Impact Of Gender Diversification In Dentistry On Dental Services Delivery

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• Co-authors: Margaret Langelier, MSHSA, Nubia Goodwin, MPH, and Yuhao Li, MPA
• The content and conclusions of this presentation are those of OHWRC and do not necessarily represent positions or policies of the HRSA, SUNY, or ADA.

Introduction

• The participation of females in higher paying health professions has increased. Currently, approximately 50% of veterinarians are female; 35% of physicians are female, and 31% of dentists are female.
• Female participation in these professions will likely grow as the percentage of female graduates from medical (47.3% in 2017) and dental (46.3% in 2017) education programs either stabilize at current levels or continue to increase and as many older, predominately male professionals depart the workforce.
• While the reasons for gender diversification can be attributed to societal and economic factors, including emerging workforce shortages in health care professions and changes in the business models for health services delivery, the long-term impact of professional diversification is not yet well understood.

Methods: Data Source

• The current research used data from the ADA’s annual Survey of Dental Practice (SDP) conducted in 2017.
• The survey is a nationally representative, random sample of professionally active licensed dentists in private practice regardless of membership status in the ADA, including general practitioners and specialists in the US.
• The 2017 SDP consisted of 24 questions about characteristics of private dental practices and of dentists and their patients in the year preceding survey completion (2016).

Methods: Statistical Analyses

• 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:
  o Work capacity (patient visits, work hours)
  o Perception of practice busyness
  o Patient volume change during the past year
  o 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.
• Survey estimates were weighted to account for oversampling of specialists and potential nonresponse bias.
• All analyses were conducted in SAS v9.4. Results were considered statistically significant at P<.05.
Key Findings

2017 Survey of Dental Practice (SDP)
- The data from the 2017 SDP were provided by 2,258 professionally active dentists in private practice with information on gender:
  - 585 (25.9%) female dentists
  - 1,673 (74.1%) male dentists

![Figure 1. Dentists' Age by Gender, 2016](image1.png)

**Figure 1. Dentists' Age by Gender, 2016**
- Male dentists are younger than their female colleagues.
- In 2016, more than half of female dentists (56%) were age 45 or under, while the vast majority of male dentists (70%) were age 46 or older.

![Figure 2. Dentists' Practice Characteristics by Gender, 2016](image2.png)

**Figure 2. Dentists' Practice Characteristics by Gender, 2016**
- The majority of female and male dentists worked as general practitioners and owned their practice.
- However, a statistically significant larger proportion of female dentists worked as pediatric dentists and/or as independent contractors than male dentists.

![Figure 3. Dentists' Work Capacity by Gender, 2016](image3.png)

**Figure 3. Dentists' Work Capacity by Gender, 2016**
- South Dakota Dental Practice (SDP) survey data provided by 2,258 professionally active dentists in private practice with information on gender:
  - 585 (25.9%) female dentists
  - 1,673 (74.1%) male dentists

![Figure 4. Dentists' Perception of Their Level of Busyness by Gender, 2016](image4.png)

**Figure 4. Dentists' Perception of Their Level of Busyness by Gender, 2016**
- 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 than male dentists.

![Figure 5. Change in Patient Volume in the Primary Practice of Solo Practitioners by Dentists' Gender, 2016](image5.png)

**Figure 5. Change in Patient Volume in the Primary Practice of Solo Practitioners by Dentists' Gender, 2016**
- Among a subset of 825 solo practitioners in private practice:
  - A significantly larger proportion of female dentists than male dentists reported an increase in their practice volume in the past year.
Conclusions and Implications

- Study findings suggest that female dentists are more likely to provide care for younger patients than male dentists and may work in practice settings with higher percentages of historically underserved patients.
- 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.
- Innovative service delivery models, such as integration of primary care with oral health, expanding scopes of practice for other dental professionals, use of mobile dentistry or teledentistry, and providing workforce incentives can be considered when addressing the health care needs of the growing and aging US population.

Study Limitations and Future Research

- Study Limitations:
  - The relatively small sample size is a potential limitation that may have an impact on the statistical power generalizability of the study findings.
  - A possible survey nonresponse bias related to dentists’ characteristics (such as age, general practitioner or specialist status, ADA membership status, and geography) was addressed by weighting the study estimates.
  - Another potential limitation is the recall bias; however, it is unlikely that there were systematic differences in completeness/accuracy of information reported by gender.
  - Lastly, the cross-sectional study design does not allow the assessment of causal relations.
- Future Research:
  - To investigate the influence of some other important factors not collected in the SDP such as marital status, household annual income, number and age of children, and workplace flexibility on differences in practice patterns by gender among dentists.

Thank You

Questions?

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