Native American Cancer Prevention (NACP): Making a Difference By and For Native Americans

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Native American Cancer Research Partnership Logo

Community
A child and adult

The University of Arizona
The Saguaro, native to Tucson and Sonora desert

Four spiral representing the journeys and pursuits of all people in the four directions. The spiral begins with the community

National Cancer Institute
Prayer Feathers, symbols of blessings and curing

Two sets of handprints, a symbol of the ancient handprints upon the earth and the continue legacy of people

Northern Arizona University
Symbols of mountains and clouds

Sky and Clouds

Mountains

Canyons and rivers

Water

Pottery inspired symbols representing the elements of the earth and our connection to it
NACP GOALS

- To train Native American students for careers in cancer-related research and health care
- To build cancer-related research capacity at NAU
- To alleviate cancer disparities in Native American Communities
NACP SPECIFIC AIMS:

- To continue to increase the competitive stance of cancer research and training at NAU by adding new cancer researchers and by continuing strong faculty development programs for all junior faculty.
- To develop programs that facilitate the successful transition of Native American students into our programs and that enhance the retention and graduation of Native Americans undergraduates in biomedical sciences.
- To develop sustainable community education programs and research for cancer prevention that meet the unique needs of the Hopi Tribe, the Navajo, and the Tohono O’odham Nations.
Training
Increase the number of Native American students entering careers in cancer research and healthcare.

Research
Bring together teams of investigators engaged in peer-reviewed collaborative research in cancer disparities for Native Americans

Outreach
Strengthen collaboration with Native American communities to increase community cancer prevention activities and cancer control training for health professionals.
NACP IMPACTS: 2009 - 2014

- **Training**
  - 6-year baccalaureate graduation rate for NACP Native American students 63% (national average for Native American students at 38%)
  - 124 Native American students trained (252 total students trained)
  - NIH Bridges to Baccalaureate funding in 2013 focused on Native American Students

- **Outreach**
  - 47,261 people reached by NACP outreach activities
  - Partnership with Tohono O’odham Nation Division of Health to assist in development of Comprehensive Cancer plan (ratified June 18, 2010)
  - NACP staff on site for assistance to Hopi Cancer Support Services

- **Research**
  - Six NIH funded projects leveraged from NACP research
  - 31 publications from NACP research projects
  - Establishment of cancer research focused on Native American needs at Northern Arizona University in partnership with the University of Arizona Cancer Center
Training Accomplishments

In the past five years, NACP has accomplished the following:

• Trained **275 students** – **66% Native American**, graduating **63** (48 undergraduate, 12 masters, 2 doctoral degrees)

• **Two** Native American students received national prestigious awards (River Black was awarded the Goldwater Scholarship and Candace Benally was awarded the National Science Foundation’s Graduate Research Fellowship)

• **Thirteen** Native American students were accepted into external internships, at places such as NIH, NCI, NIDDK, and International locations.

• **Three publications** were published with Native American students as first authors.
Yearly increase in American Indian/Alaskan Native students working on NACP projects
Outreach Outcomes

Years 1-4: Number & Type of Outreach Activities (All Outreach Groups Combined)

- Cancer Education (tribal & Urban communities)
- Capacity Building
- New Indigenous Models for Cancer Prevention
- Cancer Related Dissemination
- Clinical Continuing Education
- Technical Assistance (i.e. Tribal Div/IHS)
<table>
<thead>
<tr>
<th>Level of Impact</th>
<th>Description of Impact Type (coding strategy)</th>
<th>Number of People Reached*</th>
</tr>
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<tbody>
<tr>
<td><strong>High Impact</strong></td>
<td>Direct interaction with Outreach staff, specific cancer education provided to a target group of people resulting in increased knowledge, cancer prevention etc.</td>
<td>~5,288</td>
</tr>
<tr>
<td><strong>Medium Impact</strong></td>
<td>Cancer related information disseminated via educational materials, minimum direct interaction with Outreach staff.</td>
<td>~22,292</td>
</tr>
<tr>
<td><strong>Low Impact</strong></td>
<td>Increased cancer awareness, but no direct interaction with Outreach staff.</td>
<td>~10,672</td>
</tr>
<tr>
<td><strong>Overall NACP Outreach Impact</strong></td>
<td></td>
<td>~47,261 people reached</td>
</tr>
</tbody>
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Research Outcome: Leveraged Funding

- F32ES014971 Yellowhair, “The chemical-induced genotoxicity of depleted uranium” (2006-2010)
- R15ES019703 Stearns, “Cellular genotoxicity of photoactivated uranium” (2010-2014)
- U54CA143924-04S2 Yellowhair, “Minority supplement: Identify biological markers of adverse effects related to DNA damage repair and maintenance of genomic stability in populations exposed to uranium (2011-2014)
- U54CA143924-03S1 Tachine, “Minority supplement: Life stories of Native American college freshmen: An indigenous storywork & Native inquiry approach” (2012-2014)
- P20MD006872 Sanderson, Teufel-Shone, “Center for American Indian Resilience” (2012-2017)
Publications (1st Cycle)
2002-2008 (CA096320; CA096281)


Publications (2nd Cycle)

2009 – 2014 (CA143925; CA143924)


Publications: 1\textsuperscript{st} cycle (2002-2008) vs 2\textsuperscript{nd} cycle (2009-2014)
Impacts: Lessons Learned

• Flexibility
• Deliberate
• Patience
• Motivation