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REVIEW ARTICLE

# Developing Capacity for the American Indian Health Professional Workforce: An Academic-Community Partnership in Spirit Lake, North Dakota

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**Abstract**

**BACKGROUND** American Indians/Alaskan Native (AIAN) populations experience significant disparities in health when compared to the average US population who are under-represented in the health care professional workforce. Current research suggests that racial concordance between patients and providers has a positive effect on patient care.

**OBJECTIVE** We describe a successful academic-community partnership between a tribal college, a local state academic center, an urban public health institution, and an urban academic center all aligned with the goal to increase AIAN health care professional capacity.

**METHODS** A tribal college course and youth education program were developed with the intent to expose AIAN youth to the health care professions and encourage entry into health professional career tracks. Evaluation using a pre- and post-survey design is underway to assess the impact of the intervention on participating AIAN attitudes and career intentions.

**CONCLUSION** We believe this model is one way of addressing the need for an increased AIAN health care professional career force.

**KEY WORDS** American Indian/Alaskan Native, health care professions, academic-community partnership, tribal college, health disparities, capacity building



## INTRODUCTION

American Indian/Alaska Native (AIAN) populations experience poor health as measured by nearly every major health indicator. In 2009, the life expectancy of AIANs was 4.2 years less than the general US population (73.7 vs 78.2 years).[1] When compared with the general US population, AIANs also die at significantly higher rates from chronic liver disease, diabetes mellitus, premature heart disease, and suicide.[1,2] AIAN adults are 2.1 times more likely to be diagnosed with diabetes,[3] 1.6 times more likely to be obese,[4] and 1.3 times more likely to have hypertension[5] than the white US population. These disparities in part reflect a variety of social factors, including lower achieved

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levels of education, disproportionately high poverty levels, discrimination in the delivery of health services, cultural differences, geographic isolation, and economic factors.[2,6] To address these significant health disparities, a number of public health interventions targeting these factors have been implemented with the aim of improving the health status of the AIAN population.

**AIANs in the Health Care Professions.** AIANs are severely under-represented in the health care professions. The most recent US census reported 5.2 million AIANs, comprising 1.7% of the US population.[7] However, AIANs account for only 0.4% of nurses[8] and less than 0.4% of physicians[9] in the US. In North Dakota, American Indians (AI) comprise almost 5% of the total population[10] but only 1.4% of the nursing workforce.[11]

On a national level, AIAN enrollment in preprofessional schools is not on target to close this gap. The Association of the American Medical Colleges reported only 449 AIAN medical school applicants in the 2014-2015 application cycle, out of 49,480 total applicants (0.9%). There were 205 enrolled AIAN medical students in 2014 out of a total of 85,260 (0.2%), and only 27 AIAN medical school graduates in the class of 2014 out of 18,078 nationwide (0.15%).[12] Based on these numbers, the disparity in trained AIAN physicians likely will continue to widen.

Explanations for the low numbers of trained AIAN health care providers are varied and complex. AIAN youth face myriad challenges that hinder them from pursuing careers in the health professions. These include poverty, family demands, lack of role models, high rates of teen alcohol abuse, and limited access to the rigorous academic preparatory training needed for entry into health professional schools.[13,14] Additionally, it is possible that years of historical trauma resulting from the colonization of the United States are passed down through the generations, affecting today's AIAN population.[15,16] Addressing and overcoming these barriers are critical to the creation of an AIAN medical workforce that is proportionate to the population and possibly better suited to understand and care for its own community.[17]

**Importance of Provider-Patient Racial Concordance.** Racial concordance between providers and patients has a significant, positive effect on patient care. Patients in race-concordant relationships with their providers rated them as more participatory in their care compared with those in race-discordant relationships. They reported longer medical visits and higher visit satisfaction scores.[18] Multiple studies have shown that higher ratings of provider collaboration and trust are associated with improved medication adherence.[19–21] Perhaps more importantly, patients with race-concordant providers are less likely to delay seeking care and more likely to use needed health services.[22] In a population that already underuses the health care system, improved access to racially concordant providers who understand the complex cultural influences that pose barriers to health care use may help promote a culture shift toward improved access, comprehension, satisfaction, and adherence, and ultimately have a positive effect on health outcomes.

**How an Academic-Community Partnership can Bridge the Disparities Gap.** Collaboration between large academic institutions and local AI community organizations can lead to programs with the potential to effectively address health disparities. For example, collaborations between nursing schools and Pacific Northwest coastal tribes have been formed to build medical research capacity,[23] the University of Washington has partnered with 2 local tribes in an effort to prevent substance abuse among tribal youth,[24] and the National Institute on Drug Abuse has funded a multisite study linking academic institutions with local tribes to better understand and address disparities in substance abuse.[25] Effective partnerships embody certain principles, such as building and sustaining mutual trust and respect,[26] integrating collaboration and shared decision making,[25,27] and maintaining clear and ongoing communication.[28] Each institution brings its unique strengths to build a synergistic collaboration.

## THE ACADEMIC-COMMUNITY PARTNERSHIP

We describe a partnership between a community-based tribal college, an academic university within the same state as the tribal college, a school of public health, and an academic global health center at a medical school. This partnership is aimed at addressing AIAN health disparities through an educational intervention designed to increase AIAN health professional capacity.

**Program Partners. Cankdeska Cikana Community College: a tribal college.** Tribal colleges and universities were created in the late 1960s and early 1970s in response to the higher educational needs of a geographically isolated AI population with no means of accessing education beyond high school.[29] The core mission for all tribal colleges is the teaching, learning, and perpetuation of their respective tribal cultures and

languages at a level of higher education. As 1 of 37 tribal colleges and universities in the United States, Cankdeska Cikana Community College (CCCC) of the Spirit Lake Dakota (SLD) Tribe exemplifies this mission. The college's theme of "Think Dakota, Live Dakota" reflects its uniqueness and dedication to the community it serves. The school's mission "to provide opportunities that lead to student independence and self-sufficiency through academic achievement and continuation of the SLD language and culture" embodies core Dakota tribal values.

Tribal colleges and universities exist to serve their local tribal communities and are designated land-grant institutions known as the 1994s, referencing the year this legislation was enacted. Most are chartered by a tribal government, and CCCC continues to work with its tribal government, elders, and community members to determine the programs of study, technical/cultural education, and other opportunities deemed necessary to improve the lives of individuals, families, and the greater community. Through summer camps, weekend academies, and a dual-credit program with local high schools to promote college readiness for local youth, CCCC's community connection plays a central role in the creation of programs that serve to improve the health and well-being of the tribe.

**North Dakota State University Department of Nursing: The local state academic center.** Land-grant and state universities combine a special dedication to the success of local students with the resources, research, and the diversity present in a larger institution. North Dakota State University (NDSU), a land-grant university that provides cultural and educational outreach to the residents of the state and region, includes within its mission statement a commitment to the people of North Dakota, to contribute to the prosperity of the region and improve the quality of life of its population.[30] Recognizing native communities as an integral part of the population it serves, NDSU has several strengths that make it an ideal partner in this collaboration. In addition to grant writing expertise and experience in managing community-based programs in education and health care services, NDSU has countless resources available for AI students. These include Dakota studies courses, outreach programs to assist in math- and science-based careers, multiple AI student organizations, and a tuition discount for AIAN students.

**Mailman School of Public Health at Columbia University: An urban public health institution.** Columbia University's Mailman School of Public Health (CUMSPH) was established in 1922 with a mandate to "study and [teach] the origins and cause of human disease and the prevention thereof." Today, its tri-part mission of education, research, and service dedicated to improving the public's health reflects a commitment to the principle that health is a human right and to the goal of creating health equity in a diverse world.[31] As part of their program of study, all master of public health students must engage in a field-based practicum that allows students to gain professional experience in the field as they apply their classroom-based knowledge and skills to public health education, prevention, policy, research, or other projects in collaboration with Mailman's community partners.

**The Arnhold Global Health Institute at the Icahn School of Medicine at Mount Sinai: The urban academic center.** Large academic medical centers combine clinical, research, and educational expertise in the health sciences with the availability of resources often directed to the care of underserved populations both locally and globally. At the Icahn School of Medicine at Mount Sinai (ISMMS), the Arnhold Global Health Institute (AGHI) aims to "address the unconscionable gap in health" by "improving the health of people(s) around the world" through "building global partnerships in research, education, and patient care."[32] Recognizing that communities of need experience health disparities both nationally and internationally, the AGHI has sought out partnerships in the United States and abroad.

The AGHI brings a wealth of experience in community-based capacity-building programs led by experts in the field of global health. Additionally, the AGHI has faculty with expertise in medical education and an abundance of health professional role models who can share their practical knowledge about health professional careers—a critical component of any program designed to increase local health professional capacity.

**History and Structure of the Collaboration.** In 2007, faculty from the AGHI at the ISMMS in New York met with the CCCC president and faculty in Spirit Lake, North Dakota, to explore the possibility of creating a partnership to address the needs of the SLD people. Given the particular educational expertise at each institution and the location of the local partner at a tribal college, it seemed fitting to explore an education-based intervention. Programs to support the entry of AIAN students into health professions in North Dakota were already in existence. For example, the Recruitment/Retention of American Indians into Nursing and Indians into Medicine

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programs are both designed to assist AI students in becoming health professionals while addressing the needs of tribal communities.[10,33] However, these programs focus on students who have already committed to a health professional career. The budding AGHI-CCCC collaboration decided to embark on an innovative program to target students who may not yet have chosen their career path.

In the following year, faculty from CUMSPH joined the discussion and helped to outline the goals for the initial collaborative project. The established goals were to expose AIAN college students to health and health professional opportunities and to address the health needs of the SLD community by promoting interest in health professions. Ideally, this would increase the number of SLD health care practitioners, thereby providing improved, racially concordant care to the population on the reservation.

The intervention created was a 3-week college class in which community members and enrolled CCCC students were eligible to participate. The first class was offered in 2009. After teaching it for 2 successive summers, the collaborative decided to expand its offerings and develop an additional 1-week summer program for teens aged 11 to 14. The intent of the summer program was the same as the class—to expose and encourage AIAN youth to enter health careers. In 2012, the collaborative was joined by its fourth partner, NDSU Department of Nursing, which brought local health professional educational expertise as well as financial support through a Health Profession Opportunity Grant. Since 2012, the combined college class and summer program educational interventions have been running on an annual basis.

**The Tribal College Course.** The objectives of the college course, "Introduction to Public and Community Health," are to

1. Expose students at CCCC to careers in health care;
2. Implement and teach a curriculum on community and public health;
3. Introduce public health students, medical students, and resident physicians from ISMMS and CUMSPH to the culture, health issues, and barriers to health care on the SLD reservation;
4. Encourage cultural exchange between ISMMS, CUMSPH, CCCC, and NDSU.

Each summer, students, residents, and faculty from the ISMMS and CUMSPH in New York participate in a summer internship on the SLD reservation, coteaching the course. This course was originally designed and is updated annually by participating faculty, residents, and students from all 4 institutions. SLD community members and local AIAN health professionals are also invited to participate, leading a number of sessions based on their specific expertise and sharing their personal stories of career development. This class has now become a standard 3-credit course that can be applied toward a number of associate degree tracks at CCCC.

Initially, the college class focused solely on introducing concepts in public health. However, the collaborating partners found that this approach was only marginally successful in positively influencing participating students' attitudes toward entering a health care career. As a result, the course changed its emphasis to focus on different career tracks within the field of health care and the educational requirements necessary for training success. Visiting speakers now highlight resources and scholarships available for AIs interested in pursuing these careers. Class sessions are still rooted in specific public health concepts and social determinants of health, but always attempt to relate back to a health care career path (Table 1).

Another component of the course was a photo voice research project. Photo voice is a participatory action research method that empowers marginalized community members to create photographic visuals that capture their individual perspectives. The purpose of this project was to explore the use of photo voice as an educational strategy to foster learning about community-based research while enabling students to apply the main course concepts. This project was conducted in 2 phases. In phase 1, the students participated in a course presentation that provided information about the elements of the photo voice project. In phase 2, students participated in focus groups and discussed positive factors and challenges that promoted a healthy lifestyle and environment.

Overall, the course applies pedagogical best practices in adult education with a minimum focus on the didactic and a stronger emphasis on group discussion. Participating students also frequently work on small in-class group assignments to deepen their knowledge of concepts introduced. AI student input is sought with the understanding that the student teachers have as much to learn from AI students as AI students have to learn from them. Student teachers attempt to approach subject matter not as "experts" sharing their knowledge, but as collaborators with the AI students.

**Table 1. Typical Course Topics in the Tribal College Course**

| | |
|---|---|
| What are Public Health and Public Health Careers? | Maternal/Infant Health |
| Overview of Public Health Interventions and Statistics | Unintentional Injury |
| Environmental Health/The Built Environment | Emergency Preparedness |
| Health Disparities | Ethics |
| Global Health | Medical Doctor |
| Health Literacy | Nursing |
| American Indian Health Services & Health Insurance | Physician Assistant |
| Health Policy | Physical Therapist |
| Obesity and Diabetes | Emergency Medical Technician/Paramedic |
| Malnutrition | Mental Health Careers |
| Substance Abuse | Social Worker |
| Depression and Suicide Prevention | Allied Health Careers |
| Domestic Violence | Getting Your Message Out/Public Service Announcement |

**Youth Education Summer Program: Health Careers 4 U.** Health Careers 4 U (HC4U), a 1-week youth education program, was developed as a joint effort between the New York City participants, the Area Health Education Center of North Dakota, the CCCC faculty and staff, and tribal members from 10 different community-based organizations in various sectors, including teaching, public health, and school administration.

The main aim of HC4U is to introduce children aged 11 to 14 years to important concepts in health. Topics such as healthy eating habits, exercise, and safety are taught, and basic information on health professional career opportunities is also provided. The program includes daily workshops, physical fitness activities, community speakers, and a week-long project culminating in the production of a culturally literate public health service announcement. These public service announcements are presented on the last day of the program to participants, peers, family, and other tribal members to showcase what participants have learned and to promote healthy behaviors in the community.

## PROGRAM EVALUATION

Both the college course and youth education summer program have been and continue to be evaluated using a pre- and postprogram survey design. The purpose of the survey is to assess changes in students' knowledge, attitudes, and behavioral intentions regarding public health topics and health careers. Our ultimate hope is that the programs will positively influence the career tracks of our participating AI students. Each successive summer, survey data is captured to help monitor the effect of the course and adjust the content accordingly. At the conclusion of the Health Profession Opportunity Grant period, a pooled analysis will be completed to examine the program's overall effect. Additionally, we intend to monitor the effect of the experience on participating Mount Sinai and Mailman student teachers. This will likely be done through an interview-based survey method to assess how participation in a 1-month Native American Global Health fieldwork experience such as this influences the career intentions of the student teachers. Ethical review board approval has been obtained for the purpose of conducting these program evaluations.

**Limitations and Challenges.** A number of challenges have been encountered through this collaboration. New York-based team members change annually, and balancing ownership of components within the programs with the resources available has been complicated. Additionally, there has been annual turnover of participating personnel. This has made it difficult to complete tasks between visits. As a result, efforts are ongoing to better delineate personnel responsibilities and create more defined work groups.

**Future Directions.** Future directions will include opportunities for longitudinal mentorship for AIAN students beyond the summer course, health profession educational opportunities for high school students, and a CCCC-led initiative to create an orientation and cultural competency course for non-native providers on the reservation. Plans to evaluate the effect of the experience on the trainees from ISMMS and CUMSPH will assess how the experience influences cultural competency and future career goals. Additionally, summative and pooled assessments of all former tribal college and middle

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school students will be performed to determine whether their exposure to the CCCC course and the HC4U program truly led to an increased and sustained interest in health professional careers. Data will also measure whether this translates into higher educational achievements and, ultimately, whether more AIANs enter the health workforce nationally and on the SLD reservation.

## CONCLUSIONS

This 4-institution collaborative program aimed at increasing health professional capacity for AIANs serves as an example of an intervention to address profound health disparities, including underrepresentation in the health professions experienced by an underserved population. The collaboration described here aims to connect with, inspire, and empower students on an individual level to improve the community as a whole, and preliminary assessment suggests that it has had some success in that regard. With well-established institutions on the local and national level joining forces with communities to target health disparities, there is hope that such efforts can contribute to closing the ongoing gap in health that exists among US populations.

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