

## **Personal Journeys, Professional Paths: Navigating the Crossroads**


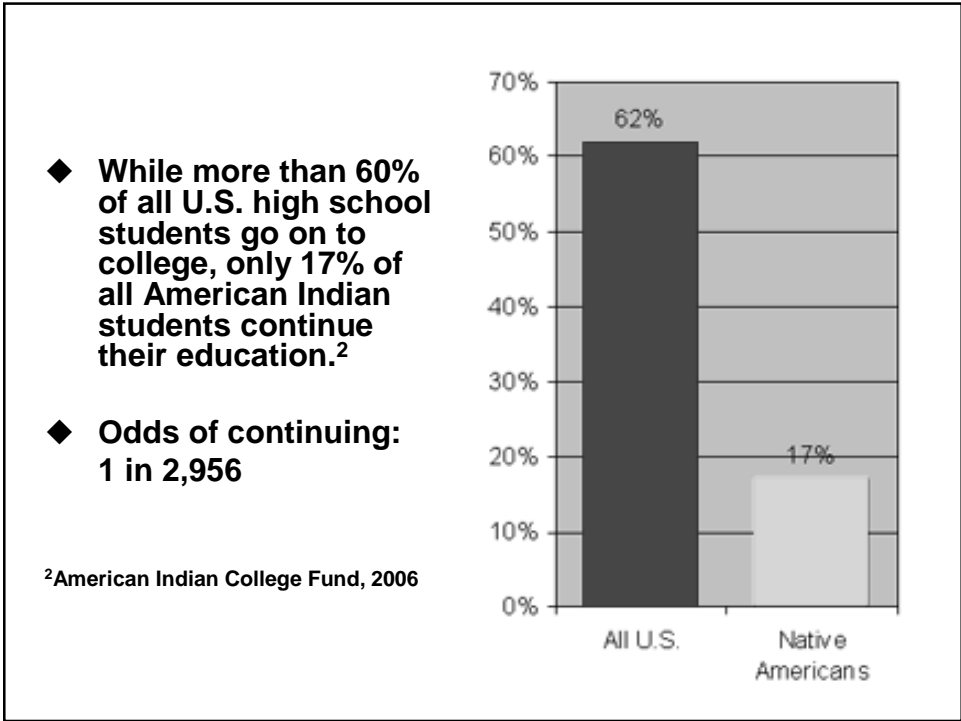
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- ◆ **More than 39% of American Indian and Alaska Native children drop-out of school between 6<sup>th</sup> and 7<sup>th</sup> grade.<sup>1</sup>**
- ◆ **Odds of continuing: 1 in 2.56**

<sup>1</sup>NCES, 2002-2003



- ◆ In 1999, NIH awarded approximately 35,000 grants. Only 9 principal investigators were American Indian or Alaska Native
- ◆ Odds of an award: 1 in 3,889
- ◆ Consider that 1 individual served as PI on 4 of these NIH grants
- ◆ Odds of an award: 1 in 7,000



- ◆ **The pipeline moving underrepresented minorities (URMs) such as American Indians into biomedical and behavioral research positions is flawed at three major junctures.**
- ◆ **First, URM students have a hard time entering the pipeline due to the critical disparities in the academic preparation of minority high school students compared to majority students.<sup>3</sup>**

<sup>3</sup>Haycock, 2006



- ◆ **Second, the pipeline leaks. URM students are more likely to drop out of the pipeline before attending or before completing college.<sup>4,5</sup>**
- ◆ **American Indians have the highest college dropout rates and lowest graduation rates among all minorities in the U.S.<sup>6</sup>**

<sup>4</sup>Cole & Barber, 2003 <sup>5</sup>Jacobs & Simpkins, 2005 <sup>6</sup>Gloria & Robinson Kurpius, 2001



- ◆ **Third, only a small trickle of minority doctoral level researchers successfully passes through the pipeline and finds employment in academia at the other end.**
- ◆ **URM women are rarely found on the faculty of science departments at the top research universities.<sup>7</sup>**
- ◆ **The shortage of minority faculty members is the result of too few of them obtaining MDs or PhDs and then subsequently choosing to work in academia as a career.<sup>6</sup>**

<sup>7</sup>Nelson, 2004



- ◆ **In a more pessimistic vein, a synthesis of NSF data reported in *Nature* indicates that professional URM scientists have higher unemployment levels, fewer publications, and get fewer grants and contracts than the majority population.<sup>8</sup>**

<sup>8</sup>Wickware, 2000



- ◆ This review further concluded that URM students experience a range of obstacles in their journey along the path to research competence and academic success.
- ◆ The answer, it suggested, is placement in select settings at Research Level I institutions.



However, the barriers/facilitators to doing so include:<sup>9</sup>

- ◆ Prior educational experiences
- ◆ Competing career options and priorities
- ◆ Health care experiences
- ◆ Financial factors

<sup>9</sup>Hollow et al., 2006



- ◆ **Cultural connections**
- ◆ **Family and friends**
- ◆ **Spirituality**
- ◆ **Discrimination**



- ◆ **“How?” then becomes the key question.**

**This is an easier goal to articulate than to achieve. The difficulty lies in identifying specific mechanism(s) “that work” and the consequent inability to enhance the existing programs.**

## Investigator Development Core



### Key Features

- ◆ 2 year training period
- ◆ 4-5 Native Investigators each period
- ◆ Targeted didactic instruction
- ◆ Intensive mentoring
- ◆ Interdisciplinary faculty

## Investigator Development Core



### Investigator characteristics

- ◆ MD, PhD-level social, behavioral and health scientist
- ◆ Seven years or less post-graduate/residency status
- ◆ American Indian or Alaska Native
- ◆ Commitment to a research career
- ◆ Interest in Native health and culture

## Investigator Development Core



### Training Components

- ◆ “Introduction to Native Health”
- ◆ Pilot Studies
- ◆ Regular meetings
- ◆ Intensive and regular mentor interactions
- ◆ Secondary analyses of relevant data sets

## Investigator Development Core



- ◆ Relevant seminars and workshops
  - AAMC “Minority Faculty Career Development Seminar”
  - NIA “Summer Institute on Aging Research”
- ◆ Manuscript review by Scientific Journal Editor
- ◆ Mock Initial Review Group

# Investigator Development Core

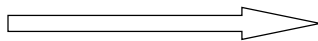


## Secondary Analyses of Relevant Data Sets

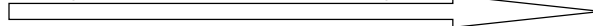
- ◆ Strong Heart Study
- ◆ SIHB Primary Care Survey
- ◆ AI-SUPERPPF
- ◆ Behavioral Risk Factor Surveillance System
- ◆ Health and Retirement Study

## Cycle of Program Activities

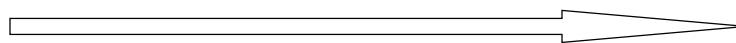
Secondary Data Analysis



Primary Data Collection Pilot Study



Manuscripts & Grant Preparation



Program Months

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

MRMC

NI NI NI NI NI NI NI NI NI NI NI NI  
 AP AP AP

MR=Mock MC = Minicourse NI = NI Meeting AP = Advisory Panel Meeting

## Outcomes



- ◆ 21 American Indian/Alaska Native MDs/PhDs trained in the 9 years to date
- ◆ 86% retained over 2-year training cycle
- ◆ 5 tenured at major research universities
- ◆ \$42 million in NIH grants
- ◆ 5 R01s; 3 K career awards; 4 Foundation research awards; 5 Diversity Supplements
- ◆ 108 peer-reviewed publications

## Keys to Success



- ◆ History of high quality, broad-based, relevant research
- ◆ Stable, active research program
- ◆ Strong institutional support and involvement
- ◆ Critical mass of experienced investigators from a wide range of disciplines
- ◆ Distributed, as opposed to centralized program

## Keys to Success



- ◆ **Indian and Native scientists as role models**
  - NIH R01-funded
  - well-published
  - experienced in mentoring
  - connected to, familiar with potential sponsors
  - in clear positions of leadership

## Keys to Success



- ◆ **Promote self-reflection, perspective-taking, and *constructive* criticism**
- ◆ **Ensure adequate scientific preparation in concrete, personally relevant terms**
- ◆ **Emphasize writing skills and maximize learning opportunities**

## Keys to Success



- ◆ Provide clarity and extensive structure regarding expectations linked to short- and long-term goals
- ◆ Stress deadlines, accountability, and inter-locked nature of effort
- ◆ Underscore efficiencies and time management
- ◆ Maximize group collaboration and co-teaching as well as co-learning

## Keys to Success



- ◆ Demystify grantsmanship process and teach to compete successfully
- ◆ Help to restructure threatening or discouraging circumstances as challenges and opportunities
- ◆ Recognize, address tensions among personal, professional, and social goals

## Keys to Success



- ◆ **Prepare for realities of community-based partnerships**
- ◆ **Offer strategies for outreach and dissemination of findings**
- ◆ **Communicate value of collaborating with other institutions**
- ◆ **Encourage advocacy through translation of findings into policy**

## Keys to Success



- ◆ **Being mentored is a life-long process**
- ◆ **Mentoring others is an obligation, a privilege, and a reward**