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Dental Services and Workforce in New Hampshire

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About this paper

This paper is an analysis of the dental workforce in New Hampshire. The Concord-based Endowment for Health has sponsored this work.

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Executive Summary

According to the 2000 U.S. Surgeon General report, over 108 million children and adults lack dental insurance – more than 2.5 times the number of people who lack medical insurance. A lack of dental insurance coverage may reduce access to primary dental health services critical for a person's overall health. Dental conditions can be progressive and can worsen over time without proper treatment. Diseases of the mouth can impact a person's ability to eat and to speak, which can affect economic productivity and home life. [1] Furthermore, dental problems are often caused by and are, therefore, a signal of other serious conditions, such as infections, diabetes, stroke, and cardiovascular disease.[2]

Advocates and dental health providers in New Hampshire have long argued that there is a dental access problem in the state, especially in the rural areas of New Hampshire. Understanding current measures of access and the current dental workforce will help policymakers and other stakeholders in the oral health arena identify potential gaps in treatment access for certain populations, whether by income, insurance coverage, or geography.

This paper provides an overview of the currently available data on access to dental services and the availability of dental providers across the state. This report will also review, to the extent possible, the implications of workforce on those with Medicaid coverage and the uninsured and will raise questions regarding whether the current dental workforce providing care for this population is sufficient to meet the state's needs.

This report is divided into three sections. First, this paper explores different measures of access to dental services. The second section presents a snapshot of New Hampshire's current dental workforce and how this workforce has changed over time. The third section explores, to the extent the data allows, the scope of and issues surrounding Medicaid enrollment, insurance coverage and the availability of dental services.

Access to Dental Services

New Hampshire-specific data suggest that access problems may be even more problematic in New Hampshire than in the rest of the country. According to data from the Behavior Risk Factor Surveillance Survey (BRFSS), an estimated 11% of the population was without medical insurance. That same survey found that 39% of the population lacked dental coverage – three times the rate of those without medical insurance – suggesting that dental coverage rates are worse in New Hampshire than in the nation generally.

Another measure of access to general dental care provided is the degree to which different populations access emergency department (ED) services for dental emergencies, generally an indication of poor access to primary dental services. Insurance coverage is

[1] U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

[2] American Dental Association. "Oral-Systemic Health" http://www.ada.org/public/topics/oralsystemic.asp Accessed December 10, 2009.

correlated with accessing treatment through an emergency department. Medicaid-enrolled children are more than twice as likely as privately insured children to access an ED for a dental emergency, suggesting that barriers to general dental care may exist for these children. Similarly, adults covered by private insurance are far less likely than uninsured adults to access an ED for a dental issue.

A final measure of access is the degree to which Medicaid enrollees, particularly children, are accessing dental services.[3] According to the 2000 U.S. Surgeon General report, tooth decay is the most common chronic disease of children – five times more common than asthma.[4] Poor dental health has been connected to ear and sinus infections, poor nutrition, and impacted speech – all potentially impacting a child's development and overall quality of life.

Medicaid plays a significant role in healthcare, including dental care, for children in the state, covering almost 70,000 children in FY 2008. In that year, over 46,000 children received some dental service from a general or pediatric provider at a cost of $13.8 million. The advocacy group, Oral Health America, gave New Hampshire a "B" for access via Medicaid and a "C+" for access overall to vulnerable populations.[5] The report gave a grade of "C" to Medicaid access and access overall to vulnerable populations nationwide.

Overall, 68% of Medicaid-enrolled children accessed a general or pediatric dentist for care. However, this varied substantially across counties. Over 85% of Medicaid-enrolled children accessed services in Cheshire and Rockingham counties but less than 40% of Medicaid-enrolled children accessed a dentist in Sullivan or Grafton counties. As previous studies have shown, not all dentists in New Hampshire accept Medicaid. A recent report showed that only 44% of dentists reported that Medicaid patients accessed services.[6]

New Hampshire's Dental Workforce

Overall, New Hampshire has 757 licensed and active general practice or pediatric dentists to provide primary oral health care,[7] most of whom practice in the southeastern counties of the state. New Hampshire, as compared to the nation as a whole and the surrounding New England states, has slightly more dentists per 10,000 residents than the U.S. (5.5),

[3] Because Medicaid does not have an adult dental benefit and its eligibility qualifies only particularly vulnerable populations of adults, such as those with long-term disability or pregnant women, an analysis of dental care access in these populations would not be meaningful as a way to discuss dental care access for adults without access to oral health services.

[4] *Oral Health in America: A Report of the Surgeon General*. U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2000. Hereafter referred to as, *Surgeon General's Report, 2000*.

[5] *Keep America Smiling: Oral Health in America, The Oral Health America National Grading Project.* 2003. According to this report, a "B" grading represents between 50% to 70% of dentists billed for a Medicaid service. Overall access was the average of measures of Medicaid access and access for the elderly.

[6] "A Report on the State of New Hampshire's Oral Health Workforce." Bi-State Primary Care Association. 2007.

[7] These data are based on the list of currently licensed dentists from the NH Board of Dental Examiners.

Vermont (5.5), and Maine (4.7), but has fewer dentists than Massachusetts (7.1). New Hampshire's dentist workforce is also growing at a similar rate to the nation as a whole, growing at almost three percent per year from 1998-2007 – the fastest rate among the four most northern New England states.

There is significant geographic diversity in the dental workforce. Hillsborough County had the highest number of active, general practice or pediatric dentists per 10,000 residents, at 6.3, higher than the state average of 5.8 dentists per 10,000 residents. Conversely, the northern areas of the state have been designated as federal Health Professional Shortage Areas for dental providers due to the socio-economic characteristics of the community and the lack of availability of providers. However, surprisingly, Sullivan County, in the western part of the state, has the fewest dental providers, at 3.3 dentists per 10,000 people.

Dental hygienists play an important role in providing dental care and promoting oral health. New Hampshire tends to rely more on hygienists than the nation as a whole, with seven versus four licensed hygienists per 10,000 residents, respectively, in 2000. However, the dental hygienist workforce is growing more slowly than the U.S. and the surrounding New England states.

In general, the dental workforce in New Hampshire is changing. Although the dentist workforce has increased, larger shares of dentists are practicing part-time, possibly influencing the number of patients served. Also, the dental workforce is aging faster than the population as a whole; these dentists will soon reach retirement age. These changes raise important questions regarding workforce capacity for the future of the state.

The Availability of Dentists for Medicaid-enrolled and the Uninsured

Both access to insurance coverage and the availability of a dental workforce have implications for access to care. The geographic variation illustrated by our analysis of access and the size of the dental workforce suggest that there is a correlation between workforce availability and access.

The counties with the largest percent of Medicaid children accessing dental services, Rockingham and Cheshire, were also the counties with the highest number of providers who billed Medicaid per enrolled child, at roughly 7 and 5 providers per 1,000 Medicaid-enrolled children, respectively. Compare that with Sullivan County, the county with the lowest percent of Medicaid-enrolled children accessing services, which has only 3 providers per 1,000 Medicaid-enrolled children available. No sub-state data are currently available on how many uninsured residents, children or adults, are accessing services and receiving the right care.

Community- and school-based dental services also play a role in access to care, especially for children. These programs provide preventative and restorative care to individuals who would not otherwise have access to dental services. In fiscal year 2005, twenty-six community-based programs treated over 12,000 of the state's residents, and school-based programs provided services to almost 14,000 second and third graders across the state.

Implications

At a minimum, these data raise questions as to whether there are workforce shortages – including those that serve the Medicaid population – across the state and there appears to be a relationship between workforce availability and access. The analyses presented show that access gaps exist in areas policy makers have focused on – such as those federally designated as workforce shortage area – but also in Sullivan County.

This analysis also points to significant gaps in information on dental services in the state. The state and researchers in the state have no comprehensive source of information on the receipt of dental services by those with private insurance or the uninsured. This gap could be filled by mandating that dental insurers doing business in New Hampshire provide data to the state's Comprehensive Health Information System which currently collects data on medical care services from those medical insurers doing business in New Hampshire.

Two other trends are worth noting. As has been demonstrated elsewhere, the state is aging and this has implications for both the dental workforce – which itself is aging – as well as the patients. On the one hand, it is possible that access could decline as the pool of dental providers actively practicing declines. Policymakers in the dental arena need to make sure that workforce development issues, which may only get worse as the population ages, are addressed. Moreover, there is a growing population – those over the age of 55 – for which policy makers have little information. And, just as the medical system will need to respond to the needs of an aging population, so will the system that has evolved to provide dental services to New Hampshire residents.

Access to Dental Services in New Hampshire

There are a number of different ways to assess the level of access to dental services in New Hampshire. In this section, we provide three different measures to estimate access to dental services. The first is the share of the state's population with dental coverage. For this analysis, we cite a 2001 study of family health insurance conducted by the NH Department of Health and Human Services to look at the proportion of residents with health coverage who also have dental insurance. New Hampshire specific data from BRFSS further highlights the differences between medical and dental coverage. Individuals without health or dental insurance coverage are a policy concern because they often delay seeking treatment and receive less care than those who do have coverage.[8] The second is a more direct measure of access to services, emergency dental visits per 10,000 residents, which shows the magnitude of children and adults who must use emergency medical services to treat a severe dental issue. And, third, we discuss Medicaid enrolled children who access dental services.

Access to Dental Insurance

Table 1 shows New Hampshire's coverage rates for dental care and other benefits. As presented in the table, a substantially smaller share of the population in New Hampshire was estimated to have dental coverage than all other types of coverage. Although this data is from 2001, there is no reason to expect that coverage rates have increased significantly. In fact, since that time, economic situations have deteriorated and coverage in general has declined nationally.

Table 1: Coverage Rates for Dental, Prescription Drug, and Mental Health among those with Health Insurance in New Hampshire (under 65 years)[9]

Insurance Coverage Type	Percent of Individuals with Coverage	95% Confidence Intervals
Any Health Insurance	92%	91.0% - 93.0%
Among individuals with Health Insurance:		
Prescription Drug	89%	87.9% - 89.7%
Mental Health	87%	85.7% - 87.7%
Dental	72%	71.0% - 73.7%

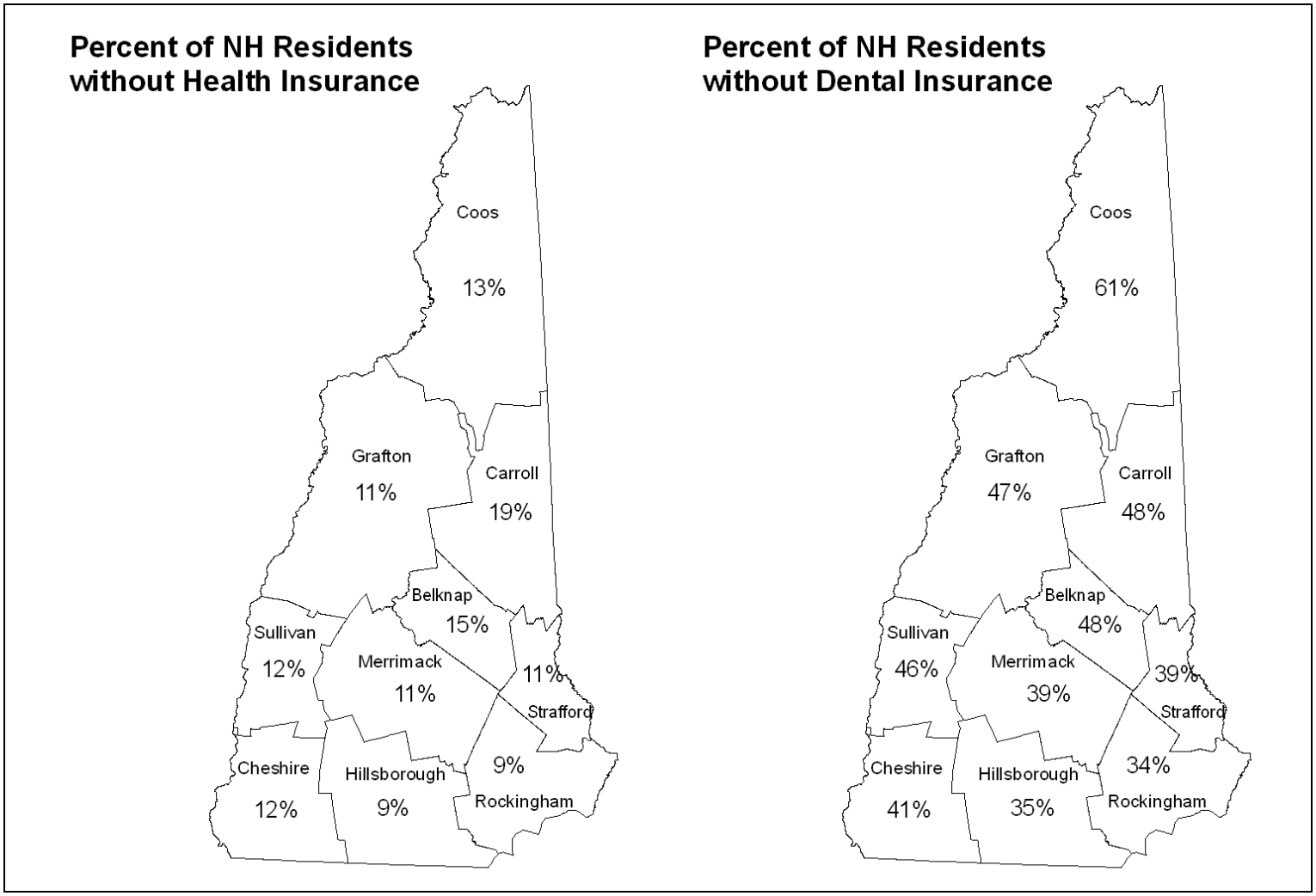
Figure 1 shows the uninsurance rate for medical coverage by county along with an estimate of individuals without dental coverage.[10] Overall, in 2006, 39% of New Hampshire residents were without dental insurance coverage. As the maps show, Coos County has the highest percent of residents without dental insurance coverage, at 60%.

[8] Surgeon General's Report, 2000

[9] Insurance Family Survey. Office of Planning and Research, Department of Health and Human Services, New Hampshire, 2001. Confidence intervals display the upper and lower limits at the 0.05 significance level and account for clustering at the family level. Individuals over age 64 were excluded from the survey.

[10] Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data.* Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2006 (dental insurance), 2005 (health insurance).

Figure 1: Uninsured Rates for Health and Dental Insurance by County



Access to Emergency Departments for Dental Emergencies

Untreated dental conditions often result in infections and other serious, life-threatening diseases, many of which could have been prevented if detected and treated early by a general dentist. However, many children and adults are treated for these issues at their local emergency department (ED) when the condition reaches a crisis point. In 2007, there were over 14,000 visits to a local emergency department due to a dental issue (not including injuries). Table 2 highlights the impact of ED visits, presenting the 5-year average for emergency department visits for dental issues by hospital service areas in New Hampshire.

Table 2: Five-Year Average Rate of ED Dental Visits by Hospital Service Areas, 2003-2007[11]

Service Area	Children 0-18 years			Adults aged 19 and older		
	Average Population	Number ED Visits	Rate per 10,000	Average Population	Number ED Visits	Rate per 10,000
Berlin	3,419	16	46.2	12,634	151	119.7
Claremont	4,990	40	80.6	16,273	620	381.1
Colebrook	1,184	3	25.3	4,162	41	99.0
Concord	34,109	90	26.5	95,341	1521	159.5
Conway	4,664	12	26.2	15,128	180	118.9
Derry	39,554	27	6.9	91,745	510	55.6
Dover	16,936	34	20.0	54,353	718	132.1
Exeter	30,577	35	11.3	86,138	655	76.1
Franklin	6,218	42	66.9	17,296	730	422.3
Haverhill	1,622	8	51.8	5,197	92	176.6
Keene	16,225	15	9.5	50,530	296	58.6
Laconia	12,212	56	46.2	38,729	946	244.2
Lancaster	2,063	9	43.6	6,217	102	163.8
Lebanon	11,604	20	17.6	37,731	290	76.8
Littleton	4,628	16	35.4	14,713	238	161.5
Manchester	49,426	134	27.2	138,727	2282	164.5
Nashua	59,397	100	16.9	151,385	1703	112.5
New London	5,180	30	57.9	17,387	317	182.1
Peterborough	11,102	14	12.8	28,638	203	70.7
Plymouth	4,785	20	41.0	15,647	374	238.8
Portsmouth	7,322	9	12.3	29,286	207	70.6
Rochester	13,316	56	41.9	36,297	824	227.0
Wolfeboro	7,683	28	36.2	25,135	356	141.7
STATEWIDE	**323,702**	**821**	**25.4**	**988,689**	**13,355**	**135.1**

[11] Principal diagnosis codes (ICD-9) included: 521-521.9, 522-522.9, 523-523.9, 525.3, 525.9, 873.63, and 873.73 without any code indicating an injury. Source: NH Department of Health and Human Services.

As the data show, there is wide variation between hospital service areas in the state and the incidence of ED visits for dental problems. For example, Franklin and Claremont have more than twice the state average for the rate per 10,000 children or adults accessing an ED for a dental issue. This suggests that, for various reasons, many people are not or cannot access dental care in these areas until their disease becomes an emergency, and possibly life-threatening.

Not only geography, but insurance coverage impacts the rate of ED visits for dental disease. Table 3 shows that children without insurance are more than four times as likely and Medicaid-covered children are more then twice as likely than privately insured children to access an ED for a dental issue. Likewise, adults with Medicaid or who are self-pay are far more likely than adults with private coverage to access dental services through an emergency department. These data suggest that people covered by Medicaid or who are uninsured may not be able to access primary dental care services, unlike those who have private coverage.

Table 3: Dental Visits as Percent of Total Child Visits to Emergency Departments

Payer	2003	2004	2005	2006	2007
Commercial/Other	0.4%	0.4%	0.4%	0.4%	0.3%
Medicaid	1.2%	1.3%	1.1%	1.0%	0.8%
Self Pay	2.3%	2.5%	1.9%	2.0%	1.5%
Totals	**0.8%**	**0.9%**	**0.8%**	**0.7%**	**0.6%**

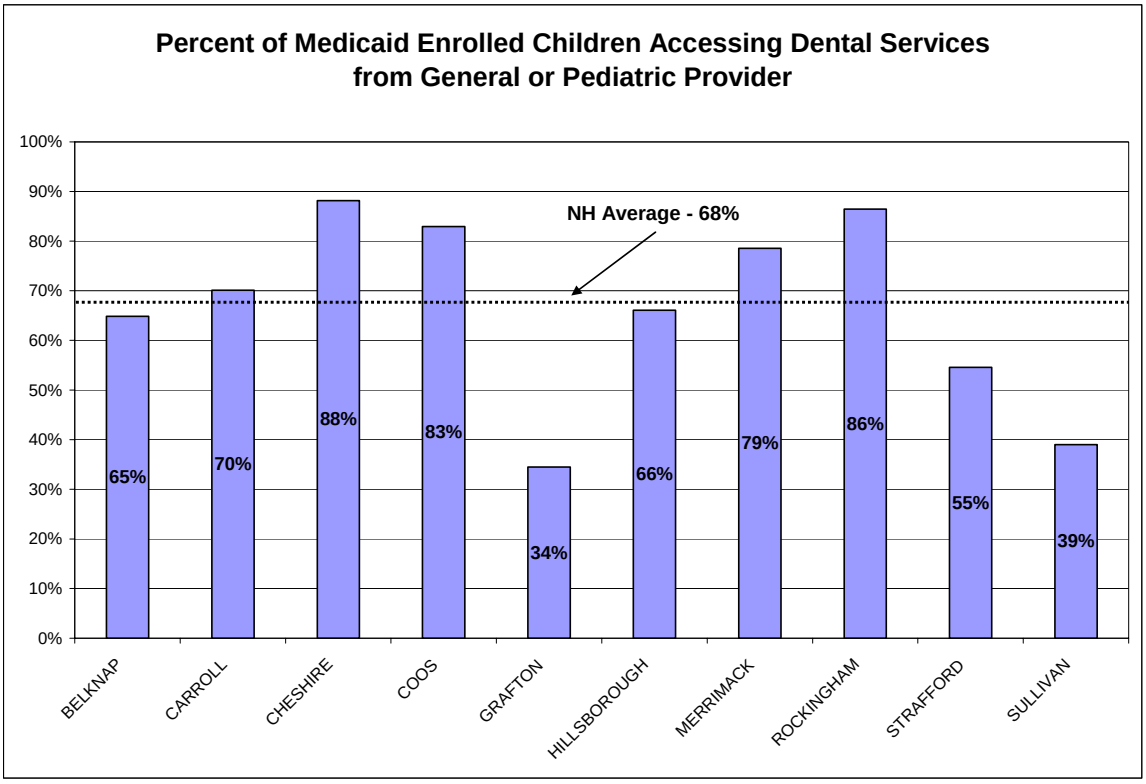
Table 4: Dental Visits as Percent of Total Adults Visits to Emergency Departments

Payer	2003	2004	2005	2006	2007
Commercial/Other	1.6%	1.6%	1.6%	1.6%	1.5%
Medicaid	9.0%	8.6%	8.1%	8.0%	7.0%
Self Pay	8.7%	9.6%	9.2%	8.8%	8.1%
Totals	**3.7%**	**4.0%**	**3.9%**	**3.8%**	**3.5%**

Access to Dental Services for Medicaid Enrollees

Figure 2 shows, by county, the percent of Medicaid enrolled children that accessed a dental service in Fiscal Year 2008. Statewide, 68% of the 68,000 Medicaid enrolled children accessed dental care, on average, with wide variation by county. It is important to note that children do access services in a county other than the one in which they live. Figure 2 is offered only to provide a general understanding of the scope of Medicaid-enrolled children accessing services.

Figure 2



Grafton, Strafford, and Sullivan counties all have percentages far lower than the state average, suggesting that barriers to access exist. In Grafton County, only about a third of Medicaid-enrolled children are accessing services. In contrast, Cheshire and Rockingham counties both have percentages around 85%, suggesting that most of the Medicaid-enrolled children in those counties are able to access dental services. Given that Grafton County has a higher than state average availability of dentists per resident (as will be discussed later in this report), these data suggest that relatively few providers are accepting Medicaid patients in this county. Strafford and Sullivan Counties have less than the state average availability of dentists per resident suggesting that these counties may be areas lacking a workforce capacity to serve this population.

Because Medicaid does not have an adult dental benefit and its eligibility qualifies only particularly vulnerable populations of adults, such as those with long-term disability or pregnant women, an analysis of dental care access in these populations would not be meaningful as a way to discuss dental care access for low-income adults without access to oral health services.

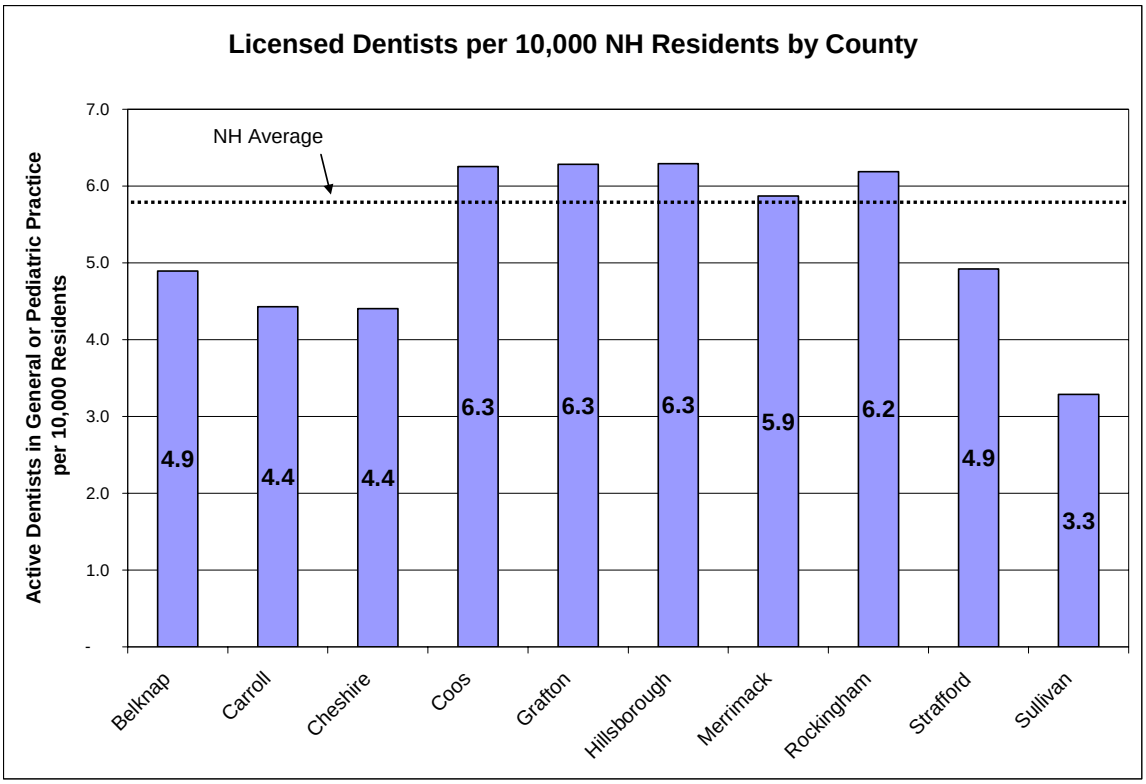
A Snapshot of New Hampshire's Dental Workforce

Licensed Dentists in Private Practice

In New Hampshire, there are 757 licensed, active dentists involved in general or pediatric practice. This represents 5.8 dentists per 10,000 residents across the state.[12] However, this figure only reflects dentists with active licenses, which does not directly represent the number of dentists in actual practice (actively licensed dentists may not be involved in direct patient care).

Active dentists are unevenly distributed across the state, with the lowest concentrations found in the western parts of the state, as shown in Figure 3. Sullivan County has the lowest number general or pediatric practice dentists, at 3.3 per 10,000 residents, and Hillsborough, Grafton, and Coos Counties have the highest, at 6.3 per 10,000 residents.

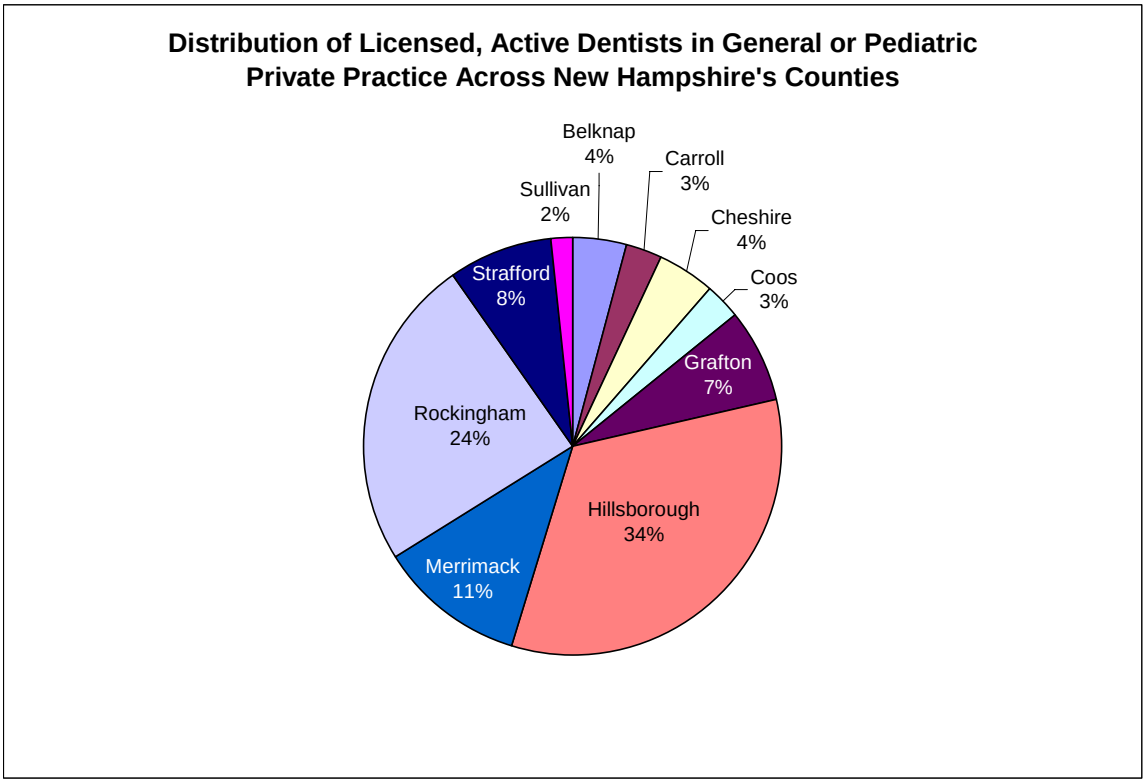
Figure 3



[12] Data from the New Hampshire Board of Dental Examiners. This includes all active dentists that list general practice or pediatric dentistry as a specialty and excludes any license with an out-of-state business address. Data received 09/10/2009.

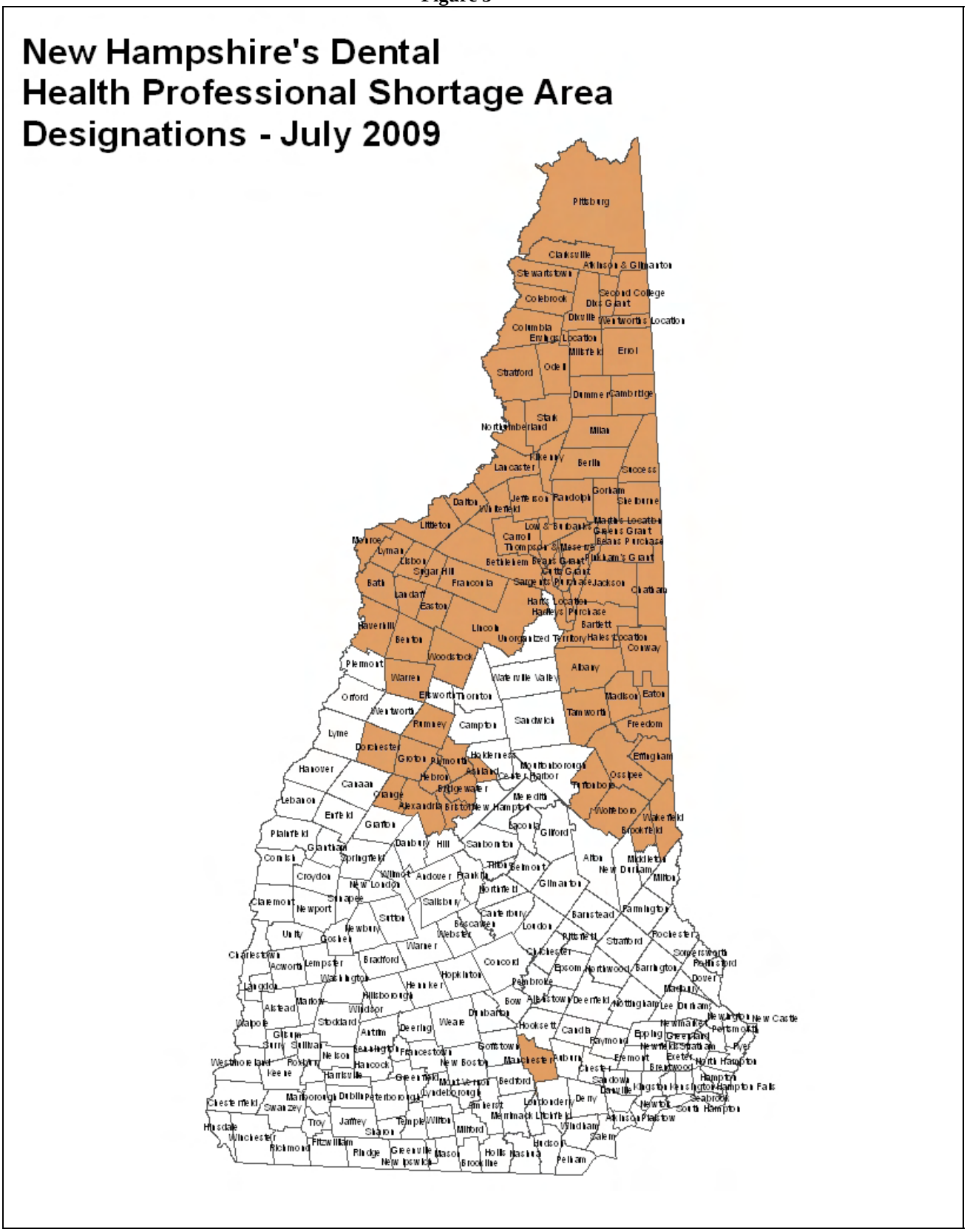
Hillsborough, Merrimack, and Rockingham counties, for example, all have dentists per 10,000 residents at or above the state average. Not surprisingly, the majority of the state's dental workforce is found in these counties. Figure 4 shows the distribution of dentists across counties.

Figure 4



As the graph highlights, over two-thirds of dentists in New Hampshire are found in three counties – leaving the remainder of dentists in practice to cover the vast majority of the geographic area of New Hampshire. Given this distribution of dentists across New Hampshire, many parts of the state are federally designated as a Dental Health Professional Shortage Area (HPSA), which may allow these areas additional federal resources and higher provider reimbursement rates in order to increase workforce. These areas of New Hampshire are illustrated in the map below (Figure 5).

Figure 5[13]



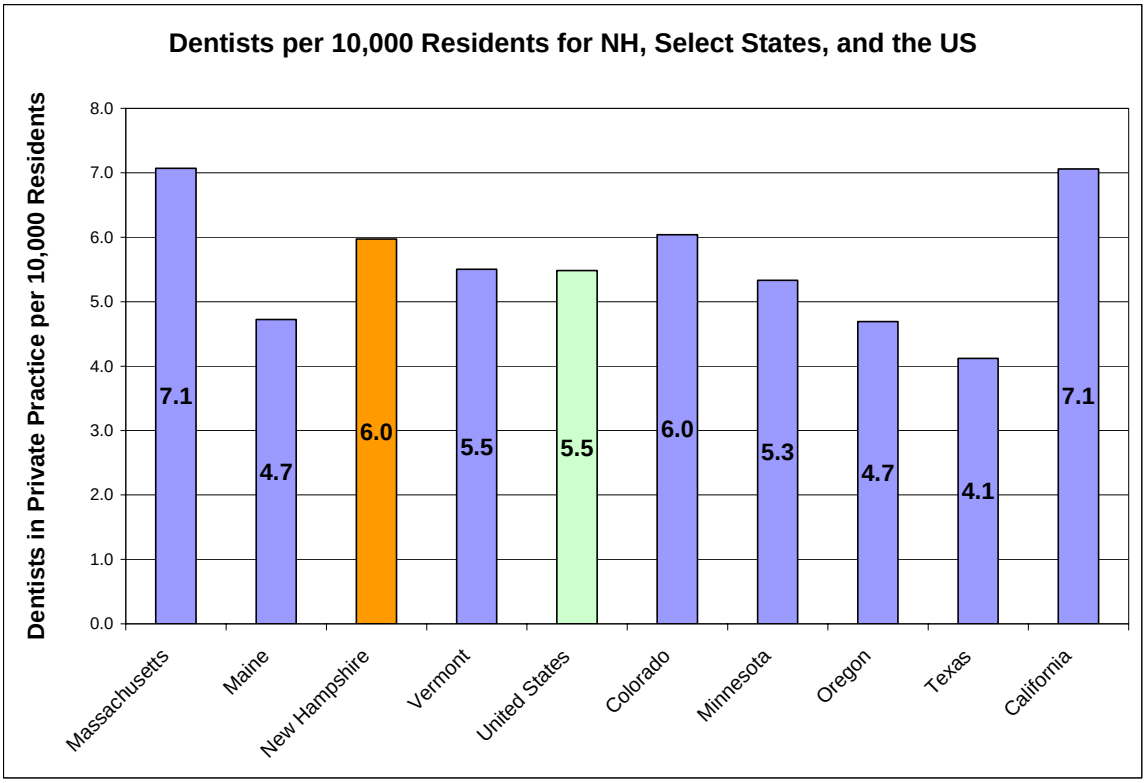
[13] See appendix for HRSA Professional Shortage Area definitions.

The shaded towns in the preceding map show a HPSA designation, either due to barriers for low-income populations – in Manchester, Conway, or Plymouth, and Northern Grafton and Coos counties – or due to inaccessibility because of geography – such as in Carroll County.[14] However, except for Carroll County, these HPSA designated areas are not the ones with the fewest dentists per 10,000 residents; those are Sullivan and Cheshire Counties.

How New Hampshire's Dentist Workforce Compares to Other States

Figure 6 shows how the dental workforce in New Hampshire, the surrounding New England states, select states,[15] and the United States as a whole compare with each other in the proportion of dentists per 10,000 residents. New Hampshire has a per 10,000 residents rate of dentists slightly higher than the nation as a whole and of the surrounding states, except Massachusetts. Moreover, New Hampshire has a comparable number of dentists to Colorado per 10,000 residents, a state demographically similar to New Hampshire. (Note that the rate per 10,000 residents for dentists is slightly higher in this graph from the previous chart due to differences in the data source.) [16]

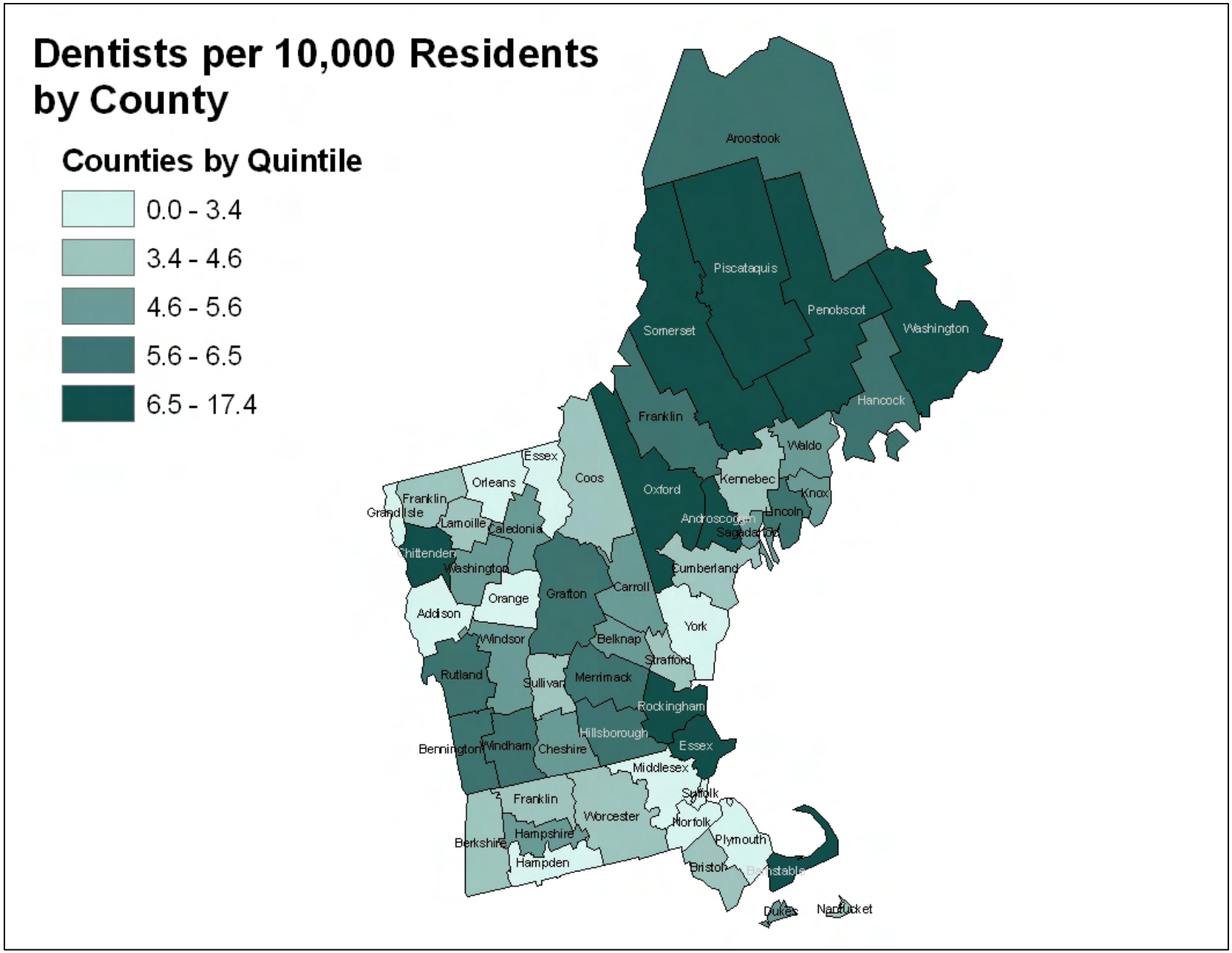
Figure 6



[14] Specific facilities may also be designated a HPSA, but are not included in the above map. A list of these facilities as well as the full definition of HPSA can be found in the appendix.
[15] Colorado, Minnesota, and Oregon are states that have demographically similar characteristics to New Hampshire. Texas and California were requested by the NH Dental Society.
[16] Area Resource Release, 2007 edition. This includes all dentists, full-time or part-time, not employed by a government or military entity and not in a residency program and includes all specialties.

The map on the following page (Figure 7) shows how dentists per 10,000 residents vary across the counties of the four northernmost New England states. As the map highlights, New Hampshire's counties fall within the middle quintiles of counties, except Rockingham County in the top fifth of most dentists per 10,000 residents.

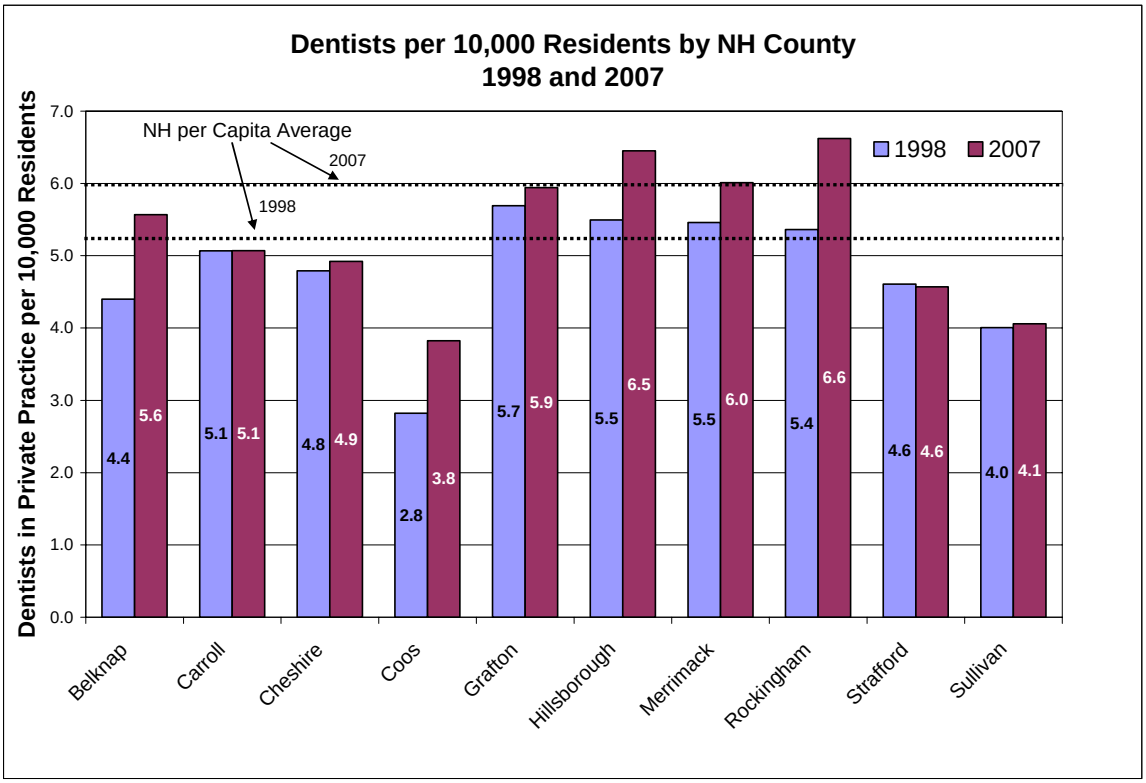
Figure 7


Dentists per 10,000 Residents by County
Counties by Quintile
0.0 - 3.4
3.4 - 4.6
4.6 - 5.6
5.6 - 6.5
6.5 - 17.4
Aroostook
Piscataquis
Penobscot
Somerset
Washington
Hancock
Franklin
Waldo
Kennebec
Knox
Lincoln
Oxford
Androscoggin
Sagadahoc
Cumberland
York
Coos
Essex
Orleans
Franklin
Grand Isle
Lamoille
Caledonia
Chittenden
Washington
Orange
Grafton
Carroll
Addison
Windsor
Belknap
Strafford
Rutland
Sullivan
Merrimack
Rockingham
Hillsborough
Essex
Bennington
Windham
Cheshire
Middlesex
Suffolk
Franklin
Worcester
Norfolk
Plymouth
Berkshire
Hampshire
Hampden
Bristol
Barnstable
Dukes
Nantucket

New Hampshire's Dentist Workforce over Time

From 1998 to 2007, dentists have increased both in number and on a per 10,000 residents basis, suggesting that the population of dentists is increasing faster than New Hampshire's resident population. However, this does not suggest that the increase in dentists is growing at a rate to meet demand – regardless if demand is growing or shrinking relatively to changes in population. Figure 8 shows the change in dentists for all counties in the state over this time period.[17]

Figure 8



As the graph illustrates, the largest change in dentists per 10,000 residents occurred in four counties: Belknap, Coos, Hillsborough, and Rockingham. These counties increased their dentist workforce by one or more per 10,000 residents. However, because of the differences in the baseline number of dentists and the change in population of each county, these changes impacted each county differently. For example, Hillsborough County had an increase of 59 dentists; whereas Coos County only had an increase of 3. Belknap County's increase in dentists also represents the largest increase across the state, at 48%, as shown in Table 5.

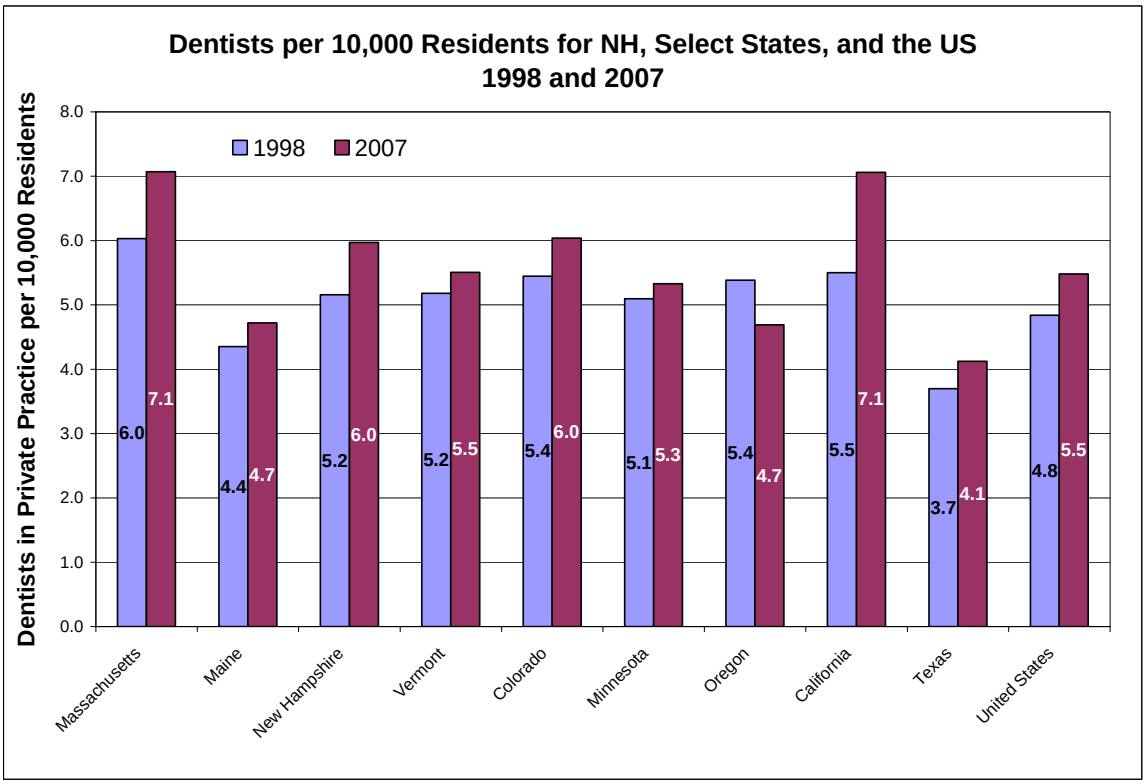
[17] Data from Area Resource File, 2007 edition.

Table 5: Change in the Number Dentists in Private Practice by New Hampshire County, 1998-2007

County	1998	2007	Percent Change	Annual Rate of Change
Belknap	23	34	48%	4.4%
Carroll	19	24	26%	2.6%
Cheshire	35	38	9%	0.9%
Coos	10	13	30%	3.0%
Grafton	45	52	16%	1.6%
Hillsborough	200	259	30%	2.9%
Merrimack	70	88	26%	2.6%
Rockingham	142	196	38%	3.6%
Strafford	51	56	10%	1.0%
Sullivan	16	17	6%	0.7%

This phenomenon is not specific to New Hampshire. The surrounding New England states, selected states, as well as the nation as a whole have experienced a per 10,000 residents increase (with the exception of Oregon) in dentists in recent years, illustrated in Figure 9.

Figure 9



Furthermore, compared to the surrounding New England states, other states, and to the U.S. as a whole, New Hampshire experienced one of the larger percent changes in dentists and the fastest growth in dentists from 1998 to 2007, which, for example, is very

similar to the growth seen in Colorado, a demographically similar state. New Hampshire's dentist workforce grew by 27% at an annual rate of 2.7% per year, as presented in Table 6. Vermont showed the smallest and slowest change over the same time period; their dentist workforce grew only 10%. Whereas, the two most populous states shown, Texas and California, grew the most.

Table 6: Change in the Number Dentists in Private Practice for NH, Select States, and the US, 1998-2007

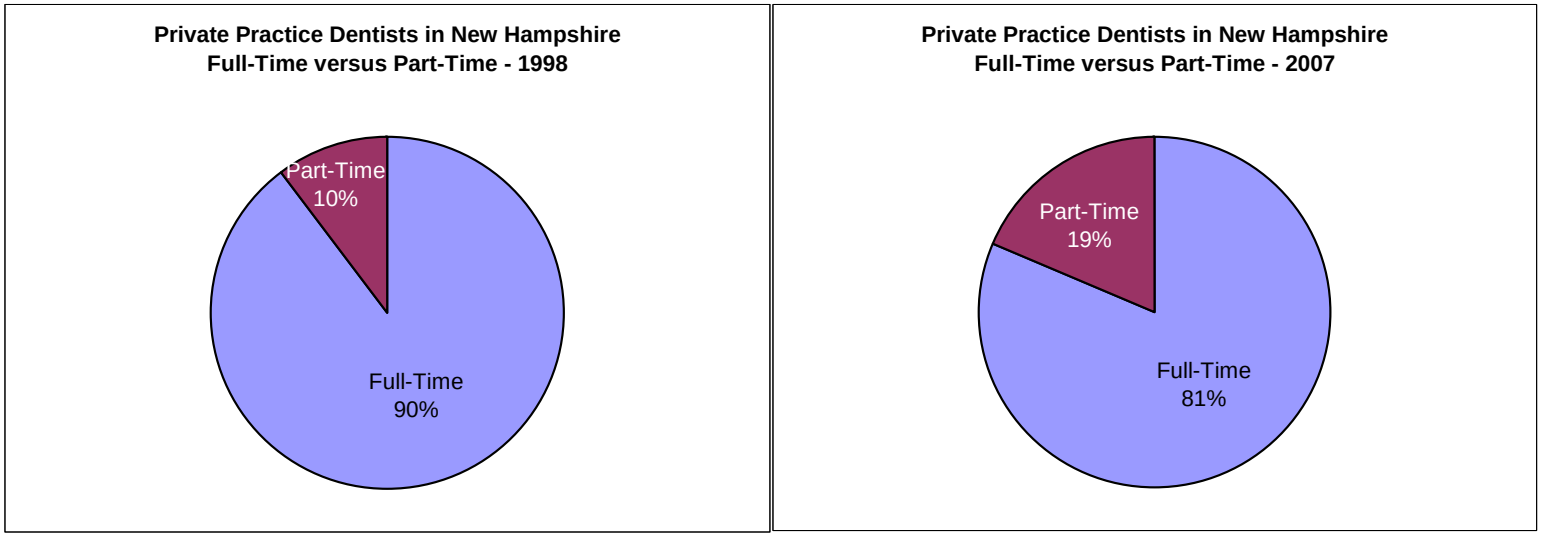
State	1998	2007	Percent Change	Annual Rate of Change
Massachusetts	3,782	4,560	21%	2.1%
Maine	548	622	14%	1.4%
New Hampshire	**611**	**777**	**27%**	**2.7%**
Vermont	311	342	10%	1.1%
Colorado	2,242	2,924	30%	3.0%
Minnesota	2,452	2,762	13%	1.3%
Oregon	1,805	1,752	-3%	-0.3%
California	17,972	25,684	43%	4.0%
Texas	7,286	9,835	35%	3.4%
United States	130,836	165,144	26%	2.6%

Other Characteristics of New Hampshire's Dentists[18]

Full-Time versus Part-Time Practice

Not all active dentists practice full-time, increasing the complexity of analyzing workforce capacity. The discussions presented above describe the number of practicing dentists, but do not reflect the full-time equivalency. It is possible that in many parts of the state a lack of full-time dentists leads to a shortage of accessing services. Over time, this lack of full-time labor may become increasing problematic. The ADA reports that part-time practice is increasing nationwide.[19] In New Hampshire, as Figure 10 shows, the percentage of dentists practicing only part-time has increased substantially from 1998 to 2007.

Figure 10



However, these data do not speak to the efficiency of a particular practice. For example, a full-time dentist may supervise only one hygienist and perform most of the practice's administrative functions, but a part-time dentist may supervise several hygienists and work in a practice with administrative support. Therefore, potentially, a part-time dentist could serve more patients than a full-time one. These data presented merely raise questions to the workforce capacity in the future.

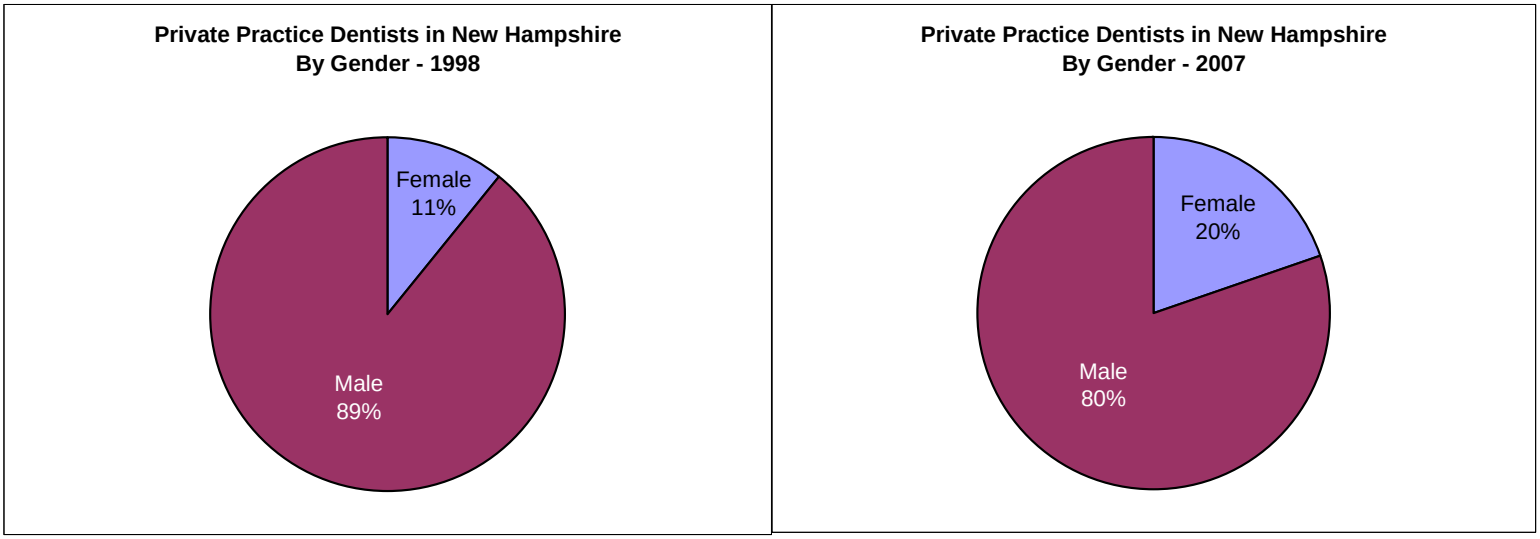
[18] Data on Part-Time Practice and Gender are taken from Area Resource Release, 2007 edition. This includes all dentists, full-time or part-time, not employed by a government or military entity and not in a residency program and includes all specialties.

[19] American Dental Association, Health Policy Resources Center. *2008 American Dental Association Dental Workforce Model: 2006-2030.* Chicago: 2008.

Gender

Over the past few years, the ratio of female to male dentists has increased substantially in New Hampshire, from 11% in 1998 to 20% in 2007, as shown in Figure 11. This increase in women dentists may be a contributing factor in the increase in part-time practice. Research has shown that women are more likely than men to work part-time.[20]

Figure 11



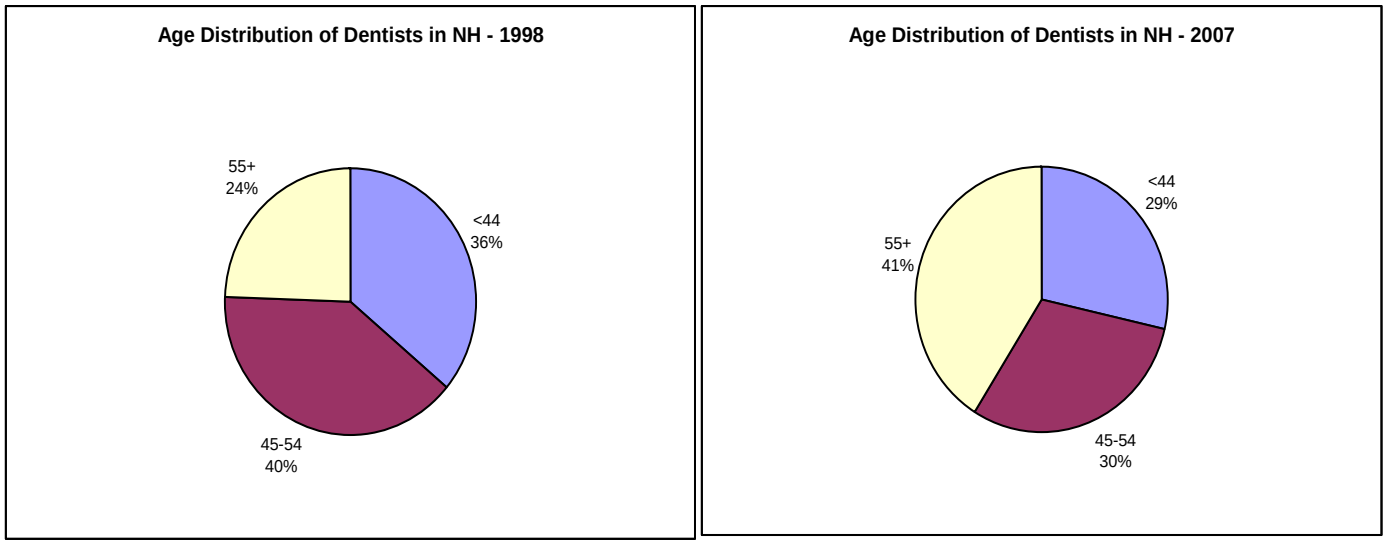
Nationwide, more female dentists are graduating from dental schools and beginning practice, with women now representing 45% of graduating classes.[21] Although New Hampshire does not have a dental school in state, this increase in female dentists nationwide will, by extension, likely maintain the trend of more female dentists practicing in the state.

[20] Ibid.
[21] Ibid. Refers to the 2006 graduating class of dental schools.

The Aging of the Dentist Workforce

The dentists of New Hampshire, as a group, are aging. From 1998-2007 the percent of dentist aged 55 and over (nearing or at retirement age) increased from 24% to 41%. Conversely, the percent of younger dentists, those aged 44 and under, decreased from 36% to 29% over the same time period, as shown in Figure 12.

Figure 12



When comparing the aging of the dentist workforce to the aging of the state's population as a whole, the potential issue of an aging (and a retiring) workforce becomes more evident. Table 7 illustrates that although New Hampshire's population over age 55 increased by over 30% in recent years, the number of dentists nearing or at retirement age has more than doubled.

Table 7: Percent change in New Hampshire's total population and dental workforce, 1999-2007

Age Bracket	Percent change 1998-2007	
	Total Population	Dentists
<44	-2.7%	-1.4%
45-54	30.4%	-4.6%
55+	32.4%	110.1%

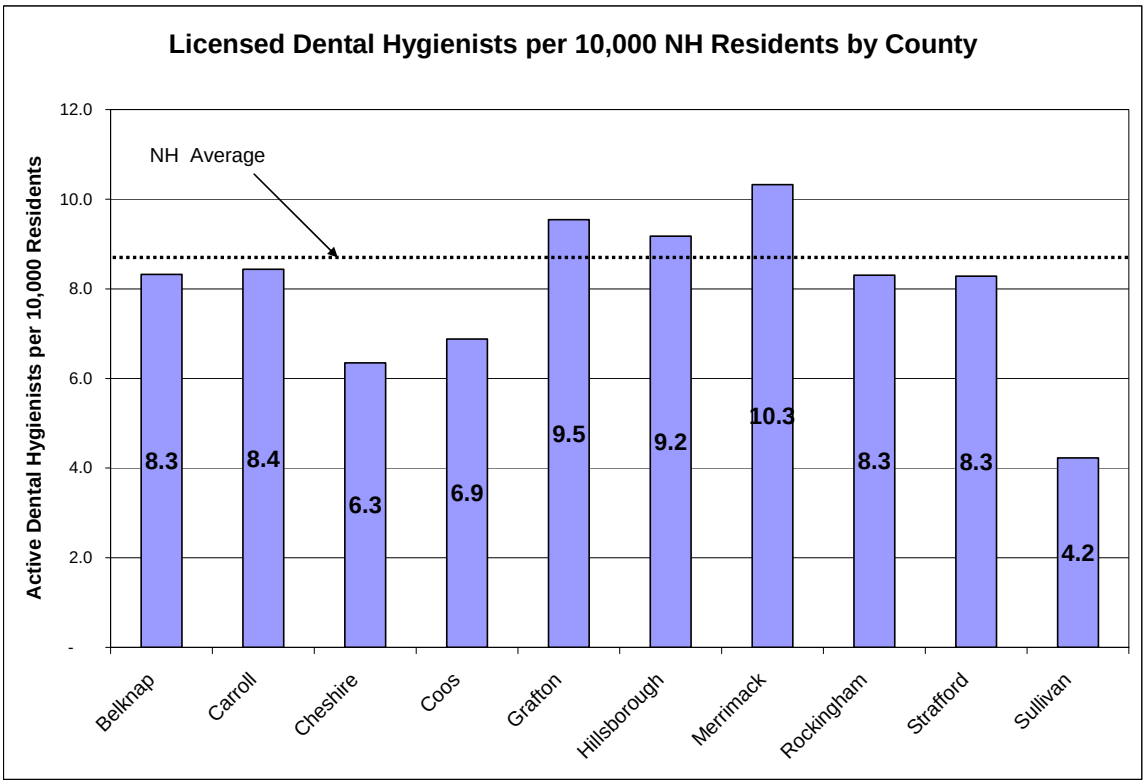
The aging of the dentist population may be of concern for the future of the workforce in New Hampshire. Although the number of dentists in the state has increased in recent years, the aging of the same population may be a signal that the state may lose many practitioners to retirement in the coming decades.

Licensed Dental Hygienists

The dental workforce includes more than just dentists. Dental hygienists play important roles in providing care and promoting oral health. Hygienists have a significant impact on oral health, providing more than just cleanings, but also providing assessments, screenings, education, and treatment plans to patients. And, many states have either expanded or are currently exploring the expansion of duties for dental hygienists, including allowing private practice.

New Hampshire has 8.6 dental hygienists per 10,000 residents, on average. Figure 13 shows the number of dental hygienists per 10,000 residents in New Hampshire by county. As the graph shows, similar to dentists, Sullivan County has the fewest hygienists per 10,000 residents. Cheshire and Coos Counties both have averages well below the state average.

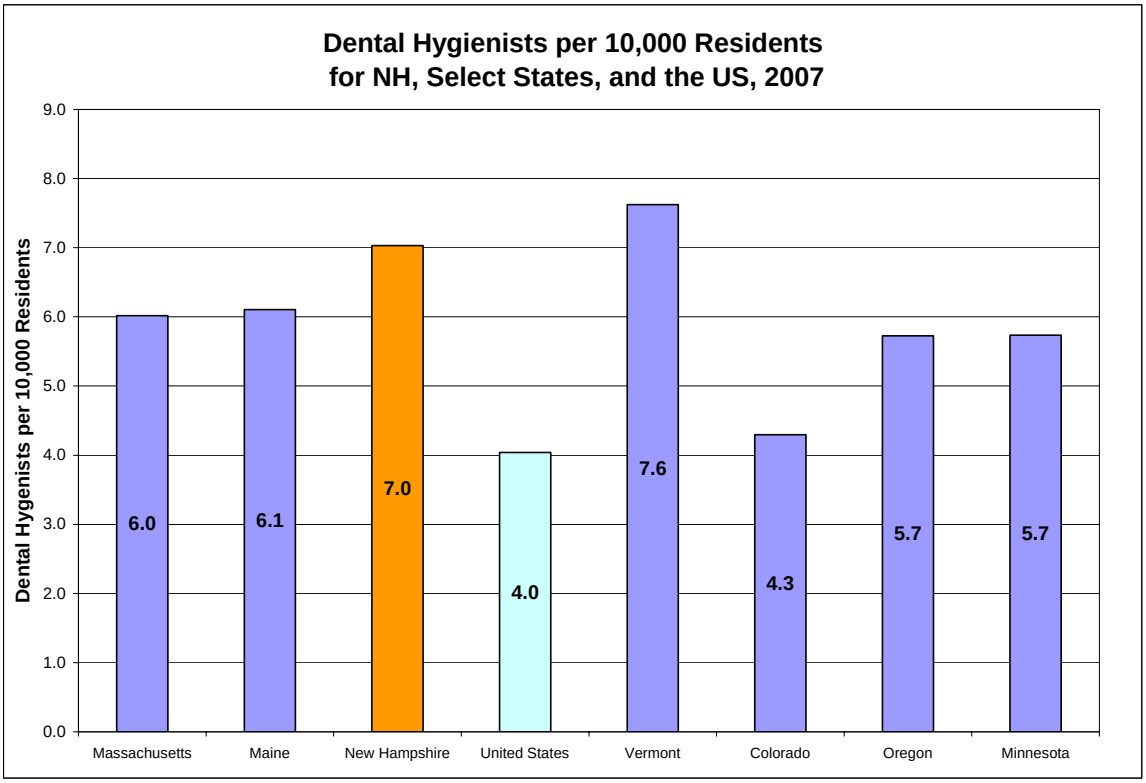
Figure 13[22]



[22] Data from the New Hampshire Board of Dental Examiners. This includes all active dental hygienists and excludes any license with an out-of-state business address. Information regarding the specialty of supervising dentist was not available. Data received 09/10/2009.

The next chart (Figure 14) shows the number of dental hygienists per 10,000 residents for New Hampshire, select states, and the nation as a whole.[23] (Note that the rate per 10,000 residents for dental hygienists is higher in the preceding graph than the graph that follows due to the differences in the data source.)

Figure 14



New Hampshire has a higher number of dental hygienists per 10,000 residents compared to the U.S. as a whole (7.0 versus 4.0, respectively). In general, all of the surrounding New England states have higher number of dental hygienists per 10,000 residents than the national average and the other states present in the chart. While the reasons for this are unclear, these data show that New Hampshire may rely more heavily on dental hygienists in the delivery of oral health services than other states.

During the 1990s, the number of dental hygienists per 10,000 residents increased in New Hampshire (by one per 10,000 residents) as well as increased in all of the surrounding New England states. Vermont experienced the largest increase in dental hygienists during this decade. Figure 15 and Table 8 show how the workforce of dental hygienists has changed in New Hampshire and other states over time.

[23] Data obtained from the U.S. Census Bureau. For a more detailed description of the Census data please see http://www.census.gov/hhes/www/eeoindex/eeoindex.html. County report is for practitioner's residence, not place of practice.

Figure 15

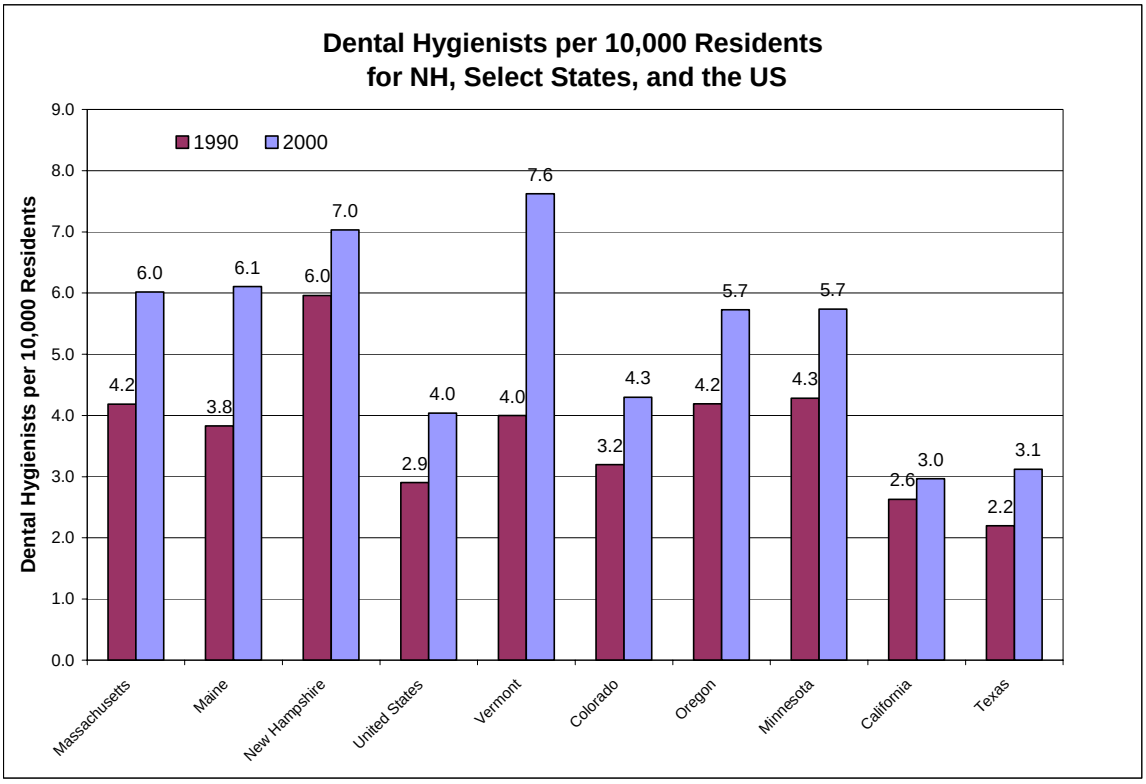


Table 8: Change in the Number of Dental Hygienists in NH, Select States, and the US, 1990-2000

State	1990	2000	Percent Change	Annual Rate of Change
Massachusetts	2,517	3,830	52%	4.8%
Maine	470	780	66%	5.8%
New Hampshire	**653**	**860**	**32%**	**3.1%**
Vermont	225	465	107%	8.4%
Colorado	1,058	1,860	76%	6.5%
Minnesota	1,879	2,830	51%	4.7%
Oregon	1,199	1,965	64%	5.6%
California	7,878	10,085	28%	2.8%
Texas	3,744	6,540	75%	6.4%
United States	72,394	113,965	57%	5.2%

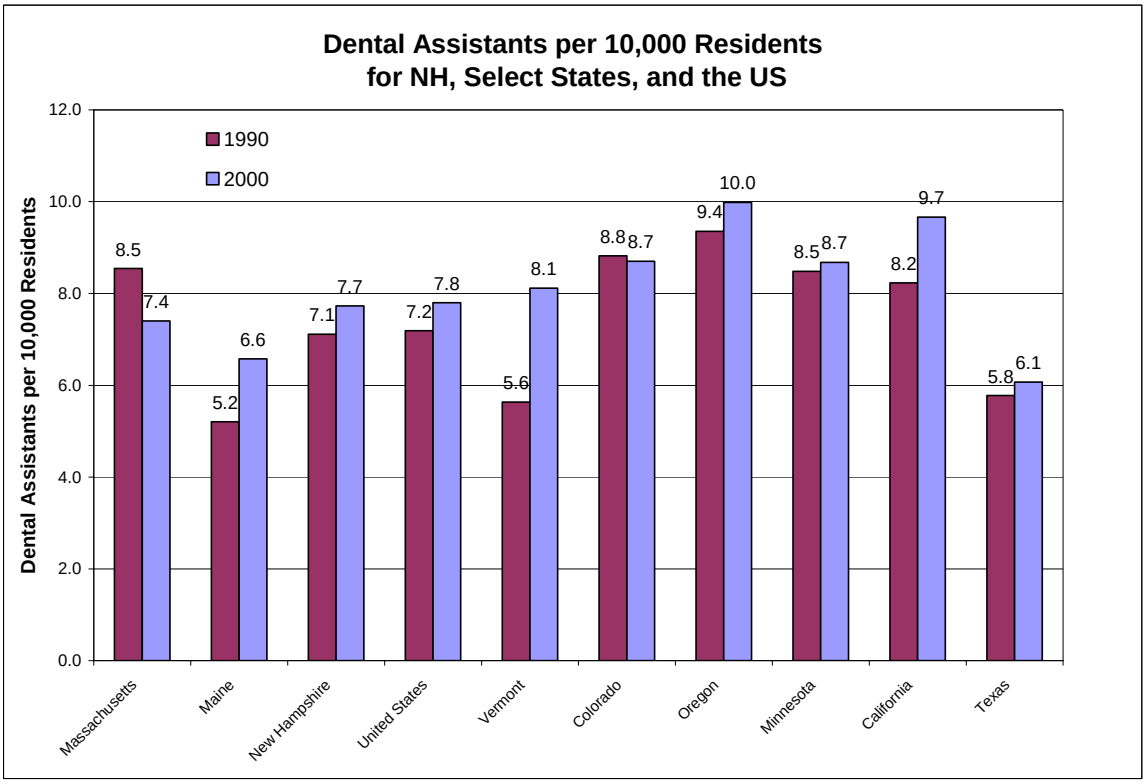
Out of all the surrounding New England states and the entire U.S., New Hampshire experienced the slowest growth in the number of dental hygienists at 3.1% per year. The nation as a whole experienced a 5.2% and Vermont an 8.4% per year growth in the dental hygienist workforce during the 1990s.

Dental Assistants

In a role very different from the hygienist, dental assistants aid a dentist in various tasks that include preparation of instruments and materials for dental procedures but may have other duties as well. Many dental assistants also have administrative duties within a dental office to support the practice's daily business activities. Unlike hygienists, which have to be licensed by the state for practice, dental assistants work unlicensed under the direct supervision of a dentist.

New Hampshire has a comparable number of dental assistants to the national average (7.7 versus 7.8, respectively), as shown in Figure 16. And, similar to hygienists, New Hampshire experienced an increase in the number of dental assistants per 10,000 residents in the 1990s.

Figure 16



The growth of dental assistants was much slower than that of hygienists. The dental assistant workforce grew at 2.2% per year from 1990-2000 – on par with the growth of dental assistants for the U.S. as a whole at 2.3% per year.

New Hampshire's Dental Providers and Medicaid

For many of New Hampshire's lower-income residents, especially the uninsured, dental care is out of reach. The state's Medicaid program is the safety-net for many of New Hampshire's residents. However, because Medicaid does not have an adult dental benefit and its eligibility qualifies only particularly vulnerable populations of adults, such as those with long-term disability or pregnant women, an analysis of dental care access in these populations would not be meaningful as a way to discuss dental care access for adults without access to oral health services. What follows is a discussion of dental care for Medicaid enrolled children and the practitioners across the state providing care to this vulnerable population.

Dental Providers for Medicaid Enrolled Children

Access to oral healthcare for children is critical to overall good health. For economically disadvantaged children enrolled in Medicaid, this fact is just as important. This section of the report describes the distribution of Medicaid dental services in New Hampshire for children and raises questions of how the dental workforce may impact access to services for this vulnerable population of children.

In Fiscal Year 2008, the New Hampshire Medicaid program reported 388 enrolled dental providers (both general and specialists) cared for over 51,000 of the state's Medicaid enrolled children.[24] Similar to the data presented at the beginning of this report, the analyses below describe dentists involved in general or pediatric practice only[25] to highlight preventative and other primary dental care services for Medicaid-enrolled children.

The following table (Table 9) displays the top 20 providers of general or pediatric dental care to Medicaid enrolled children in the state for Fiscal Year 2008. Over 46,000 children received dental care during that year from a general practice dentist or a pediatric dentist. Not surprisingly, the majority of children receiving dental services are in the urban areas of New Hampshire.

[24] Providers do not reflect the total number of dentists since these data count multi-dentist group practices as one entity. Unless otherwise stated, data reflects Medicaid enrollees under 21 years of age.

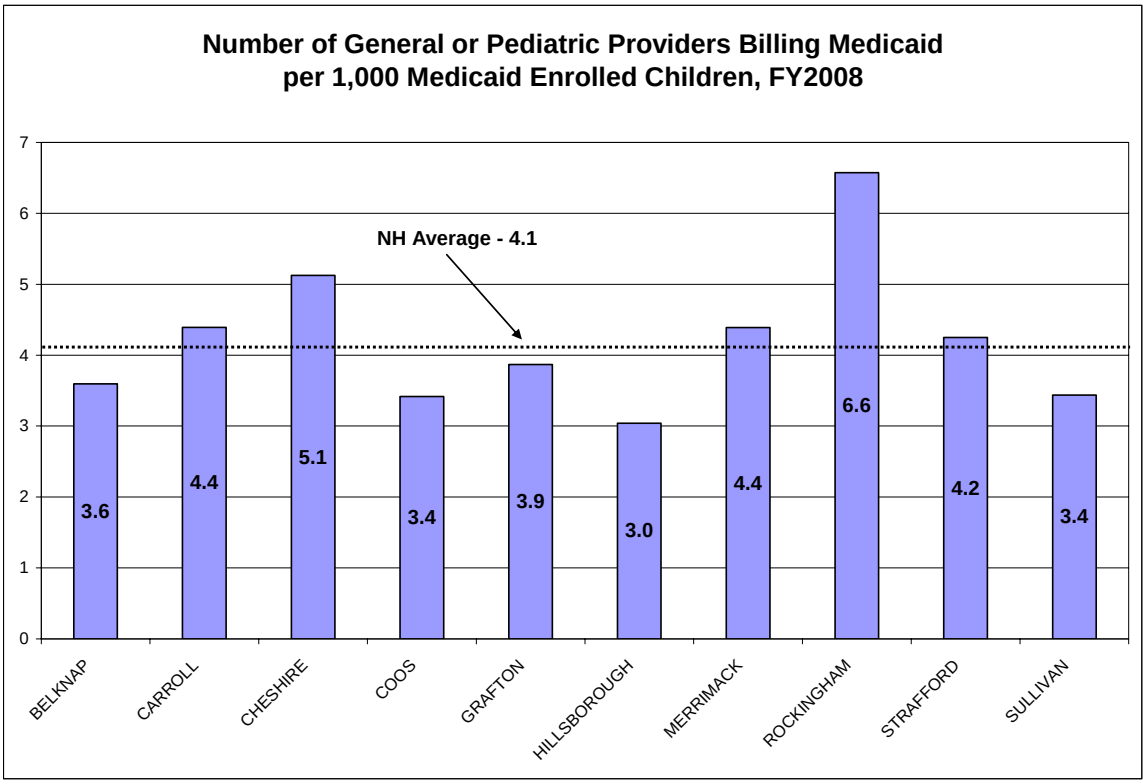
[25] Because this section reflects only general and pediatric dentists, the total numbers of practitioners and total number of children will be lower here than reported previously.

Table 9: Top 20 Medicaid dental service (general or pediatric) providers for children in New Hampshire, FY2008

Provider	Town	Children Served	Percent of Total Children Served	Total Payments
SMALL SMILES DENTAL CENTER OF MANCHESTER	MANCHESTER	3,765	7.3%	$ 1,551,869
CONCORD PEDIATRIC DENTISTRY PA	CONCORD	2,854	5.5%	$ 1,373,201
LANGS DENTAL CENTER	NASHUA	1,793	3.5%	$ 899,699
WULLBRANDT, BLAKE	KEENE	1,503	2.9%	$ 549,352
GRACE FAMILY DENTISTRY	CONCORD	1,356	2.6%	$ 278,158
MOUNTAIN VIEW DENTAL PA	WHITEFIELD	823	1.6%	$ 245,389
THE GREATER NASHUA DENTAL CONNECTION	NASHUA	822	1.6%	$ 216,319
DENTAL RESOURCE CENTERS	LACONIA	807	1.6%	$ 221,343
AVIS GOODWIN COMMUNITY HEALTH CENTER	ROCHESTER	768	1.5%	$ 154,092
LAMBERT, CHARLES	MOULTONBOROUGH	705	1.4%	$ 242,169
CREEM, JENNIFER	EXETER	701	1.4%	$ 129,514
VANGUARD DENTAL GROUP	DERRY	648	1.3%	$ 235,327
AGHI, APARNA	EXETER	622	1.2%	$ 135,594
MONADNOCK PEDIATRIC DENTISTRY LLC	JAFFREY	602	1.2%	$ 188,492
SPENCE, RICHARD	CLAREMONT	582	1.1%	$ 170,143
COLLINS DENTISTRY FOR CHILDREN PLLC	PELHAM	562	1.1%	$ 170,504
CHOW, MICHAEL	NASHUA	555	1.1%	$ 207,518
HOFFMAN, STEVEN	KEENE	508	1.0%	$ 115,040
PEDIATRIC DENTISTRY OF SALEM PLLC	SALEM	488	0.9%	$ 128,202
HARRISON, MARK	EXETER	486	0.9%	$ 137,588
ALL CHILDREN SERVED		**46,098**		**$13,774,280**

Another way to look at the scope of Medicaid providers for children is to look at the number of providers per enrollee. Overall, New Hampshire has 4.1 dentists providing services per 1,000 Medicaid-enrolled children. Figure 17 shows that this rate varies across counties, from a low of 3 providers per 1,000 Medicaid-enrolled children in Hillsborough County to a high of almost 7 providers in Rockingham County.

Figure 17



The differences between counties in the availability of providers per 10,000 residents and the percent of Medicaid enrollees accessing services suggest a couple of possibilities. First, there may be relatively fewer providers available for the Medicaid population in a given county, such as with Sullivan County (the county has one of the lowest rates of providers and one of the lowest percent of children accessing services). Or, second, relatively few dentists are providing care to a very large percent of children, such as in Coos County (where the percent of children enrolled accessing services is above the state average, but the rate of available providers is not).

The table below (Table 10) further highlights these points. In many counties, few providers had Medicaid enrolled children accessing services. For example, in Coos and Sullivan counties, only 10 providers were accessed for services in FY 2008. (The total number of providers reflects only general or pediatric dentists; therefore, the total number of providers reported here is lower than the number highlighted above).

Table 10: Summary of Medicaid Enrolled Children and General and Pediatric Providers Accessed by County, Fiscal Year 2008

County	Number of Providers	Total Children Receiving Services	Percent of Children Served by Top Provider	Median Number of Children Served per Provider
BELKNAP	14	2,526	32%	56
CARROLL	14	2,235	29%	115
CHESHIRE	21	3,613	42%	42
COOS	10	2,427	34%	218
GRAFTON	18	1,605	18%	119
HILLSBOROUGH	64	13,913	27%	45
MERRIMACK	33	5,904	48%	27
ROCKINGHAM	62	8,157	9%	40
STRAFFORD	29	3,723	21%	49
SULLIVAN	10	1,135	51%	31
IN STATE TOTAL	275	45,238	28%*	45
OUT OF STATE	14	860	31%	30
TOTAL	289	46,098	28%*	53

* Sum of all top providers

The table also provides two other measures to explore the scope of providers treating Medicaid enrolled children. First, in the fourth column of the table, the percent of children who accessed services who were treated by the top provider is shown. For example, the provider in Sullivan County serving the most children treated 51% of all children accessing service in that county. This suggests that, even in a county that has many providers accepting Medicaid patients for dental care, many providers are serving relatively few children.

Second, the last column in the table highlights the uneven distribution of children served per provider further. Hillsborough County, for example, has 64 providers serving almost 14,000 children – an average of 217 children per practice. However, the median number of children served is 45,[26] which means that half of dental practices served less than 45 children over FY 2008. Statewide, the average number of children per practice is 160; however, the median is only 53, indicating that most providers are serving relatively few children. Whether this phenomenon is due to geographic access or practice policy is not clear from these data.

Overall, not only do these analyses raise questions of whether there are enough providers accepting Medicaid, but also whether these providers are serving a sufficient number of children in each practice to meet need. With many children being served by only a handful of dentists in many areas, the sustainability of the current safety-net of providers is called into question. If a provider serving a large number of Medicaid-enrolled children retires or closes their practice, a significant gap in service availability will be created in that service area.

[26] The median is described as the number separating the higher half of a sample from the lower half. The median is often used in place of the average when data has wide variation.

Residents crossing into other states to receive services have been raised as a data issue to these analyses; it is a common challenge to state-specific service use analyses. A closer look at the Medicaid data for children presented above supports the idea that, for at least the Medicaid population, children are not readily receiving services outside of the state.

Broadly speaking, less than 2% of Medicaid children accessed a dental service outside of New Hampshire, where about two-thirds of those children accessed services in Vermont. More specifically, looking at just those children accessing services in Vermont, half went to St. Johnsbury (near Littleton), around a third accessed services in Norwich across the river from Hanover, and the rest of the children accessed services spread out across other boarder towns further south. This means that the vast majority of Medicaid children accessing services in Vermont are coming from, presumably, Coos and Grafton Counties.

Therefore, if the number of Medicaid children accessing dental services in Vermont is any indication, the children of Sullivan County are not crossing the boarder to access services. This raises the question of a sufficient dentist workforce in Sullivan County for the Medicaid population further.

Medicaid Payments to Dentists Treating Children

During FY 2008, dentists were paid over $13.7 million to treat Medicaid-enrolled children. Table 11 shows the breakdown of payments to dental providers by county.

Table 11: Summary of Medicaid Payments to General and Pediatric Providers Accessed by Medicaid Children by County, Fiscal Year 2008

County	Number of Providers	Total Payments	Average Payments per Child	Average Payments per Providers
BELKNAP	14	$ 680,617	$ 269	$ 48,615
CARROLL	14	$ 406,018	$ 182	$ 29,001
CHESHIRE	21	$ 1,029,261	$ 285	$ 49,012
COOS	10	$ 653,342	$ 269	$ 65,334
GRAFTON	18	$ 401,000	$ 250	$ 22,278
HILLSBOROUGH	64	$ 4,816,630	$ 346	$ 75,260
MERRIMACK	33	$ 2,228,938	$ 378	$ 67,544
ROCKINGHAM	62	$ 2,045,494	$ 251	$ 32,992
STRAFFORD	29	$ 1,005,451	$ 270	$ 34,671
SULLIVAN	10	$ 260,645	$ 230	$ 26,065
IN STATE TOTAL	**275**	**$ 13,527,397**	**$ 299**	**$ 49,191**
OUT OF STATE	14	$ 246,883	$ 287	$ 17,634
TOTAL	**289**	**$ 13,774,280**	**$ 299**	**$ 47,662**

On average, general and pediatric providers received $300 per child, or almost $50,000 total. Some variation across counties exists with the lowest average amount paid in Carroll County ($182 per child) and the highest average paid ($378 per child) in Merrimack County. The reasons for this variation are unclear.

These data do not reflect the total number of visits per child, the specific types of services each of these children receive, or what health outcomes these children experience due to accessing dental care. These important questions are critical to truly understanding dental access for children. These questions are just as critically important to understanding dental access for adults in New Hampshire. Further research is warranted.

Community- and School-Based Dental Services

Throughout the state, community- and school-based dental services assist adults and children who would otherwise not have access to care. These programs emerged as a strategy to provide preventative, restorative, and/or emergency care to New Hampshire residents without another source of dental care access. These clinics are staffed by a combination of hygienists and dentists, which varies by site.

In fiscal year 2005, were 26 community- and school-based dental programs across the state. Seventeen of these programs are for children only, and 9 programs are for adults and children. As the data show, few of New Hampshire's residents, particularly children, access dental care through these community-based programs, but these programs represent a smaller portion of the overall dental workforce and the vulnerable populations that receive services.

The following tables (Table 12 and Table 13) display the various community- and school-based programs and the number of adults and children they served in FY 2005.[27]

Table 12: Number of Individuals Treated and Children Receiving Sealants in Community-Based Dental Programs, 2004-2005[28]

Name	Town	County	Number Treated			Received Restorative Service		Children Receiving Sealants	
			Total	Adults	Children	Number	Percent of Total	Number	Percent of Children
Ammonoosuc Community Health Services	Littleton	Coos	78	N/A	N/A	49	63%	N/A	N/A
Capital Region Family Health Center	Concord	Merrimack	1,091	938	153	938	86%	49	32%
Catholic Medical Center Poisson	Manchester	Hillsborough	1,389	604	785	208	15%	204	26%
Dental Health Works	Keene	Cheshire	597	170	427	185	31%	107	25%
Dental Resource Center	Laconia	Belknap	2,583	1,542	1,041	801	31%	344	33%
Families First Dental Center	Portsmouth	Rockingham	862	594	268	509	59%	56	21%
Greater Nashua Dental Connection	Nashua	Hillsborough	1,486	654	832	966	65%	233	28%
Healthreach Dental Center for Children	Exeter	Rockingham	3,660	25	3,635	1,354	37%	763	21%
Lamprey Health Care	Raymond	Rockingham	512	145	367	307	60%	95	26%
Community Health Services	Derry	Rockingham	155	N/A	N/A	74	48%	N/A	N/A
TOTAL			12,413	4,905	7,508	5,391	43%	2,027	27%

[27] New Hampshire Department of Health and Human Services. Oral Health Program. "New Hampshire Oral Health Data 2006." December 2007.
[28] Ibid.

Table 13: Number of Second and Third Grade Students Screened and Percent with Untreated Decay, History of Decay, and Sealants by School-Based Program, 2004-2005[29]

Program	Town	County	2nd and 3rd Grade Students			Students Screened with Untreated Decay		Students Screened with History of Untreated Decay		Students Screened with Sealants	
			Total	Screened	Percent	Number	Percent	Number	Percent	Number	Percent
Alexander Eastman	Derry	Rockingham	2,216	1,136	51%	201	18%	484	43%	650	57%
Cheshire Smiles	Keene	Cheshire	1,079	696	65%	137	20%	348	50%	360	52%
Claremont	Claremont	Sullivan	283	103	36%	28	27%	53	51%	25	24%
Coos County Family Health Services	Berlin	Coos	310	156	50%	40	26%	90	58%	69	44%
Families First of the Greater Seacoast	Portsmouth	Rockingham	327	185	57%	18	10%	87	47%	111	60%
Frisbee Memorial Hospital	Rochester	Strafford	1,285	687	53%	242	35%	379	55%	317	46%
Health First Family Care Center	Franklin	Merrimack	787	135	17%	30	22%	70	52%	32	24%
Healthreach Mobile Dental Program	Exeter	Rockingham	1,900	590	31%	91	15%	252	43%	373	63%
Lakes Regional Hospital	Laconia	Belknap	598	67	11%	14	21%	29	43%	24	36%
Lamprey Health Care	Raymond	Rockingham	1,006	273	27%	127	47%	155	57%	155	57%
Monadnock Healthy Teeth	Peterborough	Hillsborough	624	273	44%	66	24%	96	35%	117	43%
Manchester	Manchester	Hillsborough	991	869	88%	263	30%	522	60%	220	25%
Milford	Milford	Hillsborough	425	425	100%	10	2%	115	27%	266	63%
Rock Dental Clinic	Newport	Sullivan	480	326	68%	68	21%	145	44%	-	0%
Speare Memorial Hospital	Plymouth	Grafton	411	149	36%	55	37%	109	73%	67	45%
Upper Connecticut Valley, Miles of Smiles	Colebrook	Coos	130	97	75%	20	21%	45	46%	53	55%
VNA of S. Carroll County	Wolfeboro	Carroll	691	432	63%	50	12%	142	33%	83	19%
White Mountain Community Health Center	North Conway	Carroll	327	58	18%	13	22%	20	34%	15	26%
TOTAL			13,870	6,657	48%	1,473	22%	3,141	47%	2,937	44%

[29] Ibid.

Availability of Dentists for the State's Uninsured

According to the 2000 U.S. Surgeon General report, over 108 million children and adults lack dental insurance – more than 2.5 times the number of people who lack medical insurance.[30] Presumably, if a person lacks health insurance, they most likely lack dental coverage as well. In the tables below (Table 14 and Table 15), we compare the lack of medical insurance, adjusted for the proportion with dental coverage (calculated as 72% of those with health insurance), with the availability of dentists.

Table 14: Summary of Children without Dental Insurance and Availability of Dentists by County[31]

County	Total Children	Percent without Dental Insurance	Number of Uninsured Children	Uninsured per 10,000 Children	Number of General or Pediatric Dentists	Number of Uninsured Children per General or Pediatric Dental Provider	Number of Uninsured Children Served
Belknap	12,556	33.1%	4,159	3,312	30	139	N/A
Carroll	9,153	36.7%	3,360	3,671	21	160	N/A
Cheshire	15,512	34.5%	5,352	3,450	34	157	N/A
Coos	6,246	36.4%	2,273	3,639	20	114	N/A
Grafton	16,091	32.0%	5,142	3,196	54	95	N/A
Hillsborough	98,922	32.7%	32,321	3,267	253	128	N/A
Merrimack	32,277	32.1%	10,352	3,207	87	119	N/A
Rockingham	70,716	32.2%	22,754	3,218	184	124	N/A
Strafford	26,669	33.2%	8,854	3,320	60	148	N/A
Sullivan	9,262	34.5%	3,198	3,453	14	228	N/A
STATEWIDE	**297,404**	**32.9%**	**97,765**	**3,287**	**757**	**129**	**N/A**

[30] U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

[31] Data source for uninsured data obtained from the US Census' Small Area Health Insurance estimates from 2006 and adjusted by the DHHS (2001) for number of individuals without dental coverage among those with health insurance. This analysis assumes that all individuals without health insurance also lack dental insurance as well and that the rates of insurance coverage have not significantly changed between 1999 and 2006. These estimates differ from those in Figure 1 due to difference in methodology. We use this method because these data allow us to analyze children and adults separately. Number of dentists information was obtained from the NH Board of Dental Examiners, 2009.

Table 14 shows that statewide, 3,287 children are without dental insurance for every 10,000 children. When comparing that number to the dentist workforce, there are 129 uninsured children per dental provider, on average. This varies greatly by county. Sullivan County, noted as a potential area for treatment gaps, has the highest number of uninsured children per dental provider in the state, at 228 uninsured children per provider. On the other hand, Grafton has the lowest number, at 95 uninsured children per provider. Grafton County's lower level of uninsured children but also lower level of Medicaid-enrolled children accessing services (as presented previously in Figure 2) raises questions of whether there are a sufficient number of providers in this county accepting children without private coverage.

Table 15: Summary of Adults without Dental Insurance and Availability of Dentists by County[32]

County	Total Adults	Percent without Dental Insurance	Number of Uninsured Adults	Uninsured per 10,000 Adults	Number of General Dentists	Number of Uninsured Adults per General Dental Provider	Number of Uninsured Adults Served
Belknap	39,449	37.5%	24,643	6,247	30	821	N/A
Carroll	30,133	42.8%	17,233	5,719	21	821	N/A
Cheshire	48,473	38.8%	29,649	6,117	32	927	N/A
Coos	20,634	37.9%	12,815	6,211	20	641	N/A
Grafton	51,909	38.6%	31,863	6,138	53	601	N/A
Hillsborough	259,385	38.6%	159,218	6,138	243	655	N/A
Merrimack	94,135	36.7%	59,552	6,326	83	717	N/A
Rockingham	194,069	36.2%	123,895	6,384	175	708	N/A
Strafford	77,752	37.6%	48,513	6,239	58	836	N/A
Sullivan	27,338	38.9%	16,702	6,109	13	1,285	N/A
STATEWIDE	**843,277**	**39.6%**	**509,091**	**6,037**	**728**	**699**	**N/A**

An estimated 40% of adults in New Hampshire lack dental insurance. This means that there are almost 700 uninsured adults for every dental provider in the state, on average. However, significant variation exists across counties. Cheshire and Sullivan counties have rates of uninsured adults per dental provider far above the state average.

The most important questions regarding access for the uninsured is how many of them are able to receive dental care and if the care they receive is sufficient. However, the data needed to answer these questions are not available. Further study and improved data sources are critical to answer these questions in the future.

[32] Ibid.

Discussion

This report has examined several measures to create a picture of dental access in New Hampshire. The major finding of this research is the wide variation in the availability of dentists across the geographic regions of the state. The federally designated shortage areas of the state, like Coos and Carroll counties, are important areas to consider regarding workforce and dental care access. However, Sullivan County, with low numbers of providers for the Medicaid and uninsured populations, should also be of concern to policymakers as an area possibly overlooked for workforce and access shortages.

Furthermore, the future of the dental workforce is unclear. Trends suggest that the dentist workforce is aging and nearing retirement, and that the new generation of dentists entering the workforce is more likely to practice part-time. If these trends continue into the coming decades, New Hampshire's current workforce issues may worsen.

This analysis also points to significant gaps in information on dental services in the state. The state and researchers in the state have no comprehensive source of information on the receipt of dental services by those with private insurance, nor the uninsured. This gap could be filled by mandating that dental insurers doing business in New Hampshire provide data to the state's Comprehensive Health Information System which currently collects data on medical care services from those medical insurers doing business in New Hampshire. The current lack of such data makes it difficult to draw any definitive conclusions regarding the sufficiency of the existing workforce.

Arguably the most important question for policy makers – how many of the uninsured are able to receive dental care – cannot be answered with existing data. More specific reporting of the services provided to self-pay and charity care patients is critical to answer these questions in the future.

Appendix A - Dental Health Professional Shortage Area Designation

Geographic Areas must

- Be rational areas for the delivery of dental services
- Meet one of the following conditions
    - Have a population to full-time-equivalent dentist ratio of at least 5,000:1
    - Have a population to full-time equivalent dentist ratio of less than 5,000:1 but greater than 4,000:1 and unusually high needs for dental services
- Dental professionals in contiguous areas are over-utilized, excessively distant or inaccessible to the population

Population Groups must

- Reside in a rational service area for the delivery of dental care services
- Have access barriers that prevent the population group from use of the area's dental providers
- Have a ratio of the number of persons in the population group to the number of dentists practicing in the area and serving the population group of at least 4,000:1
- Members of Federally recognized Native American tribes are automatically designated. Other groups may be designated if the meet the basic criteria described above.

Facilities must

- Be either Federal and/or State correctional institutions or public and/or non-profit medical facilities
- Federal or State Correctional facilities must:
    - Have at least 250 inmates and
    - Have a ratio of the number of internees per year to the number of FTE dentists serving the institution of at least 1,500:1
- Public and/or non-profit private dental facilities must:
    - provide general dental care services to an area or population group designated as having a dental HPSA and
    - have insufficient capacity to meet the dental care needs of that area or population group

New Hampshire Facilities Designated HPSA:

- Ammonoosuc Community Health Services
- Avis Goodwin Community Health Center
- Charleston Family Medical
- Coos County Family Health Services
- Families First of Greater Seacoast
- Harbor Homes, Inc.
- Health First Family Care
- Indian Stream Health Center
- Lamprey Healthcare
- Manchester Community Health Center
- Manchester Health Department
- Mid-State Health Center
- State Correctional Facility, Concord

Appendix B: Data Sources

1. Area Resource File

The Area Resource File (ARF), 2007 edition is produced by the federal Health Resources and Services Administration (HRSA). The data on dentists and other dental providers contained in ARF was originally collected from the American Dental Association (ADA) for dentists. The data reported for 1998 and 2007 were used to compare New Hampshire's dentist workforce with other states and to examine changes in workforce over time. These counts represent full- or part-time dentists in private practice who are not employed by the government or military services nor who are currently in a residency program. These counts include all specialties.

ARF also draws data from the U.S. Census, Industry and Occupations data set for counts of dental hygienists and dental assistants. Because these counts are based on the decennial census, the most recent data is for 2000. When comparing dental hygienists and dental assistant workforces to other states and over time, data from 1990 and 2000 were used.

2. U.S. Census and Other National Data Sets

Population estimates were obtained from the U.S. Census for each year of workforce data presented (1990, 1998, 2000, 2007, 2008), by state and by county. These data were used to calculate per 10,000 residents measures of workforce.

Data from the U.S. Census Industry and Occupations dataset were obtained to examine the dental hygienist and dental assistant workforces, for 1990 and 2000. Due to incomplete data on the place of practice, these data focus on estimates that reflect practitioners' place of residence.

Data from the Census' Small Area Health Insurance (2006) estimates were obtained as a proxy to data regarding dental insurance. However, these data are most likely an underestimation of the scope of individuals without dental coverage.

Finally, we draw data from the Centers for Disease Control and Prevention's Behavior Risk Factor Surveillance Survey in 2005 and 2006 for insurance coverage information.

3. New Hampshire Board of Dental Examiners

The Center obtained licensing information for dentists and dental hygienists from the New Hampshire Board of Dental Examiners. These data represent all licenses for these professions as of 2009. Only active licenses were included in the final dataset.

Given that this paper was focused on primary dental providers, only general practice and pediatric dentists were included. Furthermore, all licenses with business addresses outside of the state or with a state agency were excluded. Missing data was filled in using a web-based search for the provider's place of practice. Any dentist with their state of

practice missing was excluded. The remaining dataset on dentists includes all active, general or pediatric dentists, with a business address within New Hampshire.

For hygienists, only active licenses with a New Hampshire business address were included. All license records missing state information as well as out of state addresses were excluded from the dataset. Information regarding the specialty of the dentist a hygienist was employed by was unavailable; therefore, the final dataset includes hygienists practicing in all specialties.

4. New Hampshire Medicaid

The Center obtained information from the Office of Medicaid Business and Policy to explore payments to dentists for providing services and the scope of Medicaid enrollees accessing dental services (data are from fiscal year 2008). Dentists were matched from their licensing record and specialists were excluded from the dataset. Also, dentists with multiple billing IDs were aggregated based on name. The final dataset on payments and number of children receiving services includes only those to primary or pediatric dentists who billed for at least one service in FY2008.

The Center also obtained data with the counts of emergency department visits due to a dental health issue for 2003-2007 by the type of insurance payer and by hospital service area. And, the Center also utilized data from the Insurance Family Study by the Department of Health and Human Services (2001).

When noted, the Center also referenced a recent brief on Medicaid dental services in fiscal year 2008 presented to the legislature in March 2009. Finally, where applicable, the Center used data from DHHS and from national studies, such as reports from the U.S. Surgeon General, to add context to the analysis.

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