

A Report on the Commonwealth's Dental Hygiene Workforce

Results and Recommendations from a 2007 Statewide Survey



**December 2007
Massachusetts Department of Public Health**

Acknowledgements

The Office of Oral Health acknowledges the Massachusetts Board of Registration in Dentistry and the Massachusetts Dental Hygienists' Association for their assistance in developing and distributing the 2007 Massachusetts Dental Hygienists' Survey.

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The Office of Oral Health is responsible for promoting the prevention and control of dental diseases and the enhancement of oral health in Massachusetts. The Office promotes the use of effective population-based preventive measures, particularly the use of community water fluoridation, school-prevention programs, fluorides and dental sealants. The Office seeks to assure that vulnerable and special population groups that are dentally underserved, such as the low-income, developmentally disabled and those with special health care needs have access to needed dental services.

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**A Report on the Commonwealth's
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Results and Recommendations
from a 2007 Statewide Survey**

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Executive Summary

In 2007, the Massachusetts Department of Public Health Office of Oral Health in collaboration with the Massachusetts Dental Hygienists' Association distributed a survey to all Massachusetts licensed dental hygienists with the assistance of the Massachusetts Board of Registration in Dentistry. The purpose of the survey was to determine the status, practices and potential utilization of the dental hygiene workforce.

The dental hygiene profession began in 1913 as an innovative means of addressing the poor oral health of school children in Bridgeport, Connecticut. Providing preventive oral health services to all school children was paramount to decreasing the incidence of dental caries. Today, most dental hygienists work for a dentist in private offices and a small proportion of dental hygienists work in school prevention programs or in public health settings.

This report provides an overview of the dental hygiene workforce in Massachusetts. All 6,394 dental hygienists eligible for license renewal in Massachusetts were sent the survey; of these, 4,498 (70%) were returned, with 3,182 of these respondents working in Massachusetts

Based on the responses, the major findings of this survey are:

- 70.7% of the respondents reported working in Massachusetts
- One-third of those responding reported working full-time
- 58% of the respondents have more than 15 years experience
- Almost 70% reported working in only one practice setting
- 98.2% routinely checking the lateral borders of the tongue for oral cancer
- 29.5% reported using their dental hygiene experience in a volunteer capacity in the past year
- 17.2% expressed an interest in becoming directly reimbursed by MassHealth (Medicaid)
- 51.4% discuss the benefits of community water fluoridation during patient education
- Over 60% reported having experience working with special-needs populations and 30.8 percent expressed an interest in doing so

Massachusetts is experiencing an oral health care crisis. The results of this survey point to several strategies that should be considered to expand access to oral health services for our most vulnerable residents utilizing the dental hygiene workforce. Attention should be paid to the experienced and available workforce of dental hygienists to assist in reducing oral health disparities through the expansion of community-based oral health prevention programs in schools, nursing homes and other public health settings. Additionally, initiatives should focus on expanding MassHealth provider status to all interested licensed dental professionals resulting in an expanded dental workforce serving those at highest-risk for dental disease, including but not limited to the low income, children, elderly and special need populations. Finally, with only one-third of the dental hygiene workforce in Massachusetts reporting working more than 30 hours per week creative strategies should be developed to attract currently licensed dental hygienists back to the workforce so that more residents may access cost-saving preventive care.

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Introduction

The Massachusetts Department of Public Health in collaboration with the Massachusetts Dental Hygienists' Association developed a 29-item survey instrument to describe the population of dental hygiene professionals licensed by the state, to assess the dental hygiene workforce across the Commonwealth, as well as to identify opportunities for increasing the public's access to oral health services. In January 2007, all dental hygienists licensed in the Commonwealth of Massachusetts and due to renew their license by March 31, 2007, received the survey distributed with the assistance of the Massachusetts Board of Registration in Dentistry.

Study Methods

A 29-item survey instrument was mailed to all dental hygienists licensed to practice in Massachusetts and due to renew their licenses by March 31, 2007. The survey was included with the application for renewal. The two-page survey instrument elicited information about years of practice, credentials, age, employment status and settings, office location, residence, hourly wages, benefits, insurance accepted by dental practice, employment-seeking, patient care practices, volunteer experience, anesthesia certification and interest in direct reimbursement by third-party payors. Data were collected between January 2, 2007 and March 31, 2007. Data were scanned into a database using TeleForm software and analyzed using SAS 9.0 software. Descriptive statistics were generated for each survey question and are reported below.

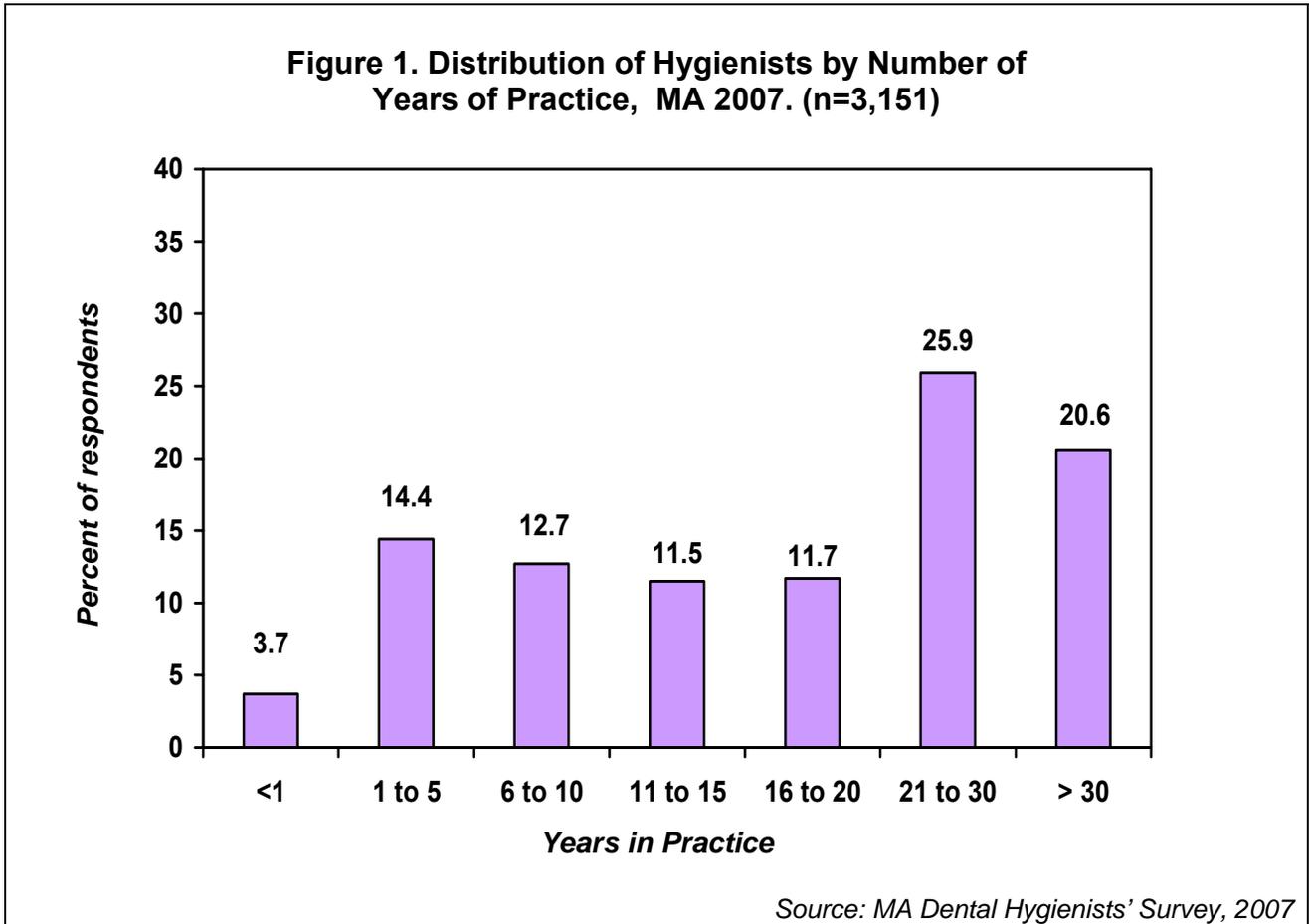
Results

Respondents: A total of 6,394 dental hygienists were eligible for license renewal in Massachusetts in 2007. Of these, 4,498 hygienists (70%) returned completed surveys. Of the 4,498 respondents, 3,952 (88%) were working as hygienists anywhere at the time of the survey, 3,182 (71%) were working as hygienists in Massachusetts, 616 (14%) were working outside of the state, and 154 (3%) did not provide a work location. Among the 402 respondents who reported not currently working as hygienists, 226 (56%) intended to return to practice, 146 (36%) did not intend to return, and 39 (9%) did not respond to the question.

In order to assess whether survey respondents were representative of the population of hygienists practicing in Massachusetts, characteristics of the total population of hygienists licensed in Massachusetts were compared with respondents in terms of residence and years in practice, using McNemar's test. The two groups were found to be comparable on both factors.

The survey results focus on survey respondents licensed in the Commonwealth and who practice in the Commonwealth.

Most dental hygienists in the Massachusetts Survey have more than 15 years of experience.

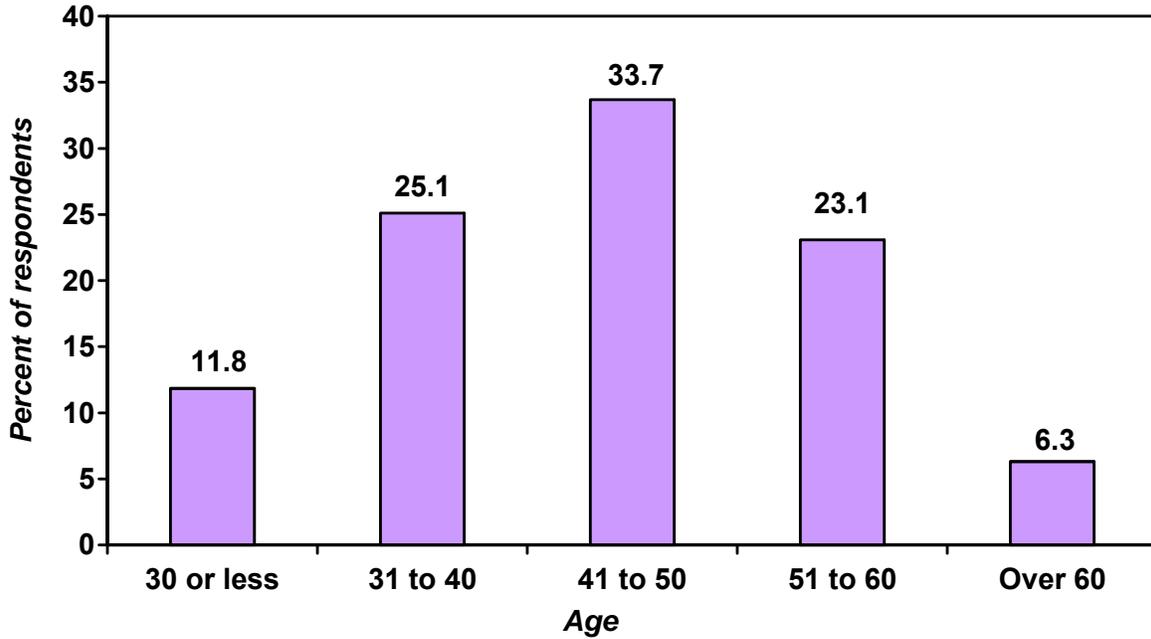


A majority of the survey respondents working in Massachusetts have more than 15 years of experience. Among those responding to this question, 3.7% (n=118) had less than one year, 14.4% (n=454) had 1-5 years, 12.7% (n=399) had 6-10 years, 11.5% (n=363) had 11-15 years, 11.7% (n=369) had 16 to 20 years, 25.9% (n=816) had 21-30 years and 20.8% (n=632) had over 30 years of experience (Figure 1).

Professional memberships: Over 28% of respondents reported belonging to the American Dental Hygienists' Association (ADHA)

The majority of Massachusetts dental hygienists surveyed are over 40 years of age.

Figure 2. Age Distribution of Respondents Licensed in Massachusetts and Currently Employed as Dental Hygienists, MA 2007. (n=3,886)

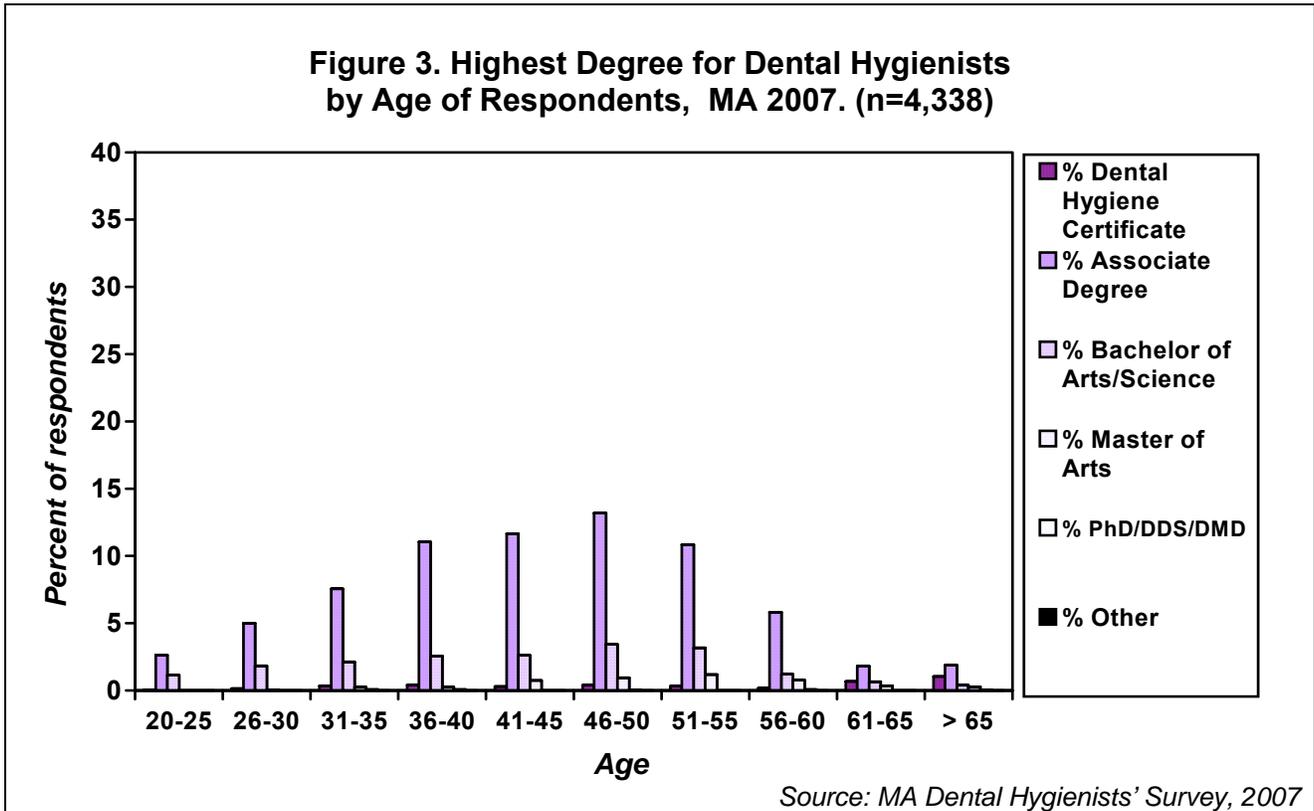


Source: MA Dental Hygienists' Survey, 2007

Over 63% of respondents are over 40 years of age, with 11.8% age 30 and below, 25.1% between 31 and 40, 33.7% between 41 and 50, 23.1% between 51 and 60, and 6.3% over age 60 (Figure 2).

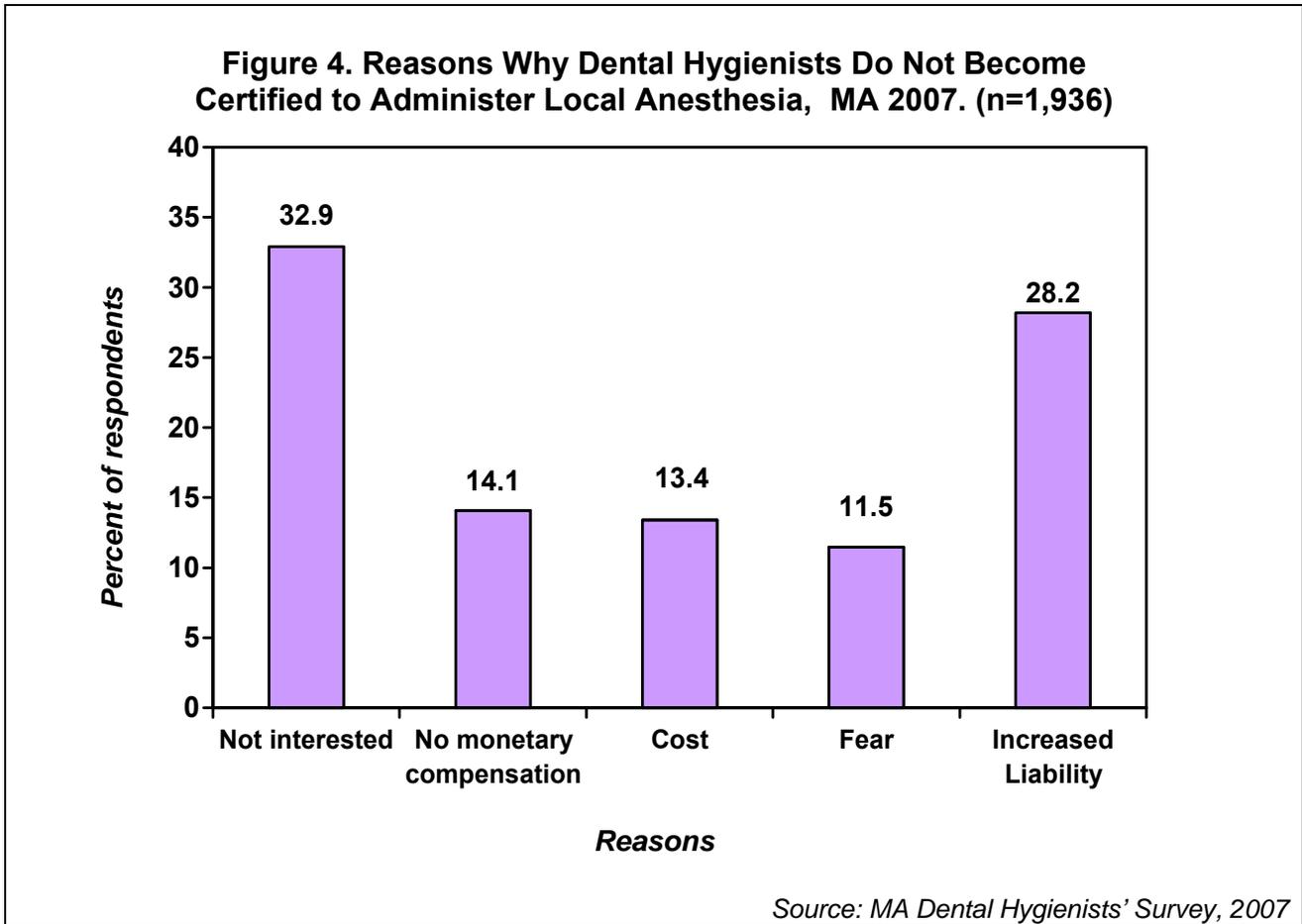
Over 86% (n=3,342) of respondents reported that they were currently employed as dental hygienists. Eighty-eight percent (3,643) of respondents age 60 and under, and 79% (243) of respondents over age 60 reported currently working in the field/ employed as dental hygienists.

Three quarters of dental hygienists in Massachusetts, (75%) hold an associate degree as their highest degree.



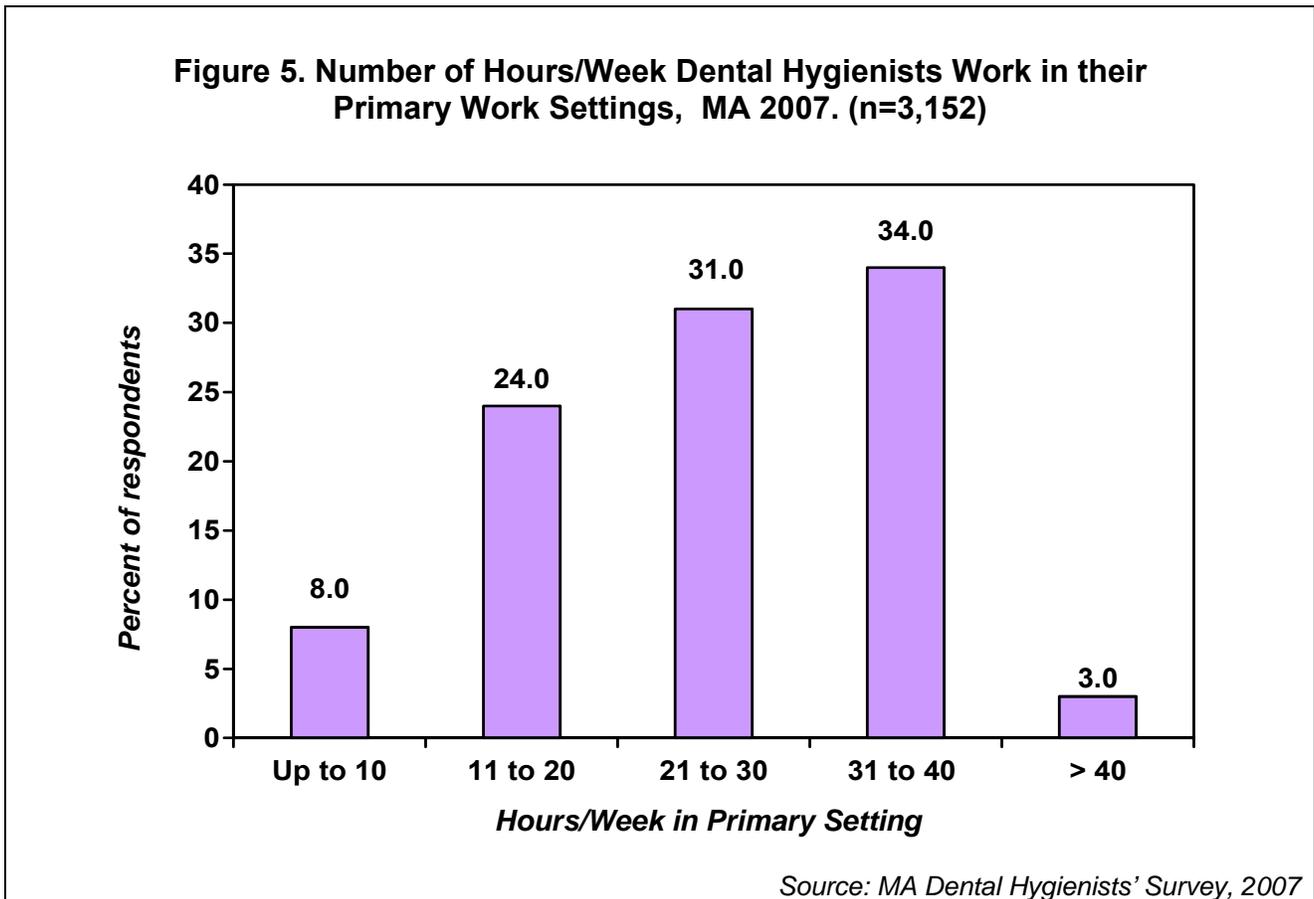
The vast majority of respondents, 75%, hold an associate degree as their highest degree, followed by 18% with a bachelor's degree, and 3% each holding a graduate degree or dental hygiene certificate. As seen in Figure 3, within each age group, most hold associate degrees.

Many dental hygienists cite lack of interest and increased liability as reasons for not becoming certified in local anesthesia.



Twelve percent of respondents reported they were certified to administer local anesthesia. Among those not certified, 64.4 percent reported that they did not intend to become certified, citing lack of interest (32.9%, n=871), increased liability (28.2%, n=747), no monetary benefit (14.1%, n=373), cost (13.4%, n=355), and fear (11.5%, n=304) as reasons for not pursuing certification (Figure 4).

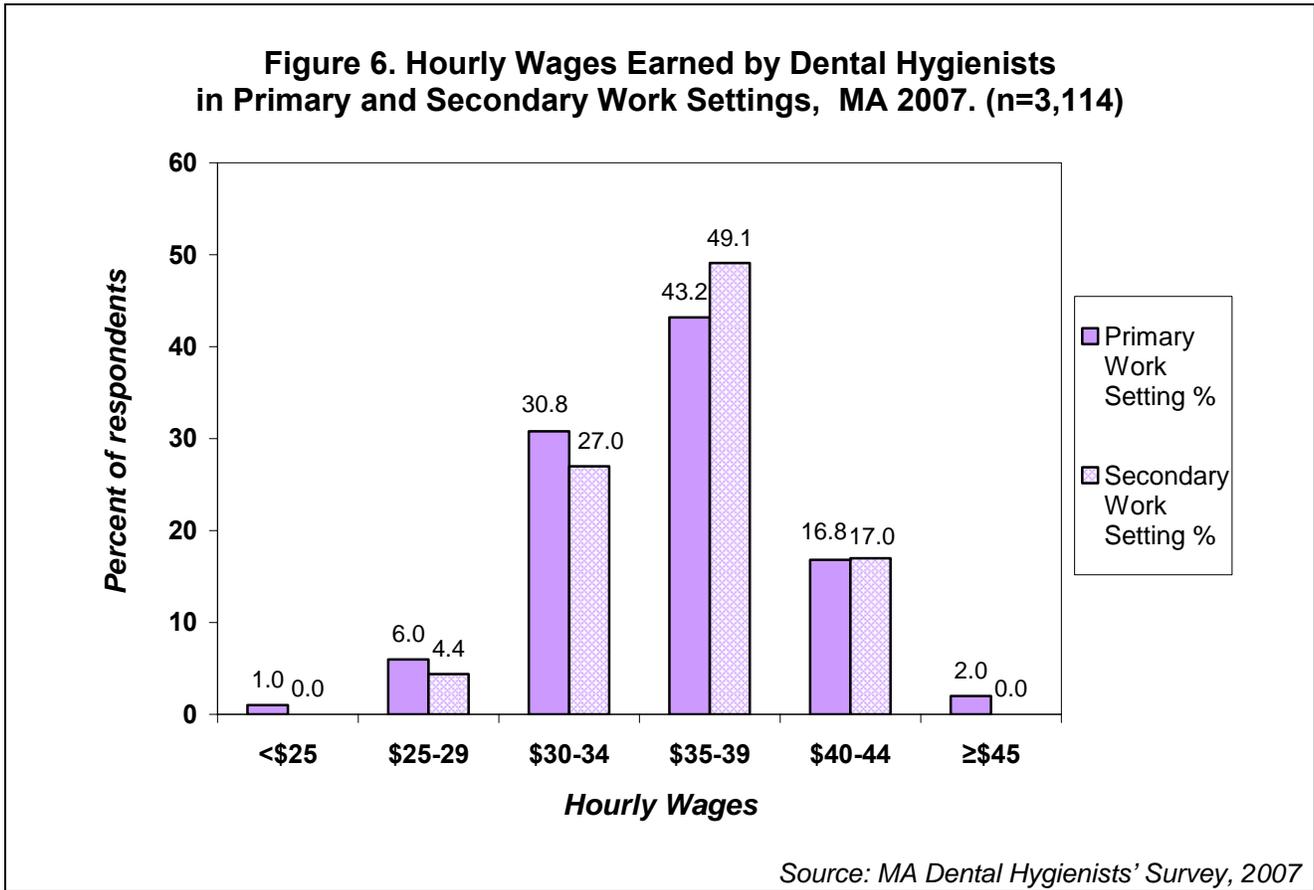
63% of dental hygienists work 30 hours or less per week in their primary work setting.



Almost 70% (2,193) of respondents reported working in only one practice setting. However, 24.2% reported working in two, 3.9% in three, and 1.9% in more than three settings. The majority of respondents' primary work setting is a general private practice (81.7%). Eight percent worked primarily in a specialty practice, 4.5% in a pediatric practice and 1.5% in some other setting. Thirty-four percent of respondents reported working 31-40 hours and 3% reported working more than 40 hours per week in their primary work settings. Many worked part-time in their primary settings, with 31% working 21-30 hours, 24% working 11-20 hours and 8% working 10 hours or less per week (Figure 5).

All respondents who reported a secondary work setting (759) worked part-time at the site. Nearly 22% reported working less than 6 hours per week, 53.6% worked 6-10 hours per week, 9.6% worked 11-15 hours per week and 12.0% worked 16-20 hours per week at the secondary site. When combining hours from both primary and secondary settings, hygienists work anywhere from 10 or fewer hours to over 70 hours per week, with the greatest number working 31-40 hours.

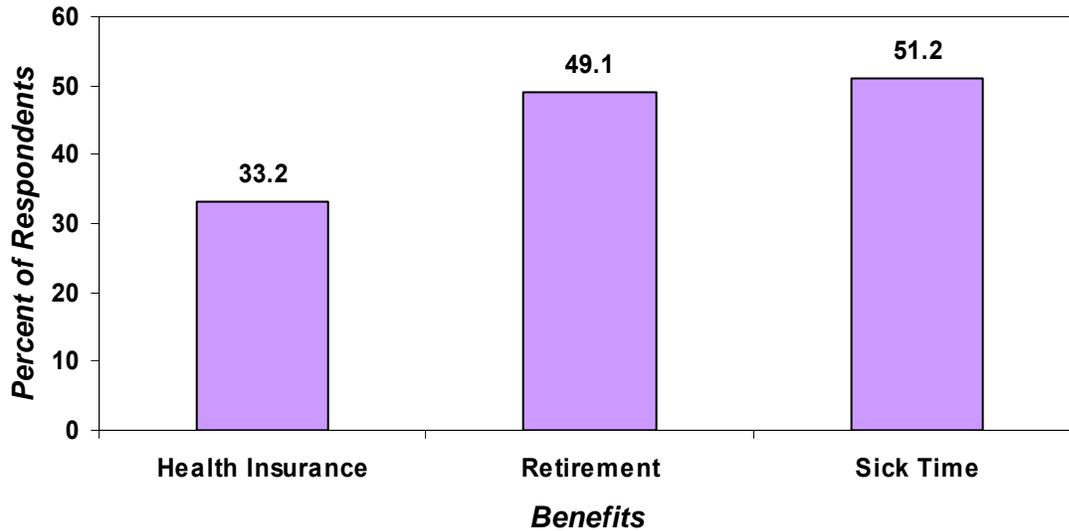
Most dental hygienists reported earning \$35 per hour or more in both primary and secondary work settings.



The majority of respondents reported earning \$35 per hour or more in both primary (62%) and secondary (66%) work settings with the greatest numbers earning between \$35 and \$39 dollars per hour (Figure 6).

Many dental hygienists do not receive employment benefits.

Figure 7. Percent of dental hygienists reporting employment benefits, (percentages based on the number reporting benefit out of 3,182 total respondents practicing in MA).



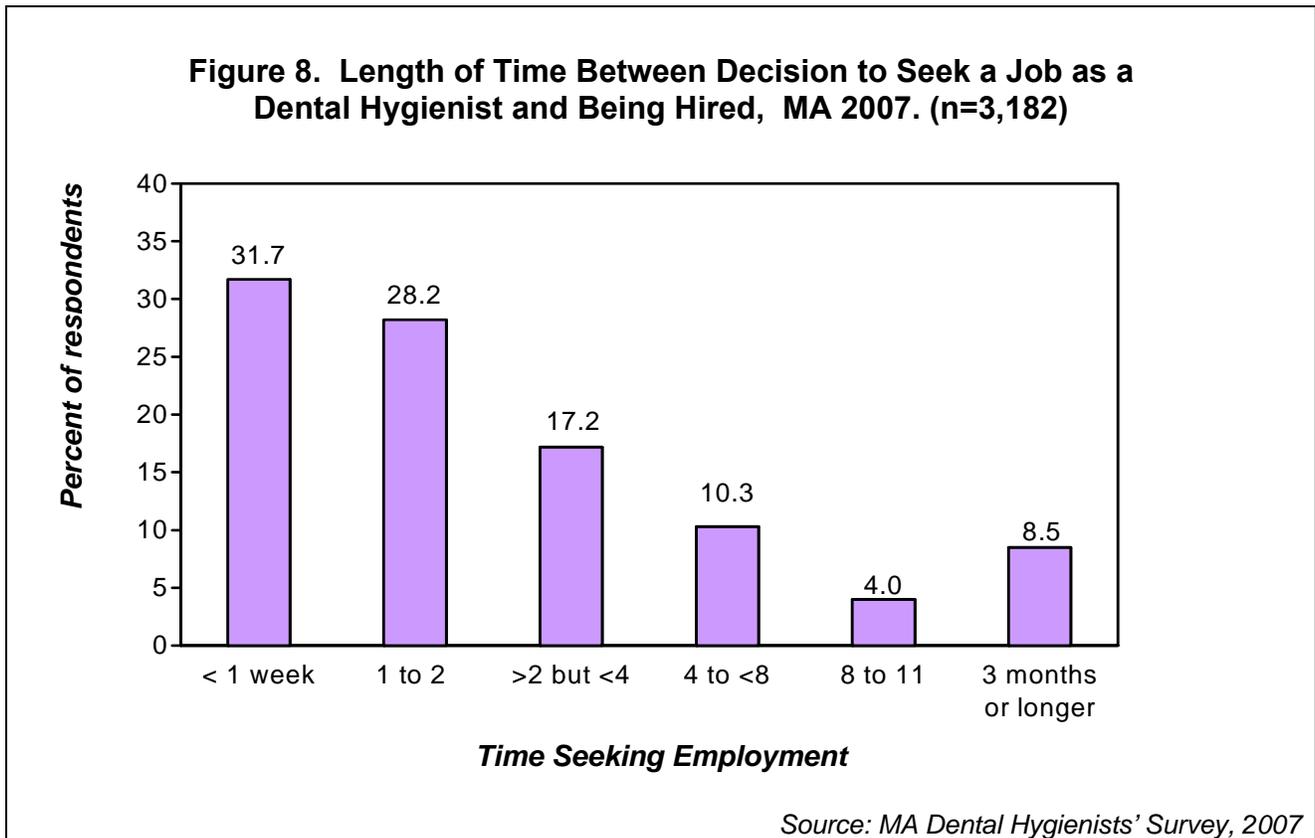
Source: MA Dental Hygienists' Survey, 2007

Many survey respondents reported that they did not receive health, retirement or sick benefits from their places of employment. Approximately one-third (33.2%, n=1056) reported health benefits, just under half (49.1%, n=1562) reported retirement benefits and slightly over half (51.2%, n=1629) reported receiving sick-time.

Among those reporting receiving benefits in their primary work setting 64.9% received continuing education, 74.8% had paid vacations, less than 1% reported child care benefits, 36.1% received a uniform allowance, 21.1% had profit sharing, and 5.9% had professional dues paid.

The distribution of years of work experience with regard to these benefits was very similar to the overall distribution of experience. This finding suggests that hygienists of different levels of experience receive similar benefits.

Most dental hygienists seeking employment found a job within a month of deciding to look for work.



Most respondents seeking employment found a job within a month of deciding to look for work (Figure 8). Almost 32% found work in under a week; 28.2% found work within 1-2 weeks; 17.2% within 2-4 weeks; 10.3% within 4-8 weeks, 4% within 8-11 weeks, and 8.5% took 3 months or longer to find work.

Dental hygienists who spent more than 4 weeks looking for a job had less experience than hygienists overall.

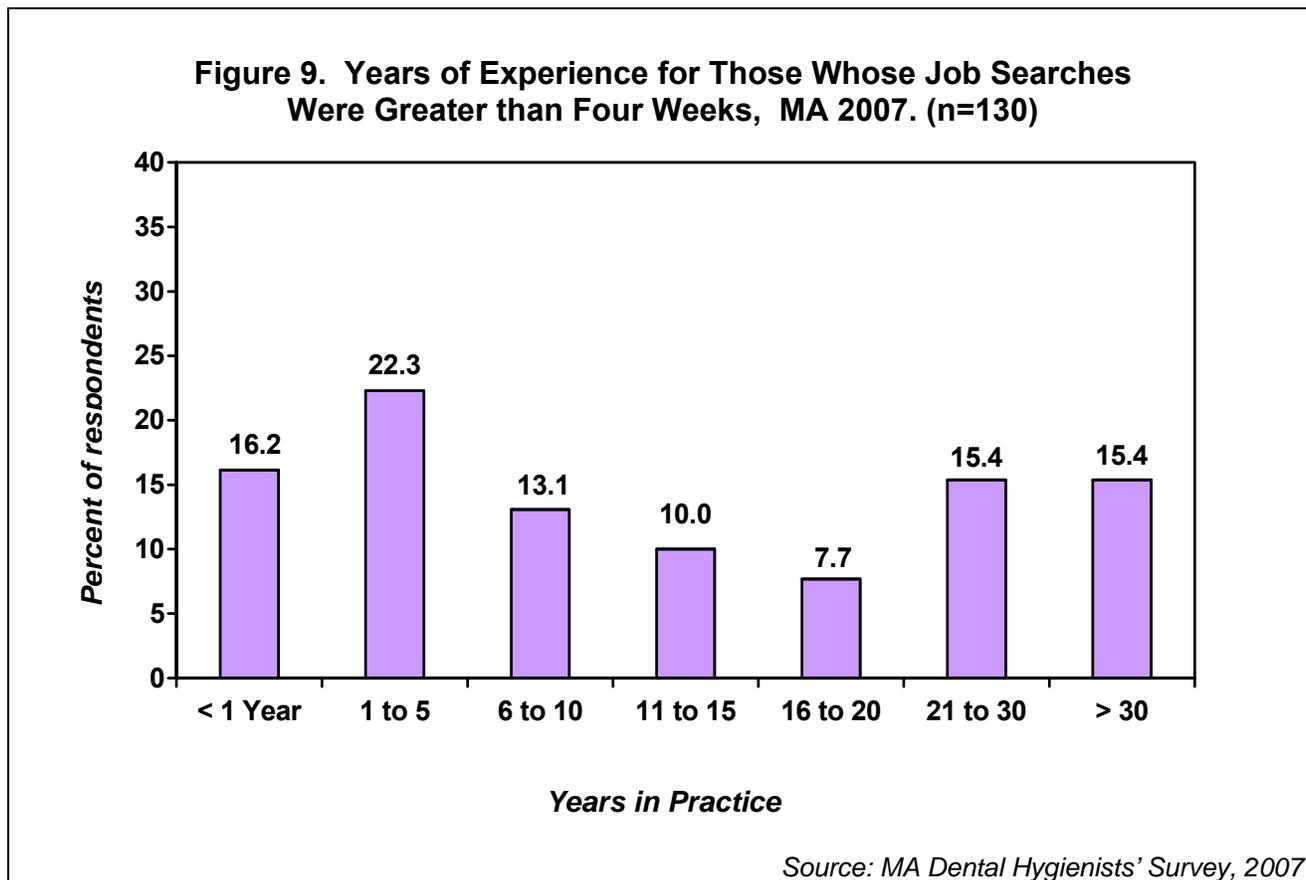
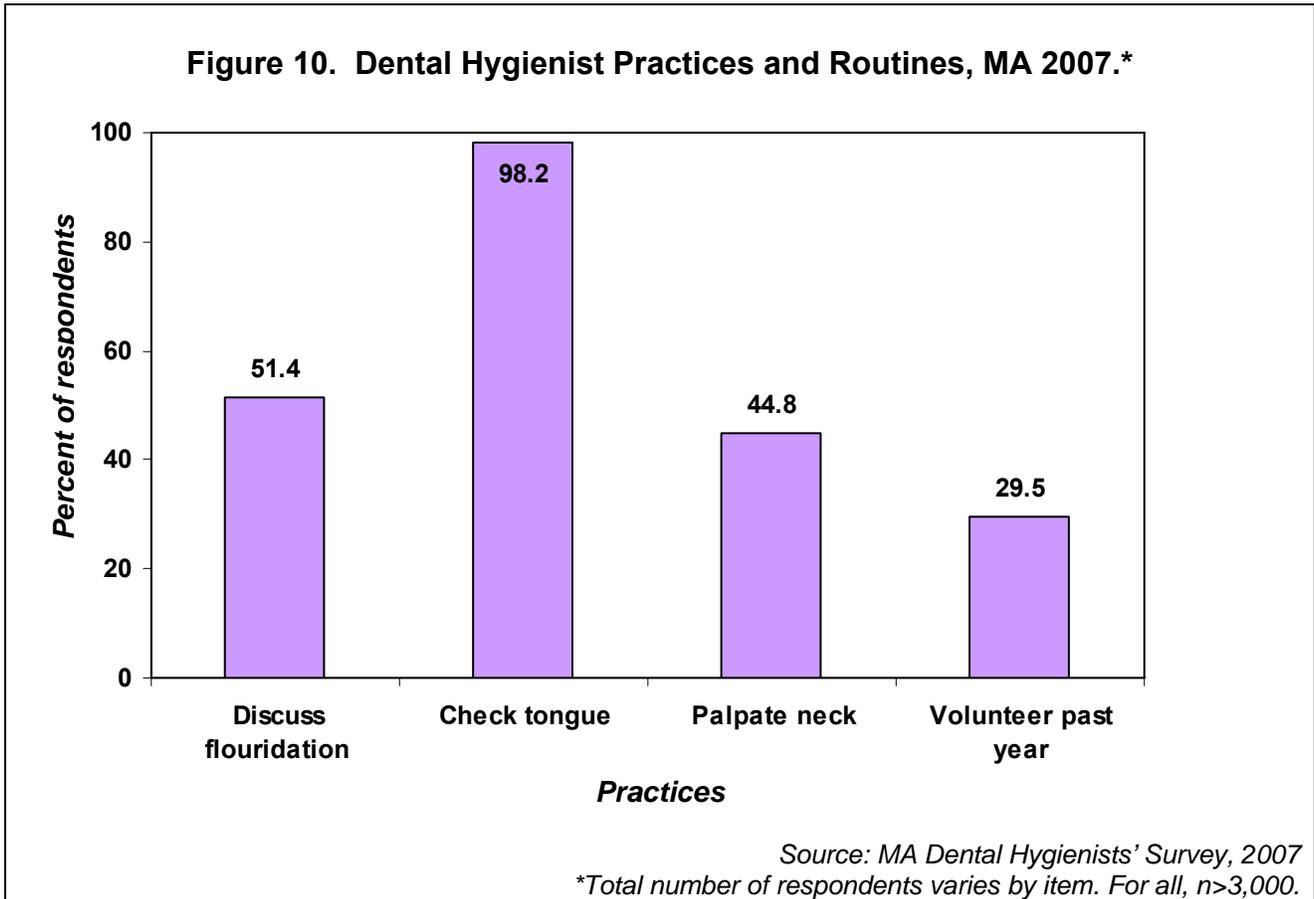


Figure 9 shows the years of experience among respondents who spent more than 4 weeks looking for work. Compared with the overall population of dental hygienists, those taking longer to find a job had fewer years of experience. However, the number of respondents who reported longer job searches was small (n=130). Educational attainment among longer-term job seekers was similar to the overall respondent group, with most holding the associate's degree (72.3%) and smaller proportions having bachelor's (20.0%), master's (5.4%) and dental hygiene certificates (2.3%).

Those who reported spending more than 4 weeks looking for work were somewhat younger than the group overall. Over 21% were under age 30 (compared with 11.8% in the overall group). However, the rest of the distribution of longer-term job seekers mirrored the overall hygienist population.

Among those reporting that they had been offered a job in the last calendar year, 77.3% indicated that they had accepted the position, and 22.7% said they had turned it down.

Nearly all dental hygienists reported routinely checking the lateral borders of patient tongues.



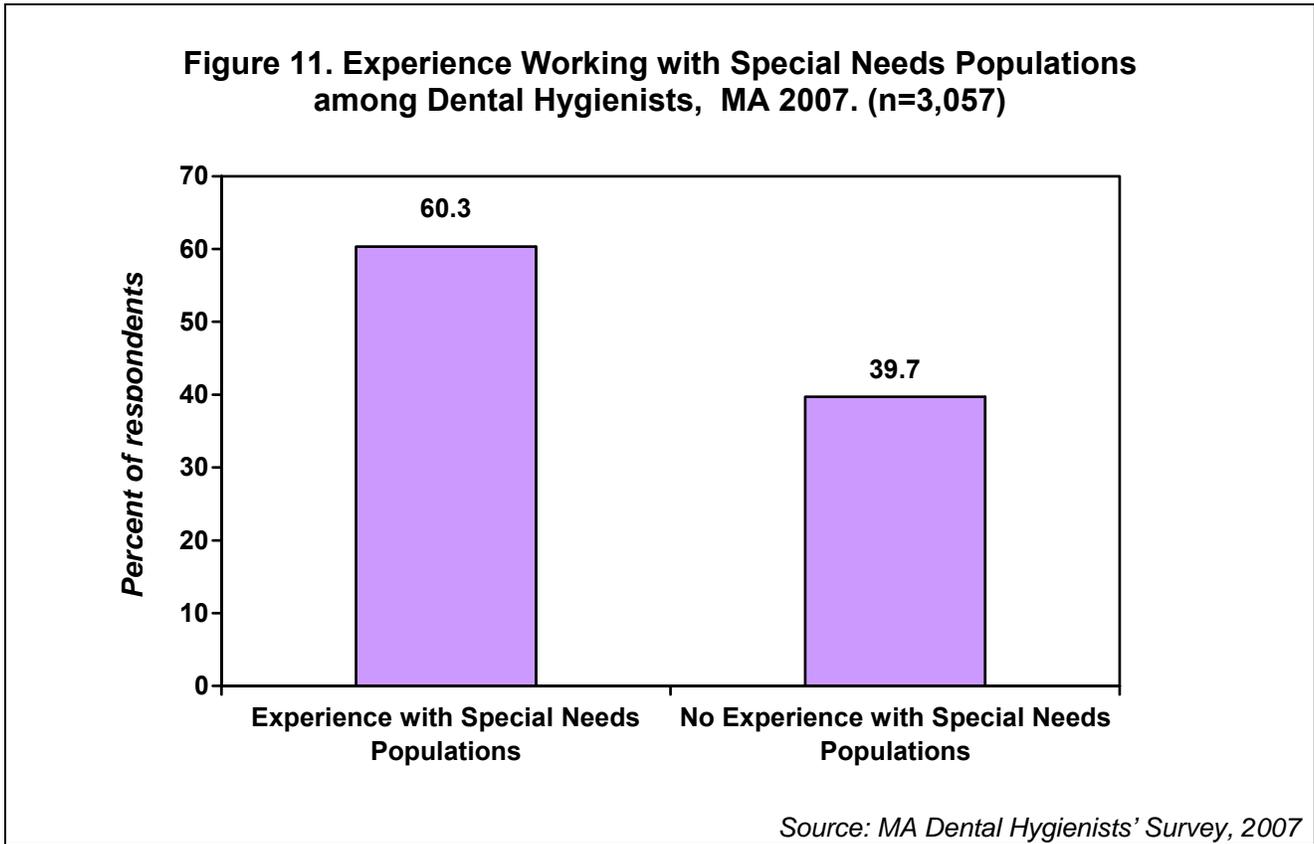
Over 51% of those responding to the question reported that they discuss the benefits of community water fluoridation during patient education (Figure 10).

Over 98% indicated that they routinely check lateral borders of patients' tongues, while 44.8% indicated that they routinely externally palpate patients' necks. It should be noted that respondents were not necessarily reporting that *nobody* in the practice performed the screening simply that *they* did not.

Almost 30% of respondents reported that they had used their dental hygiene experience in a volunteer capacity in the past year.

Ninety-four percent (n=2,976) of respondents reported placing dental sealants. Of these, over 82% indicated that they routinely placed sealants on their 5-12 year old patients, (43.5% on 5-8 year-olds and 38.9% on 9-12 year olds). Fewer reported doing so routinely among 13-16 year olds (14.5%), 17-21 year olds (1.3%) and patients over 21 (1.1%).

Over 60 percent of dental hygienists have experience in treating special-needs populations.



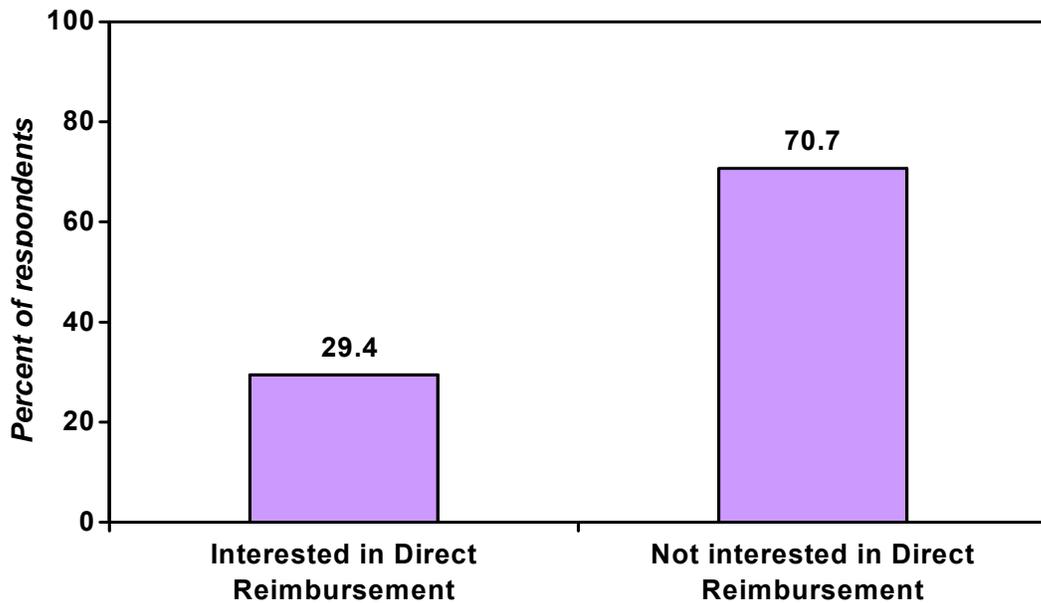
Over 60 percent, (1842) indicated experience working with special-needs populations** (Figure 11).

Almost 31% (804) expressed an interest in working with special needs populations.

**Special needs populations as defined in the survey instrument are the developmentally disabled, mentally ill, sensory loss, behavioral disorders, etc.

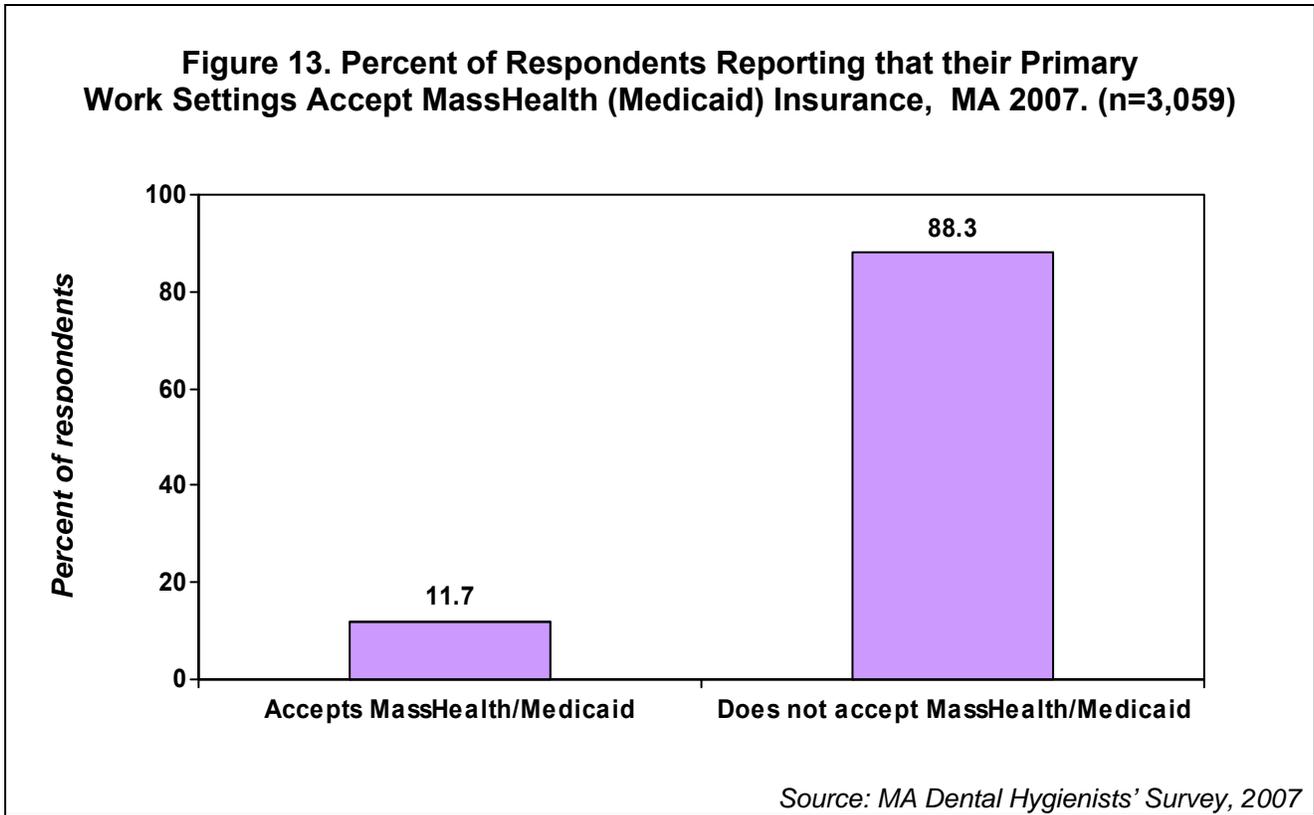
Of the 804 dental hygienists who expressed an interest in working with special needs populations, almost 30% indicated they would be interested in receiving direct reimbursement from Medicaid or other third-party payors.

Figure 12. Percent of Dental Hygienists Interested in Working with Special Needs Populations Who Are Also Interested in Becoming Directly Reimbursed by Medicaid and Other Third-Party Payors, MA 2007. (n=804)



Source: MA Dental Hygienists' Survey, 2007

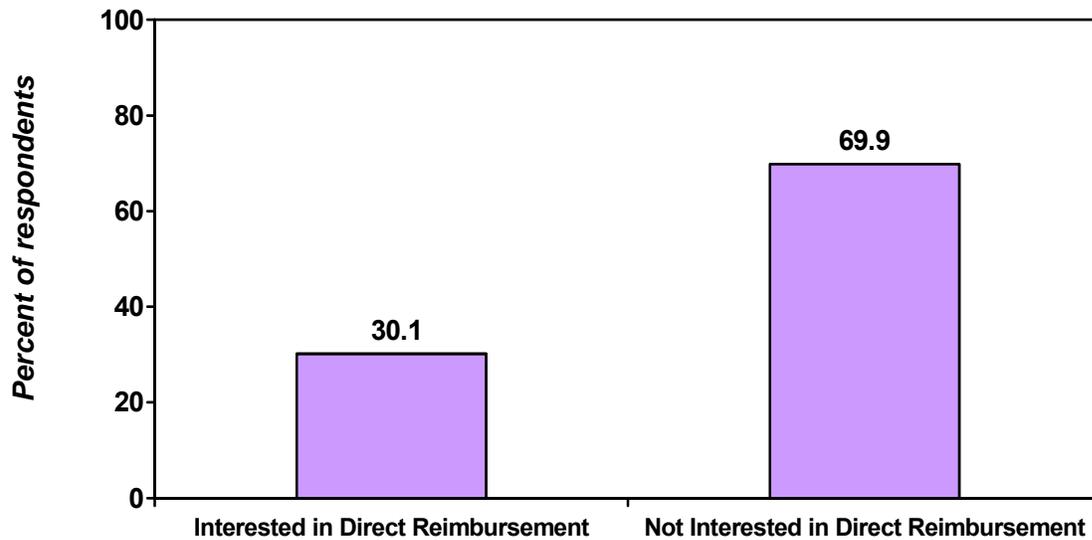
Fewer than twelve percent of dental hygienists reported that their primary work settings accept MassHealth/Medicaid insurance.



Fewer than twelve percent of respondents reported that their primary work settings accept MassHealth/Medicaid insurance. In 2007, approximately 17% (1,098,596)¹ of the population of Massachusetts was covered by MassHealth insurance.

Among dental hygienists who indicated that their practices do accept MassHealth, (n=312), over 30% indicated that they were interested in direct reimbursement.

Figure 14. Percent of Massachusetts Dental Hygienists Working in Primary Work Settings that DO Accept MassHealth, Who Are Interested in Becoming Directly Reimbursed by Medicaid and Other Third-Party Payors, MA 2007. (n=312)



Source: MA Dental Hygienists' Survey, 2007

Overall, among those responding to the question (2,802), over 17% (482) expressed an interest in becoming directly reimbursed by Medicaid and other third-party payors. No substantial difference was observed between the overall distribution of hygienists by years of experience and the distribution of those interested in becoming directly reimbursed.

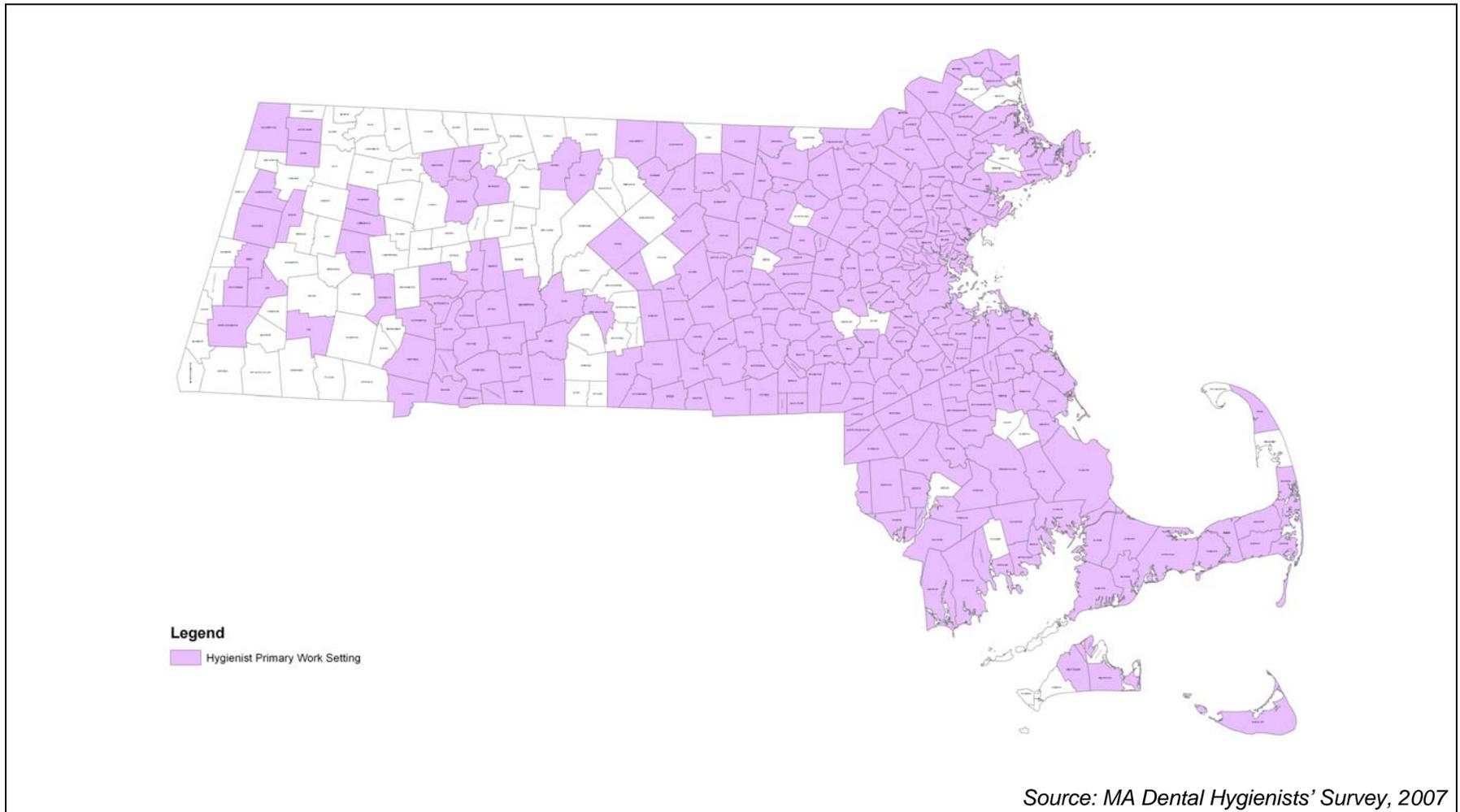
More highly-educated hygienists were disproportionately represented among those interested in direct reimbursement: 11.7% held a masters degree (compared with 3% overall), 23% held a bachelor's degree (compared with 18% overall), 62% held an associate's degree (compared with 75% overall) and 1.3% held a dental hygiene certificate (compared with 3% overall). Hygienists who expressed interest in direct third-party reimbursement were slightly younger than the total population of hygienists.

Among respondents who indicated that their practices do accept MassHealth, (n=312), over 30% indicated that they were interested in direct reimbursement (Figure 14).

Almost 85% of respondents (n=2,398) indicated that they work in practices which do not accept MassHealth. Among these, over 15% indicated that they were interested in being directly reimbursed through MassHealth or another third-party payer.

Some Massachusetts cities and towns may not have a practicing dental hygienist.

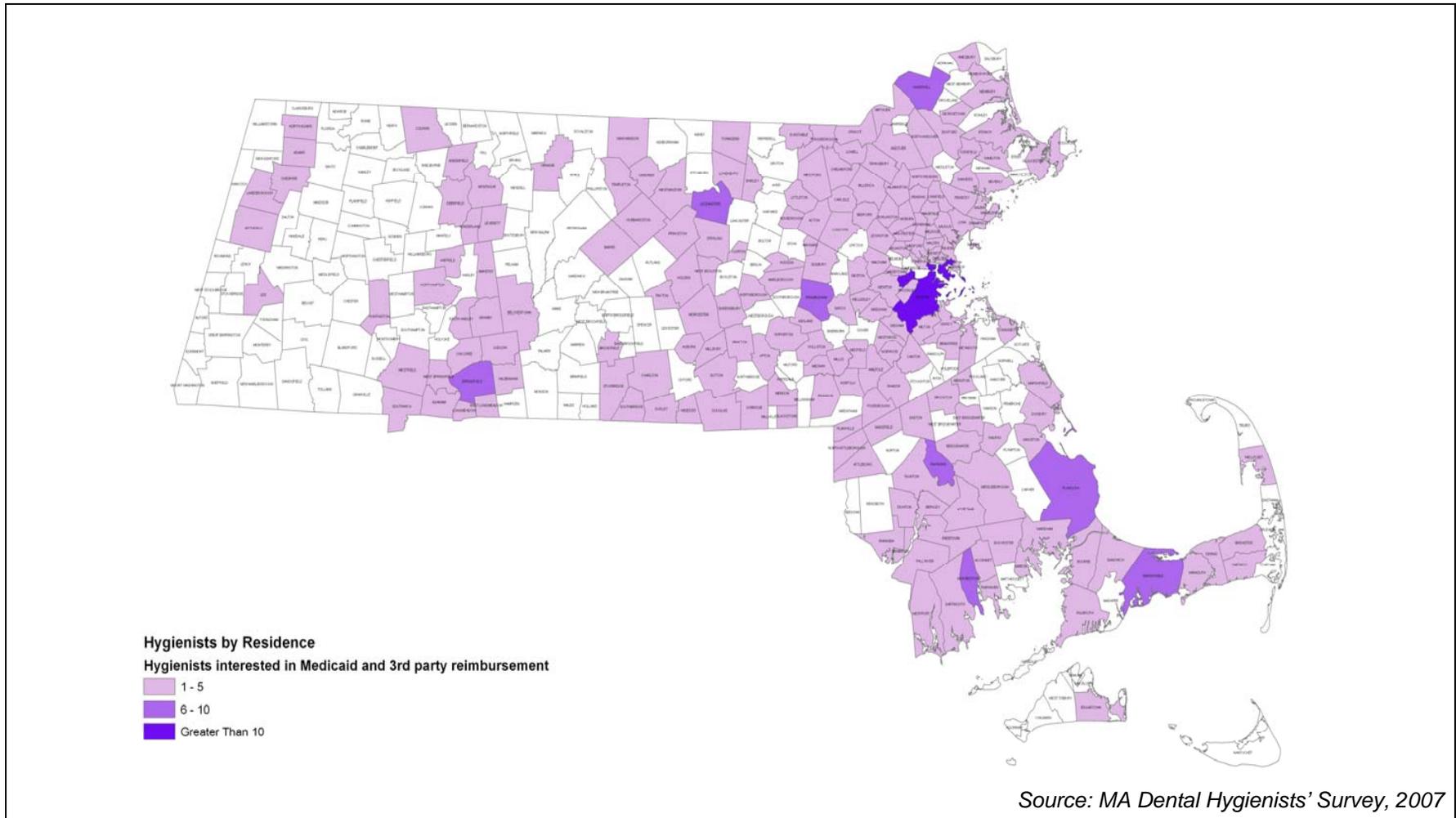
Figure 15. Location of Respondents' Primary Work Sites, MA 2007. (n=3,182)



Survey results suggest that some cities and town in MA may not have a practicing dental hygienist, (areas in white). Most of these areas were in the western portion of the state.

Among dental hygienists responding to the survey and working in Massachusetts, 482 were interested in becoming directly reimbursed by Medicaid and other third-party payors

Figure 16. Geographic Distribution of Respondents Interested in Medicaid and Third-Party Reimbursement, MA 2007. (n=2,802)



Discussion

Oral Health Needs in Massachusetts

In 2000, a Special Legislative Commission Report entitled: “The Oral Health Crisis in Massachusetts” documented an oral health crisis across the Commonwealth.²

Some of the findings include:

- MassHealth received 4,000 calls per month from MassHealth members unable to find dental care. (The second highest number of calls was for mental health services at 700 per month).
- 86% of dentists were not active providers in MassHealth, contributing to a crisis in access to care for the almost one million Massachusetts residents enrolled in MassHealth.
- About 77-88% of schoolchildren had no dental sealants.
- 2.5 million residents did not live in fluoridated communities.

The Special Legislative Commission Report made the following five major recommendations:

- Improving access to public/private dental insurance for residents of the Commonwealth to increase access to care.
- Improving access to oral health screening and treatment services for all residents of the Commonwealth by increasing the private and public capacity to provide dental services.
- Promoting statewide individual and population based preventive services and programs, especially for children and high-risk populations.
- The Department of Public Health should develop and implement an oral health data and information system to monitor health status as well as access and utilization of oral health preventive and treatment services for all residents of the Commonwealth.
- A Special Advisory Committee on Oral Health, whose primary focus will be to improve the oral health of residents of the Commonwealth, should be established as an ongoing advisory body for the Department of Public Health, the Division of Medical Assistance and other relevant state agencies.

This Legislative Commission Report stimulated a renewed interest in oral health over the last six years. There has been a significant increase in the number of community health center dental programs, promotion of the state loan repayment program for dental professionals, more attention to the Dental Medicaid program, an increase in school-based programs, and increases in funding.

Recent Surveys

Despite these advances, dental disease continues to remain a serious problem. The *2003 Statewide Oral Health Survey of Third Grade School Children*³ showed that:

- 48% of Massachusetts children had experienced dental disease;
- 41% of low income children had untreated decay; and

- 14% of low-income children had pain or infection.

This survey also showed that children with limited or no dental insurance are less likely to receive dental sealants, and low-income children have much greater unmet treatment needs. For the developmentally disabled and children with special health care needs, it is even harder to access dental treatment. In Massachusetts there are 221,840 (14.7%) children and youth under 17 years of age with special health care needs, greater than the national average of 12.8%.⁴

The *2004 Statewide Oral Health Survey of Head Start Children*⁵ showed that;

- 37% of Head Start children had experienced dental disease
- 29% of Head Start children had untreated decay; and
- 8% of these children 3-5 years old had pain or infection.

In 2006, the Massachusetts Office of Oral Health conducted a statewide survey of school nurses⁶ (n=1,562) to determine the number of schools with oral health prevention programs:

- Only 165 (8%) of the schools have a prevention dental program; and
- Most oral health prevention services were provided to 2nd graders.

Access

Unfortunately, access to oral health care is still a severe statewide problem, particularly in certain geographic areas lacking MassHealth dental providers. As of November 2007, the number of dentists enrolled in the MassHealth program is 1,178,⁷ 16% of the dentists licensed by the state, comparable to that described in the Special Legislative Commission Report. The location of dental providers is not evenly spread across the state. In a report⁸ released in 2006, it was noted that the majority of dentists who are MassHealth providers are clustered in urban areas and that:

- 187 cities and towns have no dentist that accepts MassHealth; and
- 69 cities and towns in Massachusetts have no dentist.

All community health center dental programs in the state provide dental treatment to MassHealth eligible residents. In calendar year 2005, they provided more than 319,000 dental patient visits,⁹ however, these programs have more patients they then can serve and often have long waiting lists.

On July 1, 2007, Massachusetts became the first state in the United States to require that all residents have a minimal level of health insurance. This reform includes MassHealth dental benefits for children living at 300% below the federal poverty level. Adults whose income is over 100% of poverty-level or children and families whose income is 300% above the federal poverty level do not qualify for a dental benefit. In FY 2007, there were 469,472 children in the Commonwealth eligible for MassHealth/SCHIP dental benefits and more than 500,000 adults eligible for dental services. With this new law, these numbers are expected to increase, as will demand for access to dental services.

Survey Highlights and Recommendations

In January 2007, all 6,394 dental hygienists eligible for license renewal in Massachusetts were sent the survey; and of these, 4,498 (70%) were returned.

The 2007 Dental Hygiene Survey documents that:

- 58.2% of dental hygienists who responded to the survey have more than 15 years of experience
- 63% of dental hygienists responding to the survey work 30 hours or fewer per week
- 31% of dental hygienists who responded to the survey expressed an interest in treating special needs populations; of these 30 percent expressed an interest in being directly reimbursed by MassHealth/Medicaid and other third-party payors
- Fewer than 12% of dental hygienists who responded to the survey reported that their primary work settings accept MassHealth/Medicaid insurance; of these more than 30 percent expressed an interest in direct reimbursement by MassHealth/Medicaid and other third-party payors
- 17% of all dental hygienists responding to the survey reported an interest in direct reimbursement by MassHealth/Medicaid and other third-party payors

The dental hygiene profession began in 1913 as an innovative means of preventing poor oral health in public school children in Bridgeport, Connecticut, (see Appendix A-History of Dental Hygiene).¹⁰ Over the last nine decades, as the profession of dental hygiene has evolved from a school-based focus to a private practice model, so have preventive oral health services. The use of fluorides and dental sealants has given society cost-effective preventive measures when used in population-based prevention programs. However, only 8% of Massachusetts schools have oral health prevention programs.

With the release of *Oral Health in America: A Report of the Surgeon General*¹¹ (2000), *A National Call to Action to Promote Oral Health* (2003)¹², and increasing scientific evidence on the relationship between oral health and general health, there is renewed interest across the country and the Commonwealth in providing preventive oral health services in schools, nursing homes and other public health settings.

Currently, 22 states have dental practice acts that allow the public direct access to a dental hygienist in public health or alternative practice settings; this improves direct access to preventive services. In addition, 12 states allow dental hygienists to receive direct reimbursement by Medicaid¹³ to increase access to oral health services for the most vulnerable in our society (see Appendix C-Direct Access States); and some states allow physicians to provide preventive oral health services and be reimbursed by Medicaid.¹⁴ Massachusetts is not one of these states.

Residents of Massachusetts who pay for dental services in a private dental office and/or have private dental insurance may receive regular preventive services. With only 16% of the dentists licensed by the state serving Masshealth/Medicaid recipients, most of these recipients, as well as the underinsured and uninsured, may not have ready access to preventive oral health services except through a community health center or other public health program.

Recommendations

Based on the survey findings the following are recommended.

Oral health professionals, public health advocates, community leaders and policy makers must continue to address the oral health crisis in Massachusetts.

Utilization of dental hygienists in public health and alternative settings such as schools, nursing homes and shelters would reduce disparities and improve direct access to preventive care to those residents of the state at highest-risk for dental disease, MassHealth recipients, the low income, children, elderly and the developmentally disabled. Attention should be paid to the educated, experienced and available workforce of dental hygienists in the Commonwealth.

Initiatives should be focused on expanding MassHealth provider status to all interested licensed dental professionals, in order to increase the availability of a well-trained oral health workforce serving our most needy residents. Increased utilization of preventive services saves more expensive treatment dollars.¹⁵ The number of MassHealth members is growing due to Health Care Reform and there is an already documented access problem for special population groups.

Innovative and creative strategies, initiatives and programs need to be developed to attract currently licensed dental hygienists to return to the dental workforce so that more people may access preventive services. Focus should be on the expansion of community-based prevention programs and the integration of oral health into primary practice settings.

Using dental hygienists to prevent oral disease and increase access was groundbreaking and innovative in the early 20th century; but in this, the 21st century, utilizing the dental hygiene workforce is resourceful, necessary and essential to respond to the oral health crisis in Massachusetts.

Appendix A: History of Dental Hygiene

In the early 20th century, Alfred C. Fones, DDS, known as the *Father of Dental Hygiene* understood the “need of the dental profession in solving the public health problem of mouth hygiene to be an immense corps of women workers, educated and trained as dental hygienists, and therefore competent to enter public schools, dental office, sanitariums, infirmaries, public clinics, factories ... to care for the mouth of the millions who need this educational service”, (Fones, 333).

On November 17, 1913, thirty-three women, which included schoolteachers, trained nurses, and experienced dental assistants began the inaugural course. Training took place in the private office of Dr. Fones and six months later, on June 5, 1914, twenty-seven graduated as dental hygienists. Beginning in the fall of 1914, ten dental hygienists broke new ground by beginning a demonstration project in the Bridgeport Public Schools to investigate what might be accomplished by applying the known means for preventing dental disease (caries) to large groups of schoolchildren. “This was the inspiration for the original training course for dental hygienists, to provide a corps to carry out the first dental service in the public schools along educational and preventive lines”, (Fones, 334). All the work was done in the schools using portable dental equipment and about 20,000 children grades 1-5 were seen annually. Due to the overwhelming and persistent need for dental hygienists to work in the schools, two more courses were held, the third beginning in 1916. “A total of 97 hygienists were trained in three Fones’ courses” (Fones, 354), and subsequently organized institutions of higher education took over the training.

“Without a doubt, these auxiliary practitioners of educational and preventive dental service constitute one of the greatest contributions of dentistry to the public’s health during the past twenty years.” (Fones, Philadelphia, PA, August 24, 1926)

Appendix B: Massachusetts Dental Hygiene Schools

The first dental hygiene school in Massachusetts opened in Boston in 1916, and was the only dental hygiene school operating in the state for more than fifty years. Currently Massachusetts has eight dental hygiene schools, seven conferring an associates degree and one conferring a baccalaureate degree with a total possible first year enrollment of 233 students.

Forsyth School for Dental Hygienists, Boston
Massachusetts College of Pharmacy and Health Science,
Established 1916
Highest Degree Conferred: Bachelor of Science
Possible Total Enrollment 1st Year Class: 60

Bristol Community College, Fall River
Established 1969
Highest Degree Conferred: Associate in Science
Possible Total Enrollment 1st Year Class: 22

Springfield Technical Community College, Springfield
Established 1971
Highest Degree Conferred: Associate in Science
Possible Total Enrollment 1st Year Class: 21

Cape Cod Community College, West Barnstable
Established 1972
Highest Degree Conferred: Associate in Science
Possible Total Enrollment 1st Year Class: 22

Quinsigamond Community College, Worcester
Established 1973
Highest Degree Conferred: Associate in Science
Possible Total Enrollment 1st Year Class: 30

Middlesex Community College, Lowell
Established 1975
Highest Degree Conferred: Associate in Science
Possible Total Enrollment 1st Year Class: 42

Mount Ida College, Newton
Established 1999
Highest Degree Conferred: Associate in Science
Possible Total Enrollment 1st Year Class: 24

Mount Wachusett Community College, Fitchburg/Gardner
Established 2005
Highest Degree Conferred: Associate in Dental Hygiene
Possible Total Enrollment 1st Year Class: 12

Appendix C:

States Which Allow Direct Access to a Dental Hygienist

Arizona	California	Colorado	Connecticut
Iowa	Kansas	Maine	Michigan
Minnesota	Missouri	Montana	Nebraska
New Hampshire	New Mexico	New York	Nevada
Oklahoma	Oregon	Pennsylvania	Rhode Island
Texas	Washington		

States Which Directly Reimburse Dental Hygienists for Services under the Medicaid Program

California	Colorado	Connecticut	Maine
Minnesota	Missouri	New Mexico	Montana
Nevada	Oregon	Washington	Wisconsin

Appendix D: 29-Item Survey Instrument



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Massachusetts Dental Hygienists' Survey

The Massachusetts Department of Public Health Office of Oral Health in collaboration with the Massachusetts Board of Registration in Dentistry and the Massachusetts Dental Hygienists' Association is collecting information on dental hygiene professionals in Massachusetts. Your completion of this information sheet will assist in the development of oral health programs and increasing access to dental services. **All information received will be kept confidential.** If you have any questions about the information requested, please contact Lynn Bethel, Interim Director, Office of Oral Health at 617-624-6074. **Please return the completed survey to Massachusetts Board of Registration in Dentistry, 239 Causeway Street 2nd floor, Boston, MA 02114.** Thank you for your cooperation.

1. How many years do you/have you practiced dental hygiene?

- <1Yr 16-20 Yrs
 1-5 Yrs 21-30 Yrs
 6-10 Yrs >30 Yrs
 11-15 Yrs

2. Indicate what degrees you have earned: (check all that apply)

- Certificate in Dental Hygiene
 Associate Degree
 Baccalaureate Degree
 Master's Degree
 PhD/DDS/DMD Degree
 Other

3. Are you currently working as a dental hygienist?

- YES NO

If "YES", please go to question #5.

If "NO", please go to question #4.

4. If "NO"; do you intend to return to the practice of dental hygiene?

- YES NO

If "NO", please go to question #22.

5. If you are currently practicing dental hygiene, in how many practice settings do you work?

- One
 Two
 Three
 More than Three

6. Which best describes your primary work setting? (please check only one)

- General Private Practice
 Pediatric Private Practice
 Other Specialty Practice
 School-Based Clinic
 Hospital/Nursing Home
 Education
 Research
 Public Health
 Corporate Sales
 Community Health Center
 Other

7. What is the zip code of your primary work setting?

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8. How many hours per week do you currently work as a dental hygienist in your primary work setting?

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9. Does your primary work setting accept MassHealth (Medicaid) insurance?

- YES NO

10. What is your current hourly wage? (Please remember that all information is completely anonymous)

- <\$25 \$35-\$39
 \$25-\$29 \$40-\$44
 \$30-\$34 >\$45

11. Please check the benefits listed below that you receive in your primary work setting.

- Health Insurance
 Retirement Plan
 Sick Time
 Continuing Education
 Paid Vacation
 Child Care
 Uniform Allowance
 Profit Sharing
 Paid Professional Dues
 Other

If you only work at one location skip to question #16.

12. What is the zip code of your secondary work setting?

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13. How many hours per week do you currently work as a dental hygienist in your secondary work setting?

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14. Does your secondary work setting accept MassHealth (Medicaid) insurance?

YES NO

15. What is your current hourly wage? (Please remember that all information is completely anonymous)

- <\$25 \$35-\$39
 \$25-\$29 \$40-\$44
 \$30-\$34 >\$45

16. If you sought a dental hygiene position within the last year, how long was the time between your decision to seek a job to your being hired?

- < 1 week
 1-2 weeks
 >2 weeks and <4 weeks
 4 weeks but less than 8
 8-11 weeks
 3 months or longer
 Didn't look for a new position

17. In the last calendar year (2006), have you been offered a dental hygiene position but turned it down?

YES NO

If yes, did your decision include?

- Salary
 Equipment
 Hours
 Time allowed for patient Trx
 Office Staff
 Benefits
 Infection Control/Other Policies

18. During patient education do you routinely discuss the benefits of community water fluoridation?

YES NO

19. Do you routinely check the lateral borders of patient tongues?

YES NO

20. Do you routinely externally palpate patient necks?

YES NO

21. On what age group do you routinely place sealants?

- 3-4 Yrs 13-16 Yrs
 5-8 Yrs 17-21 Yrs
 9-12 Yrs Over 21 Yrs

22. In the year 2006 have you used your dental hygiene experience in a volunteer capacity?

YES NO

23. Do you have experience working with special needs populations? (By special needs population we mean: developmentally disabled, mentally ill, sensory loss, behavioral disorders, etc.)

YES NO

24. Do you have an interest in working with special needs populations?

YES NO

25. Are you currently certified to administer local anesthesia?

YES NO

If not, do you plan to become certified?

YES NO

If you do not plan to become certified, why not?(check only one)

- Not interested
 No monetary compensation
 Cost
 Fear
 Increased liability

26. Do you have an interest in becoming directly reimbursed by Medicaid and other 3rd party payers?

YES NO

27. Are you a member of:

- ADHA
 National D.H.A
 ADA
 None
 Other

28. What is the zip code of your residence?

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29. What was your age at your last birthday?

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**Please Complete and Return by March 31, 2007
 THANK YOU!**

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