

# Impacts of Improving Gender Diversity in Dentistry

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# Acknowledgements and Disclaimer

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- **Oral Health Workforce Research Center (OHWRC)** is based at the **Center for Health Workforce Studies (CHWS)**, School of Public Health, UAlbany, State University of New York (SUNY), and is the only research center **uniquely focused on the oral health workforce**
- Acknowledge the support by the **Health Resources and Services Administration (HRSA)** and contributions of the **Health Policy Institute team** at the **American Dental Association (ADA)**
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- *The content and conclusions of this presentation are those of OHWRC and do not necessarily represent positions or policies of SUNY, HRSA, or ADA*

# Introduction

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- **The participation of females in higher-paying health professions has increased**
  - Currently, about 38% of physicians<sup>1</sup> and 36.7% of dentists<sup>2</sup> are female
- **Female participation will likely grow as the percentage of female graduates from medical (51.9%)<sup>3</sup> and dental (51.6%)<sup>4</sup> education programs increases**
- **While the reasons for gender diversification can be attributed to social and economic factors, the long-term impact of professional diversification is not yet well understood**

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## References:

1. Professionally active physicians by gender. Kaiser Family Foundation website. <https://www.kff.org/other/state-indicator/physicians-by-gender>
2. Supply of dentists in the US: 2001-2017. American Dental Association Health Policy Institute. April 2023.
3. Association of American Medical Colleges. FACTS Table B-2.2: Total Graduates by U.S. MD-Granting Medical School and Gender, 2018-2019 through 2022-2023. July 2023.
4. ADA Health Policy Institute, Commission on Dental Accreditation. *2021-22 Survey of Dental Education: Report 1: Academic Programs, Enrollment, and Graduates*. May 2022.

# OHWRC Research Studies

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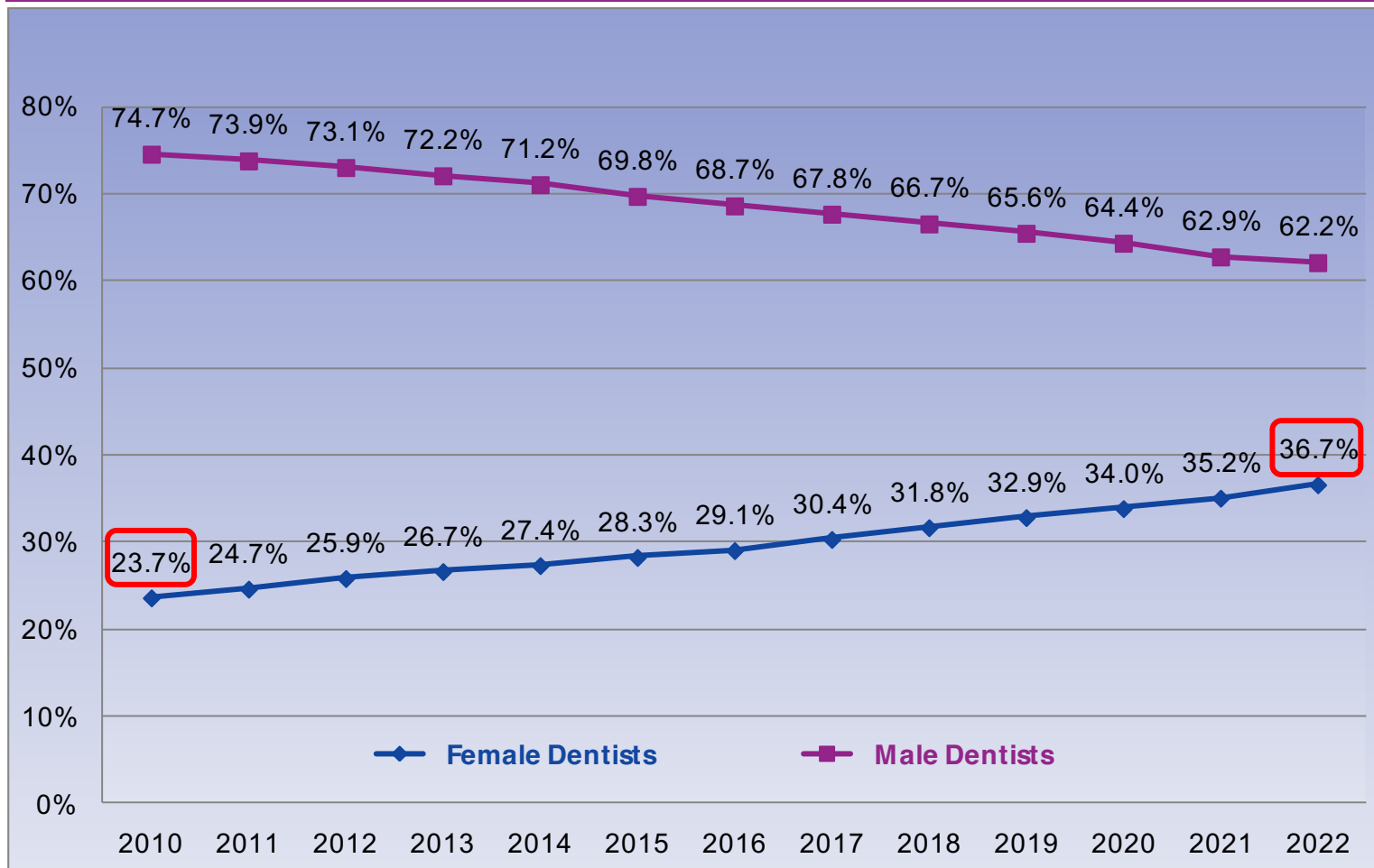
- [A National Study of the Practice Characteristics of Women in Dentistry and Potential Impacts on Access to Care for Underserved Communities](#) (Report)
  - Surdu S, Mertz E, Langelier M, Moore J. [Dental Workforce Trends: A National Study of Gender Diversity and Practice Patterns](#). *Med Care Res Rev; Health Workforce Supplement*. Published online August 28, 2020. doi: 10.1177/1077558720952667.
- [Evaluating the Impact of Dentists' Personal Characteristics on Workforce Participation](#) (Report)
  - Gundavarapu SS, Surdu S, Lagelier M. [Exploring the Impact of Household, Personal, and Employment Characteristics on Dentistry's Income Gap Between Men and Women](#). *JADA*. Published online January 5, 2023. doi: 10.1016/j.adj.2022.11.007.

# Women in Dentistry and Potential Impacts on Access to Care for Underserved Communities

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- **Study Aims:**
  - To evaluate characteristics of dental education and practice patterns
  - To identify differences by gender and discuss potential implications for the dental services delivery system
- **Data Sources:**
  - **American Dental Association (ADA) Masterfile:** A comprehensive database of all US dentists that includes demographics, dental specialty, year of graduation, dental school, and practice type and location (n=196,468 in 2016)
  - **ADA Annual Survey of Dental Practice:** A national representative survey of US dentists that collects information about the characteristics of private dental practices, dentists, and their patients (n=2,468 in 2016)

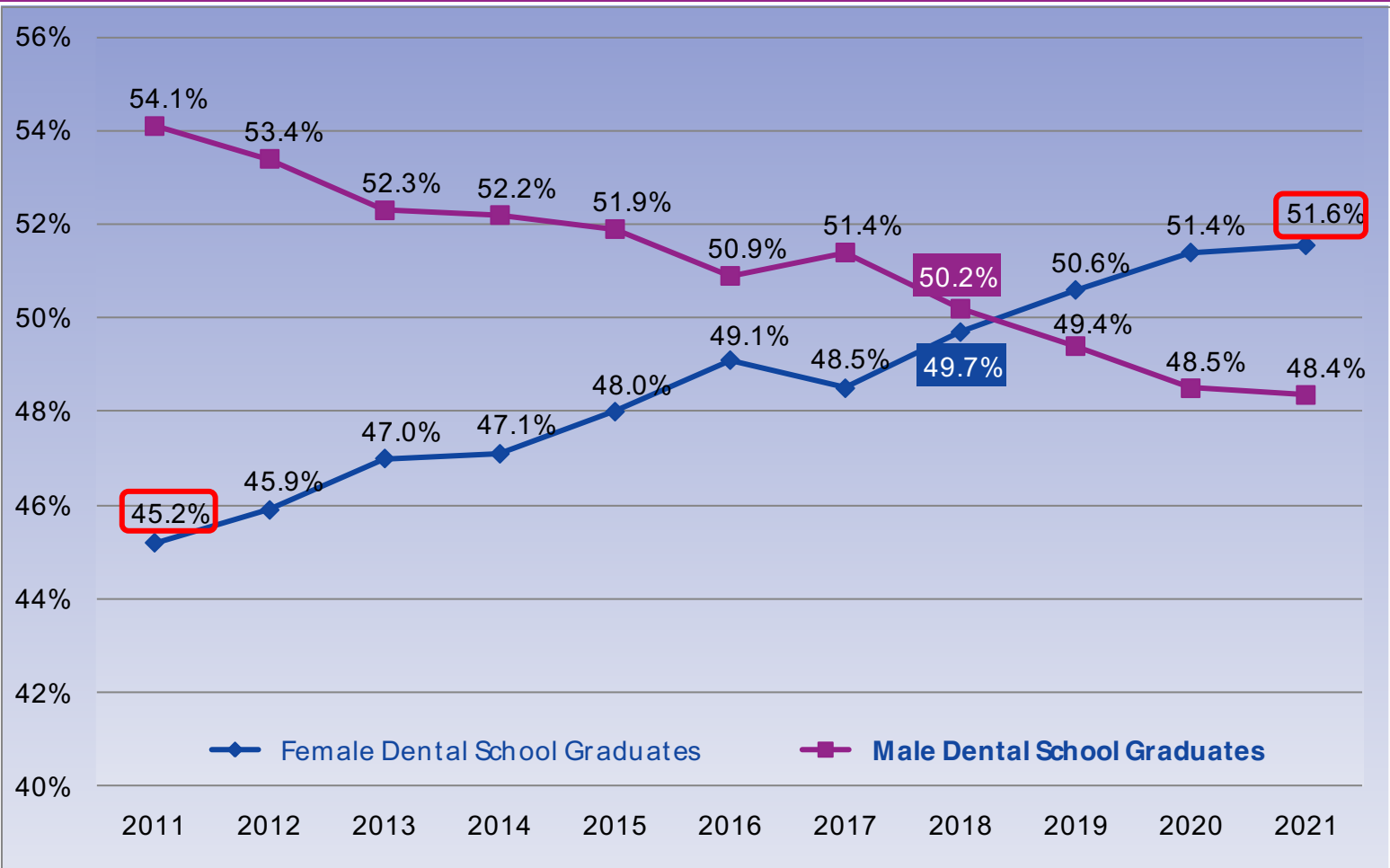
# Changes in Gender Diversity in Dental Workforce, 2010-2022



The proportion of female dentists increased from 24% (n=43,421) in 2010 to 37% (n=74,331) in 2022

Source: ADA Health Policy Institute, Masterfile, 2010-2022. Total n=202,536 (2022); gender unknown: <2.0%.

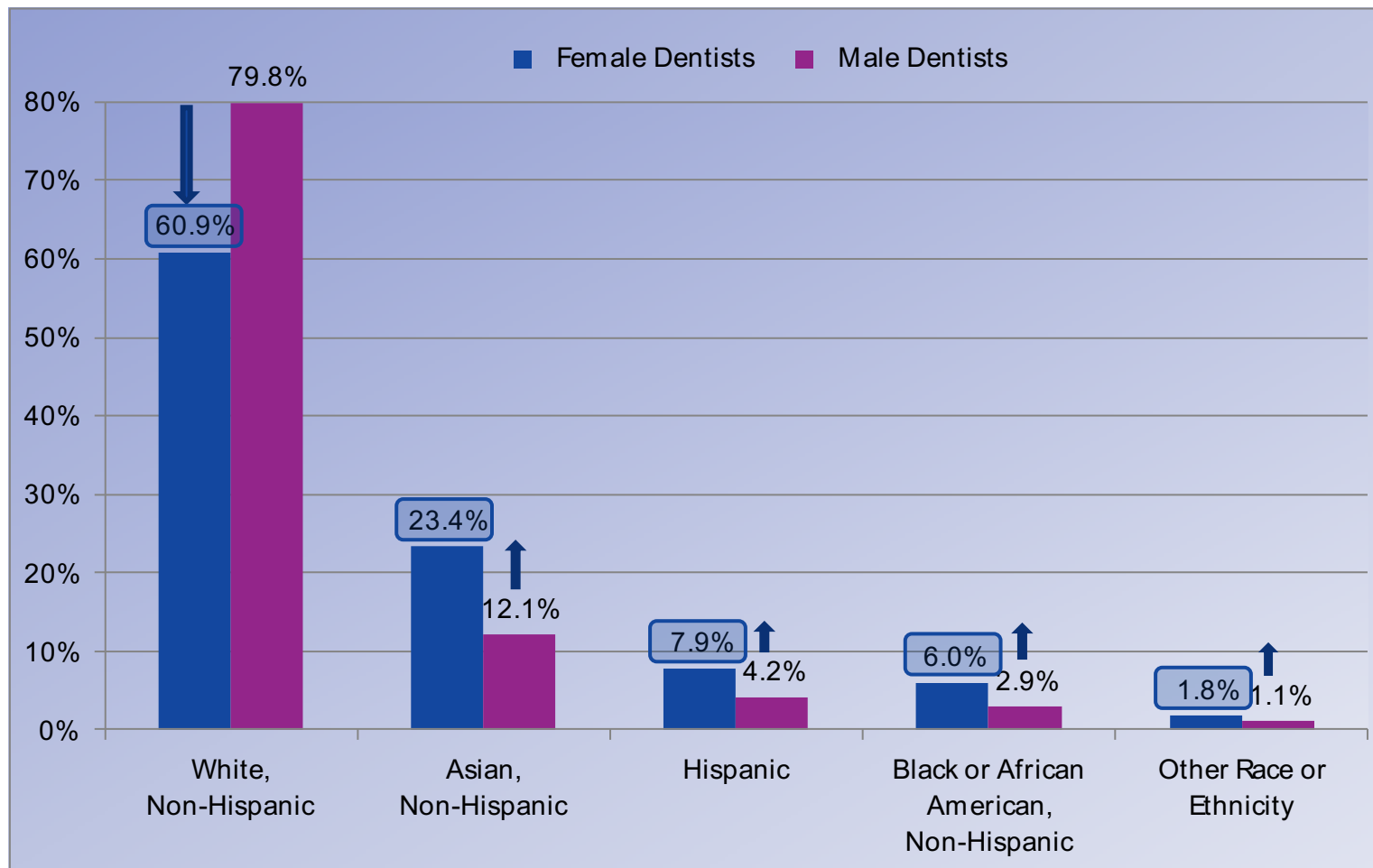
# Changes in Gender Diversity in Dental School Graduates, 2010-2022



The proportion of female graduates increased from 45% (n=2,308) in 2011 to 52% (n=3,436) in 2021, reaching parity in 2018 and surpassing male graduates in 2019

Source: ADA, Health Policy Institute, Surveys of Dental Education, 2011-2021. Total n=6,665 (2021); gender unknown: <1%.

# Race/Ethnicity Diversity of Dentists by Gender, 2016

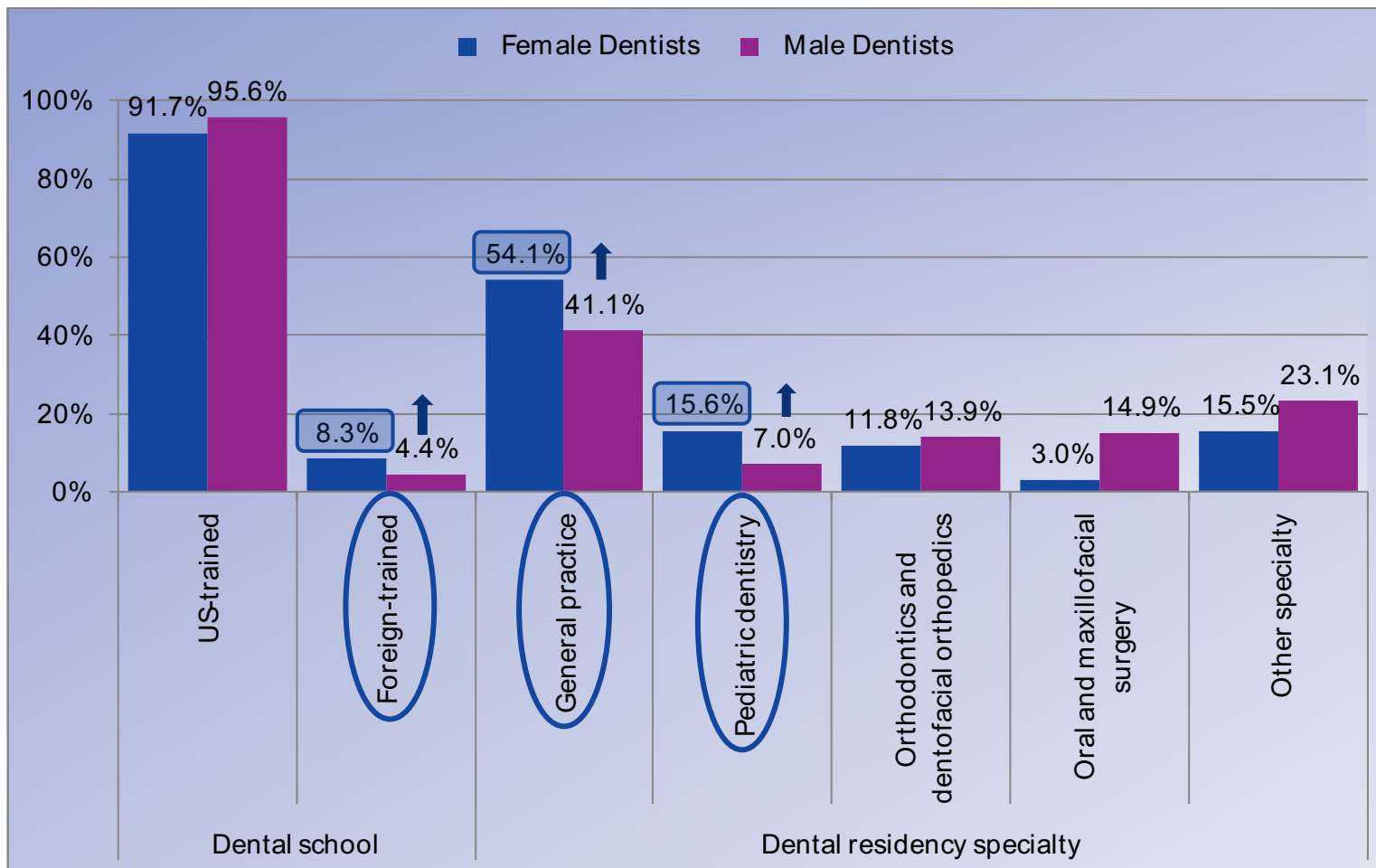


A higher proportion of female than male dentists were Asian, Hispanic, Black/African American, or of another race or ethnicity

Source: ADA Health Policy Institute, Masterfile, 2016. Total n=196,468; gender unknown: <1%.



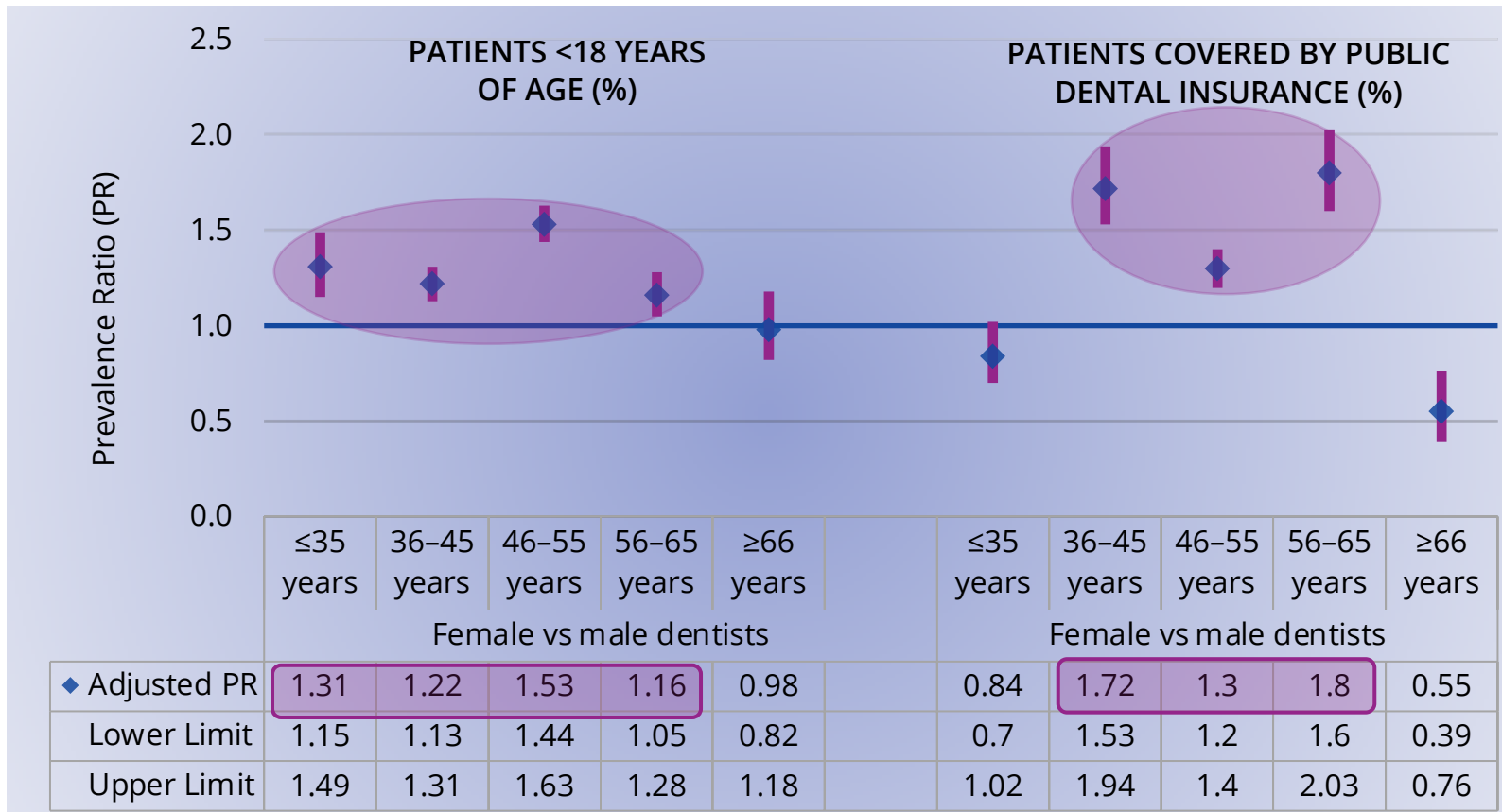
# Dental Professional Education and Training by Gender, 2016



Proportionally more female dentists were foreign-trained and completed a dental residency in general practice dentistry or pediatric dentistry than male dentists

Source: ADA Health Policy Institute, Masterfile, 2016. Total n=196,468; gender unknown: <1%.

# Provision of Dental Care by Dentists' Gender and Age, 2016



Female dentists were significantly more likely to provide dental services to children and patients covered by public dental insurance than male dentists

The multilevel Poisson regression model estimated the effect of gender by age, adjusting for dentists' race/ethnicity, location of training, residency, and specialty (individual level) and rurality of state in which the primary practice was located (state level). The effect of gender by age was statistically significant at  $P < .0001$ .

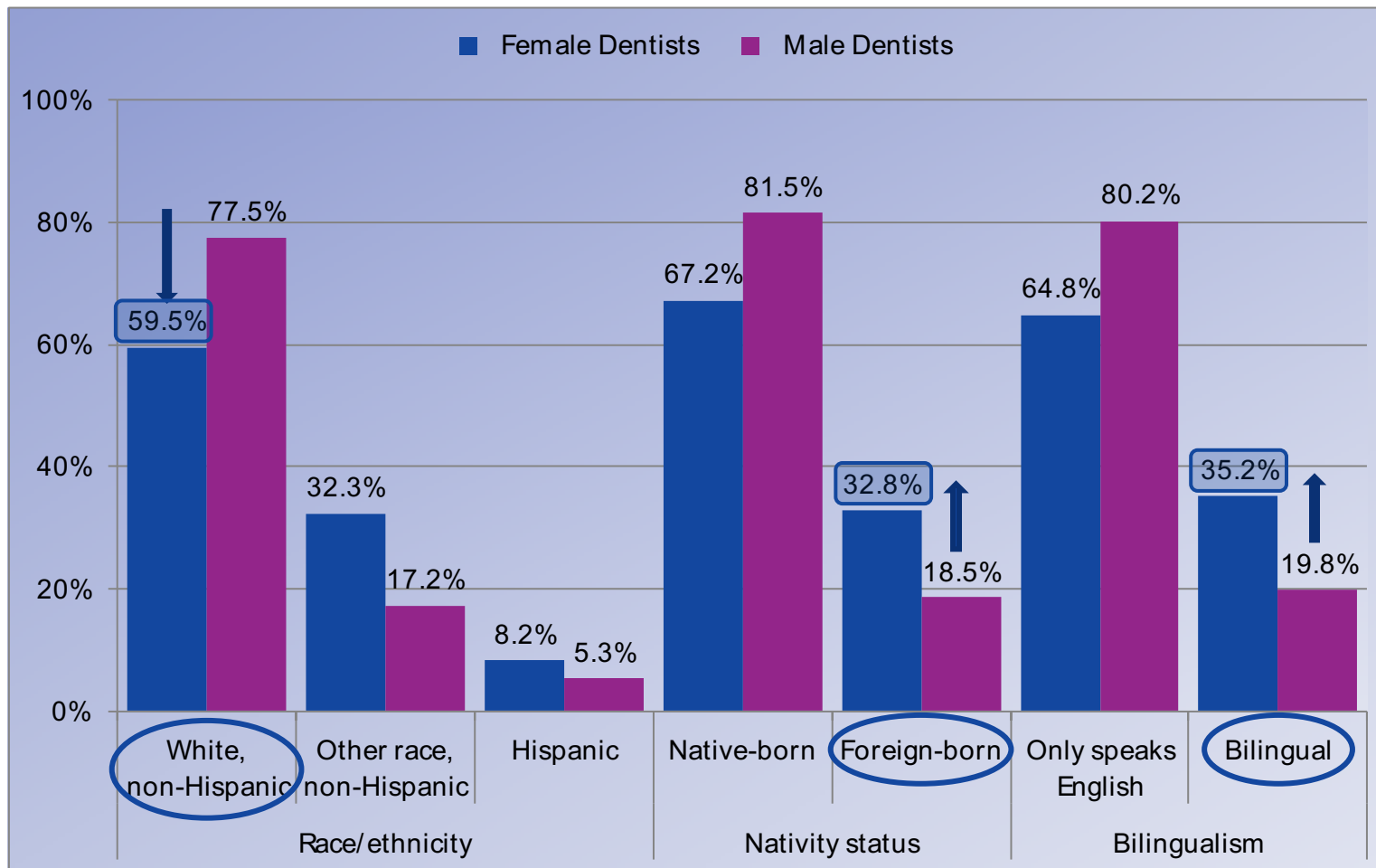
Source: ADA Health Policy Institute, Survey of Dental Practice, 2017 (containing dentists' responses pertaining to 2016).

# Income Gap Between Men and Women in Dentistry

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- **Study Aims:**
  - To provide an update on the income gap between men and women in dentistry
  - To evaluate the **impact of dentists' household, personal, and employment characteristics** on income differences
- **Data Source:**
  - **US Census Bureau's 5-year American Community Survey (ACS), 2014-2018** (n=143,671 dentists in the analytic sample)
  - Data were analyzed using **ordinary least squares (OLS) regressions** and **Oaxaca-Blinder regression decomposition** on logged personal income

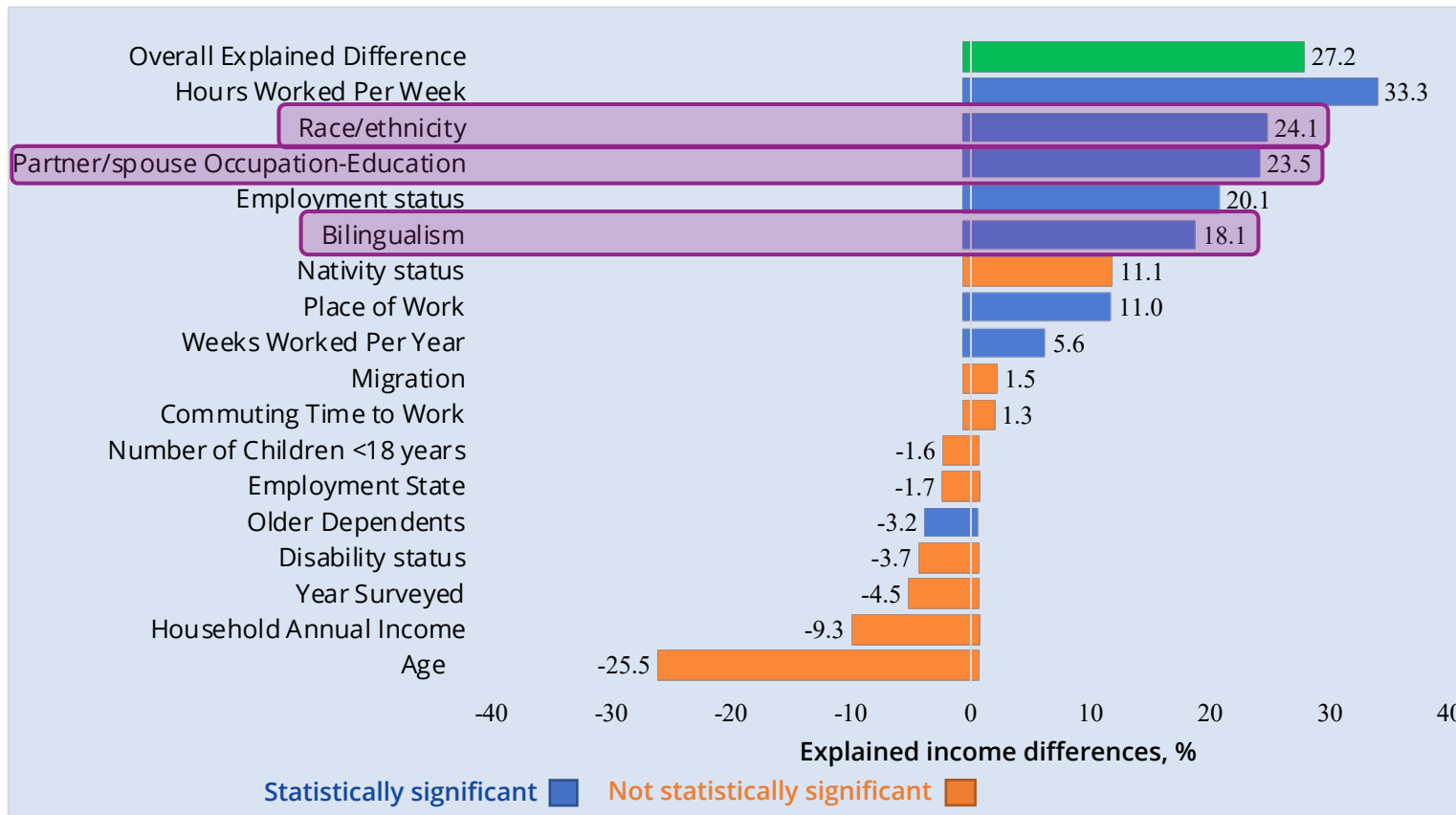
# Diversity of Dentists by Gender, 2014-2018



Female dentists were more likely to be racially/ethnically diverse, foreign born, and bilingual than male dentists, suggesting diversification by language and culture

Source: American Community Survey data, 2014-2018.

# Percentage of Income Gap Between Male and Female Dentists Explained by Their Characteristics, 2014-2018



Male dentists earned **22% more** than female dentists, adjusting for personal/work characteristics

Only about **27%** of the gender income gap was explained by differences in personal/work factors

White non-Hispanic race/ethnicity, having a partner/spouse, and not being bilingual were **personal factors** associated with higher income for male dentists

Source: American Community Survey data, 2014-2018.

Note: The percent of the gender income gap explained by dentists' characteristics was estimated using the Oaxaca-Blinder regression decomposition. The first bar shows the overall explained difference while the following bars show the percent of the explained gender income gap that each covariate accounts for.

# OHWRC Research Studies on Post-Graduate Trainees' Challenges and Opportunities

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- Mertz E, Bates T, Kottek A, Jura M, Werts M, Munson A. Practice Patterns of Postgraduate Trained Dentists in the United States. *J. Dent. Educ.* Published online September 27, 2022. Doi: 10.1002/jdd.13072.
  - Examines individual, educational, community, and policy factors that predict whether postgraduate trained dentists serve Medicaid children, accept new Medicaid patients, or work in FQHCs
- Bates T, Jura M, Werts M, Kottek A, Munson A, Vujicic M, Mertz E. Trends in Postgraduate Dental Training in the United States. *J. Dent. Educ.* Published online September 27, 2022. Doi: 10.1002/jdd.13073.
  - Examines individual, institutional, and policy factors that predict the pursuit of postgraduate dental training, which can influence access to care for underserved populations
- Banava S, Obadan-Udoh E, Mertz E. Dental Public Health Post-Graduate Trainees in the US: Experiences, Challenges, and Opportunities – A Qualitative Study. *J Pub Health Dent.* Published online September 25, 2021. Doi: 10.1111/jphd.12476.
  - Explores dental public health (DPH) post-graduate trainees' challenges and opportunities during their residency program in the US

# Conclusions and Implications

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- Our research found that the **growing percentage of women in the dental workforce** was accompanied by a **rise in racial/ethnic and cultural and language diversity**
- **Female dentists** were more likely to **serve publicly-insured patients** than male dentists
- A well-prepared, **diverse oral health professional workforce** will be needed to provide services to an increasingly diverse patient population
- Workforce pipeline research found that **more females are now graduating** from dental school than males, but it will still take several years to **achieve parity in the active dental workforce**

# Conclusions and Implications (Con't)

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- Our research indicated **persistence of a substantial income gap** between female and male dentists
- The **explained income gap** results from the interplay of **several personal and household factors** that combine to affect dentists' annual income in a variety of ways
- Both **explained & unexplained variations in income are concerning**, but the portion of the gap that is **explained by personal characteristics of dentists** is especially disquieting
- The **diversification** of the dental workforce is a promising, but it is important that **existing income gaps are addressed**



# Future Research

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- Trends in the diversification of the dental workforce should be evaluated over time so that *pipeline programs, policy advocates, and professional stakeholders* can be proactive in responding to **changes in practice patterns**
- Future research should also examine **innovative service delivery models** that have the potential to address the health care needs of the growing and aging US population, including:
  - **Integration** of primary care with oral health
  - **Expanding** scopes of practice
  - **New workforce** models (ie, dental therapists)
  - **Use** of mobile dentistry or teledentistry
  - **Providing** workforce incentives


# Thank You

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