

# Addressing the Shortage of Native American Dental Providers

Through an Immersive Internship Experience for Native American Undergraduate Students, a five-year report.

Salamon, J; Middlebrooks, J; Deng, M\*; Ding, S\*; Longhouse, O\*; Telepko, M\*

\*these authors contributed equally to this work



## Abstract

Native American application to professional health care education severely lags behind that of other underrepresented minorities. Considering Dentistry alone, 11,180 students applied to dental school (DDS/DMD programs) last year; yet only 20 were Native American. The *Native American Pre-Dental Gateway Program* initiative between the University at Buffalo School of Dental Medicine and The Seneca Nation Health System has sought to reduce this alarming disparity by supporting Native American students to pursue careers in dentistry.

## Background

### Underrepresentation:

Native American students, including both American Indian and Alaska Native (AI/AN) students, are significantly underrepresented in higher education and post-graduate programs. In 2019-2020, only 24% of Native American students aged 18-24 were enrolled in college, as compared to 41% of the overall U.S. population. A significantly lower percentage (3%) of Native American students pursue postgraduate education, including a degree in dentistry. Of the 11,180 students who applied to dental school (DDS/DMD programs) in 2022, only 20 identify as AI/AN (Singh).

### Barriers:

A myriad of obstacles to pursuing post-graduate professional education among Native American students have been proposed. These include disproportionately high poverty levels, family demands, cultural differences, geographic isolation and limited access to the rigorous academic preparatory training for entry into health professional schools. These varied and complex factors all contribute to the gap in proper representation. For example:

- AI/AN dentists report higher amounts of educational debt
  - 2010 AI/AN dental graduates report 27,000.00 more student debt than non-native peers.
- More AI/AN persons live below federal poverty guidelines 2:1:
  - 27% of American Indian/Alaska Natives live below federal poverty standards compared to 14% of the general population
  - 36% of AI/AN reservation residents live below poverty guidelines.

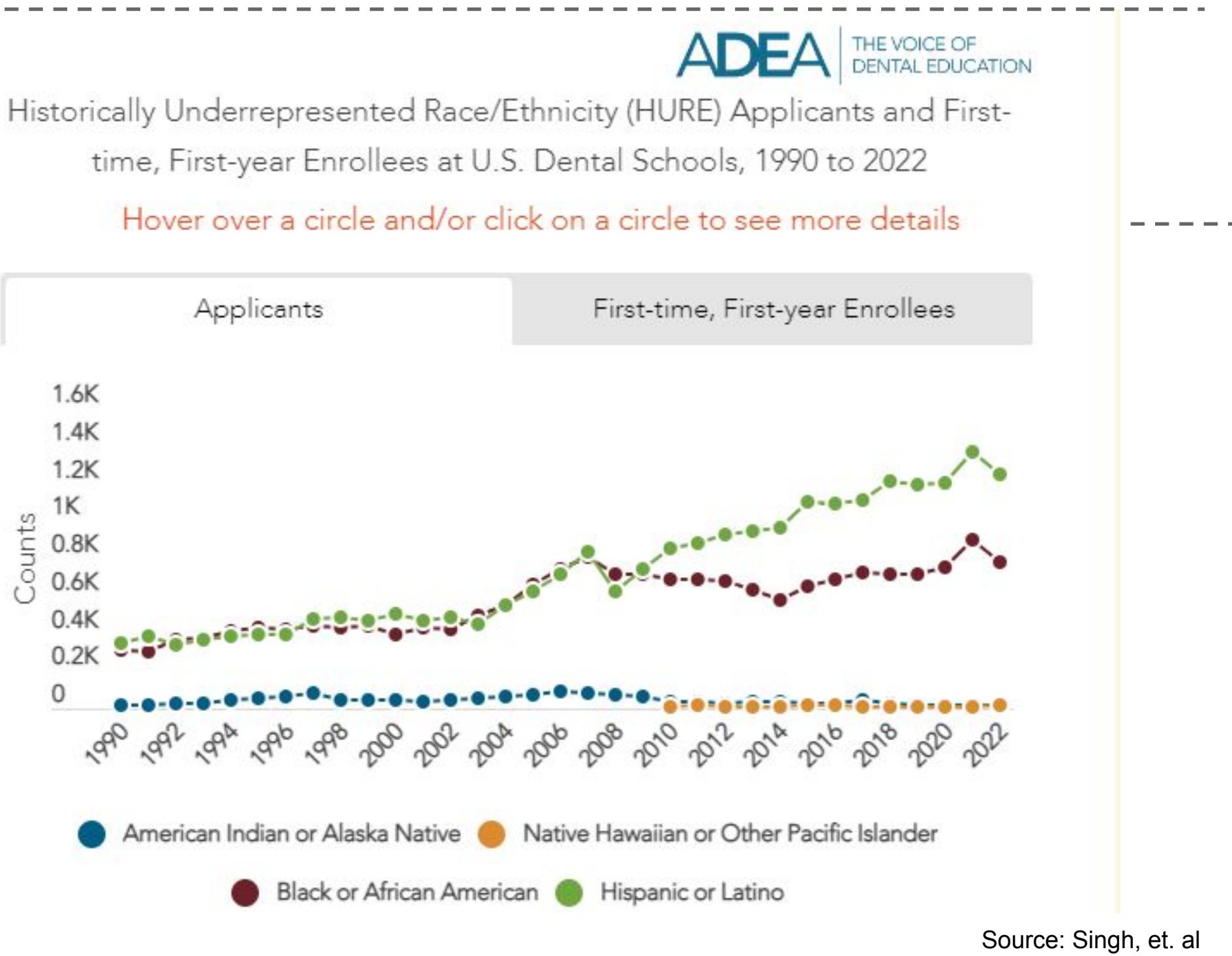
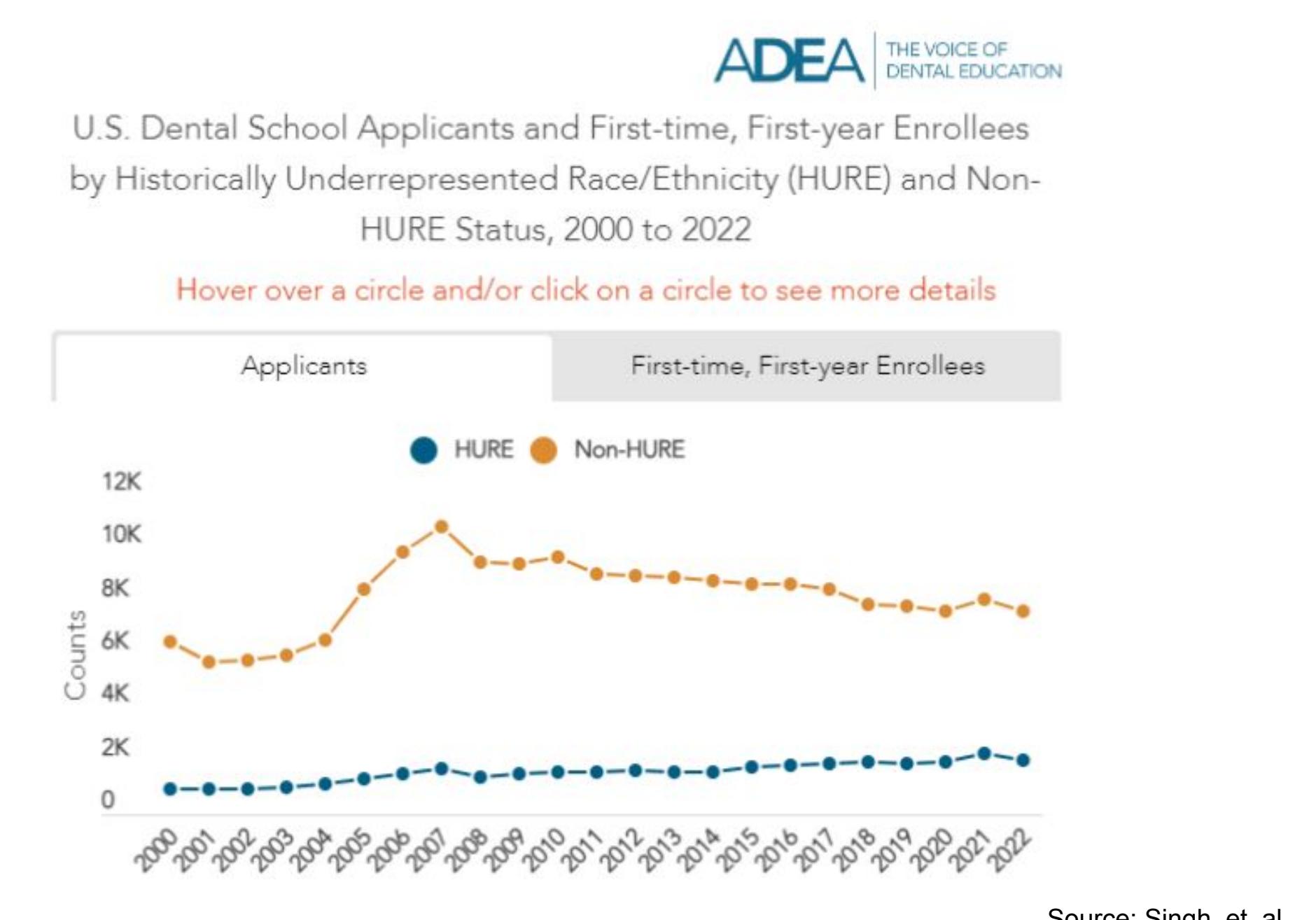
## Background continued

### Workforce impact:

The lack of workforce diversity in dentistry has been cited by the Surgeon General and the Institute of Medicine as a pressing problem. While the Native American population makes up 1.7 percent of the U.S. population, only 0.2 percent of the 190,800 active dentists in the United States in 2012 were Native American. The number of AI/AN dentists need to increase 7.4-fold to meet population parity.

### Disparate patient load:

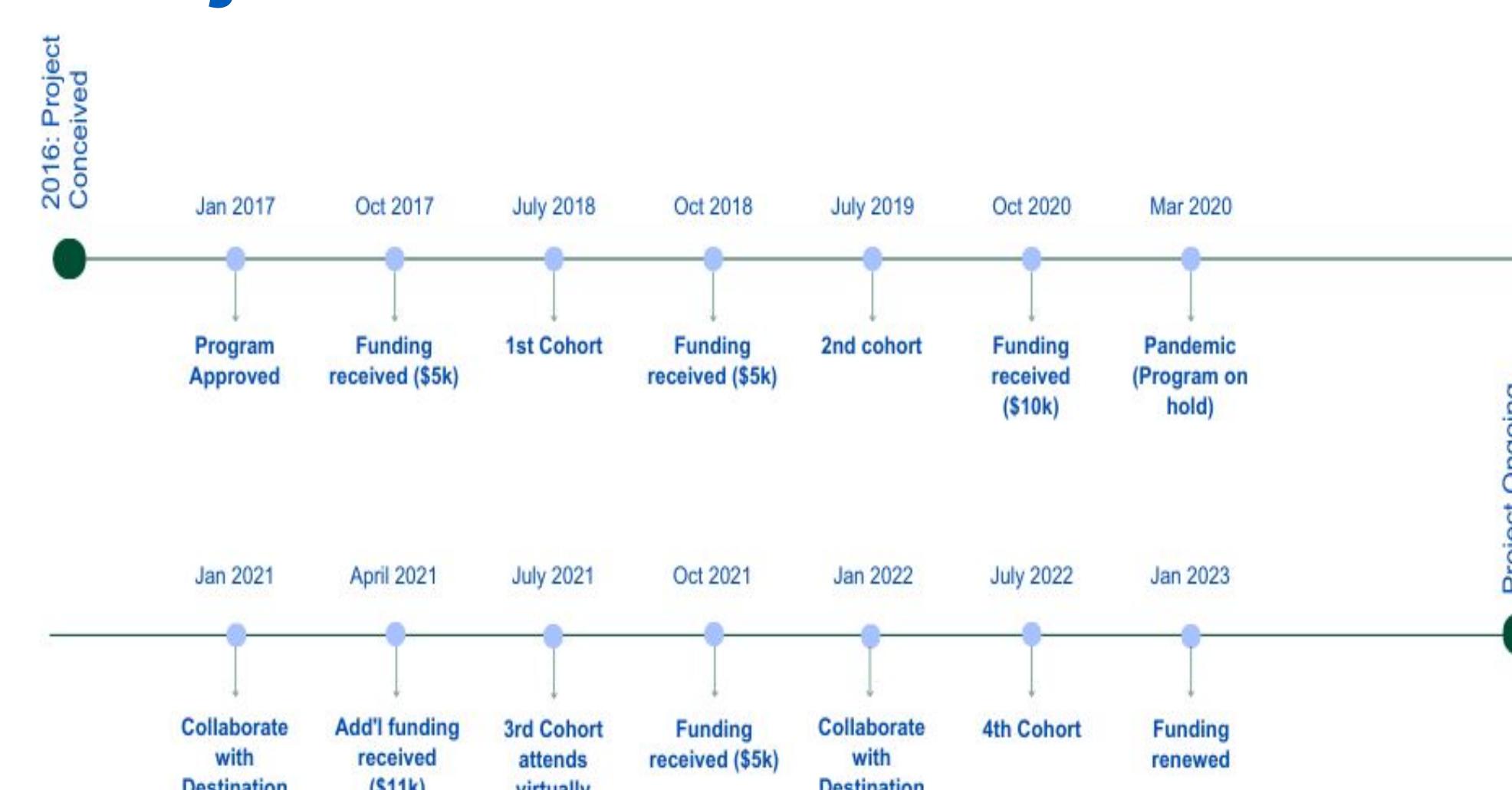
Despite the limited number of AI/AN dentists in the profession (0.2%), they are responsible for treating 20.4% of the AI/AN population, highlighting the importance of AI/AN dentists to address issues of access to care and achieving racial concordance within the AI/AN population. In turn, programs that seek to increase the number of AI/AN dentists in the workforce may address AI/AN health disparities.



## Applicants to Dental School 2007-2022

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
AIAN	79	77	66	38	39	24	36	40	29	29	42	23	16	22	19	20
URM	1724	1421	1527	1603	1625	1641	1624	1598	1803	1837	1893	1962	1939	1992	2298	2071
Non-URM	10851	9488	9444	9681	9061	9011	8938	8803	8696	8703	8491	7931	7833	7676	8100	7686

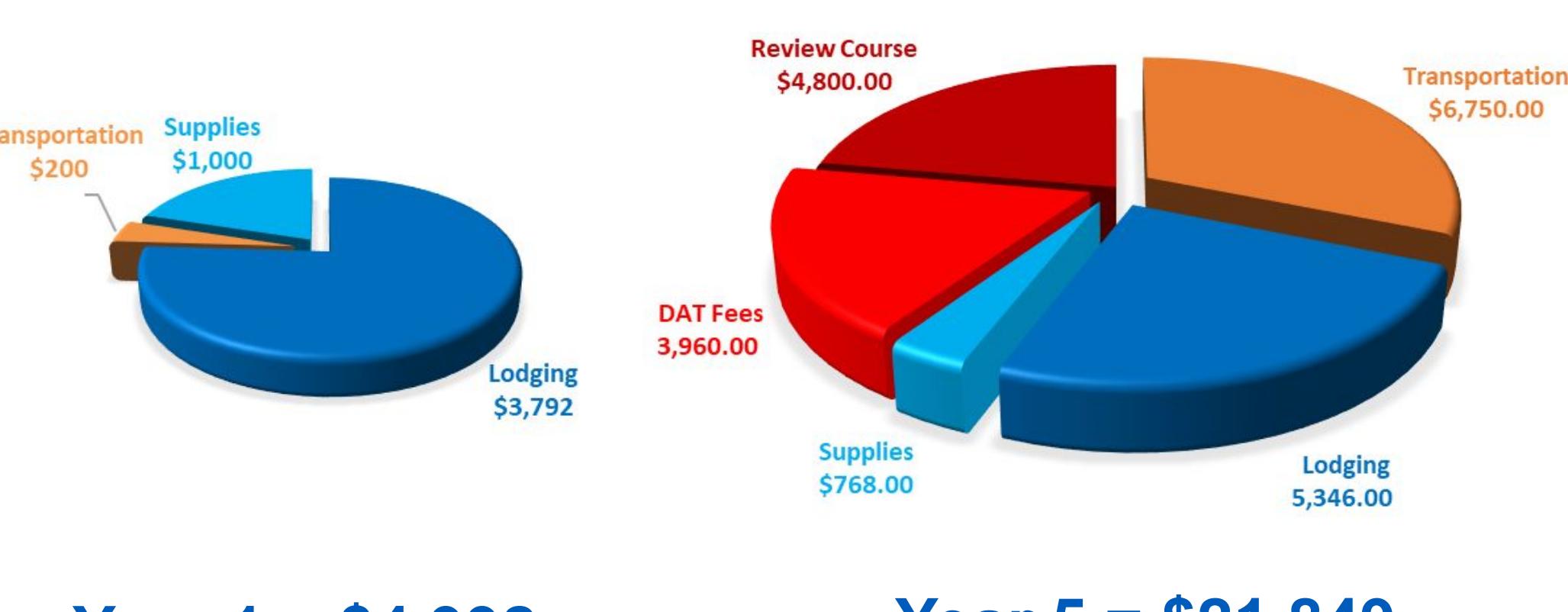
## Project Timeline



## Program Features

- 6 weeks of 2-hour virtual programming sessions
- 4 days of in-person programming at University at Buffalo
- Round trip travel to Buffalo, NY, meals, on-campus housing
- Hands on pre-clinical techniques (suturing, impressions, etc.)
- Pre-clinic laboratory procedures (restoration placement, etc.)
- Introduction to dental profession and dental specialties
- Financial Aid projections & Admissions counseling
- Career conversations with dental students and mentors
- Dental Admission Test (DAT) live review sessions
- Enrollment in 6-month learn-as-you-go DAT review course
- Reimbursement of DAT application fee

## Program Expenditures



## Results

2018 to 2022 there have been 16 total participants

2018 cohort: 0/3 participants enrolled in pre-doctoral studies

2019 cohort: 2/5 participants enrolled in pre-doctoral studies

2020 - 2021: No cohort during COVID-19 global pandemic

2022 cohort: 7/8 applications pending, 1 transfer to medicine

## Discussion

The importance of provider-patient racial concordance cannot be understated. Historical traumas faced by the Native American population have led to deep distrust of the healthcare profession. Higher levels of collaboration, treatment plan compliance, and overall satisfaction with visits have been reported when the provider and patient are race-concordant. Academic-community partnerships between institutions and Native American organizations facilitate inclusion and collaborative pre-professional programs to encourage increased application from AI/AN students. Funding for travel, prep-course & admission exams encouraged greater participation over project duration. Increasing the number of AI/AN dentists will not solve the access problem alone since many factors impact oral health, but it would be one measurable step toward reducing the vast disparities found in the AI/AN population. Authors recommend continued program development, data collection, analysis and research in this area.

Scan here for more information and the 2023 application



## References

- Weintraub, J. et al., 2015. Developing Capacity for the American Indian Health Professional Workforce: An Academic-Community Partnership in Spirit Lake, North Dakota. *Annals of Global Health*, 81(2), pp.283-289. DOI: <http://doi.org/10.1016/j.aogh.2015.03.009>
- Adelman, H. et al., 2013. Native American Students Going to and Staying in Postsecondary Education: An Intervention Perspective. *American Indian Culture and Research Journal*, 37(3), pp.29-56. DOI: 10.17953/aicr.37.01130638k210380
- Mertz, E. et al., 2017. The American Indian and Alaska Native Dentist Workforce in the United States. *Journal of Public Health Dentistry*, 77(2), 125-135. DOI: 10.1111/jphd.12186
- Singh, P, Lawton KB, Istrate EC. U.S. Dental School Applicants and Enrollees, 2022 Entering Class. Washington, DC: American Dental Education Association, April 2023. <https://www.adea.org/data/students/Applicants-2022-Entering-Class>

## Program Sponsors

