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**Issue Brief**  
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**Changes in Iowa  
Dentist Workforce  
Composition,  
1997-2013**

**First Brief in a Series**

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## Background

The U.S. health care system has undergone numerous changes in recent years, and as a result, access to care is a key priority. Access to care is influenced by many factors which relate to both the availability (supply) and public need (demand) for care. This issue brief series focuses on supply-related factors and how they may impact access to dental care in the state of Iowa, including the size and capacity of the dental professions workforce. Numerous influences to the dentist workforce supply have been identified, including the age and sex of dental practitioners, practice location, size of the community where the dentist was born, race/ethnicity, and family factors.<sup>1-4</sup>

Trends in age and sex of the dentist workforce have raised concerns about a potential dentist shortage in the near future. Concerns stem from a large number of dentists nearing retirement age and a growing trend of younger dentists and female dentists choosing to work part-time. Recent studies from the American Dental Association (ADA) and from the Health Resources and Services Administration (HRSA) predict an increase in the number of dentists entering the field in the next decade.<sup>5,6</sup> However, HRSA further predicts that this increase will not keep up with anticipated demand and that all 50 states will experience dentist shortages to varying degrees.

The aim of this issue brief series is to examine dentist workforce supply trends in the state of Iowa in order to anticipate potential shortages that could impact access to dental care. This brief describes shifts in Iowa's dentist workforce and characteristics since 1997, including age, sex, dental school attended, and birth state.

## Approach

The Iowa Dentist Tracking System (IDTS) is the primary source of data for this issue brief series. The IDTS is part of the University of Iowa's Office of Statewide Clinical Education Programs, which tracks state workforce information for five health professions: physicians, pharmacists, dentists, physician assistants, and advanced practice nurses. The dentist tracking system was established in 1997. Since then, all dentists actively practicing in Iowa have been contacted every six months to update information regarding individual and practice characteristics.<sup>7</sup> In this series, the term "active dentist" refers to those who are currently practicing in the state.

## Results

### Growth in Dentist Workforce Supply

Increases in the number of dentists are occurring at a lower rate in Iowa than they are nationally. From 1997-2013, the total number of active dentists in Iowa increased by 8% (1,446 to 1,557), while the number of active dentists in private practice increased 4% (1,343 to 1,400). At the national level, however, the number of private practice dentists increased by 21% in roughly the same timeframe (147,778 in 1997 to 178,136 in 2011).<sup>8</sup>

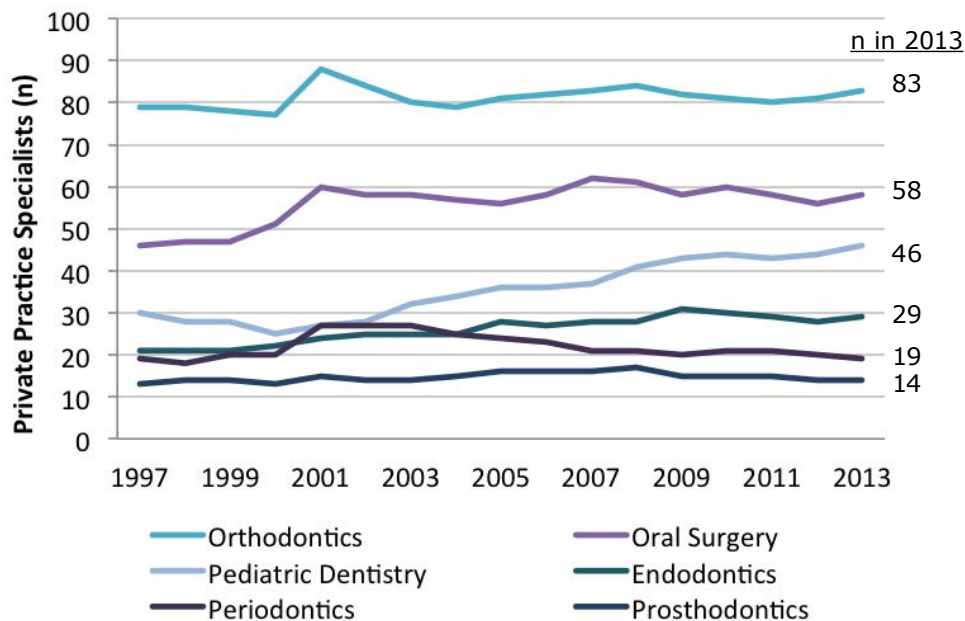
The national HRSA projections suggest a potential nationwide increase of 11,800 full-time equivalent (FTE) dentists by 2025, or 6%. However, projections for Iowa suggest a 15% decrease in the dental workforce in the same timeframe.<sup>5</sup> The exact reason for this is unclear, but it is likely due, in part, to a combination of more dentists working part-time and an aging dentist workforce.

From 1997-2013, the number of Iowa dental specialists (e.g., endodontists, periodontists, etc.) has increased at a higher rate than for general practice (GP) dentists in the state, but for both groups the increase is considerably smaller

compared to nationwide increases. The total number of private practitioners in the six most common specialties (listed in Exhibit 1) has increased by 20% (208 to 249), whereas the number of GP's in private practice increased by 4% (1135 to 1185). At a national level, the total supply of practitioners in these six specialties (including those not in private practice) has increased by 24% from 1997-2011, and the supply of GP's has increased by 19%.<sup>8</sup>

The number of dental specialists in private practice in Iowa has increased for all specialties except periodontics and prosthodontics, while pediatric dentistry has seen the largest increase (Exhibit 1). National workforce data show a similar trend, with the pediatric dentistry workforce growing the most (71% increase from 1997-2011) and prosthodontics growing at the lowest rate (6% increase).

**Exhibit 1. Dental Specialists in Private Practice in Iowa, 1997-2013**



*Since 1997, the proportion of Iowa dentists aged 55 and older has almost doubled.*

Source: Iowa Health Professions Tracking Center, Office of Statewide Clinical Education Programs, UI Carver College of Medicine.

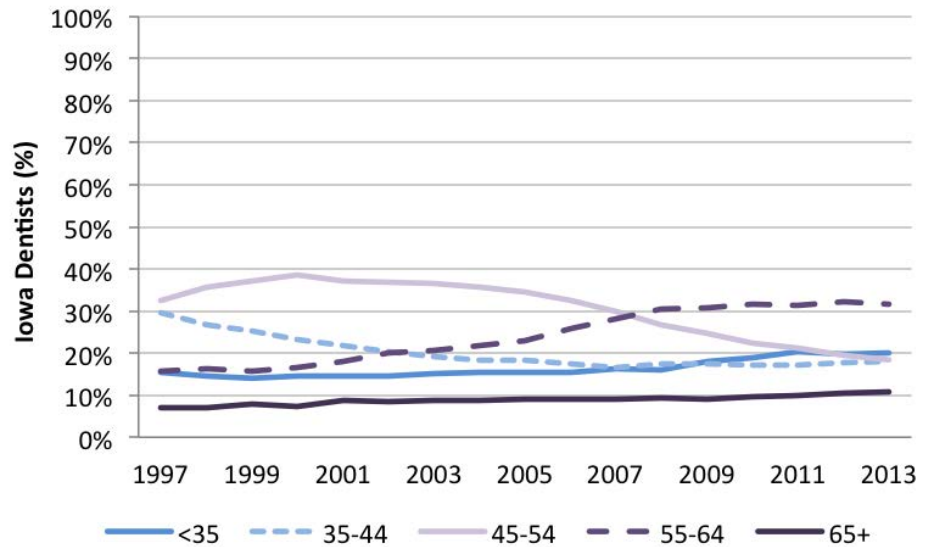
## Aging of Dentist Workforce

The average age of dentists in Iowa is slowly and steadily rising. From 1997-2013, the mean age of Iowa dentists increased from 47 to 50. The proportion of Iowa dentists aged 55 and older has almost doubled – from 23% to 42% – and the proportion aged 35-54 has decreased by 26% – from 62% to 36% (Exhibit 2). This trend is occurring nationally as well; from 1997-2011, the proportion of U.S. active dentists aged 55 or older increased from 24% to 42%, and those in the age category of 35-54 decreased from 61% to 45%.<sup>8</sup> The effect of this aging dentist workforce may be impacted by the fact that some studies show that currently, older dentists are delaying retirement and working longer than in past years.<sup>6,9</sup>

The proportion of dentists under age 35 in Iowa has increased as well, albeit less so than the older age groups (Exhibit 2). Nationwide, the proportion in the under-35 age group has stayed relatively constant from 1997-2011.<sup>8</sup> ADA projections for the national dental workforce suggest that this proportion will increase in the coming decades as a result of several new dental schools opening across the country.<sup>6</sup> However, this increase is likely to vary by region, and it is unclear how this projected supply of new dental graduates will impact the dental workforce in Iowa.

An increasing proportion of younger dentists could impact practice patterns of Iowa's future dentist workforce. Studies of younger dentists have found that they are far less likely to own their own practice compared to older dentists, as well as compared to younger dentists in previous years.<sup>10</sup> This could lead to an increasing proportion of dentists who practice in group-based or corporate settings.

**Exhibit 2. Iowa Dentists by Age, 1997-2013**



Source: Iowa Health Professions Tracking Center, Office of Statewide Clinical Education Programs, UI Carver College of Medicine.

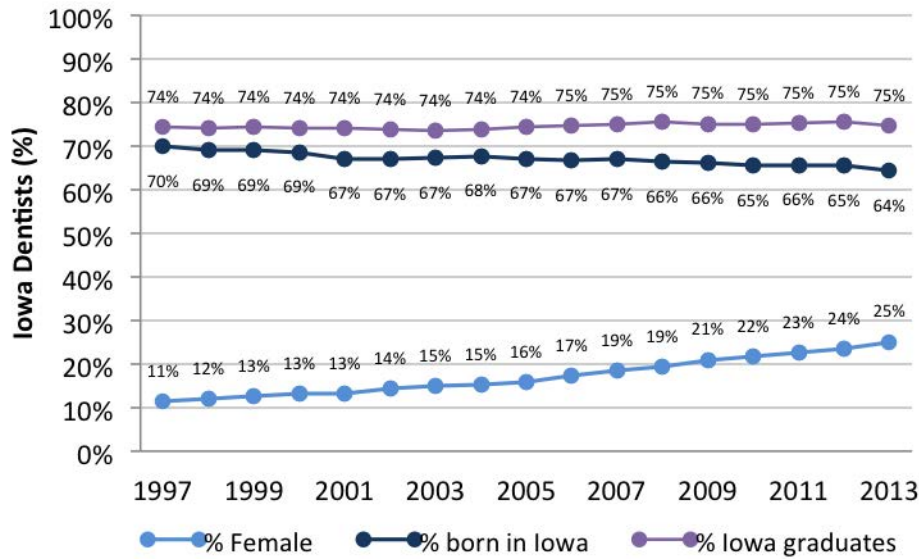
*Since 1997, the proportion of women in the Iowa dentist workforce has more than doubled.*

## Women in the Dentist Workforce

Since 1997, the proportion of women in the Iowa dentist workforce has more than doubled. In 2013, women comprised 25% of active Iowa dentists (Exhibit 3). Recent increases in the percentage of women graduating from the University of Iowa's College of Dentistry (41% in 2012-2013), combined with a projected large number of retiring Iowa dentists suggests a continued increasing proportion of women entering Iowa's dentist workforce. This trend is similar nationwide; in 2005-2007, 46% of new dentists were women, and in 2013, 23% of the total U.S. dentist workforce were women.<sup>8,11</sup>

Numerous studies have documented differences between male and female dentists in terms of their practice patterns, hours worked, income, practice location, and patient rapport.<sup>10-13</sup> Women tend to work fewer hours than men and are less likely to practice in rural areas, which could impact the state's workforce capacity.<sup>2,10,12</sup>

**Exhibit 3. Iowa Dentists by Sex, Birth State, and Dental School Attended, 1997-2013**



Source: Iowa Health Professions Tracking Center, Office of Statewide Clinical Education Programs, UI Carver College of Medicine.

**The University of Iowa’s Role in State Dentist Workforce Supply**

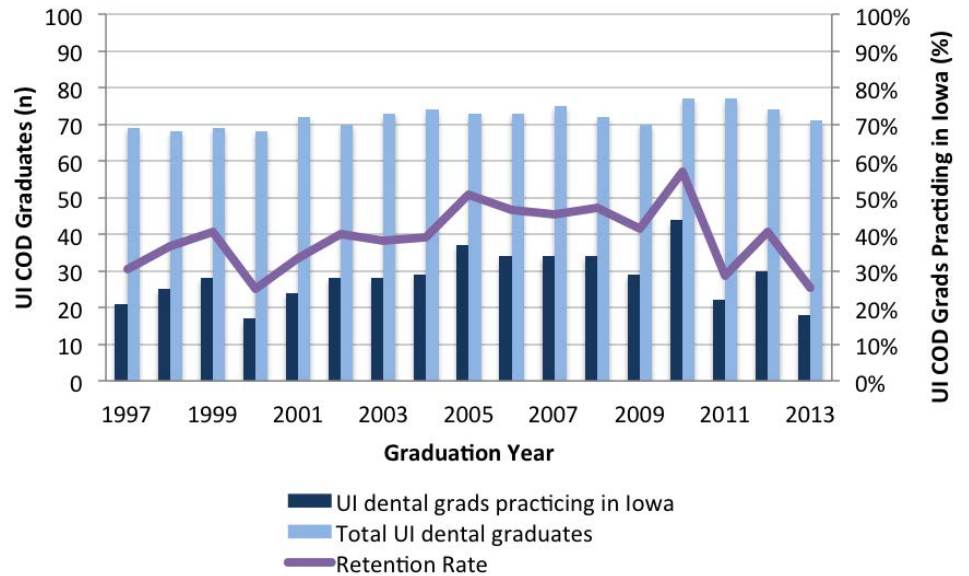
Approximately 75% of Iowa’s dentists are graduates of the University of Iowa’s College of Dentistry (UI COD), and that proportion has remained unchanged since 1997 (Exhibit 3). However, the proportion of UI COD graduates from the classes of 1997-2013 who were practicing in Iowa in 2013 ranged from 25% to 57%, indicating that more dental graduates leave the state than stay in Iowa (Exhibit 4). This is likely related to many factors, including birthplace, location of post-dental school education, and other lifestyle considerations.

The UI COD established an Office of Iowa Practice Opportunities (OIPO) in 2006 to link graduates with employment opportunities across the state. Improved retention rates from 2006-2010 may be related to the OIPO. The low retention rate from 2010-2013 can be expected; many recent graduates (e.g., those who graduated within several years prior to the year the data were collected, 2013) leave the state temporarily to complete either post dental school educational opportunities (general practice or dental specialty residencies), fulfill military obligations, or accompany spouses who have obligations elsewhere.

*Approximately 75% of Iowa’s dentists are graduates of the University of Iowa’s College of Dentistry.*



#### Exhibit 4. University of Iowa Dental Graduates Practicing in Iowa by Graduation Year, 2013



Sources: Iowa Health Professions Tracking Center, Office of Statewide Clinical Education Programs, UI Carver College of Medicine; Registrar, University of Iowa College of Dentistry.

### Conclusions & Policy Implications

This brief represents 17 years of historical workforce data on active Iowa dentists to document trends in Iowa’s dentist workforce by specialty, age, sex, dental school attended, and birth state. The capacity of Iowa’s dentist workforce is affected by the increasing number of dentists practicing in Iowa, as well as the increasing proportions of older dentists and female dentists in the state. These changing demographics are likely to impact overall practice patterns, as well as the geographic distribution of Iowa’s dentists.

The University of Iowa’s College of Dentistry continues to be the major source of Iowa’s dentist workforce, and the proportion of dentists choosing to stay or return to Iowa to practice within several years of graduating appears to be increasing. Dentist retention efforts should continue in order to maintain the current capacity of the dentist workforce in Iowa.

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## Endnotes

- 1) Okunseri C, Bajorunaite R, Abena A, Self K, Iacopino AM, Flores G. Racial/ethnic disparities in the acceptance of Medicaid patients in dental practices. *J Public Health Dent.* 2008;68(3):149-153. doi:10.1111/j.1752-7325.2007.00079.x.
- 2) McKernan SC, Kuthy RA, Kavand G. General dentist characteristics associated with rural practice location. *J Rural Heal.* 2013;29:s89-s95.
- 3) Kuthy RA, Jennings AD, McQuistan MR, Marshall TA, Qian F. Influence of minor children and contribution to household income on work hours of female dentists. *J Public Health Dent.* 2013;73(3):245-251. doi:10.1111/jphd.12022.
- 4) Walton SM, Byck GR, Cooksey JA, Kaste LM. Assessing differences in hours worked between male and female dentists: an analysis of cross-sectional national survey data from 1979 through 1999. *J Am Dent Assoc.* 2004;135(5):637-645.
- 5) U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. National and State-Level Projections of Dentists and Dental Hygienists in the U.S., 2012-2025. Rockville, MD; 2015.
- 6) Munson B, Vujicic M. Supply of Dentists in the United States Is Likely to Grow. American Dental Association, Health Policy Institute. Chicago, IL; 2014.
- 7) Kuthy RA, McKernan SC, Hand JS, Johnsen DC. Dentist workforce trends in a primarily rural state: Iowa: 1997-2007. *J Am Dent Assoc.* 2009;140(12):1527-1534.
- 8) American Dental Association. Dentist Supply in the U.S.: 1993-2011. American Dental Association. Chicago, IL; 2013.
- 9) Schofield D, Fletcher S, Page S, Callander E. Retirement intentions of dentists in New South Wales, Australia. *Hum Resour Health.* 2010;8:9. doi:10.1186/1478-4491-8-9.
- 10) American Dental Association. 2010 Survey of Dental Practice: Characteristics of Dentists in Private Practice and Their Patients. American Dental Association. Chicago, IL; 2012.
- 11) American Dental Association. 2008 Survey of New Dentists. American Dental Association. Chicago, IL; 2009.
- 12) Del Aguila MA, Leggott PJ, Robertson PB, Porterfield DL, Felber GD. Practice patterns among male and female general dentists in a Washington State population. *J Am Dent Assoc.* 2005;136(6):790-796.
- 13) McKay JC, Quinonez CR. The feminization of dentistry: implications for the profession. *J Can Dent Assoc.* 2012;78:c1.