

## ABSTRACT

**Objectives:** The objective of this study was to evaluate the differences by gender among dental professionals in service delivery, including perception of practice busyness, patient volume, and characteristics of patient population.

**Methods:** The study used data from the 2017 Survey of Dental Practice collected by the American Dental Association. The survey collected information about characteristics of dentists in private practice and their patients in 2016, the previous year of practice. The study analyzed gender differences in practice and service delivery using descriptive and multivariable statistical methods (Chi-Square test and multilevel Poisson regression models) in SAS v9.4.

**Results:** Among the 2,258 professionally active dentists in private practice who responded to the survey, 585 (25.8%) were female and 1,673 (74.1%) were male. Female dentists were significantly more likely to report being overworked or too busy to treat all patients (27.9% vs 23.5%,  $P=.0076$ ) and/or experiencing an increase in patient volume in the last year than male dentists (44.9% vs 31.1%,  $P=.0056$ ). In all age cohorts, but particularly among those 46-55 years of age, female dentists were more likely to provide care to patients aged <18 years (PRR=1.53, 95% CI=1.44-1.63) compared to male dentists. Similarly, in the 36-65 years cohorts and particularly in the 56-65 year-old cohort, female dentists were more likely than their male counterparts to treat patients covered by public insurance (PRR=1.80, 95% CI=1.60-2.03).

**Conclusions:** The study findings suggest that female dentists assume care for proportionally more young patients than male dentists and may work in practice settings with higher percentages of historically underserved patients.

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## INTRODUCTION

While there is discussion that the increasing gender diversity in dentistry will affect practice models, work hours, and the availability of specialty and general practice dentists or dentists in less populated areas, there is limited research that describes variation in characteristics of dental practice by gender.

The objective of this study was to evaluate the differences by gender among dental professionals in service delivery, including perception of practice busyness, patient volume, and characteristics of patient population.

## METHODS

Data Source: 2017 Survey of Dental Practice (SDP) collected by the American Dental Association (ADA)

- The survey is a nationally representative, random sample of professionally active licensed dentists in private practice, including general practitioners and specialists in the US.

Data Analysis:

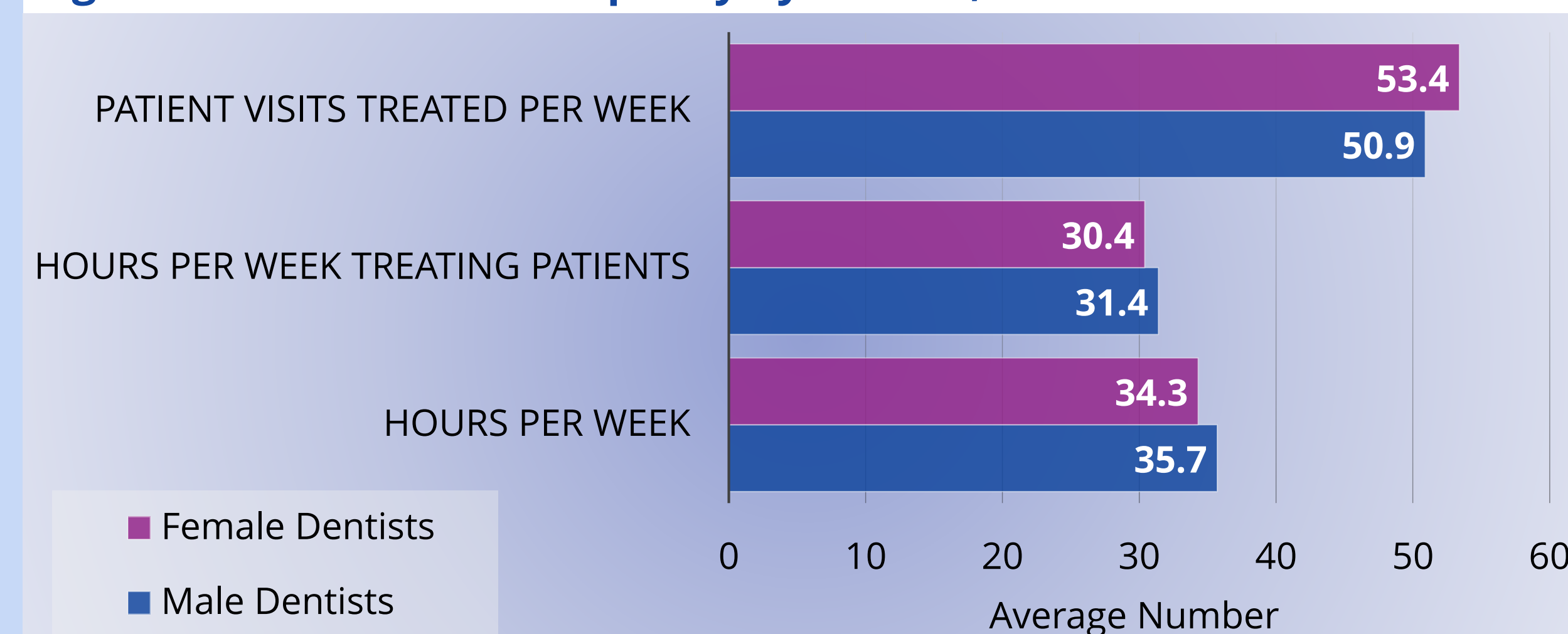
- Descriptive and multivariable statistical methods (Chi-Square test,  $t$  test, multilevel Poisson regression) were used to estimate differences in practice patterns between male and female dentists by age cohort, such as:
  - Work capacity (patient visits, work hours/week)
  - Patient volume change during the past year
  - Perception of practice busyness
  - Patient population by age and dental insurance
- Data analysis was also conducted for a subgroup of solo practitioners who were sole proprietors and the only dentists in the practice treating patients.
- Estimates were weighted to account for oversampling of specialists and potential nonresponse bias.
- All analyses were conducted in SAS v9.4. Study findings were considered statistically significant at  $P<.05$ .

## RESULTS

In 2016, among 2,258 active licensed dentists in private practice:

- Female dentists spent significantly fewer hours/week in the dental office and/or treating patients than male dentists.
- Female dentists reported more patient visits per week than male dentists, although the difference was not statistically significant.

Figure 1. Dentists' Work Capacity by Gender, 2016

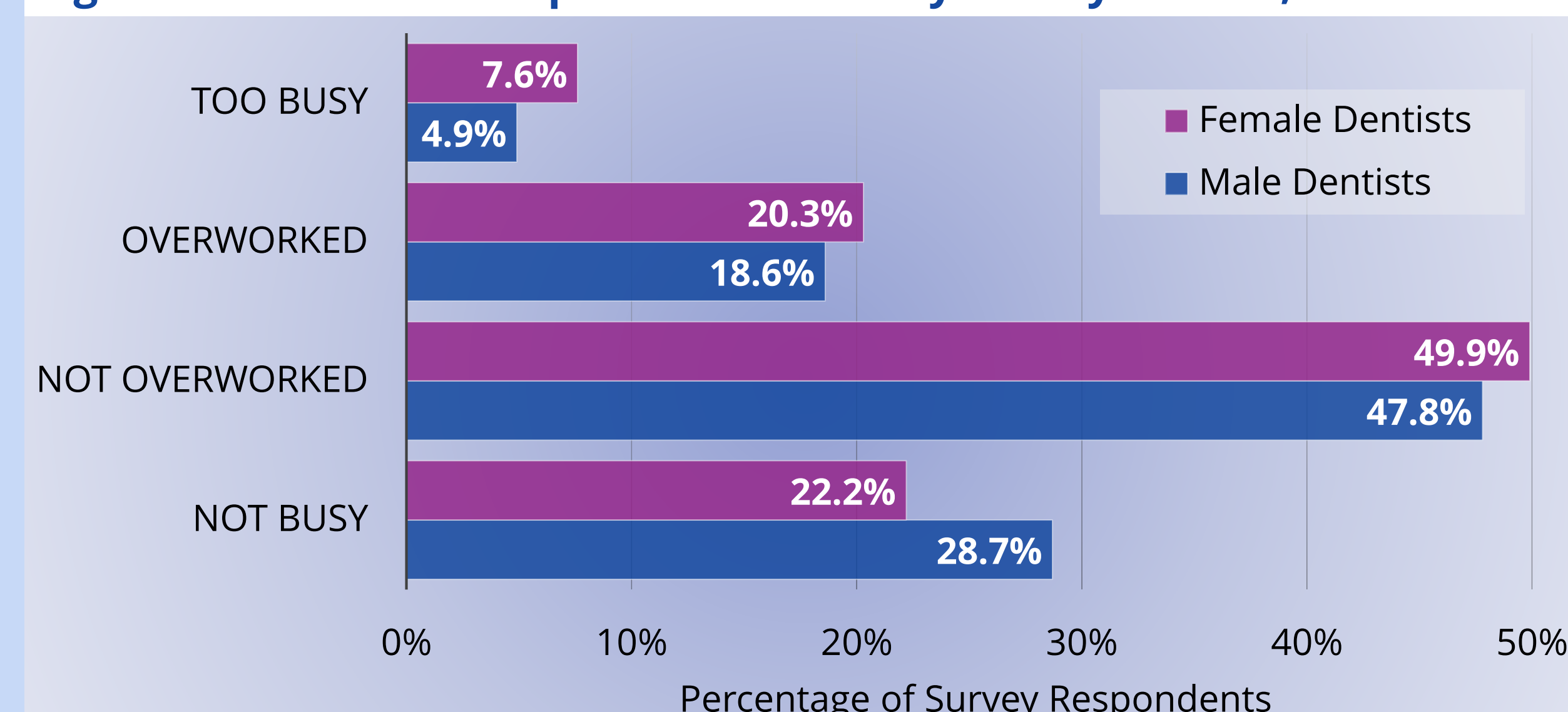


Gender differences were statistically significant at  $P<.05$ , except for the average number of patient visits treated per week. Source: ADA Health Policy Institute, Survey of Dental Practice, 2017.

## RESULTS (cont.)

- A significantly larger proportion of female dentists reported being too busy to treat all patients requesting care or providing care to all who requested but being overworked.

Figure 2. Dentists' Perception of Their Busyness by Gender, 2016

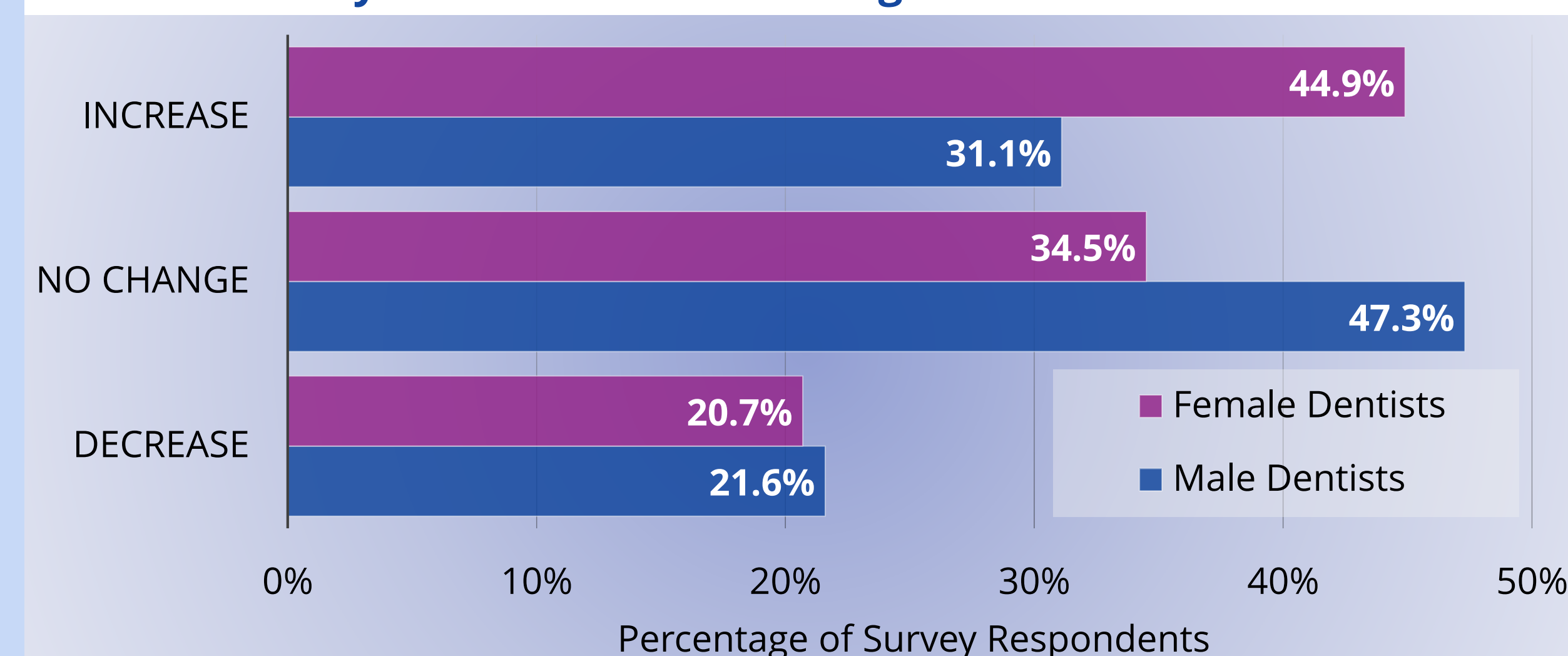


Dentists' perceptions of their level of busyness in the primary work setting were defined as follows: too busy to treat all people requesting appointments; provided care to all who requested appointments but was overworked; provided care to all who requested appointments but was not overworked; not busy enough, could have treated more patients. Gender difference was statistically significant at  $P=.0076$ . Source: ADA Health Policy Institute, Survey of Dental Practice, 2017.

Among a subset of 825 solo practitioners in private practice:

- A significantly larger proportion of female than male dentists reported an increase in their practice volume in the past year.

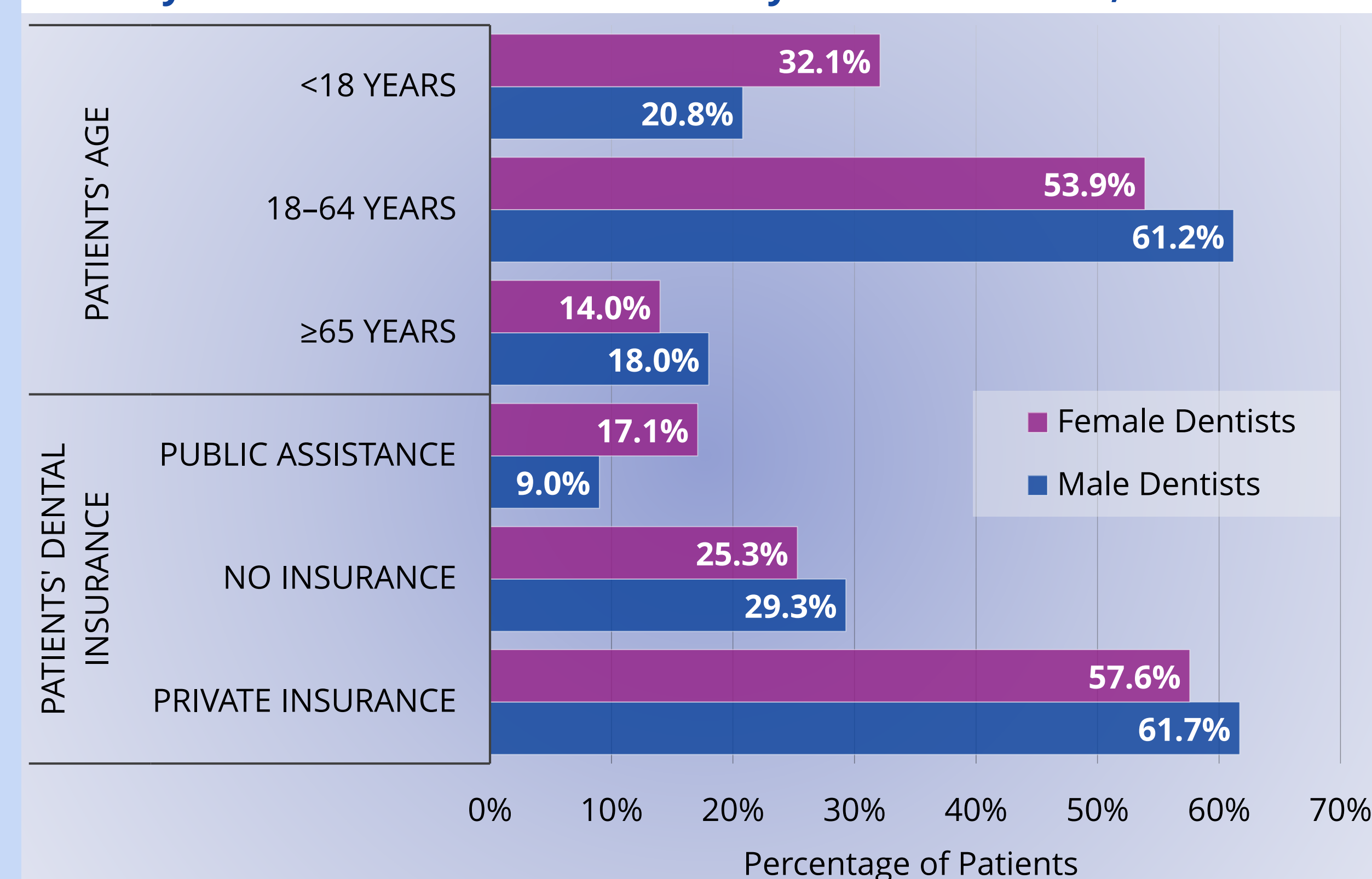
Figure 3. Change in Patient Volume in the Primary Practice of Solo Practitioners by Dentists' Gender During 2016



Gender difference was statistically significant at  $P=.0056$ . Source: ADA Health Policy Institute, Survey of Dental Practice, 2017.

- A significantly higher percentage of female dentists' patients were <18 years of age and/or covered by public dental insurance.

Figure 4. Distribution of Patients' Age and Insurance Coverage in the Primary Practice of Solo Practitioners by Dentists' Gender, 2016

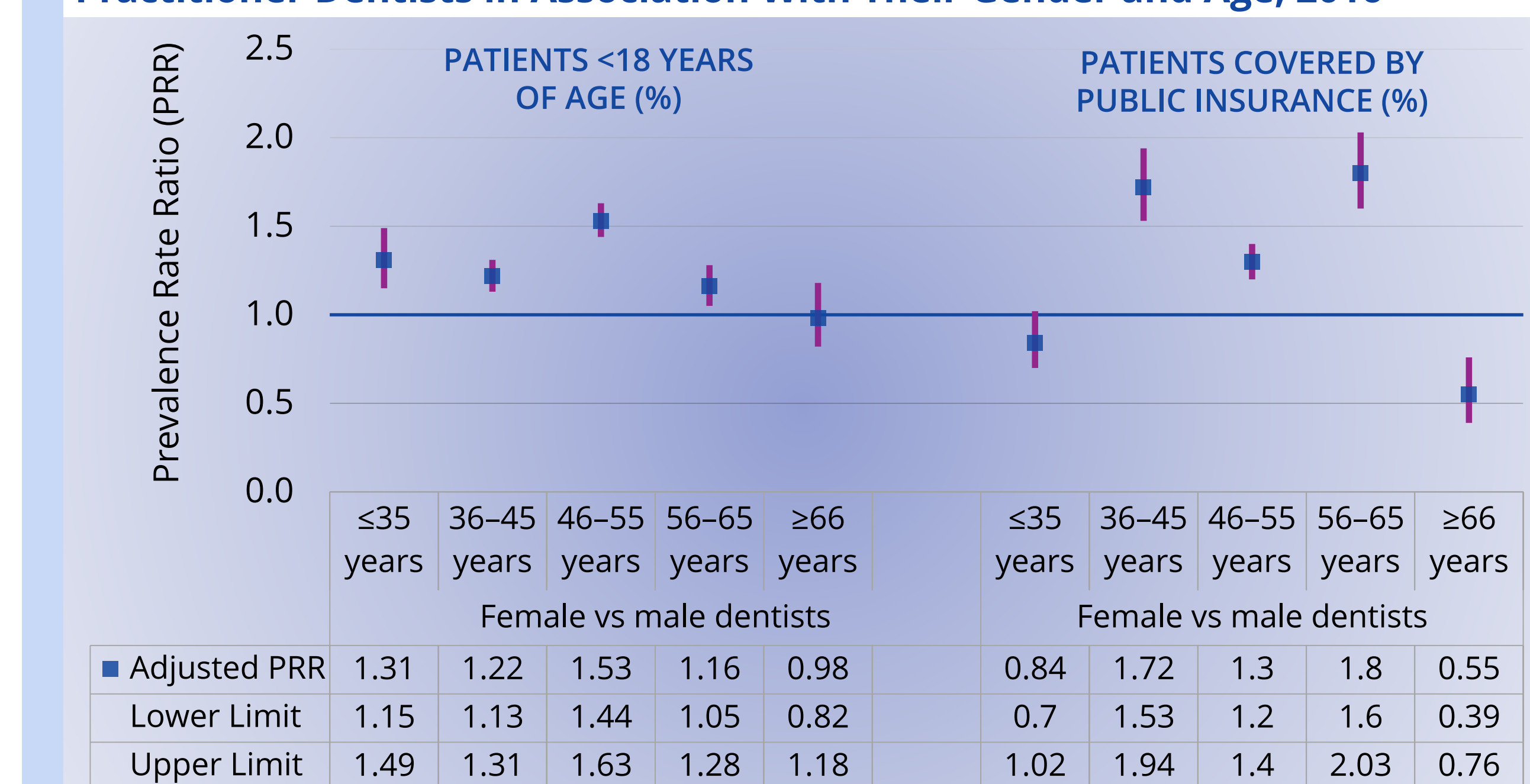


All gender differences were statistically significant at  $P<.05$ , except for the distribution of patients with private insurance. Source: ADA Health Policy Institute, Survey of Dental Practice, 2017.

## RESULTS (cont.)

- Female solo practitioners were significantly more likely to provide dental services to children (<18 years) compared with male dentists in all age cohorts ≤65 years.
- The likelihood of female dentists treating children in comparison with male dentists was highest among those 46-55 years of age.
- Female solo practitioners were significantly more likely to provide dental services to patients covered by public dental insurance compared with male dentists in the age cohorts 36-65 years.
- The likelihood of female dentists treating patients covered by public insurance was nearly 2 times higher than male dentists among those 56-65 years of age.

Figure 5. Adjusted Prevalence Rate Ratios of Percentage of Patients Less Than 18 Years of Age and/or Covered by Public Insurance Among Solo Practitioner Dentists in Association With Their Gender and Age, 2016



The multilevel Poisson regression model estimated the effect of gender by age, adjusting for dentists' race/ethnicity, location of training, residency, and specialty (Level 2) and rurality of state in which the primary practice was located (Level 1). The interaction term (gender × age) was statistically significant at  $P<.0001$ . Source: ADA Health Policy Institute, Survey of Dental Practice, 2017.

## CONCLUSIONS

- Findings suggest that female dentists are more likely to assume care for younger patients than male dentists and may work in practice settings with higher percentages of historically underserved patients.
- Many factors, including generational differences, will continue to affect the practice configurations in dentistry. It is important to continually monitor the workforce in order to ensure the adequate supply and appropriate distribution of dental professionals to meet the needs of the growing, aging, and changing US population.
- 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, especially those related to the geography of dental practices.

## ACKNOWLEDGMENTS

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