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**Clearing the Path to Medical
School for American Indians and
Alaska Natives: *New Strategies***

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Clearing the Path to Medical School for American Indians and Alaska Natives: New Strategies

ABSTRACT

Two recent studies examining recruitment and retention of American Indians and Alaska Natives (AI/ANs) in medical school identified significant challenges in the pursuit of a medical career by AI/AN students: the academic rigor of medical school, the needs of their communities and families, financial concerns, feelings that their perspectives on healing and spirituality were excluded from medical school, and the paucity of role models and mentors, especially those who shared their culture. Using the results of this research and their experience conducting programs to support AI/ANs pursuing health professions, the authors recommend several strategies for improving recruitment and retention of AI/AN medical students. These strategies include (1) providing role models, advisors, and mentors; (2) providing early research opportunities by involving AI/AN communities in research on Native health issues; (3) anticipating students' traditional Native spiritual practices; (4) providing professional socialization opportunities for faculty and AI/AN medical students; (5) creating and implementing rigorous curricula that include indigenous perspectives; and (6) developing a pro-diversity institutional mission statement to inform admissions policies. The authors identify governmental and non-governmental organizations in a position to fund and implement these strategies, as well as a list of resources. Collaboration with AI/AN individuals, organizations, and communities is critical to this effort but not a familiar role for most academic medical centers; suggestions for cross-cultural outreach and collaboration are provided. Increasing the numbers of AI/AN physicians is a matter of social equity and basic fairness, but successful collaborations will also enrich the medical community.

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INTRODUCTION

Two recent studies by Buckley¹ and Hollow et al.² examining recruitment and retention of American Indians and Alaska Natives (AI/ANs) in medical school shed light on how to effectively support AI/AN students in pursuing a medical career and what policies can help ensure their success. This paper synthesizes the results from these studies to describe the concerns raised by the AI/AN medical students and suggests new strategies to address those concerns. Our recommendations are a call to action not only to medical schools, but to all individuals and institutions that have an interest in increasing the number of minority physicians. We match these strategies with the organizations that are positioned to assist American Indians and Alaska Natives on their path to medicine.

COMMON THEMES

Both Hollow et al. and Buckley found that students contended with the academic rigor of medical school, with the needs of their communities and families, with financial concerns, and with feeling that their perspectives on healing and spirituality were excluded from medical school. Socialization into the profession was especially challenging for them because of a paucity of role models and mentors, especially those who shared their culture.

The Native* medical students in these studies recognized the importance of being well-prepared academically to cope successfully with the rigors of medical school. Academic enrichment programs, especially in science, at all levels of their education had helped the students prepare for medical school. College programs aimed at assisting minority students were especially helpful.

Communities and families were sources of both support and stress for the American Indian and Alaska Native participants in the two studies. Many medical students reported that their families' health care experiences were what inspired them to attend medical school. Staying connected to their home communities during medical school was important, but for some, the great distance from home was also a source of concern both emotionally and financially. Travel costs compounded the already substantial financial stress of attending medical school. Despite their strong ties to home, some students feared that their communities might not fully accept them in a new role after medical school had transformed them into physicians.

American Indian and Alaska Native students found that the cultural perspectives they brought with them were not necessarily accepted at medical school. They understood healing as a matter involving the whole person, including one's spirit and one's relationships, while they perceived that by and large the medical school saw healing primarily as a physical phenomenon. They needed to reconcile this difference in perception with their desire to become physicians. In some cases, AI/AN role models and individuals from their communities assisted them in translating across the cultural barriers they experienced when they attended medical school.

NEW STRATEGIES FOR SUPPORTING AI/AN STUDENTS IN PURSUING A MEDICAL CAREER

A number of programs to support minority students in the pursuit of a medical career have been described elsewhere; some of these programs are targeted at AI/AN students.³⁻⁵ Groups that are underrepresented in medicine often have common needs, but the particular histories and circumstances of diverse minority communities call for some strategies that are unique to each. The results of Hollow et al. and Buckley's studies suggest new strategies and resources that we

recommend to address concerns raised by AI/AN medical students. Our recommendations are grounded in the experience of current programs based in medical schools that support AI/AN students. Table 1 shows these strategies and the organizations poised to collaborate in further developing and implementing them. Table 2 offers a list of resources, focusing especially on AI/AN organizations.

PROVIDE ROLE MODELS, ADVISORS, AND MENTORS

School counselors and admissions personnel are the critical links in providing information to AI/AN students about professional careers, since these students are less likely than whites to have professional role models and advisors.⁶ Ensuring that career gatekeepers are aware of the barriers and opportunities for AI/AN students is crucial. When counselors or teachers "track" minority students into less rigorous academic courses—intentionally or not—they limit students' academic achievement and inhibit their career aspirations.⁷

Beyond these traditional sources of academic and career advice, AI/AN youths need role models and the guidance of advisors and mentors. This is not a new strategy, but it deserves mention as one of the supports that AI/AN medical students cited most frequently. This strategy is important for motivating and helping AI/AN premedical or medical students to negotiate the path to medicine. Early and continuous exposure to successful adults, preferably starting in preschool and elementary school, is ideal.

The pressures on AI/AN physicians and medical students to serve as role models and mentors are great. Their efforts are critical, but overburdening them can impede their own career progress.⁸ Other types of AI/AN health professionals and non-Native medical students, residents, faculty, and physicians can also assist AI/AN students either on the path to or in health professional training programs. Having role models of one's own ethnicity is important, but physician mentors of other ethnicities can sometimes provide key advice and opportunities from which members of minority groups are otherwise excluded.⁹

* We use the terms "American Indian and Alaska Native" and "Native" interchangeably.

Table 1: Collaborators to Increase the Number of AI/AN Physicians

- Schools
 - Elementary schools
 - Middle/junior high schools
 - High schools
 - Community colleges, especially tribal colleges
 - Four-year colleges and universities, especially tribal colleges
 - Graduate programs
 - Health professions schools, including Native American Centers of Excellence (NACOE)s
- AI/AN governments and organizations
 - American Indian and Alaska Natives Epidemiology Centers (a CDC/IHS partnership)
 - American Indian Higher Education Consortium (AIHEC)
 - National Indian Education Association (NIEA)
 - National Indian Health Board
 - Tribal Governments/Alaska Native Development Corporations
- AI/AN professional and student organizations
 - Association of American Indian Physicians (AAIP)
 - Association of Native American Medical Students (ANAMS)
 - American Indian Science and Engineering Society (AISES)
 - Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
- United States Government
 - Department of Education
 - Department of Health and Human Services (DHHS)
 - Indian Health Service (IHS)
 - Health Resources and Services Administration (HRSA)
 - Bureau of Health Professions (BHP)
 - Centers for Disease Control and Prevention (CDC)
 - National Science Foundation, e.g., Tribal Colleges and Universities Program (NSF)
- National and local non-profit and private sector organizations
 - Area Health Education Centers (AHECs)
 - Association of American Medical Colleges (AAMC)
 - Businesses
 - Health professional membership and advocacy organizations
 - Non-profit foundations and community organizations

Strategy	Potential Collaborators for Specific Strategies
Providing AI/AN role models, advisors, and mentors	<ul style="list-style-type: none"> • Tribes/Development Corporations (including traditional healers) • Indian Health Boards • IHS • AHECs • AAIP • AISES • ANAMS • SACNAS • Health professional membership and advocacy organizations
Provide early research opportunities by involving AI/AN communities in research on Native health issues	<ul style="list-style-type: none"> • Tribes/Development Corporations • IHS, especially through Native American Research Centers for Health (NARCH) grants • NACOE)s • CDC/IHS American Indian and Alaska Native Epidemiology Centers • National Indian Health Board
Anticipate students' traditional Native spiritual practices	<ul style="list-style-type: none"> • Tribes/Development Corporations (especially traditional healers)
Provide professional socialization opportunities for faculty and AI/AN medical students	<ul style="list-style-type: none"> • AAIP • AISES • ANAMS • SACNAS • Health professional membership and advocacy organizations
Create and implement rigorous curricula that include indigenous perspectives	<ul style="list-style-type: none"> • AIHEC • NIEA • Tribes/Development Corporations • Department of Education • AHECs • NSF • Schools (at all levels)
Develop a pro-diversity institutional mission statement to inform admissions policies	<ul style="list-style-type: none"> • Tribes/Development Corporations • AAIP • ANAMS • IHS • Indian Health Boards • AAMC

Table 2: National Organizations and Resources (and Acronyms)

Name of Organization	Resource Provided	Web Address
American Indian Graduate Center (AIGC)	Provides scholarships and fellowships for American Indian graduate and professional students	http://www.aigc.com/
American Indian Higher Education Consortium (AIHEC)	Represents U.S. (34) and Canadian (1) tribal institutions of higher education	http://www.aihec.org/
American Indian Science and Engineering Society (AISES)	Encourages science, engineering, and technology careers among American Indians and Alaska Natives	http://aises.org/
American Indians Radio on Satellite (AIROS)	Internet broadcast station for American Indians	http://www.airos.org/
Association of American Indian Physicians (AAIP)	Professional association of American Indian physicians. Also contains links to information on Traditional Indian Medicine	http://www.aaip.com/
Association of American Medical Colleges (AAMC)	Program office and sponsor for diversity initiatives such as the Summer Medical Education Program (formerly Minority Medical Education Program), Health Professions Partnership Initiative	http://www.aamc.org/
Association of Native American Medical Students (ANAMS)	Organization for Native Americans enrolled in medical school or in the allied health professions of dentistry, veterinary science, optometry, podiatry, and pharmacy	http://www.aaip.com/anams/anams.html
Bureau of Health Professions (BHP)	Sponsor of the Native American Centers of Excellence (NACOE), Health Careers Opportunity Program (HCOP) and other health professions programs for minorities	http://bhpr.hrsa.gov/diversity/
Centers for Disease Control Office of Minority Health	Sponsor of the American Indian and Alaska Natives Epidemiology Centers	http://www.cdc.gov/omh/Populations/AIAN/AIANEpiCtrns.htm
Department of Education	Sponsor of Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), designed to prepare low-income students for higher education	http://www.ed.gov/programs/gearup/index.html
Indian Health Service (IHS)	Provides health care for members of federally-recognized tribes and sponsors the Native American Research Centers for Health (NARCH) grants	http://www.ihs.gov/
National Congress of American Indians (NCAI)	Policy and advocacy organization for American Indians	http://www.ncai.org/
National Indian Education Association (NIEA)	Advocacy organization on AI/AN educational policy	http://www.niea.org/
National Indian Health Board	Research, policy analysis, training, and program development regarding AI/AN health issues	http://www.nihb.org/
National Science Foundation (NSF)	Sponsors the Tribal Colleges and Universities Program to improve science, technology, engineering and mathematics instruction and outreach institutions serving AI/ANs and Native Hawaiians	http://www.nsf.gov/
Society for Advancement of Chicanos and Native Americans in Science (SACNAS)	Supports pre-college science education and mentors Chicano/Latino and Native American college students toward advanced science careers	http://www.sacnas.org/

PROVIDE EARLY RESEARCH OPPORTUNITIES BY INVOLVING AI/AN COMMUNITIES IN RESEARCH ON NATIVE HEALTH ISSUES

Historically, research in Native health has not included the input and perspective of tribes, which has resulted in significant distrust and negativity towards research.¹⁰ Research addressing Native health issues should be funded and designed so that it encourages interest in a biomedical career among Native youth to maximize the potential for research to benefit Native populations in multiple ways.

The Native American Research Centers for Health (NARCH), which are administered by tribal organizations, are an exception. These centers give tribal organizations a voice in research. Overall, however, very few AI/ANs are trained to do research and relatively few monetary resources are directed towards this effort. To increase the number of AI/AN researchers, research initiatives should incorporate AI/AN students in the research process as early as middle school. Tribes and AI/AN health experts could work with students to develop research ideas. This strategy can develop both biomedical science career interests and academic skills for building a cadre of Native medical researchers and physicians.

ANTICIPATE STUDENTS' TRADITIONAL NATIVE SPIRITUAL PRACTICES

Spirituality and healing are strongly linked for many AI/AN medical students and their patients in ways that most Western medicine practitioners and educators may not fully recognize. Acknowledging the importance of traditional Native spirituality and Traditional Indian Medicine is an important strategy for attracting and retaining AI/AN students. For those AI/AN students who later choose to practice in an AI/AN community, maintaining their connection with Native culture in this way is critical for facilitating their entry or re-entry into the community for practice. Anticipating students' spiritual concerns also can protect them from spiritual harm while participating in necessary but potentially taboo Western medical activities, such as working with a cadaver.¹¹

Awareness of traditional Native spirituality is also important for non-Natives to provide culturally competent and relevant care, benefiting anyone who

will work with Native populations. A recent study of students at Harvard and the University of California, San Francisco shows that across all ethnic groups, students endorsed policies to create a culturally diverse student body as an enhancement to their educational experience.¹²

Schools may not be able to support particular religious or spiritual practices, but medical faculty, outside of their university roles, can partner with tribal leaders and AI/AN professional organizations to encourage the conduct of appropriate ceremonies. The Blessing Way, Buffalo, Hesi, Pipe, and Cleansing ceremonies as well as sweat lodges are examples of important Native rituals to restore health, harmony, and well-being.¹³⁻¹⁵ Faculty can also gain a better understanding of the importance of AI/AN students' going home for special ceremonies, thereby supporting these important spiritual practices. These practical strategies show AI/ANs that they have a place in Western medicine.

PROVIDE PROFESSIONAL SOCIALIZATION OPPORTUNITIES FOR FACULTY AND AI/AN MEDICAL STUDENTS

All medical school faculty with AI/AN medical students need training to recognize differences in the ways that AI/AN medical students' communicate and interact in the clinical setting. For example, non-Native faculty need to be aware that Native students' reserved manner may be a fundamental aspect of their culture. Faculty should resist forming a negative impression of students' knowledge or interest during teaching rounds based on their more reserved communication style. A competitive group situation may not be the setting in which to optimally assess a student's knowledge base. AI/AN students are unlikely to interrupt or engage in verbal displays of knowledge that are ordinary behaviors for other students in the teaching setting. Faculty may need to assess AI/AN students' knowledge one-on-one to get a complete picture of their performance.

At the same time, AI/AN students need support in learning to be more open and verbal in learning situations that may be in conflict with their culture. This professional socialization process can be more complex for AI/AN medical students, who may be adapting both to entry into a non-Native dominant culture as well as transitioning from being a lay person to a health professional. Diversity training for faculty provides the necessary complement to mentoring AI/AN students so that they can work effectively with these differences.

CREATE AND IMPLEMENT RIGOROUS CURRICULA THAT INCLUDE INDIGENOUS PERSPECTIVES

AI/AN students are left behind at each stage of the path to medicine. Those that do enter and complete college often end up being underprepared in math and science, making them less competitive with other applicants to medical school.¹⁶ Academic intervention is critical, and it must be a multifaceted approach involving communities, public schools, organizations, and institutions of higher learning.

Young students need curricular innovations that go beyond short-term enrichment programs. Science curriculum development for early grades is an especially high priority. The leadership of this effort and the design of specific curriculum content must include indigenous perspectives. Native communities and cultures offer abundant opportunities for teachers at the elementary, middle, and high school levels to explore science in a way that is grounded in students' experience, enhancing their students' appreciation of science. For example, an activity designed to link Native practices of beading and sewing to the medical practice of suturing can bridge the two cultural realms and encourage students on the path to medicine. Such activities will also foster medical career awareness.

Community colleges have often been overlooked as part of the pipeline to medicine. Given the high proportion of AI/AN students who enter higher education through community colleges, they must be included alongside universities in pipeline strategies.⁵ Native or tribal colleges, because of their ability to work with these students, are an especially untapped resource.

DEVELOP A PRO-DIVERSITY INSTITUTIONAL MISSION STATEMENT TO INFORM ADMISSIONS POLICIES

Recent reports on diversity in the health care workforce detail several ways in which health professions schools can align their institutional missions and admissions policies to recruit a more diverse student body.^{17,18} The U.S. Supreme Court's ruling in *Grutter v. Bollinger* affirmed that a racially and ethnically diverse student body can qualify as a compelling interest in achieving a university's educational mission.¹⁹ The goal of diversity needs to

be an explicit part of an institution's mission statement. This mission can help to ensure that the admissions committee itself is both diverse in composition and well trained in matters of diversity. Offering credit toward tenure and promotion or other academic rewards to faculty who serve the university through committee work toward these goals also communicates the university's commitment to diversity.

Diversity needs to be embraced as everyone's mission, not just the responsibility of minority faculty and administrators. As Beal et al.⁸ recently observed:

The onus should not be placed on minority faculty to address cultural competency, workforce diversity, curriculum development, research in disparities and culturally sensitive communication skills. Instead, the medical schools, hospitals and majority faculty need to take a proactive, leadership role in reviewing and revising the educational curricula, the training programs and the research agenda.... (p. 13)

With deans taking the lead in developing this kind of institutional mandate, an admissions committee can review admissions procedures to implement policies that value both cognitive and non-cognitive strengths of applicants.^{6,18,20} These kinds of strategies recognize that change is necessary not only at the individual level, but also at the institutional level to increase the representation of Native people in the health professions.

ELEMENTS FOR SUCCESS

All of the strategies outlined in this article rely on two necessary ingredients for success: (1) funding and (2) collaboration with AI/AN communities.

FUNDING

Saying that funding is critical is stating the obvious. Private foundations and the federal government have a history of supporting initiatives to increase the number of AI/AN physicians. For example, the Bureau of Health Professions, through the Health Resources and Services Administration, has supported Native American Centers of Excellence for more than a decade. But making the strategies recommended in this paper a reality will require even more funding from a variety of sources, including federal, state, and local governments, at all educational levels. Sponsors should also consider extending institutional control of funds beyond medical school grantees to collaborating organizations in the interest of creating partnerships truly based on equality.¹⁸

COLLABORATION WITH AI/AN COMMUNITIES

Collaboration with AI/AN communities is a new role for most academic medical centers. This collaboration is critical both for developing new resources and for using existing resources in more effective ways. The Council on Graduate Medical Education advocated a policy of government-sponsored matching funds and other financial incentives to academic medical centers that engage in collaborative efforts to increase the number of students underrepresented in medicine.²⁰ Medical schools need to demonstrate their commitment to outreach by rewarding faculty for community service in tenure and promotion decisions.^{20,21}

Medical school faculty and administrative personnel can begin to develop critical relationships with AI/AN communities by approaching those involved with AI/AN health issues, such as Indian health boards or members of the Association of American Indian Physicians. These contacts can provide linkages between medical schools and confederated tribal agencies or Alaskan Development Corporations, the principal governing institutions for AI/AN communities.

The collaborations forged by these linkages need to be comprehensive, reaching back into the K-12 educational pathway, and bringing into play entities with which medical schools historically have had little interaction. American Indian and Alaska Native communities have unique resources in their institutions and cultures. They also have unique needs. People and organizations in the majority culture need to learn how to work with Native people and institutions. Breaking down historical and social barriers and building a successful relationship requires attending to details ranging from the interpersonal to the organizational. Every village, tribe, or organization has its own cultural norms, but some key considerations in collaboration cut across virtually all Native communities. Table 3 summarizes suggestions for a successful collaboration. Some suggestions on intercultural communication pertinent to the clinical setting have been offered elsewhere;¹¹ these and other considerations also apply in other organizational and community contexts.

CONCLUSIONS

The authors of the two studies that ground this paper came separately to the realization that supporting American Indian and Alaska Native students is an activity that transcends the traditional walls of medical school. The educational experiences that prepare students for medical school begin well before college. Furthermore, challenges await AI/AN medical students

during and after completion of medical school. While AI/AN students face some unique problems, they also have access to unique resources within their cultural traditions and communities.

Because neither medical schools nor Native communities alone can address the challenges that face AI/AN students, this paper suggests ways in which creative new collaborations can help support both the recruitment and retention of AI/AN students in medical careers. It also suggests gaps in our knowledge about AI/AN students' experiences. Further research on American Indian and Alaska Native student experiences long before they reach medical school can shed light on how to prepare them to succeed in medical school. Research is also needed to examine the experiences of AI/AN medical graduates.

The collaborations suggested in this paper offer advantages beyond the recruitment and retention of AI/AN students to medical careers. American Indian and Alaska Native students bring fresh ideas about patient-physician relationships and healing to medicine. Among those ideas is an understanding of a connection between spirituality and healing. The medical profession would gain from this infusion of culturally diverse ideas. Native communities, in turn, will have more confidence in medical care when it is culturally relevant. The strategies we propose require both Native and non-Native people and institutions to work together in new and challenging ways, but the potential benefits for Native communities and the medical profession will be palpable.

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Table 3: Suggestions for Successful Collaboration with American Indian and Alaska Native Individuals, Organizations, and Communities

Collaboration Component	Ingredients for Success
Basic etiquette	<ul style="list-style-type: none"> • Small gifts or tokens of respect are always appropriate when visiting Native communities. Hosts are expected to provide food. • Handshakes should be respectful but not overpowering. • Natives tend to avoid eye contact, and people from other cultures should do their best to resist making too much eye contact.
Approach	<ul style="list-style-type: none"> • Collaborators accompanied by someone from the community will have a better reception by others in the community. • Talking immediately about community problems will offend. Collaborators need to focus on the strengths of a Native community or organization by starting with a positive compliment. • Medical school faculty and administration should adopt the perspective that they have as much to gain and learn as those with whom they wish to collaborate. Native communities are partners, not subordinates.
Listening and learning	<ul style="list-style-type: none"> • Native people usually indicate agreement with the speaker. This can sometimes be experienced as misleading, particularly when collaborators are eager to confirm pre-formed perceptions that may ultimately prove to be inaccurate. • Rather than making assumptions or statements and asking for agreement or disagreement, collaborators can learn more by asking open-ended questions and listening with patience and respect (e.g., What kinds of science teaching and learning resources could the high school use, if any?). • It is best to assume neither a lack nor an abundance, but to learn as much as possible about resources in the community. • Questioning respectfully empowers Natives in the process. With time, they will reveal their needs. Only then should collaborators discuss what they have to offer. Responses may be in the form of a story.
Patience for process	<ul style="list-style-type: none"> • People in majority institutions may feel discouraged by the length of time needed for decision-making, which is a many-layered process in Native communities. Native people need time for processing a request, translating it to others in the community, building a consensus, and taking action. • What seems like stalling, passivity, or indifference may actually indicate that a decision is being given high importance and thorough consideration.
Honoring commitments	<ul style="list-style-type: none"> • A long history of broken treaties has given Native peoples reason to doubt the commitment of even those with the best intentions. • Not following through on a commitment, even something that seems as minor as rescheduling a planned visit, can jeopardize a relationship with a Native person or community.
Acceptance	<ul style="list-style-type: none"> • When outsiders do break through cultural and institutional barriers, Natives often tease. Being teased is a sign of acceptance, and being a good sport about teasing is part of a successful relationship.

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