J Oncol. 2000 Jun;16(6):1221-5.

The factors which influence decision-making among urologists are not well understood. We evaluated how tumor stage in patients subjected to potentially curative surgery for carcinoma of the prostate affects the self-reported follow-up strategies employed by practicing United States urologists. Standardized patient profiles and a detailed questionnaire based on these profiles were mailed to 4,467 randomly selected members of the American Urological Association (AUA), comprising 3,205 US and 1,262 non-US urologists. The effect of TNM stage on the surveillance strategies chosen by respondents was analyzed by repeated-measures ANOVA. There were 1,050 respondents who provided evaluable data of whom 760 were from the US. The three most commonly used surveillance modalities by urologists were office visit, serum PSA level, and urinalysis. Nine of the 11 most commonly requested modalities were ordered significantly ($p < 0.001$) more frequently with increasing TNM stage. This effect persisted through 10 years of follow-up, but the differences across stage were tiny. Fifty-five percent of US respondents do not modify their strategies at all according to the patient's TNM stage. Most American AUA members performing surveillance after potentially curative radical prostatectomy for otherwise healthy patients use the same follow-up strategies irrespective of TNM stage. These data permit the rational design of a randomized clinical trial of two alternate follow-up plans. The two trial arms would employ office visits, blood tests, and urinalyses at different frequencies based on current actual practice patterns; there would be no imaging tests in either arm.

Kawar, L. N. "Barriers to breast cancer screening participation among Jordanian and Palestinian American women." Eur J Oncol Nurs. 2013 Feb;17(1):88-94. doi: 10.1016/j.ejon.2012.02.004. Epub 2012 Mar 27.

PURPOSE: Increasing breast cancer screening (BCS) among diverse women from minority groups is a goal of health care providers and national organizations as a way to help in the early detection and treatment of breast cancer. The purpose of this article is to investigate barriers to BCS encountered by Jordanian and Palestinian women living in the United States (US). **METHODS:** Descriptive content analysis of interviews of 107 Jordanian and Palestinian immigrant women provided data on BCS barriers that were thematically analyzed. **RESULTS:** Data revealed 4 barriers that affect Jordanian and Palestinian immigrant women's participation in BCS: (1) culture-specific barriers such as embarrassment, family relationships, fatalism, and traditional healers consultation; (2) immigration-related barriers (citizenship issues and language); (3) general barriers (including nonparticipation in health screening, stigmatization of cancer, fear, and ignorance about BCS); and (4) irrelevant barriers. **CONCLUSIONS:** Clinicians should be cognizant of the culture, beliefs and practices of Arab Middle Eastern immigrant women and the influence of these factors on their decision to participate in routine BCS. To increase participation in BCS and knowledge of breast cancer, appropriate language and culturally sensitive educational materials should be created and made available to Arab Middle Eastern immigrant women.

Leman, R. F., D. Espey, et al. "Invasive cervical cancer among American Indian women in the Northern Plains, 1994-1998: incidence, mortality, and missed opportunities." Public Health Rep. 2005 May-Jun;120(3):283-7.

OBJECTIVES: Cervical cancer mortality rates among the American Indian and Alaska Native (AI/AN) population in North and South Dakota were five times the national average (15.6 per 100,000 vs. 3.1 per 100,000, age adjusted) when last evaluated (from 1989 through 1993). Our goals were to update the AI/AN population cervical cancer mortality rates and to present incidence rates for AI/AN women in the region. **METHODS:** We reviewed charts for women diagnosed with invasive cervical cancer at Indian Health Service (IHS) facilities in North and South Dakota from 1994 through 1998 and collected information about cervical cancer screening and treatment history. Incidence and mortality rates were standardized to the 1970 U.S. population. **RESULTS:** Twenty-one cases of invasive cervical cancer and eight deaths were identified. Annualized incidence and mortality rates were 11.5 per 100,000 and 4.5 per 100,000. These compare with national all-race/ethnicity rates of 8.5 per 100,000 and 2.7 per 100,000 for incidence and mortality. Fifteen (71%) of 21 cases were diagnosed due to symptoms.

CONCLUSIONS: While cervical cancer mortality rates have declined, incidence and mortality rates among AI/AN women remain higher than in the general U.S. population. Increased use of pap tests and careful follow-up of abnormal results should be aggressively promoted among AI/AN women in North and South Dakota.

Lemrow, S. M., D. G. Perdue, et al. "Gallbladder cancer incidence among American Indians and Alaska Natives, US, 1999-2004." Cancer. 2008 Sep 1;113(5 Suppl):1266-73. doi: 10.1002/encr.23737.

BACKGROUND: Gallbladder cancer (GBC) is rare; however, it disproportionately affects the American Indian and Alaska Natives (AI/AN) population. The purpose of the study was to characterize GBC among AI/AN in the US population. **METHODS:** Cases of GBC diagnosed between 1999 and 2004 and collected by state-based cancer registries were included. Registry records were linked with Indian Health Service (IHS) administration records to decrease race misclassification of AI/AN. GBC rates and/or percent distributions for AI/AN and non-Hispanic whites (NHW) were calculated by sex, IHS region, age, and stage for all US counties and IHS Contract Health Service Delivery Area (CHSDA) counties, in which approximately 56% of US AI/AN individuals reside. **RESULTS:** In CHSDA counties, the GBC incidence rate among AI/AN was 3.3 per 100,000, which was significantly higher than that among NHW ($P < .05$). Rates varied widely among IHS regions and ranged from 1.5 in the East to 5.5 in Alaska. Rates were higher among AI/AN females than males in all regions, except the Northern Plains. Higher percentages of GBC were diagnosed among AI/AN aged <65 years compared with NHW. GBC was most often diagnosed at the regional stage among AI/AN, whereas GBC was most often diagnosed at regional or distant stages among NHW.

Levin, B., D. A. Lieberman, et al. "Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: a joint guideline from the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology." Gastroenterology. 2008 May;134(5):1570-95. doi: 10.1053/j.gastro.2008.02.002. Epub 2008 Feb 8.

In the United States, colorectal cancer (CRC) is the third most common cancer diagnosed among men and women and the second leading cause of death from cancer. CRC largely can be prevented by the detection and removal of adenomatous polyps, and survival is significantly better when CRC is diagnosed while still localized. In 2006 to 2007, the American Cancer Society, the US Multi-Society Task Force on

Colorectal Cancer, and the American College of Radiology came together to develop consensus guidelines for the detection of adenomatous polyps and CRC in asymptomatic average-risk adults. In this update of each organization's guidelines, screening tests are grouped into those that primarily detect cancer early and those that can detect cancer early and also can detect adenomatous polyps, thus providing a greater potential for prevention through polypectomy. When possible, clinicians should make patients aware of the full range of screening options, but at a minimum they should be prepared to offer patients a choice between a screening test that primarily is effective at early cancer detection and a screening test that is effective at both early cancer detection and cancer prevention through the detection and removal of polyps. It is the strong opinion of these 3 organizations that colon cancer prevention should be the primary goal of screening.

Mahdi, H., C. J. Schlick, et al. "Endometrial cancer in Asian and American Indian/Alaskan Native women: tumor characteristics, treatment and outcome compared to non-Hispanic white women." Gynecol Oncol. 2014 Feb;132(2):443-9. doi: 10.1016/j.ygyno.2013.11.028. Epub 2013 Dec 3.

OBJECTIVE: The objective of this study is to compare survival of Asian (AS), American Indian/Alaskan Native (AI/AN) and non-Hispanic white (NHW) women with endometrial adenocarcinoma (EC). METHODS: Patients with EC were identified from the Surveillance, Epidemiology, and End Results program from 1988 to 2009. Kaplan-Meier survival methods and Cox proportional hazards regression were performed. RESULTS: Of the 105,083 women, 97,763 (93%) were NHW, 6699 (6.4%) were AS and 621 (0.6%) were AI/AN. AS and AI/AN were younger than NHW with mean age of 57.7 and 56.5 vs. 64.3 years ($p < 0.001$ and 0.059). Advanced stage and high-risk histology were more prominent in AS than NHW (15.6% vs. 13.3%, $p = 0.04$, 10.6% vs. 9.6%, $p = 0.041$). Lymphadenectomy was performed more frequently in AS than NHW (56.7% vs. 48.2%, $p < 0.001$). Asian immigrants were younger than Asian natives (mean age 57 vs. 60.5 years, $p < 0.001$). In multivariate analysis, AS had better overall (OS) (HR 0.86, 95% CI 0.81-0.91, $p < 0.001$) and cancer-specific survival (CSS) (HR 0.92, 95% CI 0.84-1.00, $p = 0.05$) than NHW. Further, Asian immigrants had better OS (HR 0.83, 95% CI 0.73-0.94, $p = 0.002$) and CSS (HR 0.66, 95% CI 0.54-0.80, $p < 0.001$) than Asian natives. In contrast, AI/AN had worse OS (HR 1.35, 95% CI 1.15-1.59, $p < 0.001$) but no difference in CSS (HR 1.06, 95% CI 0.80-1.40, $p = 0.69$) than NHW.

Major, J. M., M. Norman Oliver, et al. "Socioeconomic status, healthcare density, and risk of prostate cancer among African American and Caucasian men in a large prospective study." Cancer Causes Control. 2012 Jul;23(7):1185-91. doi: 10.1007/s10552-012-9988-8. Epub 2012 May 22.

OBJECTIVES: The purpose of this study was to separately examine the impact of neighborhood socioeconomic deprivation and availability of healthcare resources on prostate cancer risk among African American and Caucasian men. METHODS: In the large, prospective NIH-AARP Diet and Health Study, we analyzed baseline (1995-1996) data from adult men, aged 50-71 years. Incident prostate cancer cases ($n = 22,523$; 1,089 among African Americans) were identified through December 2006. Lifestyle and health risk information was ascertained by questionnaires administered at baseline. Area-level socioeconomic indicators were ascertained by linkage to the US Census and the Area Resource File. Multilevel Cox models were used to estimate hazard ratios (HRs) and 95 % confidence intervals (CIs). RESULTS: A differential effect among African Americans and Caucasians was observed for neighborhood deprivation (p -interaction = 0.04), percent uninsured (p -interaction = 0.02), and urologist density (p -interaction = 0.01). Compared to men living in counties with the highest density of urologists, those with fewer had a substantially increased risk of developing advanced prostate cancer (HR = 2.68, 95 % CI = 1.31, 5.47) among African American. CONCLUSIONS: Certain socioeconomic indicators were associated with an increased risk of prostate cancer among African American men compared to Caucasians. Minimizing differences in healthcare availability may be a potentially important pathway to minimizing disparities in prostate cancer risk.

Markman, M., M. Markman, et al. "Clinical features of American versus non-American gynecologic cancer patients requesting information from a proprietary web-based decision-support program." J Cancer Res Clin Oncol. 2006 Jul;132(7):439-43. Epub 2006 Mar 15.

PURPOSE: As the Internet can potentially reduce geographic barriers to the dissemination of health-related information, it would be interesting to know if non-American women with gynecologic malignancies accessing United States (US)-based cancer Web sites differ from American patients with the same illness. PATIENTS AND METHODS: Aggregate data from individuals providing personal clinical information into one of four proprietary gynecologic cancer (cervix, endometrial, newly diagnosed and recurrent ovarian

cancers) decision-support programs (NexProfiler Treatment Option Tools for Cancer; NexCura Inc., Seattle WA, USA) currently embedded within approximately 100 established cancer-related Web sites were examined for differences between American versus non-American patient populations. RESULTS: In this analysis, which included >15,000 patients, American and non-American gynecologic cancer patients were remarkably similar in most clinical characteristics, including age, stage of disease at presentation, overall health, and desire to receive information regarding clinical trials. Notable differences included features suggestive of a more aggressive surgical philosophy in the US (e.g., higher percentage of American recurrent ovarian cancer patients reported they had undergone a secondary surgical procedure; greater use of radiotherapy in non-American cervical cancer patients).

Matsuno, R. K., J. P. Costantino, et al. "Projecting individualized absolute invasive breast cancer risk in Asian and Pacific Islander American women." J Natl Cancer Inst. 2011 Jun 22;103(12):951-61. doi: 10.1093/jnci/djr154. Epub 2011 May 11.

BACKGROUND: The Breast Cancer Risk Assessment Tool (BCRAT) of the National Cancer Institute is widely used for estimating absolute risk of invasive breast cancer. However, the absolute risk estimates for Asian and Pacific Islander American (APA) women are based on data from white women. We developed a model for projecting absolute invasive breast cancer risk in APA women and compared its projections to those from BCRAT. METHODS: Data from 589 women with breast cancer (case patients) and 952 women without breast cancer (control subjects) in the Asian American Breast Cancer Study were used to compute relative and attributable risks based on the age at menarche, number of affected mothers, sisters, and daughters, and number of previous benign biopsies. Absolute risks were obtained by combining this information with ethnicity-specific data from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) program and with US ethnicity-specific mortality data to create the Asian American Breast Cancer Study model (AABCS model). Independent data from APA women in the Women's Health Initiative (WHI) were used to check the calibration and discriminatory accuracy of the AABCS model. RESULTS: The AABCS model estimated absolute risk separately for Chinese, Japanese, Filipino, Hawaiian, Other Pacific Islander, and Other Asian women. Relative and attributable risks for APA women were comparable to those in BCRAT, but the AABCS model usually estimated lower-risk projections than BCRAT in Chinese and

Filipino, but not in Hawaiian women, and not in every age and ethnic subgroup. The AABCS model underestimated absolute risk by 17% (95% confidence interval = 1% to 38%) in independent data from WHI, but APA women in the WHI had incidence rates approximately 18% higher than those estimated from the SEER program.

McCullough, M. L., H. S. Feigelson, et al. "Risk factors for fatal breast cancer in African-American women and White women in a large US prospective cohort." Am J Epidemiol. 2005 Oct 15;162(8):734-42. Epub 2005 Aug 24.

African-American women have a higher lifetime risk of fatal breast cancer than do White women. Recent studies suggest that breast cancer risk factors may vary by race. The authors examined risk factors for fatal breast cancer in postmenopausal African-American women and White women in a large US prospective cohort. In 1982, 21,143 African-American women and 409,093 White women in the Cancer Prevention Study II completed a questionnaire on reproductive, medical, anthropometric, and demographic factors. During a 20-year follow-up, 257 deaths from breast cancer occurred among African-American women and 4,265 among Whites. Cox proportional hazards modeling was used to calculate multivariate-adjusted rate ratios, stratified by race. Higher body mass index, taller height, and physical inactivity were associated with increased breast cancer mortality rates in both groups. A college education was associated with higher mortality from breast cancer only in African-American women (hazard ratio = 1.62, 95% confidence interval: 1.13, 2.30; p(trend) = 0.01, vs. less than a high school education). Most other risk factors were associated with breast cancer rates similarly in both groups. With few exceptions, established breast cancer risk factors were similarly associated with risk of death from breast cancer among African-American women and White women.

Mettlin, C., G. P. Murphy, et al. "The results of a five-year early prostate cancer detection intervention. Investigators of the American Cancer Society National Prostate Cancer Detection Project." Cancer. 1996 Jan 1;77(1):150-9.

BACKGROUND: The American Cancer Society-National Prostate Cancer Detection Project (ACS-NPCDP) is a multidisciplinary evaluation of early prostate cancer detection interventions. This report summarizes the experience of the investigators to date and describes the overall and relative performance of the different detection modalities studied in this project. METHODS: Two thousand nine hundred ninety-nine men aged 55 to 70 years at entry who were not already under evaluation for

prostate cancer were recruited to participate in up to 5 annual examinations by prostate specific antigen (PSA), digital rectal examination (DRE), and transrectal ultrasound (TRUS). In the course of 5 years of intervention, ACS-NPCDP investigators have completed 9937 examinations, recommended 1215 biopsies, and detected 203 cancers. RESULTS: Loss to cohort follow-up was greatest in the first year. Overall, TRUS led to twice the number of recommendations for biopsy compared with DRE (8.9% versus 4.4%). Elevated PSA was observed in 13.0% of 9535 measurements performed. The overall cancer detection rate declined significantly during the five years of intervention. Detection was significantly associated with age and symptom status at entry. DRE had lower sensitivity compared with TRUS or PSA, particularly in later years of follow-up. The specificity of TRUS was lower than that for DRE. PSA was elevated in 69.2% of examinations that led to cancer detection, compared with only 10.9% when cancer was not found. PSA level, PSA density, and PSA change were all related to the presence of cancer. Less than 6% of the cancers detected in this study were clinically advanced at the time of diagnosis.

Mishra, S. I., P. L. Aoelua, et al. "Knowledge of and attitudes about cancer among American Samoans." Cancer Detect Prev. 2000;24(2):186-95.

The objective of this study was to determine cancer-related knowledge and attitudes among American Samoans, a population seldom studied by cancer researchers. Such information is necessary to develop culturally sensitive cancer control interventions. Specially trained personnel conducted face-to-face interviews with randomly selected respondents in the US Territory of American Samoa; Oahu, HI; and Los Angeles, CA, using a survey based on the National Health Interview Survey Cancer Control Supplement and focus group findings. The survey included questions concerning knowledge of risk factors for cancers (breast, cervical, colon, lung, stomach, and prostate), family resources (health insurance coverage, employment status, and family income), and demographic characteristics. Participants could complete the survey in English or Samoan. Analysis of data included the chi-squared test and logistic regression analysis. Participants included 1,834 noninstitutionalized English- or Samoan-speaking women and men (609 from American Samoa, 610 from Hawaii, and 615 from Los Angeles). The majority of residents had some positive attitudes about cancer prevention and treatment but often also had misconceptions about risk factors for cancer. Logistic regression analysis revealed that site of residence was an important predictor of attitudes. For example, being residents of American Samoa or

Hawaii predicted that the respondents would rather not know that they had cancer (odds ratio [OR], 1.5, 2.1, respectively); that cancer can be caused by aitu, or spirits (OR, 1.9, 2.1, respectively); that cancer is a punishment from God (OR, 2.0, 2.2, respectively); and that cancer can be cured by fofo, or traditional Samoan healers (OR, 2.0, 3.1, respectively). This study documented cancer-related knowledge and attitudes among American Samoans and set the stage for culturally sensitive interventions aimed at improving cancer control in this population. It also identified many issues that should be addressed in such interventions.

Newman, B., H. Mu, et al. "Frequency of breast cancer attributable to BRCA1 in a population-based series of American women." JAMA. 1998 Mar 25;279(12):915-21.

CONTEXT: Previous studies of BRCA1 mutation prevalence have been based on high-risk groups, yielding estimates that do not reflect the experience of the general population of US patients with breast cancer. OBJECTIVE: To determine prevalence of known disease-related mutations and other variants in BRCA1 and how it differs by race, age at diagnosis, and family history status in a population-based sample of white and black patients with breast cancer unselected for family history. DESIGN: Case-control study. SETTING: A 24-county area of central and eastern North Carolina. PARTICIPANTS: Cases were women aged 20 to 74 years diagnosed as having a first invasive breast cancer between May 1993 and June 1996. Controls were frequency matched to cases by 5-year age range and race. The first 211 cases and 188 controls regardless of race and the subsequent 99 cases and 108 controls of African American ancestry are included in this report. MAIN OUTCOME MEASURE: Germline variants at any site in the coding sequence, splice junctions, 5' untranslated region, or 3' untranslated region of the BRCA1 gene were analyzed in cases, and selected variants were analyzed in controls. Screening was performed using multiplex single-strand conformation analysis, with all potential variants confirmed using genomic sequencing. RESULTS: Three of 211 patients with breast cancer had disease-related variants at BRCA1, all of which were protein-truncating mutations. After adjustment for sampling probabilities, the proportion of patients with breast cancer with disease-related variants was 3.3% (95% confidence interval, 0%-7.2%) in white women and 0% in black women. Young age at diagnosis alone did not predict BRCA1 carrier status in this population. In white women, prevalence of inherited mutation was 23% for cases with family history of ovarian cancer, 13% for cases

from families with at least 4 cases of breast cancer with or without ovarian cancer, and 33% for cases from families with both breast and ovarian cancer and at least 4 affected relatives. Because these results are based on few families at the highest levels of risk, confidence intervals around these estimates are wide. An additional 5 patients had rare missense mutations or a single amino acid deletion, the biological significance of which is unknown. In black women, a variant in the 3' untranslated region was statistically significantly more common in cases than in controls. CONCLUSIONS: These data suggest that in the general US population, widespread screening of BRCA1 is not warranted. In contrast, BRCA1 mutations are sufficiently frequent in families with both breast and ovarian cancer, or at least 4 cases of breast cancer (at any age), that genotyping might be considered. The emerging picture of BRCA1 population genetics involves complex interactions of family history, age, and genetic ancestry, all of which should be taken into account when considering testing or interpreting results.

Petereit, D. G., K. Molloy, et al. "Establishing a patient navigator program to reduce cancer disparities in the American Indian communities of Western South Dakota: initial observations and results." Cancer Control. 2008 Jul;15(3):254-9.

BACKGROUND: American Indians (AIs) in the Northern Plains region suffer disproportionately high cancer mortality rates compared with the general US population and with AIs from other regions in the United States. METHODS: The National Cancer Institute developed the Cancer Disparity Research Partnership to address these inequities. This initiative in Rapid City, South Dakota, attempts to lower cancer mortality rates for AIs by access to innovative clinical trials, behavioral research, and a genetic study. Patient navigation is a critical part of the program. Two navigation strategies are described: navigators at the cancer center and navigators on each reservation. A retrospective analysis was performed to determine if navigated patients (n = 42) undergoing potentially curative radiotherapy had fewer treatment interruptions compared with nonnavigated patients (n = 74). RESULTS: A total of 213 AIs with cancer have undergone patient navigation. For those undergoing cancer treatment, the median number of patient navigation interactions was 15 (range 1 to 95), whereas for those seen in follow-up after their cancer treatment, the median number of contacts was 4 (range 1 to 26). AIs who received navigation services during curative radiation treatment had on average 3 fewer days of treatment interruptions compared to AIs who did not receive navigation services during curative radiation treatment (P = .002, N = 116).

CONCLUSIONS: Early findings suggest that patient navigation is a critical component in addressing cancer disparities in this population. The program has established trust with individual cancer patients, with the tribal councils, and with the general population on each of the three reservations of western South Dakota.

Porter, M. P., J. L. Stanford, et al. "The distribution of serum prostate-specific antigen levels among American men: implications for prostate cancer prevalence and screening." Prostate. 2006 Jul 1;66(10):1044-51.

BACKGROUND: The purpose of this study was to describe the distribution of serum prostate-specific antigen (PSA) among American men and to estimate the number of prevalent cases of biopsy detectable prostate cancer among men with normal serum PSA. METHODS: We analyzed data of the National Health and Nutrition Examination Survey 2001-2002 (NHANES 2001-2002) data and combined these results with published data from the Prostate Cancer Prevention Trial (PCPT). RESULTS: Most men in the US have a serum PSA < or = 4.0 ng/ml, and mean and median serum PSA values rise steadily with age. There are an estimated 1,607,585 (95% CI 1,370,848-1,844,322) prevalent cases of biopsy detectable prostate cancer in men aged 62-85 years with a serum PSA < or = 4 ng/ml. Among men aged 62-75 years, there are an estimated 1,252,143 (95% CI 1,054,677-1,449,609) prevalent cases, including an estimated 195,499 (95% CI 140,234-250,764) high-grade tumors. CONCLUSION: A large number of prevalent cases of biopsy detectable prostate cancer exist in American men with a normal PSA.

Pourat, N., M. Kagawa-Singer, et al. "Access versus acculturation: identifying modifiable factors to promote cancer screening among Asian American women." Med Care. 2010 Dec;48(12):1088-96. doi: 10.1097/MLR.0b013e3181f53542.

BACKGROUND: Asian Americans (AA) have the lowest rates of cancer screening of all ethnic groups. Reasons for these low rates of screening frequently include low acculturation levels. However, screening rates remain low for most AA populations despite differences in acculturation levels, suggesting presence of other important modifiers such as access barriers. OBJECTIVES: To compare the relative impact of access versus acculturation on breast and cervical cancer screening for AA subgroups. RESEARCH DESIGN: Multiple regressions models, controlling for sociodemographics, were developed for each AA subgroup. SUBJECTS: Women ages 18 and older from the 2003 California Health Interview Survey were included in this study. We included

women with Chinese, Filipino, Japanese, Korean, South Asian, and Vietnamese origins. MEASURES: The dependent variables included clinical breast examination in the past year, mammogram in the past 2 years, and Pap test in the past 3 years. Independent variables included AA subgroup, access indicators, acculturation indicators, and other sociodemographics. RESULTS: Access explained more variation than acculturation alone in cancer screening for most AA women. The exceptions were in mammograms for Japanese, Koreans and South Asians and Pap test among Japanese. No insurance reduced the likelihood of clinical breast examination for immigrant Chinese and Filipinos, and no usual source of care reduced likelihood of Pap test for Japanese and South Asians compared with US born. CONCLUSIONS: Access indicators represent the ability to navigate the US health care system but have a differential impact on AA groups. These differences should be integrated into interventions designed to improve cancer screening rates.

Rex, D. K., C. J. Kahi, et al. "Guidelines for colonoscopy surveillance after cancer resection: a consensus update by the American Cancer Society and US Multi-Society Task Force on Colorectal Cancer." *CA Cancer J Clin.* 2006 May-Jun;56(3):160-7; quiz 185-6.

Patients with resected colorectal cancer are at risk for recurrent cancer and metachronous neoplasms in the colon. This joint update of guidelines by the American Cancer Society (ACS) and US Multi-Society Task Force on Colorectal Cancer addresses only the use of endoscopy in the surveillance of these patients. Patients with endoscopically resected Stage I colorectal cancer, surgically resected Stage II and III cancers, and Stage IV cancer resected for cure (isolated hepatic or pulmonary metastasis) are candidates for endoscopic surveillance. The colorectum should be carefully cleared of synchronous neoplasia in the perioperative period. In nonobstructed colons, colonoscopy should be performed preoperatively. In obstructed colons, double contrast barium enema or computed tomography colonography should be done preoperatively, and colonoscopy should be performed 3 to 6 months after surgery. These steps complete the process of clearing synchronous disease. After clearing for synchronous disease, another colonoscopy should be performed in 1 year to look for metachronous lesions. This recommendation is based on reports of a high incidence of apparently metachronous second cancers in the first 2 years after resection. If the examination at 1 year is normal, then the interval before the next subsequent examination should be 3 years. If that colonoscopy is normal, then the interval before the

next subsequent examination should be 5 years. Shorter intervals may be indicated by associated adenoma findings (see Postpolypectomy Surveillance Guideline). Shorter intervals are also indicated if the patient's age, family history, or tumor testing indicate definite or probable hereditary nonpolyposis colorectal cancer. Patients undergoing low anterior resection of rectal cancer generally have higher rates of local cancer recurrence, compared with those with colon cancer. Although effectiveness is not proven, performance of endoscopic ultrasound or flexible sigmoidoscopy at 3- to 6-month intervals for the first 2 years after resection can be considered for the purpose of detecting a surgically curable recurrence of the original rectal cancer.

Schumacher, M. C., M. L. Slattery, et al. "Prevalence and predictors of cancer screening among American Indian and Alaska native people: the EARTH study." *Cancer Causes Control.* 2008 Sep;19(7):725-37. doi: 10.1007/s10552-008-9135-8. Epub 2008 Feb 29.

PURPOSE: The purpose of this study was to examine the prevalence rates for cervical, breast, and colorectal cancer screening among American Indian and Alaska Native people living in Alaska and in the Southwest US, and to investigate predictive factors associated with receiving each of the cancer screening tests. METHODS: We used the Education and Research Towards Health (EARTH) Study to measure self-reported cancer screening prevalence rates among 11,358 study participants enrolled in 2004-2007. We used prevalence odds ratios to examine demographic, lifestyle and medical factors associated with receiving age- and sex-appropriate cancer screening tests. RESULTS: The prevalence rates of all the screening tests were higher in Alaska than in the Southwest. Pap test in the past 3 years was reported by 75.1% of women in Alaska and 64.6% of women in the Southwest. Mammography in the past 2 years was reported by 64.6% of women aged 40 years and older in Alaska and 44.0% of those in the Southwest. Colonoscopy or sigmoidoscopy in the past 5 years was reported by 41.1% of study participants aged 50 years and older in Alaska and by 11.7% of those in the Southwest US. Multivariate analysis found that location (Alaska versus the Southwest), higher educational status, income and the presence of one or more chronic medical condition predicted each of the three screening tests. Additional predictors of Pap test were age (women aged 25-39 years more likely to be screened than older or younger women), marital status (ever married more likely to be screened), and language spoken at home (speakers of American Indian Alaska Native language only less likely to be screened). Additional predictors of mammography were age (women aged 50 years and older were more

likely to be screened than those aged 40-49 years), positive family history of breast cancer, use of smokeless tobacco (never users more likely to be screened), and urban/rural residency (urban residents more likely to be screened). Additional predictors of colonoscopy/sigmoidoscopy were age (men and women aged 60 years and older slightly more likely to be screened than those aged 50-59 years), family history of any cancer, family history of colorectal cancer, former smoking, language spoken at home (speakers of American Indian Alaska Native language less likely to be screened), and urban/rural residence (urban residents more likely to be screened). CONCLUSION: Programs to improve screening among American Indian and Alaska Native people should include efforts to reach individuals of lower socioeconomic status and who do not have regular contact with the medical care system. Special attention should be made to identify and provide needed services to those who live in rural areas, and to those living in the Southwest US.

Seymour, J. D., E. E. Calle, et al. "Diet Quality Index as a predictor of short-term mortality in the American Cancer Society Cancer Prevention Study II Nutrition Cohort." *Am J Epidemiol.* 2003 Jun 1;157(11):980-8.

The Diet Quality Index (DQI) was developed to measure overall dietary patterns and to predict chronic disease risk. This study examined associations between DQI and short-term all-cause, all-circulatory-disease, and all-cancer mortality in the American Cancer Society Cancer Prevention Study II Nutrition Cohort, a cohort of US adults aged 50-79 years enrolled in a prospective study. After 4 years of follow-up (1992-1996), there were 869 deaths among 63,109 women and 1,736 deaths among 52,724 men. All study participants reported being disease free at baseline in 1992-1993. In age-adjusted Cox models, a higher DQI, which was indicative of a poorer quality diet, was positively related to all-cause and all-circulatory-disease mortality rates in both women and men and to cancer mortality in men only. However, in fully adjusted Cox models, only circulatory disease mortality was clearly positively related to DQI and only in women (medium-low-quality diet vs. highest-quality diet: rate ratio = 1.86, 95% confidence interval: 1.19, 2.89). Although trend tests indicated significant positive relations between DQI and all-cause mortality, effects were small (rate ratios \leq 1.31), and confidence intervals were wide, generally including 1.0. DQI was unrelated to cancer mortality. As currently constructed, the DQI may have limited ability to predict mortality.

Singhal, S., A. Verma, et al. "Colonoscopy for colorectal cancer screening above age 75: outcomes in

symptomatic african american and Hispanic adults." *J Gastrointest Cancer.* 2011 Dec;42(4):212-6. doi: 10.1007/s12029-010-9190-8.

BACKGROUND: US Preventive Services Task Force recommends against routine screening for colorectal cancer (CRC) in adults above 75 years of age. Considerations to support screening in an individual patient are not clearly described. There is limited data to support recommendations in African American (AA) and Hispanics population. METHODS: We reviewed records of 568 inpatient colonoscopies carried out at our Mt. Sinai Hospital Medical Center, Chicago during 2006-2008 for symptomatic adults \geq 75 years of age. Subjects with previous normal screening colonoscopies and presence of one or more "generally indicated" indications as per American Society for Gastrointestinal Endoscopy guidelines were included in the study. RESULTS: A total of 155 adults (mean age, 81.8 years; 29% males and 71% females; 83.8% AAs and 16.1% Hispanics) met the inclusion criteria. Seventy-nine percent had one previous colonoscopy, whereas 21% of the patients had two or more previous colonoscopies. Common indications for a repeat colonoscopy were anemia 69.7%, hematochezia 39.4%, and fecal occult blood 19.4%. Colonoscopy was completed to the cecum in 65.2% of the subjects. Advanced adenomas/cancers were found in 15/155 (9.7%) colonoscopies. CRC detection rate was 14/155 (9%), of which 9/14 (75%) were staged III/IV. Two (1.3%) patients had complications which resolved conservatively. CONCLUSION: Symptomatic AAs and Hispanics \geq 75 have a high incidence of CRC despite a previous normal colonoscopy. Presence of male sex, new onset anemia and hematochezia, and longer colonoscopy intervals are associated with CRC detection on colonoscopy. The detection of advanced cancer and high comorbidity/low life expectancy limit the benefit of CRC detection.

Sprague, D., J. Russo, et al. "Barriers to cancer clinical trial participation among American Indian and Alaska Native tribal college students." *J Rural Health.* 2013 Winter;29(1):55-60. doi: 10.1111/j.1748-0361.2012.00432.x. Epub 2012 Sep 24.

PURPOSE: American Indians and Alaska Natives (AIs/ANs) have some of the highest cancer-related mortality rates of all US racial and ethnic groups, but they are underrepresented in clinical trials. We sought to identify factors that influence willingness to participate in cancer clinical trials among AI/AN tribal college students, and to compare attitudes toward clinical trial participation among these students with attitudes among older AI/AN adults. METHODS: Questionnaire data from 489 AI/AN tribal college students were collected and

analyzed along with previously collected data from 112 older AI/AN adults. We examined 10 factors that influenced participation in the tribal college sample, and using chi-square analysis and these 10 factors, we compared attitudes toward research participation among 3 groups defined by age: students younger than 40, students 40 and older, and nonstudent adults 40 and older. FINDINGS: About 80% of students were willing to participate if the study would lead to new treatments or help others with cancer in their community, the study doctor had experience treating AI/AN patients, and they received payment. Older nonstudent adults were less likely to participate on the basis of the doctor's expertise than were students (73% vs 84%, $P = .007$), or if the study was conducted 50 miles away (24% vs 41%, $P = .001$). CONCLUSIONS: Finding high rates of willingness to participate is an important first step in increasing participation of AIs/ANs in clinical trials. More information is needed on whether these attitudes influence actual behavior when opportunities to participate become available.

Stack, B. C., Jr., R. L. Ferris, et al. "American Thyroid Association consensus review and statement regarding the anatomy, terminology, and rationale for lateral neck dissection in differentiated thyroid cancer." *Thyroid*. 2012 May;22(5):501-8. doi: [10.1089/thy.2011.0312](https://doi.org/10.1089/thy.2011.0312). Epub 2012 Mar 21.

BACKGROUND: Cervical lymph node metastases from differentiated thyroid cancer (DTC) are common. Thirty to eighty percent of patients with papillary thyroid cancer harbor lymph node metastases, with the central neck being the most common compartment involved. The goals of this study were to: (1) identify appropriate methods for determining metastatic DTC in the lateral neck and (2) address the extent of lymph node dissection for the lateral neck necessary to control nodal disease balanced against known risks of surgery. METHODS: A literature review followed by formulation of a consensus statement was performed. RESULTS: Four proposals regarding management of the lateral neck are made for consideration by organizations developing management guidelines for patients with thyroid nodules and DTC including the next iteration of management guidelines developed by the American Thyroid Association (ATA). Metastases to lateral neck nodes must be considered in the evaluation of the newly diagnosed thyroid cancer patient and for surveillance of the previously treated DTC patient. CONCLUSIONS: Lateral neck lymph nodes are a significant consideration in the surgical management of patients with DTC. When current guidelines formulated by the ATA and by other international medical societies are followed, initial evaluation of the DTC patient with ultrasound (or other modalities

when indicated) will help to identify lateral neck lymph nodes of concern.

Towne, S. D., Jr., M. L. Smith, et al. "Geographic variations in access and utilization of cancer screening services: examining disparities among American Indian and Alaska Native Elders." *Int J Health Geogr*. 2014 Jun 9;13:18. doi: [10.1186/1476-072X-13-18](https://doi.org/10.1186/1476-072X-13-18).

BACKGROUND: Despite recommendations for cancer screening for breast and colorectal cancer among the Medicare population, preventive screenings rates are often lower among vulnerable populations such as the small but rapidly growing older American Indian and Alaska Native (AIAN) population. This study seeks to identify potential disparities in the availability of screening services, distance to care, and the utilization of cancer screening services for Medicare beneficiaries residing in areas with a higher concentration of AIAN populations. METHODS: Using the county ($n = 3,225$) as the level of analysis, we conducted a cross-sectional analysis of RTI International's Spatial Impact Factor Data (2012) to determine the level of disparities for AIAN individuals. The outcomes of interest include: the presence of health care facilities in the county, the average distance in miles to the closest provider of mammography and colonoscopy (analyzed separately) and utilization of screening services (percent of adults aged 65 and older screened by county). RESULTS: Counties with higher concentrations of AIAN individuals had greater disparities in access and utilization of cancer screening services. Even after adjusting for income, education, state of residence, population 65 and older and rurality, areas with higher levels of AIAN individuals were more likely to see disparities with regard to health care services related to mammograms ($p \leq .05$; longer distance, lower screening) and colonoscopies ($p \leq .05$; longer distance, lower screening). CONCLUSIONS: These findings provide evidence of a gap in service availability, utilization and access facing areas with higher levels of AIAN individuals throughout the US. Without adequate resources in place, these areas will continue to have less access to services and poorer health which will be accelerated as the population of older adults grows.

VandeVord, P. J., P. H. Wooley, et al. "Genetic determinants of bone mass do not relate with breast cancer risk in US white and African-American women." *Breast Cancer Res Treat*. 2006 Nov;100(1):103-7. Epub 2006 Jun 22.

INTRODUCTION: The association between high bone mass and increased breast cancer risk has been established. Identification of polymorphisms and the resultant variant receptors suggests the possibility

of differential effects on hormone responsive genes when complexed with the hormones. Both estrogen receptor-alpha (ER) and vitamin D receptor (VDR) polymorphisms have been associated with bone density. Thus, we examined these polymorphisms for association with increased breast cancer risk among US African-American and white women. **METHODS:** A case-control study was conducted to measure ER and VDR polymorphisms and radial bone mineral density (BMD) in African-American and white women, and to examine the association between polymorphisms, bone density and breast cancer risk. Genotypes and bone density were obtained from 412 women (220 cases and 192 controls, with equal distribution between the two ethnic groups). **RESULTS:** We found no evidence for an association between either the ER or VDR genotypes and breast cancer risk. Also, there was no difference in the risk of breast cancer by genotypes after adjusting for ethnicity. The addition of age, sex and ethnicity-specific BMD (Z-scores) did not significantly change the odds ratio for breast cancer.

Weinberg, M. A. and B. Wang "Head and neck cancer in two American presidents: Case reports." Gen Dent. 2011 Nov-Dec;59(6):492-7.

Two former U.S. presidents, Ulysses S. Grant and Grover Cleveland, were diagnosed with head and neck cancer in 1884 and 1893, respectively. A historical review of the risk factors, diagnoses, and treatments is examined and compared with modern-day interpretations. A comparison was made using the original diagnoses with today's equivalent diagnosis. Different treatment outcomes at the time of the original diagnoses relative to today's treatment are reviewed. Clinicians must be familiar with risk factors, signs, symptoms, diagnosis, and treatment of head and neck cancer.

Winawer, S. J., A. G. Zauber, et al. "Guidelines for colonoscopy surveillance after polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society." CA Cancer J Clin. 2006 May-Jun;56(3):143-59; quiz 184-5.

Adenomatous polyps are the most common neoplastic findings uncovered in people who undergo colorectal screening or have a diagnostic workup for symptoms. It was common practice in the 1970s for these patients to have annual follow-up surveillance examinations to detect additional new adenomas as well as missed synchronous adenomas. As a result of the National Polyp Study report in 1993, which demonstrated clearly in a randomized design that the first postpolypectomy examination could be deferred for 3 years, guidelines published by a gastrointestinal

consortium in 1997 recommended that the first follow-up surveillance be 3 years after polypectomy for most patients. In 2003, these guidelines were updated, colonoscopy was recommended as the only follow-up examination, and stratification at baseline into lower and higher risk for subsequent adenomas was suggested.

Wingo, P. A., J. King, et al. "Breast cancer incidence among American Indian and Alaska Native women: US, 1999-2004." Cancer. 2008 Sep 1;113(5 Suppl):1191-202. doi: 10.1002/cncr.23725.

BACKGROUND: Breast cancer is a leading cause of cancer morbidity and mortality among American Indian and Alaska Native (AI/AN) women. Although published studies have suggested that breast cancer rates among AI/AN women are lower than those among other racial and ethnic populations, accurate determinations of the breast cancer burden have been hampered by misclassification of AI/AN race. **METHODS:** Cancer incidence data from the National Program of Cancer Registries and the Surveillance, Epidemiology, and End Results Program were combined to estimate age-adjusted rates for the diagnosis years 1999 through 2004. Several steps were taken to reduce the misclassification of AI/AN race: linking cases to Indian Health Service (IHS) patient services database, restricting analyses to Contract Health Service Delivery Area counties, and stratifying results by IHS region. **RESULTS:** Breast cancer incidence rates among AI/AN women varied nearly 3-fold across IHS regions. The highest rates were in Alaska (134.8) and the Plains (Northern, 115.9; Southern, 115.7), and the lowest rates were in the Southwest (50.8). The rate in Alaska was similar to the rate among non-Hispanic white (NHW) women in Alaska. Overall, AI/AN women had lower rates of breast cancer than NHW women, but AI/AN women were more likely to be diagnosed with late-stage disease.

The above contents are the collected information from Internet and public resources to offer to the people for the convenient reading and information disseminating and sharing.

References

1. Abernethy, A. D., T. R. Houston, et al. "Religiousness and prostate cancer screening in African American men." J Psychosoc Oncol. 2009;27(3):316-31. doi: 10.1080/07347330902979036.
2. Adams, E. K., N. Breen, et al. "Impact of the National Breast and Cervical Cancer Early Detection Program on mammography and Pap test utilization among white, Hispanic, and African American women: 1996-2000." Cancer. 2007 Jan 15;109(2 Suppl):348-58.

3. Becker, T. M., D. K. Espey, et al. "Regional differences in cervical cancer incidence among American Indians and Alaska Natives, 1999-2004." Cancer. 2008 Sep 1;113(5 Suppl):1234-43. doi: 10.1002/cncr.23736.
4. Bennett, C. L., T. J. Stinson, et al. "Evaluating the financial impact of clinical trials in oncology: results from a pilot study from the Association of American Cancer Institutes/Northwestern University clinical trials costs and charges project." J Clin Oncol. 2000 Aug;18(15):2805-10.
5. Brown, L. M., G. Gridley, et al. "Low level alcohol intake, cigarette smoking and risk of breast cancer in Asian-American women." Breast Cancer Res Treat. 2010 Feb;120(1):203-10. doi: 10.1007/s10549-009-0464-4. Epub 2009 Jul 12.
6. Campbell Jenkins, B. W., C. Addison, et al. "Association of the joint effect of menopause and hormone replacement therapy and cancer in African American women: the Jackson Heart Study." Int J Environ Res Public Health. 2011 Jun;8(6):2491-504. doi: 10.3390/ijerph8062491. Epub 2011 Jun 23.
7. Cardenas, V. M., M. J. Thun, et al. "Environmental tobacco smoke and lung cancer mortality in the American Cancer Society's Cancer Prevention Study. II." Cancer Causes Control. 1997 Jan;8(1):57-64.
8. Carey Jackson, J., V. M. Taylor, et al. "Development of a cervical cancer control intervention program for Cambodian American women." J Community Health. 2000 Oct;25(5):359-75.
9. Consedine, N. S., C. Magai, et al. "Breast cancer knowledge and beliefs in subpopulations of African American and Caribbean women." Am J Health Behav. 2004 May-Jun;28(3):260-71.
10. Dussel, V., K. Bona, et al. "Unmeasured costs of a child's death: perceived financial burden, work disruptions, and economic coping strategies used by American and Australian families who lost children to cancer." J Clin Oncol. 2011 Mar 10;29(8):1007-13. doi: 10.1200/JCO.2009.27.8960. Epub 2011 Jan 4.
11. Escobedo, L. G., S. D. Rivas, et al. "Prostate cancer mortality in Connecticut, Iowa and New Mexico African American men." Cancer Detect Prev. 2004;28(5):375-80.
12. Eyre, H., R. Kahn, et al. "Preventing cancer, cardiovascular disease, and diabetes: a common agenda for the American Cancer Society, the American Diabetes Association, and the American Heart Association." CA Cancer J Clin. 2004 Jul-Aug;54(4):190-207.
13. Filippi, M. K., A. S. James, et al. "Views, barriers, and suggestions for colorectal cancer screening among American Indian women older than 50 years in the midwest." J Prim Care Community Health. 2013 Jul 1;4(3):160-6. doi: 10.1177/2150131912457574. Epub 2012 Aug 14.
14. Foote, M., J. Matloub, et al. "Improving cancer incidence estimates for American Indians in Wisconsin." WMJ. 2007 Jul;106(4):196-204.
15. Gimotty, P. A., J. Botbyl, et al. "A population-based validation of the American Joint Committee on Cancer melanoma staging system." J Clin Oncol. 2005 Nov 1;23(31):8065-75.
16. Hamblin, J. and P. D. Connor "Cancer screening guideline preference surveys: physicians' perceptions of the American Cancer Society." Tenn Med. 1998 Jan;91(1):17-20.
17. Hausauer, A. K., T. H. Keegan, et al. "Recent breast cancer trends among Asian/Pacific Islander, Hispanic, and African-American women in the US: changes by tumor subtype." Breast Cancer Res. 2007;9(6):R90.
18. Hedeem, A. N., E. White, et al. "Ethnicity and birthplace in relation to tumor size and stage in Asian American women with breast cancer." Am J Public Health. 1999 Aug;89(8):1248-52.
19. Henderson, J. A., D. K. Espey, et al. "Prostate cancer incidence among American Indian and Alaska Native men, US, 1999-2004." Cancer. 2008 Sep 1;113(5 Suppl):1203-12. doi: 10.1002/cncr.23739.
20. Hickner, J., S. Kent, et al. "Physicians' and patients' views of cancer care by family physicians: a report from the American Academy of Family Physicians National Research Network." Fam Med. 2007 Feb;39(2):126-31.
21. Hodgson, M. E., B. Newman, et al. "Birthweight, parental age, birth order and breast cancer risk in African-American and white women: a population-based case-control study." Breast Cancer Res. 2004;6(6):R656-67. Epub 2004 Sep 22.
22. Johnson, F. E., K. S. Virgo, et al. "How tumor stage affects American urologists' surveillance strategies after prostate cancer surgery." Int J Oncol. 2000 Jun;16(6):1221-5.
23. Kavar, L. N. "Barriers to breast cancer screening participation among Jordanian and Palestinian American women." Eur J Oncol Nurs. 2013 Feb;17(1):88-94. doi: 10.1016/j.ejon.2012.02.004. Epub 2012 Mar 27.
24. Leman, R. F., D. Espey, et al. "Invasive cervical cancer among American Indian women in the Northern Plains, 1994-1998: incidence, mortality, and missed opportunities." Public Health Rep. 2005 May-Jun;120(3):283-7.
25. Lemrow, S. M., D. G. Perdue, et al. "Gallbladder cancer incidence among American Indians and Alaska Natives, US, 1999-2004." Cancer. 2008 Sep 1;113(5 Suppl):1266-73. doi: 10.1002/cncr.23737.
26. Levin, B., D. A. Lieberman, et al. "Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: a joint guideline from the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology." Gastroenterology. 2008 May;134(5):1570-95. doi: 10.1053/j.gastro.2008.02.002. Epub 2008 Feb 8.
27. Ma H, Chen G. Stem cell. The Journal of American Science 2005;1(2):90-92.
28. Ma H, Cherng S. Eternal Life and Stem Cell. Nature and Science. 2007;5(1):81-96.
29. Ma H, Cherng S. Nature of Life. Life Science Journal 2005;2(1):7 - 15.
30. Ma H, Yang Y. Turritopsis nutricula. Nature and Science 2010;8(2):15-20. http://www.sciencepub.net/nature/ns0802/03_1279_ho_ngbao_turritopsis_ns0802_15_20.pdf.

31. Ma H. The Nature of Time and Space. *Nature and science* 2003;1(1):1-11. *Nature and science* 2007;5(1):81-96.
32. Mahdi, H., C. J. Schlick, et al. "Endometrial cancer in Asian and American Indian/Alaskan Native women: tumor characteristics, treatment and outcome compared to non-Hispanic white women." *Gynecol Oncol.* 2014 Feb;132(2):443-9. doi: 10.1016/j.ygyno.2013.11.028. Epub 2013 Dec 3.
33. Major, J. M., M. Norman Oliver, et al. "Socioeconomic status, healthcare density, and risk of prostate cancer among African American and Caucasian men in a large prospective study." *Cancer Causes Control.* 2012 Jul;23(7):1185-91. doi: 10.1007/s10552-012-9988-8. Epub 2012 May 22.
34. Markman, M., M. Markman, et al. "Clinical features of American versus non-American gynecologic cancer patients requesting information from a proprietary web-based decision-support program." *J Cancer Res Clin Oncol.* 2006 Jul;132(7):439-43. Epub 2006 Mar 15.
35. Matsuno, R. K., J. P. Costantino, et al. "Projecting individualized absolute invasive breast cancer risk in Asian and Pacific Islander American women." *J Natl Cancer Inst.* 2011 Jun 22;103(12):951-61. doi: 10.1093/jnci/djr154. Epub 2011 May 11.
36. McCullough, M. L., H. S. Feigelson, et al. "Risk factors for fatal breast cancer in African-American women and White women in a large US prospective cohort." *Am J Epidemiol.* 2005 Oct 15;162(8):734-42. Epub 2005 Aug 24.
37. Mettlin, C., G. P. Murphy, et al. "The results of a five-year early prostate cancer detection intervention. Investigators of the American Cancer Society National Prostate Cancer Detection Project." *Cancer.* 1996 Jan 1;77(1):150-9.
38. Mishra, S. I., P. L. Aoelua, et al. "Knowledge of and attitudes about cancer among American Samoans." *Cancer Detect Prev.* 2000;24(2):186-95.
39. National Center for Biotechnology Information, U.S. National Library of Medicine. <http://www.ncbi.nlm.nih.gov/pubmed>. 2015.
40. Newman, B., H. Mu, et al. "Frequency of breast cancer attributable to BRCA1 in a population-based series of American women." *JAMA.* 1998 Mar 25;279(12):915-21.
41. Peterreit, D. G., K. Molloy, et al. "Establishing a patient navigator program to reduce cancer disparities in the American Indian communities of Western South Dakota: initial observations and results." *Cancer Control.* 2008 Jul;15(3):254-9.
42. Porter, M. P., J. L. Stanford, et al. "The distribution of serum prostate-specific antigen levels among American men: implications for prostate cancer prevalence and screening." *Prostate.* 2006 Jul 1;66(10):1044-51.
43. Pourat, N., M. Kagawa-Singer, et al. "Access versus acculturation: identifying modifiable factors to promote cancer screening among Asian American women." *Med Care.* 2010 Dec;48(12):1088-96. doi: 10.1097/MLR.0b013e3181f53542.
44. Rex, D. K., C. J. Kahi, et al. "Guidelines for colonoscopy surveillance after cancer resection: a consensus update by the American Cancer Society and US Multi-Society Task Force on Colorectal Cancer." *CA Cancer J Clin.* 2006 May-Jun;56(3):160-7; quiz 185-6.
45. Schumacher, M. C., M. L. Slattery, et al. "Prevalence and predictors of cancer screening among American Indian and Alaska native people: the EARTH study." *Cancer Causes Control.* 2008 Sep;19(7):725-37. doi: 10.1007/s10552-008-9135-8. Epub 2008 Feb 29.
46. Seymour, J. D., E. E. Calle, et al. "Diet Quality Index as a predictor of short-term mortality in the American Cancer Society Cancer Prevention Study II Nutrition Cohort." *Am J Epidemiol.* 2003 Jun 1;157(11):980-8.
47. Singhal, S., A. Verma, et al. "Colonoscopy for colorectal cancer screening above age 75: outcomes in symptomatic african american and Hispanic adults." *J Gastrointest Cancer.* 2011 Dec;42(4):212-6. doi: 10.1007/s12029-010-9190-8.
48. Sprague, D., J. Russo, et al. "Barriers to cancer clinical trial participation among American Indian and Alaska Native tribal college students." *J Rural Health.* 2013 Winter;29(1):55-60. doi: 10.1111/j.1748-0361.2012.00432.x. Epub 2012 Sep 24.
49. Stack, B. C., Jr., R. L. Ferris, et al. "American Thyroid Association consensus review and statement regarding the anatomy, terminology, and rationale for lateral neck dissection in differentiated thyroid cancer." *Thyroid.* 2012 May;22(5):501-8. doi: 10.1089/thy.2011.0312. Epub 2012 Mar 21.
50. Towne, S. D., Jr., M. L. Smith, et al. "Geographic variations in access and utilization of cancer screening services: examining disparities among American Indian and Alaska Native Elders." *Int J Health Geogr.* 2014 Jun 9;13:18. doi: 10.1186/1476-072X-13-18.
51. Weinberg, M. A. and B. Wang "Head and neck cancer in two American presidents: Case reports." *Gen Dent.* 2011 Nov-Dec;59(6):492-7.
52. Wikipedia. The free encyclopedia. <http://en.wikipedia.org>. 2015.
53. Winawer, S. J., A. G. Zauber, et al. "Guidelines for colonoscopy surveillance after polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society." *CA Cancer J Clin.* 2006 May-Jun;56(3):143-59; quiz 184-5.
54. Wingo, P. A., J. King, et al. "Breast cancer incidence among American Indian and Alaska Native women: US, 1999-2004." *Cancer.* 2008 Sep 1;113(5 Suppl):1191-202. doi: 10.1002/cncr.23725.