TITLE: Cancer Risk Factors and Screening Behaviors of the Hopi Tribe

CO-LEADERS:
NAU: Priscilla R. Sanderson, Ph.D., Assistant Professor Health Sciences Department, College of Health and Human Services and Applied Indigenous Studies, College of Social and Behavioral Sciences

UA: Sylvia R. Brown, Ph.D., M.P.H., Research Scientist, Mel and Enid Zuckerman College of Public Health

Hopi Tribe: Lorencita Joshweseoma (Martin), M.P.H., Director, Hopi Women’s Health Program, Kykotsmovi, AZ

ABSTRACT
Within the past several years, published research has documented disparities in the cancer burden of Native Americans compared to non-Hispanic Whites and many Native Americans perceive cancer as a major health challenge. In order to address community cancer issues and concerns and to develop culturally appropriate intervention programs, Native American Tribes/Nations need to identify the knowledge, attitudes, beliefs and behaviors about cancer of their respective populations. While the Behavioral Risk Factor Surveillance System (BRFSS) and Health Information National Trends Survey (HINTS) have been administered nationwide and in several states, these tools fail to provide the information needed by individual tribes since a) Native Americans are overall a very small sample within any specific survey year, b) Native American tribes/nations are not homogeneous although their data are customarily aggregated for statistical purposes and c) many times these national or state surveys are administered by telephone— a recruitment strategy that is inappropriate in communities where not all households have telephone lines. We propose to address these issues with the development of a tribal-specific, cancer-focused behavioral risk factor survey for the Hopi Tribe. This research will be undertaken as a collaborative effort between the Hopi Office of Health Services and the Hopi Women’s Health Program (HWHP) and researchers from the Arizona Cancer Center at the University of Arizona and Northern Arizona University. The team seeks to evaluate the hypotheses that Hopi men and women are interested in obtaining additional knowledge about cancer in general and specific cancers such as colorectal cancer; that behaviors are related to knowledge and beliefs; that specific attitudes and lack of knowledge can be identified that would form the foundation for Tribal specific interventions; and that the Hopi people look to the Tribe for guidance and support when dealing with cancer. This overall project is proposed as a three-year study. In this one-year pilot study proposal, we focus on 1) the development of a culturally appropriate cancer risk factor and knowledge survey instrument and research protocol suitable for Hopi men and women age 18 and older, and 2) assurance of appropriate training and faculty experience in survey methodology and qualitative analyses. Survey items will be selected from national survey tools, including the BRFSS, HINTS and First Nations Regional Health Survey, and through refinement with community input via four focus groups. Implementation of the community survey is proposed for years 2 and 3 (which will be proposed as a full project) when we plan to conduct the survey among Hopi tribal members living on the Reservation, using household in-person interviews. This recruitment method achieved an DELETE FROM EXAMPLE: DATA NOT YET PUBLISHED response rate among Hopi women in our previous study. Depending on funding, we will administer the survey to Hopi enrollees living either on or off the reservation and examine differences in knowledge, attitudes and behaviors between those living on and off reservation. Finally, we will evaluate the validity of the traditional telephone methodologies of the BRFSS and HINTS by conducting a subset of the survey using different methodologies, including telephone and mail.
# Detailed Budget for Initial Budget Period

## Direct Costs Only: NAU

<table>
<thead>
<tr>
<th>Name</th>
<th>Role on Project</th>
<th>Months Devoted to Project</th>
<th>Inst. Base Salary</th>
<th>Fringe Benefits</th>
<th>Total</th>
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<td>Regina Eddie</td>
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<tr>
<td>Kwaayesnom Onsae</td>
<td>Undergraduate Assistant</td>
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**Subtotals**

- Xx,xxx  
- Xx,xxx  
- Xx,xxx  

## Consultant Costs

- Dr. Neil Weinstein: consultant  
  - Xxxx

## Equipment (Itemize)

- QSR NVivo 8 Full License: One full license ($595).
  - 595

## Supplies (Itemize by Category)

- 40 Hopi participants x $25 = $1,000
- Focus group refreshments (4 focus groups x $60 = $240)
  - 1,200

## Travel

- Meetings for faculty and student in Tucson ($1331) and Kykotsmovi ($1971)
  - 3,367

## Patient Care Costs

- Inpatient
- Outpatient

## Alterations and Renovations (Itemize by category)

## Other Expenses (Itemize by category)

## Consortium/Contractual Costs Direct Costs

### Subtotal Direct Costs for Initial Budget Period (Item 7a, Face Page)

- $  

### Total Direct Costs for Initial Budget Period

- $ 60,000
### BUDGET FOR ENTIRE PROPOSED PROJECT PERIOD
#### DIRECT COSTS ONLY: NAU

<table>
<thead>
<tr>
<th>BUDGET CATEGORY</th>
<th>INITIAL BUDGET PERIOD (from Form Page)</th>
<th>ADDITIONAL YEARS OF SUPPORT REQUESTED</th>
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**TOTAL DIRECT COSTS FOR ENTIRE PROPOSED PROJECT PERIOD**: $Xx,xxx

#### PERSONNEL

**Priscilla Sanderson, PhD.** [calendar months effort on project = 2.0 academic (22%) / 1.2 summer (40%)] is the NAU Co-Leader for this pilot study and, as such, will be responsible for all NAU activities associated with this grant. She will insure that all NAU research activities are carried out in a culturally sensitive manner, aid in the development of the survey instrument and will share equally in the compilation of reports to the Hopi Tribe and to NACP leadership, as requested. Dr. Sanderson will be the primary person responsible for the planning, implementation and analysis of the proposed focus groups.

**Regina Eddie, MS in Nursing** [calendar months effort on project = 0.9 months (10% fte) academic: 0.6 calendar months (20% fte) summer] will serve as research assistant to Dr. Sanderson. She will assist in completing all research related activities, including but not limited
to literature reviews, facilitating focus groups, writing progress reports, development of the survey instrument, transcription of focus groups and preparation of reports as needed.

**Kwaayesvióm Onsae** (9 calendar months for 28 weeks at 10 hours per week at $8/hr) will serve as an undergraduate assistant. She will assist Dr. Sanderson and Ms. Eddie in preparing for meetings and focus groups, and assist with focus group activity, write monthly progress reports, assist with transcription of focus groups and general office work.

**CONSULTANT/Advisor COSTS:**

**Neil Weinstein, Ph.D.** is the pilot project consultant. He has extensive experience in the development and implementation of surveys in different communities. He is nationally recognized as an expert in risk perception and behavioral change. Dr. Weinstein will provide expert advice on theory-based instrument development, and will be the lead person in the training sessions identified in Aim 2 of this proposal. He will provide ongoing guidance to the project team in the development and implementation of the proposed survey. ($xxxx)

**Weinstein consultant travel:** Round Trip Mileage from Tucson to Kykotsmovi: 785 miles * 0.445 cents/mile = $349. Lodging at Hopi Cultural Center = $85 per night * 2 nights * = $85 (note: Hopi Cultural Center is the only place to stay on the Hopi Reservation). Per Diem in Navajo County=$49 per day * 3 days * = $147. Total Consultant Trip Cost = $583. 1 Trip = $666

**SUPPLIES:**

The NAU project team will need to conduct content analysis on the results from the focus groups, thus the purchase of QSR NVivo 8 Full License software is needed. Each full license allows installation of NVivo 8 software on two computers ($595) and has no expiration date.

**TRAVEL:**

1 Round Trip from Flagstaff to Tucson (3 days/2 nights)
Purpose: To attend a two-day meeting with UA research team and consultants to receive training on survey design and methods and to develop detailed 1 year plan.
Mileage: 514 miles * 0.445 cents/mile = $229
Lodging: $119 per night * 2 nights = $238 pp
Per Diem: $44 per day * 3 days = $132 pp
Costs for 3 people = (238+132) * 3 + 229 (1 care) = $1,339

4 Round Trips from Flagstaff to Kykotsmovi (2 days/ 1 night each)
Mileage: 242 miles * 0.445 cents/mile = $108
Lodging at Hopi Cultural Center = $85 per night * 1 night * = $85pp
Per Diem: $49 per day * 2 days = $98 pp
Costs for 3 people for 1 trip = (85+98) *3 = $549 + $108 (1 car) = $657 per trip
Costs for 3 trips = 657 * 3 = $1,971

**OTHER EXPENSES: Focus Groups**
During Year 1 of this study, the research team plans to conduct focus groups to refine the survey instrument. The Hopi participants (20 men and 20 females) will receive $25 stipends for their participation in this effort which expected to last approximately 2 hours. The stipends are designed to offset the travel costs or time commitments incurred in this valuable effort ($1,000).

Focus group refreshments (4 focus groups x $50 = $200). Due to the likelihood of a high number of individuals with type II Diabetes, we will need to provide healthy snacks during the 2-hour focus groups.
## DETAILED BUDGET FOR INITIAL BUDGET PERIOD
### DIRECT COSTS ONLY: UA

**FROM** 09/01/2010  **THROUGH**  8/31/2011

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<td>Sylvia Brown</td>
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<td>Mignonne Guy</td>
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<tr>
<td>Robin Harris</td>
<td>Advisor</td>
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**SUBTOTALS**  

|                      |                      |                      |                      |                      |                      |                      |                      |
|                      | Xx,xxx               | Xx,xxx               | Xx,xxx               |                      |

**EQUIPMENT (Itemize)**

**SUPPLIES (Itemize by category)**

**TRAVEL**

Meetings on Hopi reservation in Kykotsmovi, Arizona  

**PATIENT CARE COSTS**

INPATIENT  

OUTPATIENT  

**ALTERATIONS AND RENOVATIONS (Itemize by category)**

**OTHER EXPENSES (Itemize by category)**

**CONSORTIUM/CONTRACTUAL COSTS**

**DIRECT COSTS**

**SUBTOTAL DIRECT COSTS FOR INITIAL BUDGET PERIOD** (Item 7a, Face Page)  

$ 60,000

**TOTAL DIRECT COSTS FOR INITIAL BUDGET PERIOD**

$ 60,000
## BUDGET FOR ENTIRE PROPOSED PROJECT PERIOD

### DIRECT COSTS ONLY: UA

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TOTAL DIRECT COSTS FOR ENTIRE PROPOSED PROJECT PERIOD: $60,000

### UA PERSONNEL

YEAR 1: $xx,xxx

**Sylvia R. Brown, PhD, MPH:** (calendar months effort on project = 4 months (33% fte) is a research scientist at the Mel and Enid Zuckerman College of Public Health at the University of Arizona and Arizona Cancer Center. She is an experienced epidemiologist with decades of analytic experience, including survey design, analysis and implementation. Since 2005, Dr. Brown has participated in numerous studies with the Hopi Tribe through both the Native American Cancer Research Partnership and the Southwest American Indian Cancer Network. She led the NCI pilot project which assessed the cancer burden of the Hopi tribe by matching Arizona Cancer Registry data to the Hopi tribal rolls. Dr. Brown has developed a strong positive working relationship with the Hopi Tribe and as such will bear primary responsibility for the development of the survey instrument in the pilot year and field testing, analysis, interpretation...
and reporting in subsequent years. She will participate in all phases of survey development and training.

**Mignonette Guy, PhD**: (calendar months effort on project = 2.5 months (20% fte)); is an assistant research scientist for the University of Arizona, Center for Health Outcomes and PharmacoEconomic Research and holds a postdoctoral fellowship with the Arizona Cancer Center. She has extensive experience developing research and programmatic collaborations with several social service agencies and community volunteers from Pascua Yaqui and Tohono O’odham designing and coordinating health/wellness/education programs. Dr. Guy brings to the project knowledge of qualitative methodology, extensive experience in the design, administration and analysis of health-related surveys and assessments. She will provide training in qualitative methods and will also participate in focus group facilitation. She will play a key role in qualitative analysis, interpretation and write up. Additionally, she will aid in the development of survey instruments during the first year of the project and she will play a central role in the field test, analysis, interpretation, report and manuscript writing in subsequent years.

**Robin Harris, PhD, MPH**: (calendar months effort on project = 0.6 months (.5% fte)); is an associate professor of epidemiology in the Mel and Enid Zuckerman College of Public Health and head of the Skin Cancer Institute at the Arizona Cancer Center. She previously served as Co-Leader on the two of the Hopi studies – 2006 Women’s Survey and HWHP Program Evaluation - successfully completed under the NACP. Dr. Harris will serve as advisor to all members of the UA-NAU team. She will provide regular input on decisions relating to both research and training and will guide Drs. Brown and Sanderson on project management.

**Travel**

| UA    | YEAR 1 | $3,539 |

Funds are request for in-state travel. This pilot year requires an extensive amount of interaction among all participants and the Hopi Tribe in order to develop a culturally appropriate survey. We therefore propose 1 trip every 3 months for 12 mo. to Hopi for 2-3 people for 2-3 days each time, including round trip travel (6+ hours each way).

4 Round Trips Between Tucson to Kykotsmovi:

Mileage: 785 miles * 0.445 cents/mile = $349 (1 car only)
Lodging at Hopi Cultural Center = $85 per night * 2 nights= $170pp.
   (note: Hopi Cultural Center is the only place to stay on the Hopi Reservation)
Per Diem in Navajo County = $49 per day * 2.5 days = $123pp
Total Trip Cost for 2 = ($170+123) * 2 = $586 + $349 (1 car only) = 935
4 Trips = 983 * 4 = $3,740
BIODIVERSITY CHECK
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<th>POSITION TITLE</th>
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<tr>
<td>Sanderson, Priscilla Rose</td>
<td>Assistant Professor, Department of Health Sciences and Applied Indigenous Studies</td>
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**EDUCATION/TRAINING** (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training)

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<td>BA</td>
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<td>MS</td>
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<td>2005</td>
<td>Rehabilitation and Special Education</td>
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<td>Postdoctoral Training</td>
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<td>Cancer Prevention and Control</td>
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A. Positions and Honors.

**Positions and Employment**

- **1984-1986** Vocational Rehabilitation Services Specialist II, State of Arizona, Department of Economic Security, Rehabilitation Services Administration, Tucson, AZ.
- **1986-1992** Vocational Rehabilitation Services Specialist III, State of Arizona, Department of Economic Security, Rehabilitation Services Administration, Flagstaff, AZ.
- **1992-2003** Program Director, Northern Arizona University, Institute for Human Development, Arizona Center on Disabilities, American Indian Rehabilitation Research and Training Center and Capacity Building for American Indians Project, Flagstaff, AZ.
- **2003-2005** Outreach Coordinator, Northern Arizona University, Native American Cancer Research Partnership, Flagstaff, AZ.
- **2008-2008** Assistant Professor of Research (non-tenure), College of Health and Human Services, Department of Health Sciences, Flagstaff, AZ.
- **2004** Principal Research Specialist, Navajo NARCH Project, University of Arizona, College of Public Health, Health Promotion Sciences.
- **2004-2005** Consultant, Pathways Into Health Project, Northern Arizona University, Vice-Provost for Research and Graduate Studies Office, Flagstaff, AZ.
- **2005-2008** Research Associate, Cancer Prevention and Control Postdoctoral Fellow, University of Arizona, College of Medicine, Arizona Cancer Center
- **2009-present** Assistant Professor, Northern Arizona University, College of Health and Human Services, Department of Health Sciences and College of Social and Behavioral Sciences, Department of Applied Indigenous Studies (tenure-track joint appointment).
- **2009-present** Senior Scientist, Health Disparities Improvement, Northern Arizona University, College of Health
Other Experience and Professional Memberships

1990-1992 Flagstaff Mayor’s Committee on Disability Awareness. Appointed by Mayor Christopher Bavasi.
1993-1996 Statewide Independent Living Council. Appointed by the Governor of Arizona
1993-1996 Advisory Panel, American Indian Disability Legislation, Montana University
1993-1997 Rehabilitation Leadership Council, Distance Learning Project, College of Business Administration, University of Northern Colorado and Mind Extension University
1994-2005 Advisory Board, Undergraduate/Graduate Rehabilitation Education, University of Arizona
1995-1997 President’s Committee on Employment of People with Disabilities. Subcommittee on Employee Disability Concerns.
1995-2001 Institutional Review Board, Northern Arizona University
1998-1999 Post-Employment Training in Rehabilitation Administration, San Diego State University, San Diego, California; Rehabilitation Administration Certificate
1999-2002 Research Advisory Panel, Center for Minority Training and Capacity Building for Disabilities Research, Texas Southern University
1999-2004 Consulting Editor, *Journal of Rehabilitation Administration*
2002-2005 Native American Commission of Northern Arizona University
2003–2013 Certified Rehabilitation Counselor (CRC) # 28961
2006-2009 Fellow, Northwest Native American Research Center for Health – Portland.
2009-present Native American Faculty Fellow, Native American Research and Training Center, College of Medicine, University of Arizona
2009-present College of Health and Human Services, Native American Academy for Student Success. Appointed by Dean Leslie Schulz, College of Health and Human Services, Northern Arizona University.
2009-Present Self-Study/Program Review Committee. Department of Applied Indigenous Studies, College of Social and Behavioral Sciences, Northern Arizona University.
2009-Present Native American Recruitment and Retention Team. Department of Applied Indigenous Studies, College of Social and Behavioral Sciences, Northern Arizona University.
2009-present Flagstaff Community Health Action Network (CHAN). Represent NAU Health Sciences Department

Selected Honors and Awards

1983 *Residence Hall Association*, Oklahoma State University Achievement Award.
1984 *Outstanding Young Women of America*, Sonoma Club.
1996 *Consortia of Administrators for Native American Rehabilitation (CANAR) Founder’s Award.*
2001 *Mary E. Switzer Scholar*, National Rehabilitation Association-Systems Change:
Emerging Service Delivery Model.

2002  
*T.K. Bridges Practitioner Award for exceptional commitment and service to multicultural populations,*
National Association of Multicultural Rehabilitation Concerns (NAMRC), National Rehabilitation Association.

2006  
Published refereed journal article, *Breast Cancer Education for Native American Women* received the Gold Award in the Scholarly Journals, Feature Article category in the Society of National Association Publications.

B. Selected peer-reviewed publications (in chronological order).


**Completed Research Support**

**USDOE, OSERS, RSA** Carroll (PI)
10/01/96 - 08/31/99 ($360,000 each year)
Capacity Building for American Indians Project
Institute for Human Development (IHD), Northern Arizona University (NAU).
The goal of this project was to train federally and state recognized tribes grant writing for vocational rehabilitation services and other types of OSERS grant competition.
Role:  Project Director

**USDOE, OSERS, NIDRR** Carroll (PI) 10/01/98 – 09/30/03 ($600,000 each year)
American Indian Rehabilitation Research and Training Center
IHD, NAU
The goal of this project was to improve the quality of life for American Indians/Alaska Natives with disabilities through employment and independent living research, training, technical assistance and training stakeholders and individuals with disabilities.

Role: Project Director

USDOE, OSERS, RSA  Carroll (PI)  
10/01/99 - 08/31/02 ($360,000 each year)
Capacity Building for American Indians Project
Institute for Human Development (IHD), Northern Arizona University (NAU).
The goal of this project was to train federally and state recognized tribes grant writing for vocational rehabilitation services and other types of OSERS grant competition.
Role: Project Director

NACRP, NAU-UA  Stearns and Canfield (Co-PI)  01/01/05-05/31/06 ($45,000)
Pilot proposal included in the U54 grant that was submitted to the National Cancer Institute’s Minority Institute.
The goal of this pilot study was to evaluate a culturally specific video designed to teach Navajo women about breast cancer treatment options
Role: NAU Co-Leader

NIH/NCI  Alberts (PI)  12/01/05-12/31/08
R25 Cancer Prevention and Control Postdoctoral Training Fellowship
The primary goal of this training program is to prepare scientists and clinicians to conduct cancer prevention research with interdisciplinary teams.
Role: Postdoctoral Fellow
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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<tr>
<td>Sylvia R. Brown</td>
<td>Research Scientist</td>
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eRA COMMONS USER NAME (credential, e.g., agency login)  Research Scientist

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<td>BA (cum laude)</td>
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<td>History</td>
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<td>MPH</td>
<td>5/96</td>
<td>Public Health/ Epidemiology</td>
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<td>University of Medicine and Dentistry of New Jersey / Rutgers, the State University of New Jersey, Piscataway/New Brunswick, NJ</td>
<td>PhD</td>
<td>5/09</td>
<td>Public Health/ Epidemiology</td>
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A. Positions and Honors

Positions and Employment

1981-1993 Senior Programmer, Infomed, Princeton, NJ
1993-1996 Research Assistant, UMDNJ Program in Public Health
1997-2000 Research Associate, University of Arizona
2000-2004 Project Manager and Analyst, TCE Exposure Surveillance System, El Pueblo Clinic, Tucson, AZ
2000-pres. Statistical Analyst, Arizona Cancer Center, University of Arizona, Tucson
2006-2007 Consulting Epidemiologist, Southwest American Indian Collaborative Network, Tucson, AZ
2007-pres. Analyst, health outcomes research projects, College of Pharmacy, University of Arizona, Tucson
2009-pres. Consulting Epidemiologist/ University of Medicine and Dentistry of New Jersey
2009 Research Scientist, University of Arizona

Honors

Phi Beta Kappa, April 1968
Four Year Mayor's Scholarship, Univ. of Pennsylvania, 1965-69
Delta Omega, National Public Health Honor Society, May 2009

B. Peer-reviewed publications (in chronological order).

C. Research Support

**Ongoing Research Support**

1U18HS017001-01 Woosley (PI) 1/08-8/12
Source: Arizona Center for Education and Research on Therapeutics
Title: Examination of Drug-Drug Interactions
Goal: Strategies and programs to prevent harm induced by drug-drug interactions, especially those affecting women.
Role: Analyst/Epidemiologist

Novartis (contract) Chisolm-Burns (PI) 11/09-6/10
Source: Novartis Pharmaceuticals
Title: Adherence Patterns of Mycophenolate Mofetil and Mycophenolic Acid in Renal Transplant Recipients
Goal: to determine adherence patterns of Cellcept® and Myfortic® in RTRs and associated cost of care using data reported in the USRDS, which contains Medicare prescription claims data.
Role: Analyst/Epidemiologist

California Health Care Foundation Boesen (PI) 10/01/09 – 06/30/10
Source: State of California
Title: The Impact of E-Prescribing in the Northern Sierra Rural Health Network
Goal: to identify barriers to the implementation of e-prescribing in a rural and medically underserved location and to assess the impact of e-prescribing on duplicate therapies, generic drug utilization and drug-drug interactions post-implementation.
Role: Analyst/Epidemiologist
P01 CA 17094-28A2  Dorr (PI) 07/07 – 06/12
Source: NIH/NCI
Title: Therapeutic Targeting of Hypoxic and Oxidative Stress
Goal: To develop entirely new classes of cyanoaziridine-based anticancer agents with redox mechanisms of action that induce apoptosis via novel pathways. Analogs are evaluated for antitumor activity and for molecular mechanisms of action.
Role: Biostatistician for the Biometry Core

Completed Research Support (2004 to present)

3U01 CA114696-03S2  COE (PI) 09/07-09/30
Source: NIH/NCI
Title: Cancer Burden of the Hopi Tribe, Incidence and Survival
Goal: To assess the incidence and survival of cancer among enrollees of the Hopi Tribe, 1995-2005
Role: Co-PI: primary responsibility for all phases of pilot grant, including submission, coordination, implementation and dissemination. Manuscript on process accepted for publication 01/29/2010 to Public Health Reports

Malone (PI) 06/07-07/07
Source: Arizona Health Care Cost Containment System
Title: An Analysis of Psychotropic Medication Use in Children Enrolled in the Arizona Health Care Cost Containment System.
Goal: The purpose of this study was to assess the prevalence of psychotropic medication use among children enrolled in Arizona’s Medicaid system (AHCCCS).
Role: Co-investigator/Analyst

5 U54 CA096281-05 (Canfield) 05/05-5/07
Source: NIH/NCI
Title: Native American Cancer Research Partnership: Subaward – Pilot Study
Goal: To assess the effectiveness of the Hopi and the Navajo breast and cervical screening programs to reach eligible women and to ascertain, via a population survey, the barriers and incentives for Hopi women to receive timely cancer screening. Programmatic Assessments and survey implementation completed. Surveys completed/ manuscripts submitted and awaiting final acceptance.
Role: Lead Analyst/ Epidemiologist

1 UO1 CA114696 (Coe) 5/06-4/08
Source: NIH/NCI
Title: Southwest American Indian Collaborative Network (SAICN)
Goal: To develop an organizational infrastructure for comprehensive cancer care, community-based, participatory research, and community-based activities in cancer education (housed at the Inter Tribal Council of Arizona).
Role: Consultant

PR023104 (Hakim) 07/07 - 06/08
Source: DOD
Title: A Chemopreventive Trial to Study the Effects of High Tea Consumption on Smoking-related Oxidative Stress
Goal: To assess the association between tea consumption and oxidative stress among smokers and former smokers.
Role: Biostatistician

Warholak (PI) 9/07 – 2/08
Source: Saint Luke’s Health Initiatives
Title: The impact of the Medicare Modernization Act on outcomes in Arizona’s dual eligible (Medicare/Medicaid) residents
Goal: To examine the effect of the implementation of Medicare Part D on health care costs among participants of Arizona’s Medicaid program (AHCCCS)
Role: Analyst/Epidemiologist

Completed Research Support (pre 2004)
UA-El Pueblo Clinic Medical Surveillance System
Southeastern Arizona Tea Study (SEATS)
Arizona GIS/Environmental Epidemiology/Arsenic Project
Arizona Smoker’s Hotline (ASH)
DOD Chemical Weapons Site Survey
DOD Chemical Weapons Site Follow-up Survey
Tucson Water Consumption Survey
Pediatric Alternative Medicine Survey
Risk Perception Survey among residents living in the vicinity of the Savannah River Site (SRS)
Mortality among nuclear workers employed at the Savannah River Site (SRS)
Meta-Analysis of the mortality of nuclear workers
BIOGRAPHICAL SKETCH

NAME
Lori Joshweseoma (Martin)

POSITION TITLE
Director

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
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<td>Northern Arizona University</td>
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<td>University of Arizona</td>
<td>MPH</td>
<td>2003</td>
<td>Public Health</td>
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Positions and Employment
- Health Educator for the Hopi Women’s Health Program - 1998-2001
- Director of the Hopi Women’s Health Program - 2001-present

Other Experience and Professional Memberships
- Member- Hopi Tribe, Arizona
- Hopi Health Care Center Board Member - May 2001 -May 2002
- Arizona Women’s Cancer Network Board Member – 1999- 2003
- Legal Services Board Member - July 2003- 2005
- Co Chair – National Native American Board – CDC, Atlanta Georgia 2003-2004
- Board Member – Community Advisory Board Advisor – Native Circle/Spirit of Eagle Rochester Minnesota October 2005 – present

Completed Research Support (2004 to present)
3U01 CA114696-03S2 COE (PI) 09/07-04/30
Source: NIH/NCI
Title: Cancer Burden of the Hopi Tribe, Incidence and Survival
Goal: To assess the incidence and survival of cancer among enrollees of the Hopi Tribe, 1995-2005: Manuscript on process accepted for publication 01/29/2010 to Public Health Reports
Role: Hopi Collaborator/co-leader

5 U54 CA096281-05 (Canfield) 05/05-5/07
Source: NIH/NCI
Title: Native American Cancer Research Partnership: Subaward – Pilot Study
Goal: To assess the effectiveness of the Hopi and breast and cervical screening programs to reach eligible women and to ascertain, via a population survey, the barriers and incentives for Hopi women to receive timely cancer screening. Programmatic Assessments and survey implementation completed. Surveys completed/ manuscripts submitted and awaiting final acceptance.
Role: Hopi Collaborator/ co-leader

Peer-reviewed publications
I. RESEARCH PLAN
1.1 SPECIFIC AIMS
The partnership which has developed through the Native American Cancer Research Program (NACP) between the Hopi Tribe and faculty of the Arizona Cancer Center (AzCC), the University of Arizona (UA) and Northern Arizona University (NAU), provides the foundation for a three year project to assess the prevalence of cancer knowledge, attitudes, beliefs and behaviors (KABB) of the Hopi people. The aims for the first year of the study, for which we currently seek funding, are:

1. To develop a culturally appropriate cancer-focused risk factor survey
2. To increase the research capacity of NAU investigators in health-related survey design

The above stated objectives fall within our three overall aims for the entire three year project:
1. To identify the current knowledge, attitudes, beliefs and behaviors of Hopi men and women about cancer, cancer risk factors, cancer screening, and cancer treatment and ascertain whether there are differences in these factors between those living on versus off the Hopi Tribal lands.
2. To identify the optimal method for administering the survey in order to ascertain this knowledge in a tribal community
3. To build capacity within the Hopi Tribe to ascertain changes in KABB in subsequent years while increasing the capacity of NAU researchers to perform similar research on Hopi with other Native American tribes/nations.

1.2 PROJECT’S RELEVANCE TO THE OVERALL PRIORITIES OF THE NAU/AZCC COMPREHENSIVE CANCER GRANT (U54). The proposed project is designed to address all 3 priorities of the NAU/AZCC Comprehensive Cancer Grant (U54) as described below:

Priority #1: To train Native American students for careers in cancer-related research and health care: Ms. Regina Eddie will be working with Dr. Sanderson on the proposed grant. She is a master’s level clinical assistant professor at NAU with plans to pursue doctoral training. Her participation in this study will expand her knowledge of cancer-related research in Indian Country. During the 2nd year of this proposed study, we expect that Ms. Maxine Janis, assistant clinical professor in Dental Hygiene will work with Dr. Sanderson and Ms. Eddie. Ms. Janis is currently a doctoral student at NAU and a Minority Faculty Fellow.

Priority #2: To build cancer-related research capacity at NAU: The proposed research represents an extensive collaboration among faculty from NAU, UA, AzCC, and the Offices of Health Services (OHS) for the Hopi Tribe. Participants in previous NACP research projects are now assuming leadership positions in this effort. Specifically, Dr. Priscilla Sanderson, an assistant professor at NAU, is now the NAU Co-Leader on this project. Inclusion of Regina Eddie also helps build cancer-related research capacity at NAU. In Year 2, we expect that Maxine Janis will begin working with Dr. Sanderson and Ms. Eddie.

Priority #3: Alleviate disparities in cancer in Native American Communities: In order “to alleviate disparities in cancer in Native American Communities” it is essential to clearly delineate factors that contribute to the cancer burden in Native peoples of Arizona. In the past, we have identified factors that contribute to women’s cancers as well as the burden of cancer (incidence and mortality) among Hopi tribal members; however, we have not addressed risk factors for all cancers for the entire population. There is widespread concern within Hopi that cancer is caused by exposure to mining and other environmental issues. It is not known whether major risk factors within in the larger U.S. population such as diet, obesity and the potential diabetes-
cancer link, are thought to be primary concerns among the Hopi people. The proposed research will increase our understanding of the factors associated with cancer and cancer-related concerns among peoples of the Hopi Tribe and will inform development of appropriate prevention programs for the Hopi people.

II. BACKGROUND AND SIGNIFICANCE

2.1 Hopi Tribe: The Hopi Tribe is a federally recognized sovereign tribe located on more than 1.5 million rural acres in the northeast part of Arizona. The reservation consists of 11 quasi-independent villages, each with its own culture and beliefs. In 2000 (9), there were about 7,000 people living on Hopi; only 5% of these were not Native American. In the past several years, researchers from the UA and NAU have worked collaboratively with the Hopi Tribe on several cancer related research projects. Together, they have also identified gaps that this proposed pilot aims to fill as part of the Hopi goal to create a tribal specific cancer control plan.

2.2 Cancer Burden of the Hopi Tribe: Due to a successful collaboration between the Hopi Tribe, the UA and the Arizona Cancer Registry (ACR) (see 3.1.3), the cancer burden of the Hopi Tribe has been ascertained for the years 1995-2005 (1,2). These data are confidential and belong to the Hopi Tribe; however, in an effort to support this grant application and with written permission of the Hopi Tribe (Appendix C) we present these data below for counts of at least 10 or greater.

2.2.1 Hopi Cancer Incidence: **DELETED FROM EXAMPLE DUE TO CONFIDENTIALITY OF TRIBAL DATA**

2.2.2 Hopi Cancer Incidence Rates 1995-2005 (Table 1): **DELETED FROM EXAMPLE DUE TO CONFIDENTIALITY OF TRIBAL DATA**

| TABLE 1: HOPI INCIDENCE RATES* FOR SELECTIVE INVASIVE CANCERS BY GENDER |
|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  | FEMALE (% OF TOTAL) | MALE (% OF TOTAL) | TOTAL CASES | UNADJUSTED RATE | AGE ADJUSTED RATE **** (95% Confidence Interval) |
| PROSTATE         |                  |                  |              |                 |                                          |
| BREAST           |                  |                  |              |                 |                                          |
| KIDNEY           |                  |                  |              |                 |                                          |
| DIGESTIVE SYSTEM' |                  |                  |              |                 |                                          |
| -LIVER           |                  |                  |              |                 |                                          |
| -COLORECTAL (CRC)|                  |                  |              |                 |                                          |
| NHL & LEUKEMIA   |                  |                  |              |                 |                                          |
| FEMALE GENITAL   |                  |                  |              |                 |                                          |

NR – Not Reported / Counts are < 10
* Rates may be underestimated due to some uncertainty in the denominator data
**Reported rate based on sex-specific population size *** Adjusted to 2000 Standard Population/19 age group

2.2.3 Hopi Cancer Staging and Mortality: **DELETED FROM EXAMPLE DUE TO CONFIDENTIALITY OF TRIBAL DATA**
2.2.4 Cancer Screening on Hopi: Funded by the Center for Disease Control and Prevention (CDC), the Hopi Women’s Health Program (HWHP) is a tribal breast and cervical cancer screening program that has been screening women for breast and cervical cancer on Hopi since 1996. Implementation of the HWHP has almost doubled the rate of mammography screening among women age 40+ on the Hopi reservation since 1993. This has been confirmed by both self report and data on actual screenings performed and submitted to the CDC for reimbursement 3-5 (see 3.1.1 and 3.1.2).

The HWHP is the sole Hopi entity performing cancer screening and has become the center for all cancer-related questions and concerns on Hopi, regardless of gender and/or cancer site. For example, the HWHP runs the Hopi Cancer Assistance Fund which provides funds to Hopi tribal members diagnosed with cancer and who are in need of financial support for gas, meals and/or lodging. The program has provided 54 individuals with this support since the inception of the program. In addition, the HWHP now partners with the State of Arizona to provide colorectal cancer screening to the Hopi community through a grant obtained by the state from the CDC. This new project will promote the importance of early detection of colorectal cancer to both the male and female population age 50 and older. Research (see 3.1.1) has shown that ever having used the HWHP is a positive factor associated with obtaining mammogram screening during the prior 4-5.

2.3 Perceptions of Cancer on Hopi: The beliefs people hold about health and safety hazards (i.e., their "risk perceptions") are among the most powerful determinants of behavior. Beliefs about risk likelihood and severity and about the efficacy of precautions occupy central roles in nearly all theories of individual health behavior 6. Mistaken beliefs can lead people to expose themselves to avoidable hazards and can dissuade them from adopting healthy behaviors. However, unfocused attempts to change behaviors through “education” are seldom effective because health campaigns need to be guided by specific information about their perceptions. For example, messages that encourage cancer screening will have little effect if people believe that cancer, once detected, is incurable or that treatments are intolerable. Messages focusing on the seriousness of influenza are unlikely to increase vaccination if people believe that they can get influenza from the vaccine.

Thus, attempts to decrease cancer risk behaviors (such as smoking) or increase cancer preventive behaviors (such as eating vegetables) need to be based on detailed information concerning what people believe about the nature of cancer and the links between behavior and cancer. Neither accuracy nor inaccuracy of risk perceptions can be assumed. Instead, they are typically determined from carefully constructed surveys or interviews. National recognition of the importance of risk perception information (and its absence on a national basis) was the stimulus that led to NCI’s ongoing HINTS (Health Information National Trends Surveys) surveys 7. While the total number of cancer cases on Hopi does not appear to be large, the community perceives its cancer burden as a major health challenge. ….. DELETED FROM EXAMPLE: DATA NOT YET PUBLISHED. Both men and women have also expressed heightened concerns about their risks for non-gender-specific cancers. The community-based Health Summit held on Hopi on November 15, 2007, identified cancer as the primary health concern of the Hopi Tribe, according to our Hopi collaborators.

2.4 Assessment of Health Risks and Behaviors: Theory, recent research findings and community concerns dictate the need for a carefully constructed survey instrument to assess
knowledge, attitudes, beliefs and behaviors about cancer for the Hopi Tribe. There are several standardized survey instruments already developed which are designed to collect data on risk factors and risk perceptions; however there are limitations precluding an a priori choice of any one. We discuss each of these survey instruments below, how it has been utilized previously in Indian Country, and the limitations each one imposes, thus supporting the need to develop a culturally appropriate survey instrument for the Hopi people.

2.4.1. BRFSS (Behavioral Risk Factor Surveillance Survey): The BRFSS is a state-based system of health surveys established in 1984 by the CDC. More than 350,000 persons are interviewed by telephone each year. Information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury are collected. Survey modules through 2010 are currently available in both English and Spanish. All items collect close-ended responses. The 2010 survey consists of 22 Core sections and 26 Optional Modules, each of varying length. Three sections address cancer screening behaviors: Women’s Health (Section 18), Prostate Screening (Section 19), and Colorectal Screening (Section 20), one module examines HPV (Module 13) and another Cancer Survivorship (Module 14).

Data from the BRFSS have been used in several studies that have focused on AI/AN health. Due to the small number of AI/AN respondents, these studies have aggregated data across large geographic areas and over several survey years. For example, in the most recent national study, BRFSS data from 2000-2006 were aggregated. Out of 1,863,461 respondents during this seven year period, less than 2% of these respondents (n= 32,426) were American Indian/Alaska Natives (AI/AN) and only 14% (n=4491) of these were located in the Southwest service region of the Indian Health Service (IHS). Four states - Nevada, Montana, Oklahoma and New Mexico – have administered modified BRFSS surveys within their own AI/AN populations in order to ascertain the health risks and behaviors of AI within their own geographic areas.

These data obtained at the national and state level are valuable for planning purposes within these political boundaries. However, both national and statewide approaches have several flaws. First, they are limited by the assumption of inter-tribal homogeneity and thus fail to address the specific needs of each sovereign tribe/nation. Second, these surveys are administered by telephone in communities where the availability of telephones may be limited. Third, aggregation over time precludes an assessment of temporal changes. Fourth, the response rates in these studies are not optimal. For example, the response rate in the Nevada study was only 34%. This would necessarily challenge the generalizability of the study results. Finally, the survey instrument is not necessarily appropriate for the non-majority population, thus possibly challenging the validity of the study results.

2.4.2. HINTS (Health Information National Trends Survey): The HINTS survey is a National Cancer Institute (NCI) cross-sectional survey administered every other year to a nationally-representative sample of adults in the United States. The purpose of the survey is “to assess the impact of the health information environment. Specifically, HINTS measures how people access and use health information; how people use information technology to manage health and health information; and the degree to which people are engaged in healthy behaviors. Finally, several items in HINTS have a specific focus on cancer prevention and control.”

The HINTS survey was created by combining items from several national surveys, including the BRFSS, some smaller surveys and also some items created by HINTS program members. The survey consists of five categories: Health Communication, Mental Models of Cancer, Primary Cancer Risk Behaviors, Cancer (Breast, Cervical, Colon, Lung, Prostate, Skin) and...
Respondent Characteristics. Dr. Weinstein, consultant on this proposed pilot project, was a key participant in the development and testing of the HINTS survey and wrote most of the risk perception questions on the initial HINTS survey.

The HINTS survey was administered in 2003 and 2005 and 2007 by phone using Random Digit Dialing lists. In 2007, it was also administered by mail using address lists made available from the United States Postal Service. The HINTS program discourages state investigations since, “data can only be assessed as a representation of the nation, as there is not enough data from each state to analyze them individually”. This limitation would also apply to sovereign Tribes and Nations. For example, in 2003, only 203 of the 6369 participants were AI/AN, and in 2005, this percentage was only 2.5% (141 of the 5586). Additional limitations to these data are similar to those noted above for the BRFSS.

2.4.3 First Nations Longitudinal Health Survey (RHS): The RHS is a longitudinal national health survey governed by and administered for First Nations peoples in Canada. It is designed to “address a comprehensive range of health status, wellness and health determinant measures… while foremost addressing First Nations priorities within a cultural and holistic framework”. The RHS consists of 4 separate surveys: Adult (18+), Youth (12-17), Child (0-11) and Community. Overall, the surveys are design to assess physical, emotional, spiritual, mental, environmental, economic and social determinants of health. These instruments were developed by and for the First Nations people of Canada – the process and contents thereof would inform our creation of a culturally appropriate instrument for the Hopi Tribe and other Native Americans of the Southwest. However, it does not contain all the risk perception questions we believe are appropriate to our study.

III. PRELIMINARY STUDIES: We seek funding for the first year of a three year project which will assess the KABB of all Hopi men and women. The expected success of this proposed project is based upon our recent experiences in working together to achieve similar goals on Hopi. Underlying all these efforts is the strong level of trust that has developed among the Hopi Tribe, UA and NAU researchers. We detail these projects below and further summarize peer-reviewed activities in Appendix A.

3.1 Preliminary Studies on Hopi: Members of our team have had considerable experience working in collaboration with the Hopi Tribe. We have developed a strong relationship of mutual trust which has enabled us to complete the studies described below. These studies also resulted in numerous presentations at the UA, on Hopi, and at peer-reviewed conferences.

3.1.1 2006 Hopi Women’s Study: In 1993, a cross-sectional survey was conducted among Hopi women to determine the rate of and predictors for participation in breast and cervical cancer screening. Dr. Anna Giuliano was the Principal Investigator of this project, working with Mr. Leon Nuvayestewa of the Hopi OHS. This study was used by the Hopi Tribe to apply for and obtain funding from the CDC for the Hopi Women’s Health Program (HWHP), the Hopi Breast and Cervical Cancer Screening Program (BCCP). Hopi’s Office of Health Services is one of a few tribal health departments in the nation to obtain such funding and has been successfully implementing this program ever since. Ms. Lori Joshweseoma (Martin), is Director of the HWHP. She is a Hopi Tribal member, bilingual, is the Director of the Hopi Women’s Health Program and has extensive knowledge of her culture and health care issues.

A follow-up study on knowledge, attitudes, beliefs and behaviors of Hopi women about breast and cervical cancer screening was developed and conducted during the years 2005-2008. Co-Leaders on this study were Lori Joshweseoma (Hopi), Dr. Robin Harris (UA) and Dr. Charlotte
Goodluck (NAU). Dr. Sylvia Brown, Co-Leader on the proposed effort, was a major participant in all phases of this study, from survey development through analysis and dissemination. The 2006 survey instrument was a culturally appropriate survey based on the 1993 survey, modified to be temporally and culturally appropriate with input from the HWHP staff, individual community members and community focus groups. Participants in the study were randomly selected from Hopi Tribal Enrollment. Interviews were conducted in-person in Hopi and/or English and resulted in an deleted from example: data not yet published response.

3.1.2 HWHP Program Evaluation (MDE Analysis): Extensive data on breast and cervical cancer trends, incidence, and mortality are recorded by the HWHP as part of its routine data collection. While these data contain information on residence, stage of diagnosis, age, and screening history, these data are not routinely analyzed. As a result, in 2005, Drs. Robin Harris and Sylvia Brown undertook an extensive analysis of these data with the HWHP and NAU collaborators. The primary data source for this effort was the Minimum Data Element (MDE) reporting system utilized by the CDC for all funded BCCP programs. Population estimates were obtained from tribal enrollment and from US Census files. A data matrix was developed to outline content areas and map variables and data sources. This matrix was reviewed with Program staff for clarification and refinement. As part of these conversations about program evaluation needs, additional process variables were identified that assisted in evaluation of the program effectiveness, e.g. distances traveled by case managers. A multiple page report formatted according specifications outlined by the HWHP director was issued to the Hopi Tribe and presented to HWHP staff and Hopi OHS personnel.

3.1.3 Hopi Cancer Burden: Conversations between Lori Joshweseoma and Sylvia Brown while accomplishing the above efforts identified a strong need on the part of the Hopi Tribe for an assessment of the Hopi-specific cancer burden. Aggregate data spanning several decades (1975-2004) on cancer incidence and survival among Native Americans had recently been published in much detail, and cancer incidence data was available statewide via a system called Community Health Analysis Area (CHAAs) which are geographically congruent with individual reservations. However, due to limitations in these data, it could not be assumed that these aggregate data reflected the cancer burden of the Hopi Tribe. As a result, Dr. Brown and Ms. Joshweseoma partnered with the Arizona Cancer Registry (ACR) and obtained funding to identify the Hopi Cancer Burden. Primary funding was obtained from the National Cancer Institute as a pilot grant administered through the Southwest American Indian Cancer Network (SAICN) [3U01 CA114696-03S2] and partial funding was provided by NACRP. In addition, the CDC provided support to the ACR under cooperative agreement 5U58DP000796.

To assess the burden of cancer among Hopi enrollees, this study matched Hopi tribal enrollment data to ACR data. The results were analyzed and presented in report and oral format to the Hopi Tribe. This was a rare event wherein the Hopi Tribe shared highly confidential tribal enrollment data with university researchers and state health professionals. Results from this effort are presented, with Tribal permission, in the Background Section above.

3.2 Other Work in Indian Country: In addition to our team’s experience in working with the Hopi Tribe, we have had considerable experience working with other Native American tribes/nations in the area of cancer research. Most of this additional experience has been with the Navajo Nation (NN) and under the NACP umbrella. We briefly describe our experience with the NN below.

3.2.1 Navajo Language Breast Cancer Video: Dr. Sanderson (NAU) was a co-Investigator with Dr. Nicolette Teufel-Shone (UA) in the first community-driven project for NACP, a video on
breast cancer education that was produced on the Navajo Nation and in the Navajo language, with English subtitles. The video script written by a Navajo breast cancer survivor in collaboration with the NACP and has been widely disseminated locally and nationally. The manuscript describing the video received the Gold Award in the Scholarly Articles: Feature Article category in the 2006 EXCEL Awards Competition. The pilot study resulted in numerous invited lectures, poster presentations, and 2 refereed journal articles. 29-30

3.2.2 Barriers to Breast and Cervical Cancer Screening among Navajo Women: Dr. Harris guided the completion of a survey designed to assess barriers to breast and cervical cancer screening among Navajo women age 40 and older who had never or rarely been screened for breast cancer and who resided in Chinle, Tsaile, and Piñon Service Units. The study results have been publically presented and the manuscript is under review.

3.2.3 Survey of Knowledge, Attitudes, Beliefs and Behaviors among Navajo Nation employees: This study was a survey of KABB related to cancer among employees of the Navajo Nation, the largest single employer in the community. Dr. Brown worked closely with the Navajo graduate student in the analysis of survey results and in the preparation of the manuscript which is currently under review by the Navajo Nation co-PI.

3.2.4 Navajo Nation Breast and Cervical Cancer Program (NNBCCP) Evaluation: The NNBCCP has participated in the CDC sponsored Breast and Cervical Cancer Program since 1996. Screening services have been provided at 5 Service Units - Chinle, Ft. Defiance, Kayenta, Tuba City, Winslow- since 1999. Beginning in 2005, the NNBCCP partnered with NACP to evaluate its BCCP program. Drs. Brown and Harris were actively involved in this project, along with NAU investigators. A multi-volume report was issued by the UA to the NNBCCP in late 2006 and the results were publically presented by NAU and UA investigators at peer reviewed meetings.

3.2.5 Colorectal Cancer Screening on Navajo: Dr. Sanderson was a postdoctoral fellow in cancer prevention and control at the Arizona Cancer Center where she developed a draft survey whose purpose was to assess colorectal cancer screening knowledge, attitudes, awareness, practices, and recommendations for Navajo people living on the Navajo Reservation. She utilized three interview methods to make this assessment: written surveys administered at 2 tribal fairs, in-person interviews administered to 2 hospital outpatients and community focus groups (n=5). The pilot study resulted in numerous invited lectures, poster presentations, invited class lectures, refereed journal article is currently in revision 31.

IV. RESEARCH DESIGN AND METHODS

Aim #1 (Pilot Year): To develop a culturally appropriate cancer-focused risk factor survey on Hopi

Overview: The overall goal of the project is to assess prevalent knowledge, attitudes, beliefs and behaviors (KABB) about cancer of both men and women who are members of the Hopi Tribe. Previous research on Hopi is limited to women’s cancers only and little is known about men’s cancers and those cancers that are not gender specific. We will build upon our previous relationships and experience to create and implement a culturally appropriate survey which will serve as a foundation for future grants. In this pilot proposal, we describe activities and plans for Year I of the survey. We will be seeking further funding, either through NACP or to another agency for implementation of the survey. However, to better contextualize the proposed pilot study activities, we present an overview of our plans for Year 2 and 3 of the survey.

Population Study Base: The population consists of all Hopi men and women, age 18 and older, enrolled in the Hopi Tribe. For the initial survey, the members must be living on the Hopi reservation at the time of recruitment.

Research Design:
4.1 Research Design Year 1 (Pilot): Survey Development

Survey Development: The survey instrument will be developed in collaboration between NACP and HWHP personnel. This is the focus of the pilot year for which we are requesting funding. Items from the Behavioral Risk Factor Surveillance System (BRFSS), the Health Information National Trends Survey (HINTS), and the Canadian First Nations Regional Longitudinal Health Survey (FNHS) will be examined in detail. Additionally, upon a comprehensive literature review, items from additional validated questionnaires deemed appropriate will be included. From these standardized questionnaires we will identify core items that address our research questions and community interests/concerns. For concepts such as perceived risk, perceived seriousness, and perceptions of control, we will start with questions suggested by the NCI online resource “Health Behavior Constructs: Theory Measurement, and Research” and/or with the NCI Health Information [co-authored by Dr. Weinstein, a member of the UA research team, who developed many of the original health risk questions]. Although these are recognized measurement instruments, most have not been tested with Native Americans. We expect this to be a time-intensive iterative process that will require the expertise of all team participants. Based on our previous experience in developing the 2006 Women’s survey in which we had a survey instrument on which to build and given the percent effort allocated within proposed funding level, we anticipate approximately one year to complete this effort.

While all team members will participate in the development of the survey instrument, Dr. Brown will undertake the primary responsibility for coordinating these development efforts. She will work in close collaboration with Dr. Sanderson, Dr Guy and Ms. Joshweseoma to ensure continued joint collaboration in these efforts and will utilize the advisory support provided by Dr. Harris to achieve the project’s goals.

Focus Groups: Approximately 10 individuals will participate in one of four focus groups to further refine our survey instrument. The focus groups will be 1-2 hours in duration. Each session will be audio-taped for later transcription upon consent of participants. Prior to meeting, the initial draft pool of survey items will be distributed to participants. Participants will be asked to sign a consent form in order to participate in the focus groups. Participants will be asked to review the questionnaire and make notation of items that are problematic and/or questionable. In short, the groups will assist in the identification of questions and/or issues that were not identified in the initial draft of the survey. We will also solicit guidance from participants in the focus groups regarding culturally appropriate ways (Strickland, 1999) in which to pose sensitive questions about cancer, health, and culture. Finally, during the focus groups we will include questions that address specific areas of concern to the Hopi Tribe, such as relationships between spirituality and beliefs of cancer. To ensure appropriate content within the questionnaire, we estimate the need for four focus groups of 10 participants each, based on age and gender.

Dr. Sanderson will be the primary research team member responsible for conducting the focus groups. She, along with Dr. Guy and Ms. Eddie, will act as facilitators of the focus groups. Ms. Joshweseoma will be responsible for recruiting group participants. We anticipate an amount of $25 per individual (n=40) as incentive to participate in the two-hour session.

Recruitment Strategies: Information about the project, survey development and focus group participation will be provided to the tribal community via flyers, posters, radio announcements, newspaper articles and word-of-mouth strategies. Culturally sensitive art and wording will be taken into consideration. Issues of literacy will be discussed. Additionally, the Director of HWHP and the Hopi radio stations will publicize the project.
Reviews and Approvals: We will seek a Hopi Tribal Resolution in support of this effort upon notification of study funding. We currently have written support from Herman Honanie, former Director of the Hopi Office of Health Services and recently elected Vice-Chairman of the Hopi Tribe (Appendix E). All research materials will be developed in close collaboration with the Director of Women’s Health Programs. Respect for the Hopi Tribe’s cultural beliefs, practices, and privacy will be strictly monitored and enforced. All articles, monographs, or oral presentations using these tribal data will be reviewed and approved by the tribal representative prior to public dissemination. Upon issuance of the Hopi Tribal Resolution, Institutional Review Board Approval will be sought from UA and NAU for this phase of the overall study.

Data Analysis, Reporting and Dissemination: There will be three products for Year I. The first will be development of the final survey instrument to be tested and administered in Years 2 and 3 of the study. The second will be a report to the Hopi Tribe indicating the results of the survey development and focus groups. The third product will be a manuscript reporting results of the focus groups.

Analysis-Focus Groups: Audio-recordings will be transcribed; during transcription, all focus group participants will be assigned pseudonyms or unique identifiers. Transcribed data will be reviewed systematically and analyzed using a coding-categorizing technique. This technique is frequently used in qualitative studies and is a form of content analysis that requires arranging the data into categories which are sorted by broader themes (e.g., perceptions, knowledge, beliefs). Predetermined or emergent codes from the data are linked to these categories and used to assign meaning to the data. Both descriptive and interpretive codes will be used in this analysis. Project team members will meet regularly to discuss emergent themes, issues, and to consider modifications to the questionnaire. An acceptable degree of inter-rater reliability around themes will be established. Focus group data will be analyzed using NVivo qualitative data analysis software; QSR International Pty Ltd. Version 8, 2008, a computer package for the management and analysis of qualitative data.

Statistical Plan, Sample Size and Power: All quantitative analyses will be conducted using Stata 7.0 software (College Station, Texas, USA, 2002) and/or SAS (Cary, NC). There are no sample size/power considerations for Year I of the study.

Aim #2 (Pilot Year): To increase research capacity of NAU investigators in the field of focus group implementation and survey design. In the early months of the pilot year, we propose to hold a two day training session in Tucson on survey development. Dr. Sanderson and Ms. Eddie from NAU and Ms. Joshweseoma from Hopi will participate along with Drs Brown, Guy and Harris from UA. Dr. Weinstein will lead the training session and will work with Drs. Brown and Guy in the development of its contents. At this training, Dr. Sanderson and Dr. Guy will share their knowledge and experience about focus groups and cognitive interviews. During these two days, we will jointly develop a strategy and detailed timeline for the creation of our survey instrument. Dr. Sanderson has a Career Development and Training Plan with an outline of her professional and academic development as a junior faculty member at NAU.

4.2 Research Design Years 2 and 3: Survey Implementation, Analysis, Reporting
Survey Design: We propose a cross-sectional survey of 300 to 600 Hopi tribal members. A random sample of eligible men and women will be selected from tribal rolls. Local interviewers will be trained in recruitment and interview technique. The survey instrument, developed during the pilot year, will be tested for feasibility and then implemented. A data entry and tracking
system will be developed. All data entry will be performed by the Hopi staff. Data analysis will be performed in collaboration between the UA, NAU and Hopi team.

**Participant Selection:** The population of Hopi men and women, age 18 and over enrolled in the Hopi Tribe, will be identified from tribal rolls obtained through the Office of Enrollment. A random sample of men and women, proportional to the enrollment size of the 11 Hopi villages (Polacca [Hano/Tewa], Walpi, Sichomovi], Mishongnovi, Shungopavi, Shipaulovi, Kykotsmovi, Oraibi, Hotevilla, Bacavi, and Moenkopi) will be selected. As we have done previously, we will work with Mary Polacca and her colleagues from the Office of Tribal Enrollment to obtain this information. Trained interviewers will be provided with a list of persons to contact. Interviewers will be instructed to return on three occasions at different times of the day and week in effort to locate an eligible participant to reduce the non-participatory rate. This approach resulted in an 86% response rate in our 2006 Women’s Survey. In the second year of the study, this sampling scheme will be developed in more detail.

**Recruitment Strategies:** We will continue the recruitment strategies successfully used in the prior Hopi Women’s Study. These involved use of trained local Hopi interviewers who contacted the potential participants through home visits. All interviews were conducted in the households.

**Feasibility Study:** We will conduct a feasibility study to evaluate the initial survey instrument designed by the research team and modified according to focus group input. The results from feasibility study will inform the necessary modifications to the survey instrument and recruitment process. After all revisions are completed, the survey will be administered.

**Training of Interviewers:** Drs. Sanderson, Brown and Guy will conduct training sessions for interviewers. Topics for the training sessions will include: building a relationship for administration of a survey, recruitment and retention approaches, obtaining informed consent, understanding confidentiality, managing refusals to participate, and administering the survey. Contingent on the number of interviewer recruits, it is projected that the training will be one or two days. Ms. Joshweseoma and staff will facilitate the coordination and implementation of the training. We anticipate recruiting local public school teachers for our interview staff.

**Reviews and Approvals:** We will seek IRB approval of the informed consent, survey instrument and any other study materials requiring such approval prior to the feasibility study. As in Year 1, all research materials will be developed in close collaboration with the Director of Women’s Health Programs. Respect for the Hopi Tribe’s cultural beliefs, practices, and privacy will be strictly monitored and enforced. All articles, monographs, or oral presentations using these tribal data will be reviewed and approved by the Hopi Tribe prior to public dissemination.

**Statistical Plan:** All quantitative analyses will be conducted using Stata 7.0 software (College Station, Texas, USA, 2002) and/or SAS (Cary, NC). Effectiveness of recruitment and acceptability of questions to the population will be assessed through calculating response rates by age group and gender. Interviewer reliability will be assessed by repeating a small subsample of objective questions and comparing responses and missing/skipped questions across interviewers. Prevalence of specific risk factors (e.g. smoking status) will be estimated as a proportion of all responders, stratified by gender and age group. Aggregate scale measures will be created as necessary for specific domains (e.g. perception). Descriptive statistics will include mean, median, mode and standard deviations for continuous variables, such as age, and proportions for all categorical variables. Differences between and within age and gender groups will be examined through Chi-square test (categorical data) or t-tests or ANOVA (continuous data, normally distributed) or the Wilcoxon Rank Sum or Kruskall Wallis test (continuous non-parametric data). Unconditional multiple logistic regression will be used to describe patterns in the data. We will consider possible covariates such as respondent age, sex, and village of residence.

**Reporting and Dissemination:** Reports will be presented to the Tribe in written and oral format at the completion of Years 2 and 3 of the study.
Sample Size and Power Considerations for the Survey: We estimate that a sample size of approximately 300 Hopi enrollees of either gender is required for a 95% confidence level (alpha=.05), precision level of slightly better than +/-5.5% (margin of error) for a binomial variable with expected value of 50%. This is based on Hopi tribal enrollment data obtained directly from the Hopi Enrollment Office in May 2008. From these data we ascertain that there are approximately 14,000 persons enrolled in the Hopi Tribe, half of whom live on the Hopi reservation (n=7,000). Approximately 75% of those living on the reservation are at least 18 years old. Our goal is to achieve a precision level of 0.03 or 0.04 which will require a sample size of approximately 600 or 900 persons, respectively. Availability of funding and the implementation timeline will determine the sample size for the final population survey. Further work on proposed sample size will be done to determine specific numbers and to insure equal participation of both men and women.

Validation Study: We plan to propose in the larger project (during Year 3), a validation study to contrast the impact of in-person interviews versus telephone interviews utilized in the national surveys. This validation study will consist of a subset of items from the main survey that are then administered in different ways- by mail, by phone and as an in-person convenience survey. The purpose of this validation study is to assess whether cost-effective methods of implementation will yield results similar to those obtained through our in-person survey, our gold standard. Details of this validation study (Aim 2 for Years 2 and 3) are not presented.

Timeline (Pilot Year): We are requesting funding for the first year of a three year project. The primary focus for Year 1 is to provide survey development and focus group training to all collaborators, develop a culturally appropriate cancer-focused survey instrument to assess the knowledge, attitudes beliefs and behaviors about cancer for the Hopi Tribe and to assess the proposed survey instruments through four focus groups. The staffing and timeline has been determined to allow each of these specific aims to be met during Year 1. We also attach a proposed timeline for the entire 3 year project period. (Appendix B)

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<th>Aim 1: Survey Development And Focus Group Implementation</th>
<th>YEAR 1 (months)</th>
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<td>Development</td>
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<th>Aim 2: Capacity Building &amp; Training</th>
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<td>Survey Development Training</td>
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Table 2: Pilot Year Timeline
BIBLIOGRAPHY


23. http:aspe.hhs.gov/hsp/06/catalog-AI-AN_NA/HINTS.htm


31. Sanderson, P.R., Weinstein, N., Teufel-Shone, N., & Martinez, M.E. Assessing colorectal cancer screening knowledge at tribal fairs in the Navajo reservation. Preventing Chronic Disease Journal, (reviewed and in revision).

PROTECTION OF HUMAN SUBJECTS

1. Risks to the Subjects
   a. Human Subjects Involvement and Characteristics
      Year 1 of this project, for which we currently seek funding, involves 4 focus groups. These
      will be conducted with approximately 20 women and 20 men who will be selected from
      various villages and organizations on the Hopi reservation. The focus groups will be
      conducted at community sites across the reservation. Participants will be members of the
      Hopi Tribe. This study is for the Hopi Tribe and is limited to their own tribal members, thus
      excluding other ethnicities and/or tribes. This study does not include “special classes of
      subjects” (as defined in the PHS 398: Part II, p. 13).
   b. Sources of Materials
      Face-to-face interviews will be conducted with Hopi men and women who participate in the
      focus groups. Data will also include audio tapes from the focus groups; transcriptions of the
      audio tapes, and notes taken by the researchers conducting the focus groups; the data will
      be in the form of words and narrative. Questions in the focus groups will center on the risk
      factor survey.
   c. Potential Risks
      There are no physical risks associated with the personal interviews. While there remains a
      minimal risk of loss of confidentiality, all personally identifiable information will be removed
      before transmittal of any data.

      Focus group participants will sign consent forms which will be kept separated from the focus
      groups notes, transcriptions and reports. The consent forms will be held at the Hopi tribal
      office. Furthermore, all employees sign a pledge to protect confidentiality. Any paper
      records are kept in locked files and offices. Electronic data are protected by passwords,
      which are changed regularly. No personally identifying information will be released in any
      publications or reports, or to any other institutions.

2. Adequacy of Protection Against Risks
   a. Recruitment and Informed Consent
      All relevant Hopi, NAU and UA staff will have received human subjects training and
      certification prior to initiating any interviews or data collection.

      Focus Groups: Men and women will be identified by the director of the HWHP and through
      community flyers. The purpose of the focus groups will be explained to the participants and
      all will be asked to sign a consent form or disclaimer form prior to the focus group
      implementation. No personally identifiable information will be maintained or recorded during
      the focus group sessions.

   b. Maintenance of Confidentiality
      No personal names will be maintained on any product from the focus groups, such as notes
      and/or audiotapes. No information that could lead to personal identification of participants will
      be reported in any of the reports or given to any non-authorized personnel.

   c. Protection Against Risk
      Participants in the focus groups will be provided with a list of Hopi Tribal counseling and
      social services if they should find themselves needing these resources after the focus
      groups. Trained interviewers will be given information about potential risk and a list of
resources will be given to the participants as needed. This did not occur in the previous study at Hopi; and it is unlikely to happen in this study, but all precautions will be taken to ensure protections against risk.

This research will have no direct benefit to any of the individuals who have participated in the focus groups. Participants will receive modest monetary (or equivalent) compensation for their participation time.

Summary study results are expected to be of considerable value since they will serve to finalize the survey instrument whose implementation will provide Hopi leaders with information on which to base their cancer education and prevention programs.

4. Importance of the Knowledge to be Gained
The proposed pilot lays the critical foundation for implementation of the full 3 year project. The proposed pilot will create a culturally sensitive cancer risk factor survey that, with only slight modifications, is expected to serve as a model for use with/by other Native American populations. The 3 year project will provide the Hopi Tribe with a profile of its population’s knowledge, attitudes, beliefs and behaviors about cancer, thus enabling the Tribe to target interventions and education and also to apply for funding for prevention programs at the local, state and national levels.

In addition, the pilot year will provide NAU investigators with formal training on focus groups and survey development and thus enhance their capacity to do research of a similar nature with other Native American tribes/nations.

Inclusion of Women and Minorities
All primary participants in the surveys will be men and women from the Hopi Tribe. While no data will be excluded, we estimate that 98% of all household participants will be Native American/Hopi.

Inclusion of Children
The participants in the focus groups will be men and women 18 years of age and older and thus may include persons between 18 and 21. It is important to assess the KABB of these younger Hopi tribal members since effect of many risk factors, such as diabetes and smoking, manifest themselves many years later.

RESOURCE SHARING PLAN: A major issue for many Native American tribes/Nations has been misuse of their personal data and the use of research data beyond the original agreements between Tribe and university researchers. We have established a strong relationship with Hopi that is founded in mutual trust, respect and equality. Any and all results, including presentations and manuscripts, will be jointly prepared, presented and authored.
This report format should NOT be used for data collection from study participants.

**Study**  
**Cancer Risk Factors and Screening Behaviors of the Hopi Tribe**

**Total Planned**  
40

<table>
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<th><strong>TARGETED/PLANNED ENROLLMENT: Number of Subjects</strong></th>
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**Racial Categories**

| **American Indian/Alaska Native**                | 20          | 20        | 20        |
| **Asian**                                       |             |           |           |
| **Native Hawaiian or Other Pacific Islander**   |             |           |           |
| **Black or African American**                   |             |           |           |
| **White**                                       |             |           |           |

| **Racial Categories: Total of All Subjects ***  | 20          | 20        | 40        |

* The “Ethnic Category: Total of All Subjects” must be equal to the “Racial Categories: Total of All Subjects.”
SECTION I

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<tr>
<th>Name</th>
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<tr>
<td>Priscilla R. Sanderson</td>
<td>NAU Co-Leader (Pilot Research Project)</td>
<td>02/02/10</td>
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All members of the NACRP are working toward the following general goals:

1. To initiate robust cancer research programs at NAU that will enhance career development of NAU faculty and introduce, educate, and train students in fundamentals of cancer research;
2. To create stable and long term collaboration between NAU and AZCC in cancer research, prevention, education, and community outreach; and
3. To improve the effectiveness of NAU and AZCC in conducting activities aimed at reducing the disparity in cancer incidence and mortality in Native Americans in the Southwest.

As a requirement for NCI-funded Minority Institution/Cancer Center Partnerships, all junior faculty, established faculty in new roles, postdoctoral researchers and graduate students must generate and maintain yearly Career Development Plans. The current template is based on the Academic Career Award (K07) Model. Updated plans are required for pilot and full proposal/program applications as well as our yearly noncompetitive and competitive renewal applications. Please keep this form to within 15 pages.

SECTION II – RESPONSIBILITIES and DISTRIBUTION OF EFFORT

Summarize the specific RESPONSIBILITIES for your role in the Partnership, and your overall distribution of EFFORT defined by your academic department or unit, for example in teaching, research and service (faculty) or coursework, teaching and research (students):

In the Partnership, I have two goals:

1. Introduce, educate, and train junior faculty at NAU in fundamentals of cancer research, design, and implementation (Regina Eddie, clinical assistant professor).
2. Serve as NAU co-leader of the specific pilot research: I will work with Sylvia Brown (PI of the UA portion of the proposed pilot study) to oversee progress of planning, implementation, and completion of Year One pilot research activities. These responsibilities include working with the Hopi tribe to develop an appropriate survey instrument that meets the needs of the Tribe and is solid theoretically to identify knowledge, attitudes, and beliefs of the community members around the issues of cancer in the community. I will work with Lorencita Joshweseoma as community leader of the pilot study.

My current distribution of effort for the 2009-2010 academic year is defined in my Statement of Expectations for the Department of Health Sciences and Department of Applied Indigenous Studies as Teaching (50%), Research (40%) and Service/Administration (10%).

SECTION III – MENTORS

List the individuals on your current “Mentoring Team” (one to four people) and for each mentor provide a statement describing his/her qualifications and previous experience as a mentor. Also provide information describing the nature and extent of mentoring/supervision that will occur during this period.

(1) Diane Stearns, Professor of Chemistry and Biochemistry, NACP, Northern Arizona University: mentor for administration of NACP pilot project, will advise Sanderson on strategies and execution of the Partnership pilot project. Dr. Stearns is the former NAU-PI for the Partnership and has successfully led NAU as the lead administrator of the program. They will meet a minimum of once a month for planning and strategies related to NACRP pilot project.

(2) Robin Harris, Professor of Epidemiology and Public Health, Zuckerman College of Public Health and Arizona Cancer Center, University of Arizona: mentor for research, will advise Sanderson on design and implementation of the survey research. She will also provide mentorship for obtaining R01-level research support. Dr. Harris will serve as the project advisor to both Sanderson and Brown in the proposed pilot research project. She was the principal investigator for the prior survey and evaluation studies with the Hopi Tribe and has agreed to serve as an advisor for the current project. Drs. Harris and Sanderson will correspond informally by phone and email, and participate in meetings twice a month by IITV alternating between research groups. Dr. Harris will be part of the training and consulting team meetings that are planned during Year 1 of the grant. Dr. Harris has substantial experience in conducting and reporting epidemiology teaching programs at the College of Public Health and mentor of new faculty as part of the R25 Cancer Prevention and Control Program. Dr. Harris many years of experience as a mentor of graduate students and new faculty.

(3) Octaviana Trujillo, Professor of Applied Indigenous Studies and NACP Internal Advisory Committee: mentor for focus groups, will advise Sanderson on preparation, implementation of focus groups, qualitative analysis, and writing results. They will meet
a minimum of once a month for planning and strategies related to the focus group in Year 1 and Years 2-3, Dr. Trujillo will provide mentorship through her involvement in the Internal Advisory Committee.

**SECTION IV – PREVIOUS GOALS**

Summarize the goals you set during the previous evaluation period:

*(not applicable this year)*

**SECTION V – ACHIEVEMENTS**

1. Describe the extent to which your previous SHORT-TERM GOALS were achieved over the past 12 months:

*(not applicable this year)*

2. Describe progress made toward your LONG-TERM GOALS over the last 12 months:

*(not applicable this year)*

**SECTION VI – FUTURE GOALS**

3. Describe your SHORT-TERM GOALS for the next 9 months (please provide measurable objectives) and describe how those goals are consistent with the aims of the NACRP:
Research Goals:
1) To complete the survey instrument that meets the needs of Hopi tribe in partnership with University of Arizona NACP team and Lori Joshweseoma, Hopi community leader.

Administration Goals:
1) Prepare and submit the non-competitive continuation for “Cancer Risk Factors and Screening Behaviors of the Hopi Tribe” to the NACP U54 Comprehensive Minority Institution/Cancer Center Partnership.

4. Describe your LONG-TERM GOALS for the next 10-36 months (please provide measurable objectives) and describe how those goals are consistent with the aims of the NACRP:

Research Goals:
1) Apply for an R01-level or comparative support for colorectal cancer KABB research

Administration Goals:
1) Continue to build cancer research at NAU through mentoring of junior faculty (Regina Eddie and Maxine Janis).

5. How can the Partnership or your Institution/Department assist you in achieving your SHORT-TERM and LONG-TERM GOALS?

Research Goals:
1) Critically review manuscripts prior to submission.
2) Continue to provide collaborative opportunities for research with AZCC members.
3) Assure that AZCC cancer prevention and control seminars are available for review by NAU faculty so that education of AZCC and cancer prevention & control issues are developed.

Administrative Goals:
1) Provide training for junior faculty on grant administration and budget development.

SECTION VII – SIGNATURES
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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Priscilla R, Sanderson, Ph.D.</td>
<td></td>
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<tr>
<td>Diane M. Stearns, Ph.D.</td>
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<tr>
<td>Robin Harris, Ph.D.</td>
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<td>Octavian Trujillo, Ph.D.</td>
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<td>Marianne Nielsen, Ph.D.</td>
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<tr>
<td>AIS Departmental Chair</td>
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## BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

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<td>Sanderson, Priscilla Rose</td>
<td>Assistant Professor, Department of Health Sciences and Applied Indigenous Studies</td>
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<td>Sanderson (NAU) / Brown (UA)</td>
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<td>Oklahoma State University, Stillwater, OK</td>
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<td>University of Arizona, Tucson, AZ</td>
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<td>University of Arizona, Arizona Cancer Center, Tucson, AZ</td>
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**B. Positions and Honors.**

**Positions and Employment**

1984-1986 Vocational Rehabilitation Services Specialist II, State of Arizona, Department of Economic Security, Rehabilitation Services Administration, Tucson, AZ. Vocational Rehabilitation Services

1986-1992 Vocational Rehabilitation Services Specialist III, State of Arizona, Department of Economic Security, Rehabilitation Services Administration, Flagstaff, AZ.

1992-2003 Program Director, Northern Arizona University, Institute for Human Development, Arizona Center on Disabilities, American Indian Rehabilitation Research and Training Center and Capacity Building for American Indians Project, Flagstaff, AZ.

2003-2005 Outreach Coordinator, Northern Arizona University, Native American Cancer Research Partnership, Flagstaff, AZ.


2008-2008 Assistant Professor of Research (non-tenure), College of Health and Human Services, Department of Health Sciences, Flagstaff, AZ.

2004 Principal Research Specialist, Navajo NARCH Project, University of Arizona, College of Public Health, Health Promotion Sciences.

2004-2005 Consultant, Pathways Into Health Project, Northern Arizona University, Vice-Provost for Research and Graduate Studies Office, Flagstaff, AZ.

2005-2008 Research Associate, Cancer Prevention and Control Postdoctoral Fellow, University of Arizona, College of Medicine, Arizona Cancer Center

2009-present Assistant Professor, Northern Arizona University, College of Health and Human Services, Department of Health Sciences and College of Social and Behavioral Sciences, Department of Applied Indigenous Studies (tenure-track joint appointment).
2009-present  Senior Scientist, Health Disparities Improvement, Northern Arizona University, College of Health and Human Services Interdisciplinary Health Policy Institute.

Other Experience and Professional Memberships

1990-1992  Flagstaff Mayor’s Committee on Disability Awareness. Appointed by Mayor Christopher Bavasi.
1993-1996  Statewide Independent Living Council. Appointed by the Governor of Arizona
1993-1996  Advisory Panel, American Indian Disability Legislation, Montana University
1993-1997  Rehabilitation Leadership Council, Distance Learning Project, College of Business Administration, University of Northern Colorado and Mind Extension University
1994-2005  Advisory Board, Undergraduate/Graduate Rehabilitation Education, University of Arizona
1995-1997  President’s Committee on Employment of People with Disabilities. Subcommittee on Employee Disability Concerns.
1995-2001  Institutional Review Board, Northern Arizona University
1998-1999  Post-Employment Training in Rehabilitation Administration, San Diego State University, San Diego, California; Rehabilitation Administration Certificate
1999-2002  Research Advisory Panel, Center for Minority Training and Capacity Building for Disabilities Research, Texas Southern University
1999-2004  Consulting Editor, Journal of Rehabilitation Administration
2002-2005  Native American Commission of Northern Arizona University
2003–2013  Certified Rehabilitation Counselor (CRC) # 28961
2006-2009  Fellow, Northwest Native American Research Center for Health – Portland.
2009-present  Native American Faculty Fellow, Native American Research and Training Center, College of Medicine, University of Arizona
2009-present  College of Health and Human Services, Native American Academy for Student Success. Appointed by Dean Leslie Schulz, College of Health and Human Services, Northern Arizona University.
2009-Present  Self-Study/Program Review Committee. Department of Applied Indigenous Studies, College of Social and Behavioral Sciences, Northern Arizona University.
2009-Present  Native American Recruitment and Retention Team. Department of Applied Indigenous Studies, College of Social and Behavioral Sciences, Northern Arizona University.
2009-present  Flagstaff Community Health Action Network (CHAN). Represent NAU Health Sciences Department

Selected Honors and Awards
1983  Residence Hall Association, Oklahoma State University Achievement Award.
1984  Outstanding Young Women of America, Sonoma Club.
1996  Consortia of Administrators for Native American Rehabilitation (CANAR) Founder’s Award.

2002  *T.K. Bridges Practitioner Award for exceptional commitment and service to multicultural populations*, National Association of Multicultural Rehabilitation Concerns (NAMRC), National Rehabilitation Association.

2006 Published refereed journal article, *Breast Cancer Education for Native American Women* received the Gold Award in the Scholarly Journals, Feature Article category in the Society of National Association Publications.

B.  **Selected peer-reviewed publications (in chronological order).**


**Completed Research Support**

**USDOE, OSERS, RSA**  Carroll (PI)  
10/01/96 - 08/31/99 ($360,000 each year)

Capacity Building for American Indians Project
Institute for Human Development (IHD), Northern Arizona University (NAU).
The goal of this project was to train federally and state recognized tribes grant writing for vocational rehabilitation services and other types of OSERS grant competition.

Role:  Project Director

**USDOE, OSERS, NIDRR**  Carroll (PI)  
10/01/98 – 09/30/03 ($600,000 each year)

American Indian Rehabilitation Research and Training Center
IHD, NAU
The goal of this project was to improve the quality of life for American Indians/Alaska Natives with disabilities through employment and independent living research, training, technical assistance and training stakeholders and individuals with disabilities.

Role: Project Director

USDOE, OSERS, RSA  Carroll (PI)
10/01/99 - 08/31/02 ($360,000 each year)

Capacity Building for American Indians Project
Institute for Human Development (IHD), Northern Arizona University (NAU).
The goal of this project was to train federally and state recognized tribes grant writing for vocational rehabilitation services and other types of OSERS grant competition.

Role: Project Director

NACRP, NAU-UA  Stearns and Canfield (Co-PI)  01/01/05-05/31/06 ($45,000)
Pilot proposal included in the U54 grant that was submitted to the National Cancer Institute’s Minority Institute.
The goal of this pilot study was to evaluate a culturally specific video designed to teach Navajo women about breast cancer treatment options.
Role: NAU Co-Leader

NIH/NCI  Alberts (PI)  12/01/05-12/31/08
R25 Cancer Prevention and Control Postdoctoral Training Fellowship
The primary goal of this training program is to prepare scientists and clinicians to conduct cancer prevention research with interdisciplinary teams.
Role: Postdoctoral Fellow
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sylvia R. Brown</td>
<td>Research Scientist</td>
</tr>
</tbody>
</table>

eRA COMMONS USER NAME (credential, e.g., agency login)

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Pennsylvania Philadelphia, PA</td>
<td>BA (cum laude)</td>
<td>05/69</td>
<td>History</td>
</tr>
<tr>
<td>University of Medicine and Dentistry of New Jersey / Rutgers, the State University of New Jersey, Piscataway/New Brunswick, NJ</td>
<td>MPH</td>
<td>5/96</td>
<td>Public Health/ Epidemiology</td>
</tr>
<tr>
<td>University of Medicine and Dentistry of New Jersey / Rutgers, the State University of New Jersey, Piscataway/New Brunswick, NJ</td>
<td>PhD</td>
<td>5/09</td>
<td>Public Health/ Epidemiology</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment

1981-1993 Senior Programmer, Infomed, Princeton, NJ
1993-1996 Research Assistant, UMDNJ Program in Public Health
1997-2000 Research Associate, University of Arizona
2000-2004 Project Manager and Analyst, TCE Exposure Surveillance System, El Pueblo Clinic, Tucson, AZ
2000-pres. Statistical Analyst, Arizona Cancer Center, University of Arizona, Tucson
2006-2007 Consulting Epidemiologist, Southwest American Indian Collaborative Network, Tucson, AZ
2007-pres. Analyst, health outcomes research projects, College of Pharmacy, University of Arizona, Tucson
2009-pres. Consulting Epidemiologist/ University of Medicine and Dentistry of New Jersey
2009 Research Scientist, University of Arizona

Honors

Phi Beta Kappa, April 1968
Four Year Mayor's Scholarship, Univ. of Pennsylvania, 1965-69
Delta Omega, National Public Health Honor Society, May 2009

B. Peer-reviewed publications (in chronological order).


C. Research Support

Ongoing Research Support

1U18HS017001-01 Woosley (PI) 1/08-8/12
Source: Arizona Center for Education and Research on Therapeutics
Title: Examination of Drug-Drug Interactions
Goal: Strategies and programs to prevent harm induced by drug-drug interactions, especially those affecting women.
Role: Analyst/Epidemiologist

Novartis (contract) Chisolm-Burns (PI) 11/09-6/10
Source: Novartis Pharmaceuticals
Title: Adherence Patterns of Mycophenolate Mofetil and Mycophenolic Acid in Renal Transplant Recipients
Goal: to determine adherence patterns of Cellcept® and Myfortic® in RTRs and associated cost of care using data reported in the USRDS, which contains Medicare prescription claims data.
Role: Analyst/Epidemiologist

California Health Care Foundation Boesen (PI) 10/01/09 – 06/30/10
Source: State of California
Title: The Impact of E-Prescribing in the Northern Sierra Rural Health Network
Goal: to identify barriers to the implementation of e-prescribing in a rural and medically underserved location and to assess the impact of e-prescribing on duplicate therapies, generic drug utilization and drug-drug interactions post-implementation.
Role: Analyst/Epidemiologist

P01 CA 17094-28A2 Dorr (PI) 07/07 – 06/12
Source: NIH/NCI
Title: Therapeutic Targeting of Hypoxic and Oxidative Stress
Goal: To develop entirely new classes of cyanoaziridine-based anticancer agents with redox mechanisms of action that induce apoptosis via novel pathways. Analogs are evaluated for antitumor activity and for molecular mechanisms of action.
Role: Biostatistician for the Biometry Core

**Completed Research Support (2004 to present)**

3U01 CA114696-03S2 COE (PI) 09/07-04/30
Source: NIH/NCI
Title: Cancer Burden of the Hopi Tribe, Incidence and Survival
Goal: To assess the incidence and survival of cancer among enrollees of the Hopi Tribe, 1995-2005
Role: Co-PI: primary responsibility for all phases of pilot grant, including submission, coordination, implementation and dissemination. Manuscript submitted and awaiting final acceptance
Malone (PI) 06/07-07/07
Source: Arizona Health Care Cost Containment System
Title: An Analysis of Psychotropic Medication Use in Children Enrolled in the Arizona Health Care Cost Containment System.
Goal: The purpose of this study was to assess the prevalence of psychotropic medication use among children enrolled in Arizona’s Medicaid system (AHCCCS).
Role: Co-investigator/Analyst

5 U54 CA096281-05 (Canfield) 05/05-5/07
Source: NIH/NCI
Title: Native American Cancer Research Partnership: Subaward – Pilot Study
Goal: To assess the effectiveness of the Hopi and the Navajo breast and cervical screening programs to reach eligible women and to ascertain, via a population survey, the barriers and incentives for Hopi women to receive timely cancer screening. Programmatic Assessments and survey implementation completed. Surveys completed/ manuscripts submitted and awaiting final acceptance.
Role: Lead Analyst/ Epidemiologist

1 U01 CA114696 (Coe) 05/06-4/08
Source: NIH/NCI
Title: Southwest American Indian Collaborative Network (SAICN)
Goal: To develop an organizational infrastructure for comprehensive cancer care, community-based, participatory research, and community-based activities in cancer education (housed at the Inter Tribal Council of Arizona).
Role: Consultant

PR023104 (Hakim) 07/07 - 06/08
Source: DOD
Title: A Chemopreventive Trial to Study the Effects of High Tea Consumption on Smoking-related Oxidative Stress
Goal: To assess the association between tea consumption and oxidative stress among smokers and former smokers.
Role: Biostatistician
Warholak (PI) 9/07 – 2/08
Source: Saint Luke’s Health Initiatives
Title: The impact of the Medicare Modernization Act on outcomes in Arizona’s dual eligible (Medicare/Medicaid) residents
Goal: To examine the effect of the implementation of Medicare Part D on health care costs among participants of Arizona’s Medicaid program (AHCCCS)
Role: Analyst/Epidemiologist

**Completed Research Support (pre 2004)**
UA-El Pueblo Clinic Medical Surveillance System
Southeastern Arizona Tea Study (SEATS)
Arizona GIS/Environmental Epidemiology/Arsenic Project
Arizona Smoker’s Hotline (ASH)
DOD Chemical Weapons Site Survey
DOD Chemical Weapons Site Follow-up Survey
Tucson Water Consumption Survey
Pediatric Alternative Medicine Survey
Risk Perception Survey among residents living in the vicinity of the Savannah River Site (SRS)
Mortality among nuclear workers employed at the Savannah River Site (SRS)
Meta-Analysis of the mortality of nuclear workers
BIOGRAPHICAL SKETCH

NAME
Lori Joshweseoma (Martin)

POSITION TITLE
Director

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>Northern Arizona University</td>
<td>Bachelors</td>
<td>1996</td>
<td>Dental Hygiene</td>
</tr>
<tr>
<td>University of Arizona</td>
<td>MPH</td>
<td>2003</td>
<td>Public Health</td>
</tr>
</tbody>
</table>

Positions and Employment
- Health Educator for the Hopi Women’s Health Program - 1998-2001
- Director of the Hopi Women’s Health Program - 2001-present

Other Experience and Professional Memberships
- Member- Hopi Tribe, Arizona
- Hopi Health Care Center Board Member - May 2001 -May 2002
- Arizona Women’s Cancer Network Board Member – 1999- 2003
- Legal Services Board Member - July 2003- 2005
- Co Chair – National Native American Board – CDC, Atlanta Georgia 2003-2004
- Board Member – Community Advisory Board Advisor – Native Circle/Spirit of Eagle Rochester Minnesota October 2005 – present

Completed Research Support:
3U01 CA114696-03S2  COE (PI) 09/07-04/30
Source: NIH/NCI
Title: Cancer Burden of the Hopi Tribe, Incidence and Survival
Goal: To assess the incidence and survival of cancer among enrollees of the Hopi Tribe, 1995-2005: Manuscript on process accepted for publication 01/29/2010 to Public Health Reports
Role: Hopi Collaborator/co-leader

5U54 CA096281-05 (Canfield) 05/05-5/07
Source: NIH/NCI
Title: Native American Cancer Research Partnership: Subaward – Pilot Study
Goal: To assess the effectiveness of the Hopi and breast and cervical screening programs to reach eligible women and to ascertain, via a population survey, the barriers and incentives for Hopi women to receive timely cancer screening. Programmatic Assessments and survey implementation completed. Surveys completed/ manuscripts submitted and awaiting final acceptance.
Role: Hopi Collaborator/ co-leader

Peer-reviewed publications
### BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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</thead>
<tbody>
<tr>
<td>Guy, Mignonne Catherine</td>
<td>Assistant Research Scientist</td>
</tr>
</tbody>
</table>

| eRA COMMONS USER NAME (credential, e.g., agency login) | MIGNONNEG |

<table>
<thead>
<tr>
<th>EDUCATION/TRAINING</th>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</td>
<td>University of Arizona – Tucson</td>
<td>B.A.</td>
<td>1999</td>
<td>Humanities</td>
</tr>
<tr>
<td></td>
<td>University of Arizona – Tucson</td>
<td>M.A.</td>
<td>2009</td>
<td>Higher Education Sociological Theory</td>
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<tr>
<td></td>
<td>University of Arizona – Tucson</td>
<td>Ph.D.</td>
<td>2009</td>
<td>Higher Education Sociological Theory</td>
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<tr>
<td></td>
<td>Arizona Cancer Center – Tucson</td>
<td>Postdoctoral Fellow</td>
<td>2009</td>
<td>Biobehavioral and Social Sciences Research Program</td>
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### A. Positions and Honors

#### Positions and Employment

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<tr>
<th>Year(s)</th>
<th>Position and Institution</th>
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<tbody>
<tr>
<td>2002 – 2003</td>
<td>Instructor, University of Arizona, Africana Studies Program, Tucson, AZ</td>
<td></td>
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<tr>
<td>2004 – 2005</td>
<td>Program Coordinator, Southwest Family Resource and Wellness Center, Tucson, AZ</td>
<td></td>
</tr>
<tr>
<td>2006 – 2007</td>
<td>Research Project Manager, University of Arizona, Center for Health Outcomes and PharmacoEconomic Research, Tucson, AZ</td>
<td></td>
</tr>
<tr>
<td>2006 – 2007</td>
<td>Research Project Manager, University of Arizona, Medication Management Center, Tucson, AZ</td>
<td></td>
</tr>
<tr>
<td>2007 to present</td>
<td>Assistant Research Scientist, University of Arizona, Center for Health Outcomes and PharmacoEconomic Research, Tucson, AZ</td>
<td></td>
</tr>
<tr>
<td>2007 to present</td>
<td>Assistant Research Scientist, University of Arizona, Medication Management Center, Tucson, AZ</td>
<td></td>
</tr>
<tr>
<td>2009 to present</td>
<td>Postdoctoral Fellow, Arizona Cancer Center, Biobehavioral and Social Sciences Research Program, Tucson, AZ</td>
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#### Other Experience and Professional Memberships

<table>
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<tr>
<th>Year(s)</th>
<th>Experience or Membership</th>
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<tbody>
<tr>
<td>2001 – 2002</td>
<td>Representative, University of Arizona, College of Education, Strategic Planning Committee</td>
</tr>
<tr>
<td>2001 – 2002</td>
<td>Representative, University of Arizona, College of Education, Dean's Graduate Advisory Group</td>
</tr>
<tr>
<td>2003 – present</td>
<td>Member, Association for the Study of Higher Education</td>
</tr>
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</table>
2003 – present Member, Association for the Study of International Higher Education
2003 – present Member, Comparative and International Education Society
2003 – present Member, American Association of University Women
2007 – present Member, Arizona Rural Health Association
2008 – present Member, American Public Health Association

Honors
1997 – 1999 Veora Erma Johnson Achievement Scholarship
2007 University of Arizona Graduate College Final Project Award
2009 Society for Research on Nicotine and Tobacco Scholarship

B. Selected peer-reviewed publications (in chronological order).


C. Research Support.

**Ongoing Research Support**

1R01CA128638-02S1 Leischow (PI)
06/01/08 - 04/30/13
NIH/NCI
Research Supplement to Promote Diversity in Health-Related Research, Knowledge Integration in Quitlines: Networks that Improve Cessation
The goals of this study are to identify outreach and promotional strategies that have been employed which have been demonstrated (via increases in call volume) to be effective, and to identify the extent to which the strategies have reached African American and Latino smokers across various socioeconomic, gender and geographic groups. This approach further extends the goals and objectives of the parent grant in that it identifies and examines the various mechanisms for diffusion of innovations (i.e. outreach and promotion) identified as priority within the KIQNIC study.
Role: Postdoctoral Fellow

California Health Care Foundation Boesen (PI) 10/01/07 – 06/30/10
The Impact of E-Prescribing in the Northern Sierra Rural Health Network
The goals of this project are to identify barriers to the implementation of e-prescribing in a rural and medically underserved location and to assess the impact of e-prescribing on duplicate therapies, generic drug utilization and drug-drug interactions post-implementation.
Role: Co-Investigator

**Completed Research Support**
NASA – JSC  Pelletier (PI)  12/01/07 – 06/30/09
Workplace Health and Application of Wellness Strategies
The goal of this study is the development of an instrument to assess levels of workplace stress/strain and subsequent effects on health outcomes.
Role: Co-Investigator

McKesson  Boesen (PI)  03/01/08 – 06/01/08
Clinical Trial Recruitment Protocol Development
The goal of this project was to develop a protocol for clinical trial recruitment of diabetic patients from underserved populations utilizing pharmacy claims data.
Role: Co-Investigator

Sarver Heart Center  Coons (PI)  12/01/07 – 03/31/08
Performing Cardiopulmonary Resuscitation (CPR) for Sudden Cardiac Arrest: Behavioral Intentions among the General Population in Arizona
The goal of this study was to develop an instrument and complete a general population survey to assess behavioral intentions to perform CPR.
Role: Co-Investigator

Arizona Area Health Education Centers  Boesen (PI)  06/20/07 – 07/30/08
Improving Access to Vulnerable Populations by Increasing the Pipeline of Highly Qualified Practitioners in Rural Populations
The goal of this study was the development of an instrument to assess individual and group characteristics of current and former (alumni) Rural Health Professions Program participants and to determine factors contributing to post-graduation practice in medically underserved areas.
Role: Co-Principal Investigator

2 U18 HS10385-04  Woosley (PI)  9/30/02 – 9/29/07
AHRQ
Center for Education and Research on Therapeutics
Project: Drug-Drug Outcomes Core
The goal of this study was to examine factors affecting the incidence of serious drug-drug interactions in the community and Veterans Affairs medical centers.
Role: Project Manager
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2. Follow the sample format for each person. DO NOT EXCEED FOUR PAGES.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harris, Robin Buntz</td>
<td>Associate Professor of Public Health</td>
</tr>
<tr>
<td>eRA COMMONS USER NAME</td>
<td>robinh</td>
</tr>
</tbody>
</table>

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mills College, Oakland, CA</td>
<td>B.A.</td>
<td>1970</td>
<td>Biology</td>
</tr>
<tr>
<td>School of Public Health; Univ TX; Houston, TX</td>
<td>M.P.H.</td>
<td>1973</td>
<td>Public Health</td>
</tr>
<tr>
<td>School of Public Health; Univ WA; Seattle, WA</td>
<td>Ph.D.</td>
<td>1986</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Stanford Center for Research in Disease Prevention, Stanford CA</td>
<td></td>
<td>1987</td>
<td>Cardiovascular epidemiology</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment

1972-1974    Research Assistant, Center for Demographic and Population Genetics, University of Texas Health Science Center; Houston, TX
1974-1977    Coordinator, Lipid Research Clinics Prevalence Study, National Heart, Lung, and Blood Institute; Bethesda, MD
1977-1978    Instructor, Epidemiology, University of Tehran School of Public Health; Tehran, Iran
1981-1989    Research Assistant and Research Associate, Stanford Center for Research in Disease Prevention, Stanford University; Stanford, CA
1988-1991    Research Associate, Division of Epidemiology, Stanford University, Stanford, CA
1991-1992    Research Assistant, University of Arizona, Tucson, AZ
1995-1998    Research Assistant Professor, University of Arizona, Tucson, AZ
1998-2003    Assistant Professor in Public Health, University of Arizona, Tucson, AZ
              Director of MPH-Epidemiology Concentration, 2000-2003
2003-present Associate Professor in Public Health, College of Public Health, Univ AZ, Tucson, AZ
              Chair, Epidemiology Graduate Program
2006-present Deputy Director, Skin Cancer Institute at the Arizona Cancer Center, Tucson, AZ

Other Experience and Professional Memberships

1991-1994    Consultant - Study of Medical Resource Utilization: Comparison of University Medical Center and Zhejiang Province, China. University Medical Center, Tucson, AZ
1991-1995    Consultant - Health Services Research, Cedars-Sinai Medical Center, Los Angeles, CA
1999-........ Consultant - Medical Directions, Inc. (in online medical education)
Member, American Public Health Association, Society for Epidemiologic Research
B. Selected peer-reviewed publications
32. Hakim IA, Chow HH, Harris RB. Green tea consumption is associated with decreased DNA damage among GSTM1-positive smokers. J Nutr 2008; 8: 1567S-1571S.

C. Research Support

Ongoing Research Support

EPA (Burgess, PI) 9/08-8/10

Modeling Dietary Contributions to Arsenic Dose and Methylation: Elucidating Predictive Linkage

The goal of this project is to use archived population-based questionnaire and biological data that describe food and water consumption histories to construct predictive models for urinary
arsenic biomarkers that can then be used as indicators of arsenic exposure and health effect outcomes.
Role: Co-investigator

Chemoprevention of Skin Cancer Program Project
The overall goal of the program project is to develop safe and efficacious intervention strategies for prevention of melanoma and non-melanoma skin cancers and to develop basic science and clinical research approaches that will serve as models for chemoprevention.
Role: Co-Investigator

Completed Research Support
NCI (Hakim, PI) 6/03-5/09 ext
Chemoprevention of Lung Carcinogenesis Using Green Tea
This is a six-month randomized, double-blinded chemopreventive trial to determine if high consumption of a defined green tea product or EGCG capsule can reduce various markers of oxidative stress among patients with diagnosed chronic obstructive pulmonary disease.
Role: Co-Investigator

NIH/NCI Supplement to SPORE in Gastrointestinal Cancer (Gerner, PI) 9/04-3/07
Exploring a Potential Relationship Between Arsenic and Cancer
The goal of this project was to evaluate associations between elevated arsenic exposure and selected genetic polymorphisms that were considered to be part of carcinogenesis pathways or could potentially modulate As metabolism. The project included in-vitro studies and epidemiological studies in Arizona and Sonora, Mexico.
Role: Co-PI

NIH/NCI: Comprehensive NAU/AZCC Cancer Research Partnership 7/05-6/07
Breast and Cervical Cancer Screening Among Women on the Hopi and Navajo Reservations
This pilot study was part of the Native American Cancer Prevention Project. The overall goals were to determine effectiveness of existing breast and cervical cancer screening programs and to determine barriers and incentives for Native American women to receive timely cancer screening.
Role: Co-PI

DOD (Hakim, PI) 2/03-1/07
A Dietary Intervention to Study the Effects of High Tea Consumption on Smoking-related Oxidative Stress
This study was a phase IIb three-armed randomized, placebo controlled, double blinded tea intervention trial, comparing black and green tea to placebo, among subjects with COPD. The primary endpoints were improvement in markers of oxidative damage in DNA, lipids, and proteins.
Role: Co-Investigator

AAMC-CDC (Labiner, PI) 10/05-9/08
Prevalence of Epilepsy along the Arizona –Mexico Border
The purpose of this study is to estimate the prevalence of epilepsy in Southern Arizona, along the Mexico border. The area has a large Hispanic population with a relatively low socio-economic status.
Role: Co-Investigator
Arizona Disease Control Res Commission (Harris, Giuliano, co-PIs)  10/02-6/05
HPV Infection in Men (HIM) Study: A Prospective Cohort Study
This research sought to determine the incidence, prevalence, and persistence of 27 type-specific HPV infections in men 15-30 years of age, residing in Southern Arizona using various definitions of HPV infection and to identify factors (e.g., sexual behavior, condom use, tobacco use) independently.
Role: Co-PI

AAMC-CDC (Harris, Giuliano, co-PIs)  10/02-9/05
Human Papillomavirus (HPV) Detection in Asymptomatic Men
The overall goal of this project was to assess HPV infection at various anatomical sites from a sample of heterosexual men of a broad age range residing in Southern Arizona.
Role: Co-PI

NIH/NCI (Harris, PI)  10/01-9/04
Use of GIS in Analyzing Environmental Cancer Risks as a Function of Geographical Scale
This research examined geographical variation in the association between cancer risk and environmental exposures, in particular arsenic exposure, using cancer incidence data and environmental exposure data from the State of Arizona.
Role: PI

Arizona Disease Control Research Commission (Hakim-PI)  9/1999-6/2002
Role of High Tea Consumption in the Modulation of DNA Oxidative Damage in Smokers
This was a randomized controlled chemopreventive trial to investigate the potential beneficial effect of black or green tea drinking on oxidative DNA damage, as measured by urinary 8-OhdG. The study was conducted among cigarette smokers who did not intend to quit.
Role: Co-PI
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Weinstein, Neil D.

POSITION TITLE
Research Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Wisconsin, Madison</td>
<td>B.S.</td>
<td>1966</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Harvard University, Cambridge</td>
<td>Ph.D.</td>
<td>1972</td>
<td>Chemical Physics</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>Post doc</td>
<td>1972-</td>
<td>Psychology</td>
</tr>
</tbody>
</table>

PROFESSIONAL APPOINTMENTS

1974-1980 Assistant Professor, Department of Human Ecology, Rutgers University
1980-1987 Associate Professor, Departments of Human Ecology & Psychology, Rutgers University
1983 Visiting Scholar, Department of Medical Psychology, Oregon Health Sciences University
1987 Visiting Scholar, Department of Psychology, University of Arizona
1987-2006 Professor and Professor II, Department of Human Ecology, Rutgers University
2000-2006 Visiting & consulting scientist, Behavioral Research Program, National Cancer Institute
2003- Associate Member, Arizona Cancer Center
2007-2009 Research Professor, Department of Family and Community Medicine, University of Arizona College of Medicine

HONORS AND RECOGNITION

1972-1974 NIMH Postdoctoral Fellow, Dept of Psychology, University of California, Berkeley
1989 Inaugural "Hochbaum Lecture on Health Behavior and Health Education," School of Public Health, University of North Carolina, Chapel Hill, North Carolina
1994 Award for Sustained Research Excellence, New Jersey Agricultural Experiment Station
1998   First behavioral scientist appointed to the Armed Forces Epidemiological Board
2003   Rutgers University Trustees Award for Research Excellence

**EXTRAMURAL RESEARCH SUPPORT:** Robert Wood Johnson Foundation; SmithKline Beecham Pharmaceuticals; National Cancer Institute; National Institute of Mental Health; U.S. Environmental Protection Agency; National Institute of Occupational Safety and Health; New Jersey Department of Environmental Protection; New Jersey Department of Health.

**CONSULTING EXPERIENCE:** National Cancer Institute, Behavioral Research Program; Institute of Medicine; World Health Organization Global Program on AIDS; U.S. Centers for Disease Control AIDS Research Program; U.S. Environmental Protection Agency, Office of Radiation Protection, Radon Risk Communication Program and Office of Policy, Planning, and Evaluation; National Institute for Occupational Safety and Health; New Jersey Department of Environmental Protection, Division of Science and Research and Division of Environmental Quality; Radon Subcommittee, Indoor Air Technical Advisory Committee, American Lung Association; U.S. Department of Housing and Urban Development; U.S. Federal Trade Commission; Armed Forces Epidemiological Board; National Safety Council; U.S. Department of Justice.


**RECENT AND/OR RELEVANT PUBLICATIONS**


BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
<th>eRA COMMONS USER NAME (credential, e.g., agency login)</th>
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<tbody>
<tr>
<td>Regina S Eddie</td>
<td>Assistant Clinical Professor</td>
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EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<td>Northern Arizona University, Flagstaff, AZ</td>
<td>BSN</td>
<td>May 1995</td>
<td>Nursing</td>
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<td>Northern Arizona University, Flagstaff, AZ</td>
<td>MS</td>
<td>Dec 2006</td>
<td>Nursing</td>
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A. Positions and honors

Professional experience

2007 - Present
Assistant Clinical Professor
Northern Arizona University School of Nursing

2005 - 2007
School Nurse
Flagstaff Unified School Nurse

2006 - 2007
Home Health Nurse
Coconino County Public Health Department

2001 - 2005
Director Public Health Nursing
Winslow Indian Health Care

1996 - 2001
Public Health Nurse
Winslow Indian Health Care

1995 - 1996
Clinical Nurse
Phoenix Indian Medical Center

Professional memberships
Sigma Theta Tau International Honor Society
American Public Health Association
Arizona Public Health Association
Registered Nurse - Arizona

Honors and Awards
Clinical Teacher of the Year 2008, School of Nursing, Northern Arizona University
IHS Navajo Area Director’s Award for Exceptional Performance 2001
IHS Navajo Area Award for Group Exceptional Performance 1998
## APPENDIX A

### TABLE 1: PEER-REVIEWED ACTIVITIES: HOPI PROJECTS 2004 to 2008

<table>
<thead>
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<tr>
<td>Manuscripts</td>
<td>Hopi traditionism and breast and cervical cancer screening</td>
<td>Begay, Goodluck, Coe, Brown, Martin</td>
<td>Published: <em>J Native Aging Health</em>, 2007</td>
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<td></td>
<td>Process for determining the cancer burden of the Hopi Tribe</td>
<td>Brown, Joshweseoma, Flood, Coe</td>
<td>Accepted 1/29/2010: <em>Public Health Reports</em></td>
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<td></td>
<td>Impact of a Community-based Breast Cancer Screening Program among Hopi Women</td>
<td>Brown, Nuno, Joshweseoma, Goodluck, Begay, Harris</td>
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<td>Presentations (Oral)</td>
<td>Increasing Breast Cancer Screening Rates Among Hopi Women</td>
<td>Brown, Harris, Martin, Nuno, Ami, Goodluck, Begay</td>
<td>APHA, 2008 Annual Meeting, San Diego, CA</td>
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<td>Ten Lessons Learned: Listening to Tribal Communities to Promote Health and Reduce Breast and Cervical Cancer</td>
<td>Martin, Brown, Goodluck, Begay, Harris, Canfield</td>
<td>The 20th Annual Native Health Research Conference, Portland, Oregon, August 2008</td>
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## APPENDIX B: PROPOSED 3-YEAR TIMELINE

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APPENDIX C

THE
HOPI TRIBE

Leroy Shingoitewa, Jr.
Chairman

Herman Honanie
Vice Chairman

January 19, 2010

Sylvia R. Brown, PhD, MPH
Div of Epidemiology & Biostatistics
University of Arizona COPH
1295 N. Martin
BLDG 202A - Room A220
PO Box 245211
Tucson, AZ 85724-5211

Dear Dr. Brown,

This letter serves as permission to incorporate the data from the Hopi Cancer burden incidence and survival rates of the Hopi Tribe for the purpose of the proposal to the NACP for funding of a pilot project entitled “Cancer Risk Factors and Screening Behaviors of the Hopi Tribe.”

For more information regarding the Hopi Cancer Burden Incidence and Survival project please contact me at (928) 734-1151.

Sincerely,

Lori Joshweseoma MPH, Director
Hopi Women's Health Program
APPENDIX D

THE HOPI TRIBE

Leroy Shingoitewa, Jr.
Chairman

Herman Honanie
Vice Chairman

January 15, 2010

Sylvia R. Brown, PhD, MPH
Div of Epidemiology & Biostatistics
University of Arizona COPH
1295 N. Martin
BLDG 202A - Room A230
PO Box 245211
Tucson, AZ 85724-5211

Dear Dr. Brown,

This letter serves as an endorsement from the Hopi Women’s Health program to partner with the University of Arizona and Northern Arizona University on the project entitled “Cancer Knowledge and Risk Factors of the Hopi Tribe” to determine the knowledge, attitudes, beliefs and behavior about cancer related risk factors of the Hopi people.

The ongoing partnership which has been established between the university and the Hopi Tribe has been beneficial to the Hopi Tribe. First, the collaborative effort to analyze program data was successful and the Hopi Women’s Health Program was able to use this data to obtain a five year grant to provide breast and cervical cancer screening. Second, the program was able to identify key focus areas to meet the needs of the community in the area of breast and cervical cancer. In addition, the project to assess the cancer burden on Hopi allowed the community to identify which cancers need to be addressed in the community in regards to education and screening. These projects prove the collaborative efforts between the University and the Hopi Women’s Health Program is instrumental in assisting the Hopi Tribe in reducing the burden of cancer among our people.

The Hopi Tribe looks forward to collaborating with you and your team in generating information about cancer and to train staff to continue this longitudinally tracking for changes on Hopi with regard to cancer.

Sincerely,

Lon Jochweseoma MPH, Director
Hopi Women’s Health Program

P.O. Box 123 Kykotsmovi, Arizona 86034
APPENDIX E

Sylvia R. Brown, PhD, MPH
Div of Epidemiology & Biostatistics
University of Arizona COPH
1295 N. Martin
BLDG 202A - Room 4229
PO Box 245211
Tucson, AZ 85724-5211

Dear Dr. Brown,

I write this letter in support of the proposed project, "Cancer Knowledge and Risk Factors of the Hopi Tribe". The Hopi Women's Health Program (HWHP) has established a strong partnership with the University of Arizona and Northern Arizona University through projects that have enhanced the Hopi Women's Health Program in the area of cancer. In addition, the past projects with these partners have greatly supported the Hopi Tribe's efforts in receiving grants from the Centers for Disease Control, the Arizona State Health Department, and the Susan G. Komen Foundation.

The proposed project will assist the Hopi Tribe in taking a look at the knowledge, attitudes, beliefs and behaviors about cancer related risk factors of Hopi people and will train Hopi staff to longitudinally track changes on Hopi with regard to cancer.

I have great faith and confidence in our Women's Health Program staff, under the capable and competent leadership of Ms. Lavi Josiwe-zonna, Director, that the health of our Hopi people will be enhanced through this effort. With the growing concern among Hopis regarding cancer, this project will support and enhance our ongoing efforts to raise awareness of the importance of and access to preventive cancer screening.

In addition, several programs within the Office of Health Services have had both formal and informal dialogues with the University of Arizona, the relationships have always been positive and representatives have all been very professional and trusting. A recent visit by President Stelton to Hopi stating, his vision of working with the Hopi Tribe and the University of Arizona is only a matter of the two entities coming together to work for a cause in behalf of Hopi, this project underscores his vision.

As the Vice Chairman of the Hopi Tribe, I offer my strong and favorable support of this project. We look forward to collaborating with you in your work to improve the health of our Hopi Community.

Sincerely,

Herman Honanie, Vice Chairman
The Hopi Tribe

P.O. Box 123 Kykotsmovi, Arizona 86034