

Shifting the Tide: Innovative Strategies to Develop an American Indian/Alaska Native Physician Workforce

Erik Brodt MD; Allison Empey MD; Peter Mayinger PhD; Marissa Fuqua Miller BS; Dove Spector BA; Rosa Frutos MA; Amanda Bruegl MD; Shoshana Zeisman-Pereyo EdD; Polly Olsen BA; and Patricia A. Carney PhD, MS

Abstract

Despite extensive efforts to diversify the US physician workforce and increases in both the number of US medical schools and number of students enrolled, there has been no difference in the matriculation and graduation of American Indians and Alaska Natives (AI/AN). Furthermore, advancement remains elusive for AI/AN US medical school faculty, which currently constitutes approximately 0.1% of all US medical school faculty and remains disproportionately under-represented at the Associate and Full Professor ranks. The Northwest Native American Center of Excellence (NNACoE) aims to address these worrisome trends by implementing innovative programs to support a meaningful journey toward recruiting, training, and supporting AI/AN youth, medical students and faculty. NNACoE has piloted three innovations: 1) Tribal Health Scholars, a 14-week clinical shadowing experience for AI/AN youth in their tribal clinic; 2) Wy'East Post-baccalaureate Pathway, a 9-month structured curriculum with conditional acceptance into Oregon Health & Science University School of Medicine; and 3) Indigenous Faculty Forum, a longitudinal professional development conference for AI/AN medical school faculty to foster career advancement. NNACoE piloted all three programs in 2017 and is actively expanding efforts, while systematically evaluating all programs. Pilot results demonstrate that all Tribal Health Scholars are pursuing college and health science majors, 10 AI/AN Wy'East Post-Baccalaureate Scholars are enrolled to date, and 63 Indigenous medical school faculty are participating in professional development. More systematic evaluation of AI/AN-specific programming is needed to better illuminate how to successfully recruit, train and retain AI/ANs in the US physician workforce.

Abbreviations

AE = Academic Enhancement
AI/AN = American Indians and Alaska Natives
CC = Career Change
IFF = Indigenous Faculty Forum (IFF)
IRB = Institutional Review Board
NERDS = NNACoE Educational Research Data System
NNACoE = Northwest Native American Center of Excellence
OHSU = Oregon Health & Science University
THS = Tribal Health Scholars

Introduction

National studies show that a diverse workforce improves access to care, healthcare delivery, cultural competence and patient satisfaction.¹ Despite extensive efforts to diversify the US physician workforce and increase both the number of US medical schools and total medical student enrollment, trends

for American Indian and Alaska Native (AI/AN) matriculation and graduation remain flat.² Advancement remains elusive for AI/AN faculty at US Medical Schools, which constitutes approximately 0.1% of all US medical school faculty and remains disproportionately under-represented at the Associate and Full Professor rank.³ The number of American Indian and Alaska Native (AI/AN) US medical school graduates declined by 51% between 1980–2016.⁴ This negative trend is accelerating given the 70% decline in AI/AN applicants and 63% decline in AI/AN matriculants to US medical schools from 1996–2015.⁴ Because AI/AN health professionals are more likely to serve AI/AN communities than their peers,⁵ training more AI/ANs has a potential to alleviate current workforce challenges that exist throughout Indian Country as well as to improve the health and wellness in this population. Increasing the number of culturally competent, non-Native health professionals will also help to eliminate or reduce workforce shortages in tribal clinics. This could be achieved by increasing AI/AN representation in academic health centers and by enhancing training opportunities for *all* students and faculty to be more culturally aware and sensitive to the nuances necessary to meet the needs of tribal people.

The Northwest Native American Center of Excellence (NNACoE),⁶ based at Oregon Health & Science University (OHSU), began in 2017 in partnership with the Northwest Portland Area Indian Health Board (a non-profit tribal advisory organization serving the forty-three federally recognized tribes of Oregon, Washington, and Idaho) and Portland State University. The objectives of NNACoE are to: 1) Recruit, train, and retain AI/AN students and faculty to diversify the health professions workforce toward promoting and providing high quality, safe, and accessible healthcare; 2) Train tomorrow's health professions workforce in minority health issues, including health equity and social determinants of health; 3) Enhance and expand tribal-academic partnerships to meet the research needs of tribal communities. The purpose of this paper is to describe select NNACoE programs, which include Tribal Health Scholars, Wy'East (Multnomah tribe name for Mountain Hood) Post-baccalaureate Pathway, and the Indigenous Faculty Forum, and to report early findings from the first year.

Methods

Northwest Native American Center of Excellence Overview (NNACoE)

NNACoE, which is led by principal investigator (author EB) and deputy director (author AE), has six teams: 1) Northwest Portland Indian Health Board, 2) Portland State University, 3) OHSU Tribal Engagement, 4) NNACoE Educational Programs (includes Wy'East, Tribal Health Scholars & Indigenous Faculty Forum), 5) OHSU Student Outreach, and 6) a Comprehensive Evaluation Unit. All teams work collaboratively to address NNACoE objectives while focusing on three target groups of AI/ANs: pre-college students, college and post-college individuals interested in medical school, and academic faculty members. Each of these will be described in detail below. Each team is led by a faculty member supported by research staff who are considered equal members of the team. Meetings to share progress are held by phone monthly and each team holds weekly meetings to advance their work.

The Institutional Review Board (IRB) at Oregon Health & Science University (OHSU) deemed the project a research study (OHSU IRB # 17588) rather than an educational program evaluation because AI/ANs have historically been exploited by academia and researchers. Thus, all NNACoE educational activities and evaluation instruments receive IRB review and subsequent approval prior to implementation. A waiver of consent was requested and granted with a minimal risk assessment; all participants received information describing the educational programs, and explaining how the evaluations will be used, including program improvement, peer-reviewed publications, and presentations. Evaluation data is presented only in summary form and no individual participants are identified. Partner organizations undertook different IRB pathways. Portland State University ceded to OHSU's IRB and the Northwest Portland Area Indian Health Board's Tribal IRB decided it would only review materials for tribal youth. Once completed, community IRB approvals were also submitted to OHSU's IRB for review and approval. Each program and its evaluation activities is described below.

Tribal Health Scholars

NNACoE created the Tribal Health Scholars (THS) program for high school students interested in a health professions career. Three to five students per tribe are selected for a 14-week experience shadowing healthcare providers and staff in their tribal health clinic. To implement this program, the Tribal Engagement Team visited five of the nine tribes in Oregon during the first program year. Tribes uniformly expressed interest in supporting AI/AN youths' pursuit of higher education, fostering a culturally supportive environment during their studies, and increasing youth awareness of health professions. In the Spring of 2018, THS was piloted in the Confederated Tribes of Warm

Springs tribal community. Approximately 30 individuals affiliated with NNACoE participated in the development, planning and implementation of the THS pilot. The key stakeholders represented the Confederated Tribes of Warm Springs, Madras High School (the reservation-serving public high school), Portland Area Indian Health Service, OHSU's *On Track OHSU!* (an OHSU-based program for middle and high school students from underrepresented minority backgrounds interested in health sciences) and the Warm Springs Health and Wellness Center.

A presentation of the THS concept and approval in the form of a signed tribal resolution was obtained from the Confederated Tribes of Warm Springs tribal council prior to initiating planning meetings and participant recruitment. In addition to the OHSU IRB, all forms and evaluation instruments generated for THS were submitted to the Portland Area Indian Health Service Tribal IRB. Recruitment and selection of the pilot THS participants was conducted by Madras High School, *On Track OHSU!*, and the NNACoE Education Team.

Fourteen, weekly, one-hour, clinical shadowing sessions were scheduled for the THS Scholars. The first session involved an orientation to the clinic and health information management. The next ten sessions involved shadowing providers in different health careers, and the final three sessions were selected by the Scholars based on their area of interest. Each Scholar connected weekly with a NNACoE health pathway coach (also AI/AN, author DS) to work one-on-one discussing shadowing experiences and future goals. Evaluation activities included an assessment of the clinic experience and the coaching process. Data collection for these is currently occurring.

Wy'East Pathway

Existing literature indicates that AI/AN premedical students often experience significant barriers applying to medical school due to lower MCAT scores, non-competitive grade point averages, or lack of extracurricular activities.^{7,8} These barriers may result in being considered a non-competitive medical school applicant. NNACoE developed the Wy'East Pathway specifically for AI/ANs who either applied but were not accepted into medical school or who were seeking a career change. The two Wy'East pathways, *Academic Enhancement* and *Career Change* — briefly described below, were designed for these two groups of learners.

Wy'East Academic Enhancement (AE) is a 9-month (September through June) post-baccalaureate pathway designed specifically to prepare AI/ANs to excel in medical school. Upon successful completion of the program, conditional acceptance to OHSU's School of Medicine follows. The Wy'East AE is a part-time model, occurring from 9am–1pm Monday through Friday, it gives Wy'East participants the option of maintaining part-time work to supplement their living expenses. An unintended benefit is that some participants are employed part-time with local

tribal and urban Indian organizations, further reinforcing their relationships with AI/AN communities.

The structure of Wy'East AE is designed to support a direct transition to OHSU's novel competency-based curriculum, which was implemented in 2014.⁹ This innovative curriculum integrates foundations of medicine discipline-specific threads into threads that are horizontally integrated into an 18-month block structure. The compacted foundational portion provides flexibility but is also uniquely challenging to first year medical students. Wy'East AE uses a similar thread structure developed, led and taught by a team consisting of OHSU's undergraduate medical education (UME) thread directors and faculty. Threads include Foundational Sciences, Population Health, and Academic Skills and Wellness. Wy'East also provides an introduction to epidemiology, guest lectures from specialized projects, and an MCAT preparatory course. Additionally, participants join in clinical shadowing experiences, a research project, and cultural programming throughout the Pathway.

To track continuous academic performance, NNACoE created a thread-specific assessment system that follows the overall philosophy of the OHSU UME curricula. This consists of weekly quizzes, three quarterly block exams, participation in scholarly activities, and assessments of professionalism. For conditional acceptance to OHSU's School of Medicine, Wy'East AE participants must pass all evaluation components including attaining an acceptable MCAT score and meet professionalism standards. To evaluate the success of this program, Wy'East AE participants' applications, matriculations, and graduation from medical school (at OHSU or elsewhere) are tracked along with career choice, medical specialty, and post-training practice intentions. Focus groups with scholars are performed each year.

The *Career Change* (CC) Pathway involves taking premedical courses at Portland State University that help applicants to meet the requirements for admittance to medical school. With guidance from Wy'East faculty, each participant creates their own individualized course schedule based on self-identified needs. Participants take courses Monday through Thursday allowing them to join the Wy'East AE participants for the Academic Skills and Wellness thread on Fridays. During the winter quarter, CC participants are invited to take the MCAT preparatory course with the AE participants. At the end of the academic year, CC participants may choose to apply to medical school or the AE pathway.

Once in Wy'East, participants have additional avenues for building and maintaining relationships with local tribes and tribal organizations which can extend into their medical education. Wy'East cultural programming gives participants the option to engage in local tribal culture and history through visits to tribal museums and tribally significant landmarks. OHSU also interfaces with local tribes through various outreach programs, departments and institutions which Wy'East participants can engage in such as mentoring AI/AN youth, participating in

clinical care teams, and sitting on panels for diverse students interested in health careers. Wy'East Post-baccalaureate Pathway is the cornerstone of NNACoE's larger vision to improve the health and wellness of AI/AN communities by increasing the number of AI/AN physicians.

Indigenous Faculty Forum

NNACoE conducts an annual Indigenous Faculty Forum (IFF) to promote the advancement of AI/ANs in academic medicine. AI/AN faculty play an important role in training the future health care workforce, and it is vital to support professional faculty development and academic success. Unique challenges are experienced by AI/AN faculty that include limited information on academic career paths, lack of credit for teaching and community service, isolation, challenges in balancing AI/AN and academic cultures, and lack of role models/mentors.¹⁰ Additionally, AI/AN faculty, like other URM faculty, experience the "minority tax" and are burdened with increased institutional service commitments to help with diversity efforts, racism, and inequities in advancement such as promotion.¹¹

The objective of IFF was to create an AI/AN faculty development conference designed to enhance the success of current and future AI/AN academic health faculty. This annual conference aims to provide instruction in key professional competencies leading to academic advancement, address unique cultural considerations for AI/AN faculty, and foster networking and ongoing career support for AI/AN faculty. Ideally, the networking that occurs will provide academic support and create further opportunities for collaboration.

The pilot IFF conference was held on November 17th, 2017 in Portland, Oregon. The second IFF conference occurred July 12th, 2018 in Hilo, Hawaii as part of the Pacific Region Indigenous Doctors Conference (PRIDoC). Attendees were physicians and professors from US and Pacific Rim medical schools, representing a broad assortment of medical specialties and departments. The day-long conferences included faculty-led lectures on strategic career planning, maintaining one's own cultural identity within the larger institutional culture, and building bridges with tribal clinics & communities. Evaluation activities included a post-IFF program evaluation, a focus group held immediately after the Forum and a 12-month follow-up survey designed to assess how participants' careers are developing.

Results

Tribal Health Scholars enrolled three high school seniors in the pilot year. All three scholars are now pursuing college and health science majors. Building on the success of cohort 1 in the Warm Springs community, we are expanding THS with two additional tribal communities in 2019. In three years, plans to expand the operation of THS to include 5 tribal communities across Oregon (Table 1).

Table 1. Participation in the Northwest Native American Center of Excellence Activities in Year 1 and Projections for Years 2-5						
	Projected Participation					
	Pilot Year 1 2018/2019	Year 2 2019/2020	Year 3 2020/2021	Year 4 2021/2022	Year 5 2022/2023	Totals
Tribal Health Scholars	3	6	9	12	15	45
Wy'East Pathways	10	10	10	10	10	50
Indigenous Faculty Forum	10	50	15	50	25	150
Totals by Year	23	66	34	72	50	245

Twenty-nine completed applications were received for the Wy'East Pathway, thirteen applicants were interviewed and ten Wy'East participants were selected. Wy'East Cohort 1 is comprised of six Oregon residents and four non-residents. The cohort is tribally diverse, representing federally recognized tribes or villages from Alaska (three), Great Plains (two), Southwest (three), and Oregon (two). There are three participants in the Career Change (CC) Pathway (having worked in a prior career before pursuing medicine), and seven participants are in the Academic Enhancement (AE) Pathway. NNACoE has the capacity to enroll ten scholars each year, which would yield up to fifty participants by the end of the funding cycle.

Ten faculty members from the Pacific Northwest attended the first Indigenous Faculty Forum and fifty-three from across the Pacific Rim attended the second IFF. The follow-up survey from the first IFF attained a 100% response rate and will be used for analysis when further data is collected from the second and third IFF conferences. Participation capacity is projected to reach 150 Indigenous faculty by the end of the project cycle (see Table 1). Systematic evaluation is in process and findings will be reported in future publications.

Discussion

Many lessons were learned during the first years of NNACoE. Foremost, the experiences have reinforced the necessity of tribal voice (citizens and nations), both in including AI/ANs in educational pathways AND improving the health and well-being of AI/AN people. Educational initiatives aiming to improve health disparities in this population will not reach their full potential without tribal engagement and partnership. Collaboration with the Warm Springs community was absolutely crucial to the Tribal Health Scholars pilot program. Without key tribal input and stakeholders, the longevity of Tribal Health Scholars would certainly be in question and the pilot may have failed.

The Wy'East Pathway offered the most challenges and lessons learned due to the ambition of the planned activities. Offering two parallel pathways, Academic Enhancement (AE) & Career Change (CC), spread staff and faculty efforts too thin and likely diluted the cohort effect, which is the bonding that occurs among participants from sharing a common, sometimes difficult, experi-

ence. Coordinating clinical shadowing for Wy'East participants required more time than initially anticipated. OHSU clinics are spread throughout the Portland metro area and the interests of students fell across multiple specialties, thus a more diffuse effort was required to identify preceptors, pair participants in their desired specialty, and coordinate schedules and transportation. As a result, NNACoE learned it may be a more efficient use of personnel resources to focus on the AE Pathway and pause the CC Pathway until later in the project. The intent is to amplify the Wy'East cohort effect toward fostering strong relationships among participants that can lead to successful outcomes, while preserving faculty and coordinator energy.

The Indigenous Faculty Forum taught us there may be more demand than anticipated for AI/AN-specific professional career development, with ten of the eighteen faculty identified on the West Coast attending the first IFF, and 53 faculty attending the second IFF. It is too soon to tell the impact of the forum on career advancement, as the follow-up surveys for both IFF's are pending. Post-forum surveys are being used to iterate and plan the next IFF.

Pilot programming is nearing completion and systematic evaluations of each effort are underway. Our goal is to scale up NNACoE programs and partnerships. Tribal Health Scholars is actively expanding and will be operating with five tribes by year-three. Wy'East is entering the application and selection cycle for cohort two, where all participants will be in the AE Pathway. Early explorations and discussions are underway with regional medical schools to expand Wy'East. NNACoE will grow relationships with the Indigenous faculty identified, while actively working to identify more attendees. Systemic evaluation is crucial to the successful building of NNACoE programs. To make this process nimbler and more inclusive, the evaluation team has built the NNACoE Educational Research Data System (NERDS) to ensure timely access to evaluation data by NNACoE teams. There is a paucity of literature specific to the recruitment, training, and developing AI/AN physicians in the US workforce, which may, in part, be contributing to the limited success of US medical schools to train AI/AN physicians. Therefore, NNACoE is prioritizing the dissemination of findings in future publications, through digital media, and national and regional presentations so that others may learn

from our efforts. Ultimately, more US medical schools must be effective at training and graduating AI/AN physicians in order to achieve long-term, sustainable solutions.

NNACoE's Tribal Health Scholars, Wy'East Post-Baccalaureate Pathway, and Indigenous Faculty Forum are innovative efforts to increase both the number and successes of AI/ANs in the US physician workforce. Partnering directly with federally recognized tribes to build and operate an AI/AN-specific pathway to medical school has contributed greatly to the success thus far. Fundamentally, NNACoE has created a different way of recruiting, training, and developing AI/AN physicians. Standing upon the shoulders of those who have gone before us, NNACoE represents a new dawn in programmatic efforts to increase AI/AN voice in the US physician workforce. Time and systematic evaluation will speak to the effectiveness of these innovations. Together, perhaps we can shift the tide and actualize a future US physician workforce inclusive of more AI/AN voices.

Conflict of Interest

None of the authors identify a conflict of interest.

Authors' Affiliations:

- Department of Family Medicine, Oregon Health & Science University, Portland, OR (EB, MFM, DS, RF, PAC)
- Department of Pediatrics, Oregon Health & Science University, Portland, OR (AE)
- Division of Nephrology & Hypertension, Department of Medicine, Oregon Health & Science University, Portland, OR (PM)
- Department of OB-GYN, Oregon Health & Science University, Portland, OR (OS)
- Teaching and Learning Center, Oregon Health & Science University, Portland, OR (AB)
- Tribal Engagement Team, University of Washington's Burke Museum, Seattle, WA (PO)

Correspondence to:

Erik Brodt MD; Department of Family Medicine, Mail Code: FM, Oregon Health & Science University, School of Medicine, 3181 SW Sam Jackson Park Rd., Portland, OR 97239; Email: brodt@ohsu.edu

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