

Office of Rural Health and Primary Care Health Workforce Analysis Program

Minnesota's Dental Hygienists Facts and Data 2006-07

The Office of Rural Health and Primary Care asks dental hygienists to answer questions about their employment status and the nature of their practices each year when they renew their licenses. Response to the survey is voluntary and does not affect license renewal.

Background

Dental hygienists are licensed professionals who specialize in preventive dental care and oral hygiene. The Minnesota Board of Dentistry defines the permitted scope of practice of dental hygienists. Most dental hygienists must work under supervision of a dentist, but Minnesota allows hygienists in some settings to work without direct supervision.

Minnesota has 10 accredited dental hygiene programs, including programs at the University of Minnesota, Minnesota State University (Mankato), six state community and technical colleges, and two private non-Minnesota colleges offering campus and online classes in Minnesota. The Minnesota Board of Dentistry also recognizes four Wisconsin programs, two Iowa programs and one program each in North Dakota and South Dakota. Metropolitan State University offers a bachelor of science degree in dental hygiene that prepares students with an A.A. degree from another accredited dental hygiene program to engage in certain practices without a patient first being seen by a dentist.

No specific degree is required for licensure, but applicants must have completed a program approved by the Commission on Accreditation of the American Dental Association. Accredited programs must include at least two years of postsecondary education. Two-year institutions must award an associate degree; four-year institutions must grant an associate degree, baccalaureate degree or certificate.

Data is also reported for three groupings that focuses greater attention on the 46 most rural counties:

MSA counties – 21 Minnesota counties included in seven metropolitan statistical areas (Minneapolis-St. Paul, St. Cloud, Rochester, Duluth-Superior, Fargo, Grand Forks and La Crosse).

Micropolitan counties – 20 counties surrounding smaller urban centers of at least 10,000 people.

Rural – 46 counties outside MSAs and Micropolitan areas.



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Numbers of dental hygienists

In January 2008, there were 4,781 dental hygienists with Minnesota licenses. Some of these were retired or not working as dental hygienists, and many lived or practiced in other states.

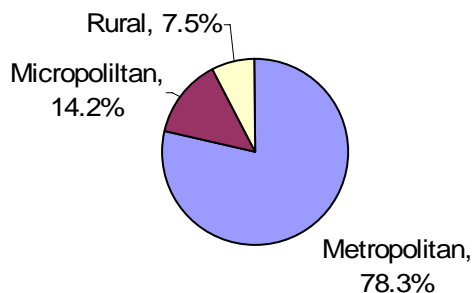
Based on survey responses and licensing data from the Minnesota Board of Dentistry, the Office of Rural Health and Primary Care estimates that approximately 3,150 dental hygienists were practicing at least part time at Minnesota practice sites in 2007. For explanation of this estimate, see the methodological notes at the end of this report. Using the 2007 populations estimate, this number would equate to about 61 hygienists per 100,000 population. Estimates based on federal labor statistics indicate about 68 hygienists per 100,000 population in 2004, compared to a national rate of 54. Minnesota ranked 13th among the 50 states in 2004.

All data reported below is for dental hygienists who work at least part time at a primary practice site in Minnesota, according to the Office of Rural Health and Primary Care survey of dental hygienists renewing licenses in 2006 and 2007.

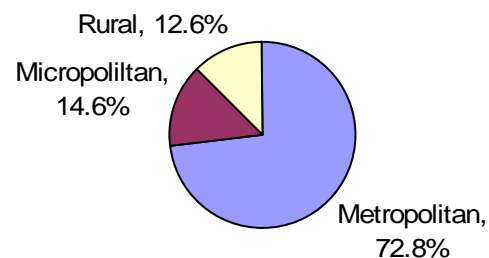
Geographic Distribution

- Seventy-eight percent of active hygienists work at sites in the state's 21 metropolitan area counties, which account for 72 percent of the state's population.
- The disproportionate percentage of hygienists in urban Minnesota (seven Twin Cities counties, and Rochester, Duluth and St. Cloud) mostly reflects a high concentration in the seven Twin Cities counties.
- Rural counties account for 13 percent of the state's population, but only 8 percent of active respondents in the 2006-07 survey. A similar survey in 2005 found 15 percent of hygienists in rural counties. The reason for this dramatic difference is not clear, but the 2006-07 survey had a disproportionate decline in respondents from rural counties. The geographic data from the 2005 and 2006-07 surveys should be used with caution.

Active Dental Hygienists, 2007



Minnesota Population, 2007



	2007 Population	% Population	% Hygienists (n = 2,082)
Statewide	5,231,106	100.0%	100.0%
Metropolitan counties	3,810,396	72.8%	78.3%
Micropolitan counties	761,302	14.6%	14.2%
Rural	659,408	12.6%	7.5%

Gender and Race

- At 98.8 percent female, dental hygienists are the most female-dominated health profession in Minnesota. Nearly all hygienists are female in both rural and urban areas, as well in every major kind of practice setting.
- Minority populations are underrepresented in the dental hygiene workforce. Ninety-eight percent of respondents declaring their race identified themselves as White. Asians, at less than 1 percent, were the largest non-White group.

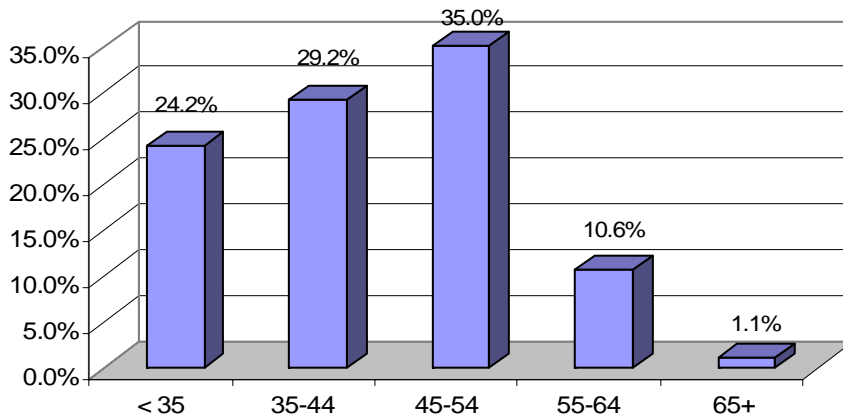
	n = 1,980 respondents
White	98%
Asian	.7%
Mixed White and other	.6%
Mixed Race	.75%

Age and Career Plans

- The median age of active Minnesota dental hygienists is 44, up a bit from the median age of 42 reported in 2005.
- Rural dental hygienists are younger than urban or metropolitan hygienists; 35 percent of rural hygienists are under age 35.

Age Group	Statewide n = 2,081 respondents	Metropolitan n = 1,626 respondents	Micropolitan n = 296 respondents	Rural n = 155 respondents
Median age	44	44	44	39
Less than 35	24.2%	22.9%	25.3%	34.8%
35-44	29.2%	29.3%	29.4%	26.5%
45-54	35.0%	35.5%	34.5%	30.3%
55-64	10.6%	10.8%	10.5%	8.4%
65 and older	1.1%	1.4%	.3%	-0-
Total	100.0%	100.0%	100.0%	100.0%

Age of Active Hygienists, 2007



Only 12 percent said they were planning to quit practicing in Minnesota within the next five years. Two-thirds said they expected to continue practicing in Minnesota for more than 10 additional years.

- One-third of hygienists aged 55 to 64 planned to work another five years or less, but nearly one-fourth in this age group said they expected to work for more than 10 additional years.
- Hygienists practicing in metropolitan counties were more likely than micropolitan or rural hygienists to have plans to leave the field within five years. Rural hygienists were more likely than other hygienists to say they expected to work more than 10 additional years. These regional differences reflect the younger age of rural hygienists.

	N	0-5 years	6-10 years	More than 10 years
All hygienists	2,065	11.9%	21.7%	66.4%
Under age 35	499	13.4%	9.4%	77.2%
Age 35-44	604	5.1%	15.2%	79.6%
Age 45-54	723	7.5%	30.0%	62.5%
Age 55-64	216	33.8%	43.1%	23.1%
Age 65 or older	23	87.0%	-0-	13.0%
Metropolitan	1,618	12.5%	21.6%	65.8%
Micropolitan	293	9.9%	25.3%	64.8%
Rural	155	8.3%	16.1%	75.5%

Education

Most dental hygienists report a two-year associate degree as their highest post-secondary education. Eighty-two percent (n = 2,077) took their hygienist training in Minnesota.

- Micropolitan and rural hygienists are less likely to have a bachelor's or higher degree. Eighty-six percent of rural hygienists report their highest degree to be an associate of arts degree.
- Younger hygienists—especially those under age 35—are more likely to have a bachelor's degree
- Even though rural hygienists tend to be younger, and younger hygienists are more likely than older hygienists to have bachelor's degree, only 20 percent of rural respondents (n = 54) under age 35 reported having a bachelor's degree.

DEGREE	All hygienists n = 2,777 respondents	Metropolitan n = 1,621 respondents	Micropolitan n = 295 respondents	Rural n = 154 respondents	
Associate degree	71.9%	69.3%	75.7%	85.7%	
Bachelor's degree	25.8%	28.2%	18.3%	14.1%	
Master's degree	2.0%	2.2%	1.7%	-0-	
Doctorate degree	.3%				
DEGREE	Age < 35	Age 35-44	Age 45-54	Age 55-64	Age 65+
Associate degree	62.2%	76.2%	74.0%	75.3%	73.9%
Bachelor's degree	37.4%	23.1%	21.8%	20.6%	17.4%
M.A. or Ph. D.	*	.7%	4.1%	4.1%	8.7%

* less than .5 percent.

Hours worked

Most dental hygienists work less than full time.

- Eighty-six percent of hygienists work 36 hours or less; the median hours worked is 32.
- Two-thirds of hygienists work 21-36 hours per week.
- Younger hygienists work longer hours than older hygienists; median hours worked per week for hygienists under age 35 is 32, compared to 28 for hygienists 55 or older.

	All Hygienists	Age under 25	Age 25-34	Age 35-44	Age 45-54	Age 55 +
N	2,073	23	479	605	719	242
Median hrs.	32	34	32	30	30	28
1-8 hrs.	4.0%	-0-	1.9%	4.8%	2.8%	7.3%
9-20 hrs.	15.0%	8.7%	9.2%	15.0%	17.9%	18.3%
21-36 hrs.	66.6%	65.2%	70.6%	67.1%	66.1%	60.7%
37-44 hrs.	13.8%	17.4%	18.0%	12.4%	12.5%	12.8%
45-60 hrs.	.7%	8.7%	.4%	.7%	.7%	.9%

Practice Settings

Dental practices vary widely across the state. The typical dental hygienist workplace varies accordingly.

- Overall, 42 percent of dental hygienists work with dentists in private solo practices and 38 percent work in private small group practices with fewer than five dentists. Ten percent work in larger private practices with five or more dentists.
- At 64 percent, rural hygienists are far more likely to work with dentists in private solo practices than either micropolitan or metropolitan area hygienists.
- Twelve percent of metropolitan hygienists work in large group practices, compared to only 5 percent of micropolitan and 3 percent of rural hygienists.

Type of Site	Statewide	Metropolitan	Micropolitan	Rural
Respondents	n = 2,048	n = 1,600	n = 292	n = 152
Private – solo practice	42.4%	39.1%	45.9%	63.8%
Private – small group	38.4%	37.8%	46.2%	29.6%
Private – large group	10.3%	12.1%	4.5%	2.6%
Staff model HMO	3.0%	3.8%	-0-	-0-
Other	5.9%	7.2%	3.4%	4.0%

Hygienists working in private group practices are younger than hygienists in private solo practices. Thirty-six percent of hygienists in large group practices are under 35, compared to 26 percent of hygienists in small group practices and 22 percent of hygienists in solo practices.

Type of Site	n	< 35 years	35-44 years	45-54 years	55-64 years	65+ years
Private-solo practice	865	22.1%	29.9%	36.3%	10.9%	.8%
Private – small group	785	26.1%	28.9%	33.6%	10.7%	.6%
Private – large group	211	36.0%	30.3%	25.1%	5.7%	2.8%

Professional activities and duties

Minnesota law allows health care organizations or nonprofit organizations that serve uninsured or publicly insured patients to employ dental hygienists with at least 3,000 career practice hours (or 2,400 hours in the preceding 18 months) to perform the following procedures without a patient first being seen by a licensed dentist, the hygienist must work under a collaborative agreement with a supervising dentist. The hygienist may also administer local anesthetics or nitrous oxide if specifically delegated by the dentist in the collaborative agreement.

- Promoting oral health and disease prevention education
- Removal of deposits and stains from teeth surfaces
- Application of topical preventive or prophylactic agents
- Polishing and smoothing restorations
- Removal of marginal overhangs
- Preliminary charting
- Radiographs and
- Scaling and root planning.

Six percent of hygienists actively working in Minnesota said they were practicing under a written collaborative agreement with a dentist. Nineteen percent said they did not know, and 42 percent of respondents did not answer the question, but it is presumed that these respondents do not work under a collaborative agreement. Eighty-six percent of hygienists reporting working under collaborative agreements work in metropolitan area counties.

Licensed dental hygienists and registered dental assistants may also perform certain restorative procedures if authorized by a dentist and if a dentist is present in the clinic when the procedure is performed. Three-fourths of hygienists performing restorative functions work in metropolitan area counties. Fewer than two dozen survey respondents indicated they performed any of these procedures, which include:

- Placing, contouring and adjusting amalgam restorations
- Placing, contouring and adjusting glass ionomer
- Adapting and cementing stainless steel crowns and
- Placing, contouring and adjusting class I and class V supragingival composite restorations.

Race and ethnicity

- The dental hygienist workforce is 98 percent White.
- All but one non-White respondent worked in a micropolitan or rural county, but even in metropolitan area counties, nearly 98 percent were White.

5.1% of respondents did not answer question; percentages based on only respondents who answered questions. Precise data not available for metropolitan, micropolitan and other rural counties.

	State
White	98%
Black or African American	.2%
Asian	.7%
White and other	.5%
American Indian or Alaska Native	.1%
Other	.4%

Methodology

Data reported here is from responses received from dental hygienists renewing their licenses in 2006 and 2007. Dental hygienists licenses are renewed for two-year terms on hygienists' birth dates, so it takes two years to collect a complete set of survey responses

The Board of Dentistry received about 4,310 renewals in 2006 and 2007. This estimate is based on the number of active licenses in effect January 1, 2008, minus initial licenses and license reinstatements during the two years. The estimate is not precise because it may include some early renewals of licenses due for renewal in January 2008.

The Office of Rural Health and Primary Care received survey responses from 2,869 dental hygienists renewing their licenses. At the time of license renewal, 2,091 of these said they working at least part time in a paid or unpaid position at a primary practice site in Minnesota.

The number of respondents actively working at a Minnesota location was about 24 percent less than in the previous ORHPC survey. The number of active respondents was down in all geographic areas, but the decline was 64 percent among rural hygienists. The reason for the decline is unknown, but it casts some doubt on data reported above for the percentage of hygienists working in rural counties.

The exact number of dental hygienists practicing in Minnesota is not known. Survey respondents represented approximately 66 percent of all dental hygienists renewing licenses in 2006-07. If active Minnesota-based dental hygienists responded to the survey at about the same rate as all dental hygienists renewing their licenses, the estimated total number of dental hygienists working at least part time in Minnesota would be about 3,150. If active Minnesota dental hygienists were more likely to respond to the survey, the estimated number of active Minnesota dental hygienists would be somewhat lower. The same methodology produced an estimate of 3,310 actively employed hygienists in 2005. The lower estimate for 2006-07 suggests that the lower response rate might have produced a less reliable estimate. The U.S. Bureau of Labor Statistics (BLS) estimated 3,760 hygienist jobs in Minnesota in 2007.

Using the July 1, 2007, population estimate for Minnesota, 3,150 dental hygienists equate to about 61 dental hygienists per 100,000 people. The BLS estimate of 3,760 amounts to about 72 dental hygienists per 100,000 people.

Because of different data sources and definitions, these estimates of active dental hygienists are not directly comparable to other reported data. Using BLS data, the New York Center for Health Workforce Studies reported Minnesota had 68 hygienists per 100,000 people in 2004, compared to a national rate of 54 (*The United States Health Workforce Profile*, October 2006).