



THE HEALTH CARE WORKFORCE IN EIGHT STATES: EDUCATION, PRACTICE AND POLICY

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MASSACHUSETTS

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The Health Care Workforce in Eight States: Education, Practice and Policy

PROJECT DESCRIPTION

Historically, both federal and state governments have had a role in developing policy to shape the health care workforce. The need for government involvement in this area persists as the private market typically fails to distribute the health workforce to medically underserved and uninsured areas, provide adequate information and analysis on the nature of the workforce, improve the racial and ethnic cultural diversity and cultural competence of the workforce, promote adequate dental health of children, and assess the quality of education and practice.

It is widely agreed that the greatest opportunities for influencing the various environments affecting the health workforce lie within state governments. States are the key actors in shaping these environments, as they are responsible for:

- financing and governing health professions education;
- licensing and regulating health professions practice and private health insurance;
- purchasing services and paying providers under the Medicaid program; and
- designing a variety of subsidy and regulatory programs providing incentives for health professionals to choose certain specialties and practice locations.

Key decision-makers in workforce policy within states and the federal government are eager to learn from each other. This initiative to compile in-depth assessments of the health workforce in 8 states is an important means of insuring that states and the federal government are able to effectively share information on various state workforce data, issues, influences and policies.

Products of this study include individual health workforce assessments for each of the eight states and a single assessment that compares various data and influences across the eight states. In general, each state assessment provides the following:

- 1) A summary of health workforce data, available resources and a description of the extent the state invests in collecting workforce data. [Part of this information has been provided by the Bureau of Health Professions];
- 2) A description of various issues and influences affecting the health workforce, including the state's legislative and regulatory history and its current programs, financing and policies affecting health professions education, service placement and reimbursement, planning and monitoring, and licensure/regulation;
- 3) An assessment of the state's internal capacity and existing strategies for addressing the above workforce issues and influences; and
- 4) An analysis of the policy implications of the state's current workforce data, issues, capacity and strategies.

The development of the project's data assimilation strategy, content and structure was guided by an expert advisory panel. Members of the advisory panel included both experts in state workforce policy (i.e., workforce planners, researchers and educators) and, more broadly, influential state health policymakers (i.e., state legislative staff, health department officials). The advisory panel has helped to ensure the workforce assessments have an appropriate content and effective format for dissemination and use by both state policymakers and workforce experts/officials.

STUDY METHODOLOGY

Study Purpose and Audience

Key decision-makers in workforce policy within states and the federal government are eager to learn from each other. Because states increasingly are being looked to by the federal government and others as proving grounds for successful health care reform initiatives, new and dynamic mechanisms for sharing innovative and effective state workforce strategies between states and with the federal government must be implemented in a more frequent and far reaching manner. This initiative to compile comprehensive capacity assessments of the health workforce in 8 states is an important means of insuring that states and the federal government are able to effectively share information on various state workforce data, issues and influences.

Each state workforce assessment report is not intended to be voluminous; rather, information is presented in a concise, easy-to-read format that is clearly applicable and easily digestible by busy state policymakers as well as by workforce planners, researchers, educators and regulators.

Selection of States

NCSL, with input from HRSA staff, developed a methodology for identifying and selecting 8 states to assess their health workforce capacity. The methodology included, but was not limited to, using the following criteria:

- a. States with limited as well as substantial involvement in one or more of the following areas: statewide health workforce planning, monitoring, policymaking and research;
- b. States with presence of unique or especially challenging health workforce concerns or issues requiring policy attention;
- c. States with little involvement in assessing health workforce capacity despite the presence of unique or especially challenging health workforce concerns or issues requiring policy attention;
- d. Distribution of states across Department of Health and Human Services regions;
- e. States with Bureau of Health Professions (BHP) - supported centers for health workforce research and distribution studies;
- f. States with primarily urban and primarily rural health workforce requirements; and
- g. States in attendance at BHP workforce planning workshops or states that generally have interest in workforce modeling.

Collection of Data

NCSL used various means of collecting information for this study. Methods exercised included:

- a. Phone and mail interviews with state higher education, professions regulation, and recruitment/retention program officials;
- b. Custom data tabulations by national professional trade associations and others (i.e., Quality Resource Systems, Inc.; Johns Hopkins University School of Public Health) with access to national data bases;
- c. Tabulations of data from the most recent edition of federal and state government databases (e.g., National Health Service Corps field strength);
- d. Site visit interviews with various officials in the eight profile states;
- e. Personal phone conversations with other various state and federal government officials;
- f. Most recently available secondary data sources from printed and online reports, journal articles, etc.; and
- g. Comments and guidance from members of the study's expert advisory panel.

STATE SUMMARY

Massachusetts is a significantly urban, high-income and heavily unionized state that historically has provided a generous array of public and privately funded health care services for its recipients. This is indicative of the state's low percentage of children and non-elderly without health insurance which ranks Massachusetts among the nation's lowest in rate of uninsurance. However, since 2001 when the state began facing severe fiscal pressure and private insurance coverage started to decline, insurance coverage has continue to drop and the viability of the state's uncompensated care pool of funds is threatened.

Massachusetts overall enjoys having a much larger than average per capita supply of physicians, nurses and dentists. In addition, the proportion of the state's population living in primary care and dental health professional shortage areas (HPSAs) is much less than the national average. Surprisingly, the ratio of National Health Service Corps to HPSA population in the state is over twice U.S. figures.

As recent as budget proposals for state fiscal year 2005, government health programs, particularly those administered by the Department of Public Health, are slated to continue receiving major funding reductions. Medicaid (MassHealth) provider payments have been reduced for certain health providers. Medicaid provider participation continues to be a concern, particularly for certain health professionals. Less than 15 percent of the state's practicing dentists are enrolled to serve MassHealth recipients, due in large part to very low reimbursement rates. MassHealth's payment schedule to pharmacists is also viewed as one of the lowest in the nation, and occurs at time when there are growing perceptions that a serious shortage of pharmacists is developing in the state. This is despite the fact that the state now has three schools of pharmacy. All students in these schools are now required to graduate (in a longer period of time) with a doctorate degree—now the standard entry to practice educational requirement in most states. According to reports, most of these students are now women who often choose to work only part time upon graduation.

Statewide efforts to address health workforce needs have been spotty. In 2000, the Massachusetts Health Policy Forum convened a meeting to address health workforce issues in an effort to better understand the growing problem of shortages. About the same time, a health workforce data center to collect and analyze supply and demand trends of (largely) nurses was created at Worcester State College. There appears to be a growing interest in developing other resources for statewide research and analysis on other health professions.

Studies by the state medical society suggest that a growing number of working and lifestyle issues related to rising malpractice premiums, managed care, third-party reimbursement, cost-of-living and other concerns have made a growing number of physicians consider leaving the state or not beginning to practice in Massachusetts. Hoping to counter such beliefs and trends, the state's only public medical school at the University of Massachusetts (out of four total) enjoys a solid reputation of training a large proportion of medical students interested in practicing primary care in the state.

While data appears to show that Massachusetts does not yet have an overall nursing shortage, a 2002 survey of hospitals in Massachusetts found that hospitals face growing nurse vacancy rates (the worst in nearly 15 years). As nearly 90 percent of hospitals now have some kind of affiliation with a nursing schools to expand enrollment, there is a consensus that any nursing shortage in Massachusetts, like elsewhere, is associated with an insufficient capacity of nurse training programs (associated with shortages of faculty, space and other resources) to educate more nurses. Increasing numbers of qualified applicants are being turned away from nursing schools due to this lack of capacity.

Although low Medicaid payment rates and other factors historically have contributed to limited access to oral health care in the state, Massachusetts does not appear to suffer from an overall shortage of dentists. The state's three dental schools and seven hygiene schools prepare large numbers of dentists and hygienists.

However, there is growing concern with the inability of a large low-income, uninsured and disadvantaged population in Massachusetts to access basic oral health services. Declining participation by dentists in MassHealth, over forty percent of the state's population live in communities with no fluoridated water, and other concerns spurred the creation in 1998 of a special legislative commission on oral health to address the issue. A 2000 report by the Commission offered several recommendations to the state for making improvements, including developing more effective oral health information systems, expanding capacity in both the public and private sector to improve access to oral health screening and treatment services, and providing better statewide preventive services for high-risk populations.

I. WORKFORCE SUPPLY AND DEMAND

Arguably, it is most important initially to understand the marketplace for a state’s health care workforce. How many health professionals are in practice statewide and in medically underserved communities? What are the demographics of the population served? How is health care organized and paid for in the state? This section attempts to answer some of these questions by presenting state-level data collected from various sources.

Table I-a.

POPULATION		MA	U.S.
Total Population (2001)		6,379,304	284,796,887
Sex (2000)	% Female	51.8	50.9
	% Male	48.2	49.1
Age (2000)	% less than 18	23.6	25.7
	% 18-64	62.9	61.9
	% 65 or over	13.5	12.4
% Minority/Ethnic (2002)		18.9	30.9
% Metropolitan (2002)		98.5	81.3

Sources: U.S. Census Bureau, AARP.

Almost all Massachusetts residents live in metropolitan areas.

Table I-b.

PROFESSION UTILIZATION	MA	U.S.
% Adults who Reported Having Routine Physical Exam Within Past Two Years (1997)	88.4	83.2 (Median)
Average # of Retail Prescription Drugs per Resident (2002)	11.2	10.6
% Adults who Made Dental Visit in Preceding Year by Annual Family Income (1999):		
Less than \$15,000	54	
\$15,000 - \$34,999	60	
\$ 35,000 or more	73	

Sources: CDC, AARP, GAO.

Nearly ninety percent of Massachusetts adults reported having a routine physical exam within the past two years.

Table I-c.

ACCESS TO CARE		MA	U.S.
% Non-elderly (under age 65) Without Health Insurance	2000-2001	10	17
	1999-2000	11	16
% Children Without Health Insurance	2000-2001	6	12
	1999-2000	8	12
% Not Obtaining Health Care Due to Cost (2000)		6.3	9.9
% Living in Primary Care HPSA (2003)		10.9	21.3
# Practitioners Needed to Remove Primary Care HPSA Designation (2003)		54	--
% Living in Dental HPSA (2003)		7.6	14.7
# Practitioners Needed to Remove Dental HPSA Designation (2003)		56	--

HPSA = Health Professional Shortage Area

Sources: KFF, AARP, BPHC-DSD.

Massachusetts has half as many residents living in primary care and dental HPSAs as the U.S. as a whole.

Table I-d.

PROFESSIONS SUPPLY			
Profession	# Active Practitioners	# Active Practitioners per 100,000 Population	
		MA	U.S.
Physicians (1998)	17,038	277.3	198
Physician Assistants (1999)	619	10.0	10.4
Nurses	RNs (2000)	91,628	1,194
	LPNs (1998)	17,000	276.7
	CNMs (2000)	250	4.0
	NPs (1998)	3,500	57.0
	CRNAs (1997)	468	7.7
Pharmacists (1998)	4,130	67.2	65.9
Dentists (1998)	3,782	61.6	48.4
Dental Hygienists (1998)	4,750	77.3	52.1
% Physicians Practicing Primary Care		28.0 (30.0 U.S.)	
% Registered Nurses Employed in Nursing		82.7 (81.7 U.S.)	
% of MDs Who Are International Medical Graduates (IMGs)		20.0 (24.0 U.S.)	

RN= Registered Nurse, LPN= Licensed Practical Nurse, CNM= Certified Nurse Midwife, NP= Nurse Practitioner
CRNA= Certified Registered Nurse Anesthetist

Source: HRSA-BHPr.

Massachusetts has more physicians, nurses, pharmacists, dentists, and dental hygienists per 100,000 population than the U.S. as a whole.

Table I-e.

NATIONAL HEALTH SERVICE CORPS (NHSC) FIELD STRENGTH			
Total Field Strength (FY 2003) * Includes mental/behavioral health officials	% in Urban Areas	% in Rural Areas	# Per 10,000 Population Living in HPSAs
73	99	1	1.05 (0.49 U.S.)
<i>Field Strength by Profession</i>			
Physicians	29		
Nurses	16		
Physician Assistants	5		
Dentists/Hygienists	8		

HPSA= Health Professional Shortage Area

Source: BPHC-NHSC.

Massachusetts’s National Health Service Corp field strength per 10,000 HPSA population is twice than the national average.

Table I-f.

MANAGED CARE			
Penetration Rate of Commercial and Medicaid HMOs (as % of total population), 2000		MA	U.S.
		45.2	28.1
Profession	MCOs required by state to include profession on their provider panel*	Profession allowed by state to serve as primary care provider in MCOs	Profession allowed by state to coordinate primary care as part of a standing referral
Physicians	No	Yes	Yes
Nurses	No	No	No
Pharmacies	No	No	No
Dentists	No	No	No
State requires certain individuals enrolled in MCOs to have direct access to certain specialty (OB/GYN, etc.) providers.			Yes
State requires certain individuals enrolled in MCOs to receive a standing referral to a specialist (OB/GYN, etc.).			Yes

MCOs = Managed Care Organizations HMOs = Health Maintenance Organizations OB/GYN = Obstetrician/Gynecologist

* This requirement does not preclude MCOs from including additional professions on their provider panels.

Sources: HPTS, AARP.

Forty-five percent of Massachusetts residents receive health care from an HMO.

Table I-g.

REIMBURSEMENT OF SERVICES					
	Profession	% Active Practitioners Enrolled	% Enrolled Receiving Annual Payments Greater Than \$10,000 ¹	Increase of 10% or More in Overall Payment Rates 1998-2003	Bonus or Special Payment Rate for Practice in Rural or Medically Underserved Area
Medicaid	Physicians	92	N/A	No	No
	NPs	15	N/A	No	No
	Dentists	14	N/A	Yes	Yes
	# of Enrolled Pharmacies				N/A
	% Change in Physician Fees (All Services), 1993-1998				-2.39
	Recent State-Mandated Payment Increases				Yes (for dentists)
	Medicare	# Active Practitioners Enrolled (2000)			
% Practitioners who Accept Fee as Full Payment (2003)				96.0	

¹ Generally seen as an indicator of significant participation in the Medicaid program.

² Denominator number from HRSA State Health Workforce Profile, December 2000.

N/A Data was not available

Sources: State Medicaid programs, Norton and Zuckerman “Trends”, HPTS, AARP.

Medicaid physician fees decreased in Massachusetts between 1993 and 1998.

II. HEALTH PROFESSIONS EDUCATION

State efforts to help ensure an adequate supply of health professionals can be understood in part by examining data on the state’s health professions education programs—counts of recent students and graduates, amounts of state resources invested in education, and other factors. State officials can gauge how well these providers reflect the state’s population by also examining how many students and graduates are state residents or minorities. Knowing to what extent states are also investing in primary care education and how many medical school graduates remain in-state to complete residencies in family medicine is also important.

Table II-a.

UNDERGRADUATE MEDICAL EDUCATION			
# of Medical Schools <i>(Allopathic and Osteopathic)</i>	4	Public Schools	1
		Private Schools	3
		Osteopathic Schools	0
# of Medical Students <i>(Allopathic and Osteopathic)</i>	1998-1999	2467	
	2000-2001	2480	
# Medical Students per 100,000 Population ¹	1998-1999	38.7	
	2000-2001	38.9	
% Newly Entering Students <i>(Allopathic)</i> who are State Residents, 2002-2003		33.6	
Requirement for Students in Some/All Medical Schools to Complete a <i>Primary Care Clerkship</i>	By the State	No	
	By Majority of Schools	Yes	
# of Medical School Graduates <i>(Allopathic and Osteopathic)</i>	1998	581	
	2001	580	
# Medical School Graduates per 100,000 Population ¹	1998	9.1	
	2001	9.1	
% Graduates <i>(Allopathic)</i> who are Underrepresented Minorities, 1994-1998		10.58 (10.5 U.S.)	
% 1987-1993 Medical School Graduates <i>(Allopathic)</i> Entering Generalist Specialties		24.8 (26.7 U.S.)	
State Appropriations to Medical Schools <i>(Allopathic and Osteopathic)</i> , 2001-2002	Total	\$43.0 million	
	Per Student	\$17,339	

¹ Denominator number is state population from 2000 U.S. Census.

Sources: AAMC, AAMC Institutional Goals Ranking Report, AACOM, Barzansky et al. “Educational Programs”, State higher education coordinating boards.

Approximately one-third of newly entering medical students in Massachusetts are state residents.

Table II-b.

GRADUATE MEDICAL EDUCATION (GME)		
# of Residency Programs (<i>Allopathic and Osteopathic</i>), 2002-2003 ¹		346
# of Physician Residents (<i>Allopathic and Osteopathic</i>), 2002-2003 ¹		4656
# Residents Per 100,000 Population, 2002-2003		72
% Allopathic Residents from In-State Medical School, 2000-2001		21.0
% Residents who are International ² Medical Graduates, 2000-2001		21.1
Requirement to Offer Some or All Residents a <i>Rural Rotation</i>	By the State	No
	By Most Primary Care Residencies	No
<i>Medicaid</i> Payments for Graduate Medical Education, 2002 ³		\$42.3 million
	Payments as % of Total Medicaid Hospital Expenditures	7.4 (8.0 U.S.)
	Payments Made Directly to Teaching Programs Under Capitated Managed Care	No
	Payments Linked to State Workforce Goals/ Goals of Improved Accountability	Yes
<i>Medicare</i> Payments for Graduate Medical Education, 1998 ³		\$331.1 million

¹ Includes estimated number of osteopathic residencies/residents not accredited by the Accreditation Council for Graduate Medical Education.

² Does not include residents from Canada.

³ Explicit payments for both direct and indirect GME cost.

Sources: AMA, AMA State-level Data, AACOM, State higher education coordinating boards, Henderson “Funding”, Oliver et al. “State Variations.”

About one-fifth of all Massachusetts residents are international medical graduates and the same proportion of allopathic residents are from in-state medical schools.

Table II-c.

FAMILY MEDICINE RESIDENCY TRAINING			
# of Residency Programs, 2001-2002	5	# Residencies Located in Inner City	5
		# Residencies Offering Rural Fellowships or Training Tracks	0
# of Family Medicine Residents, 2001-2002			29
# Family Medicine Residents per 100,000 Population, 2001-2002 ¹			0.5
% Graduates (<i>from state's Allopathic and Osteopathic medical schools</i>) who were First Year Residents in Family Medicine, 1995-2001			7.4
% Graduates (<i>from state's Allopathic medical schools</i>) Choosing a Family Medicine Residency Program Who Entered an In-State Family Medicine Residency, 1995-2001			29.3

¹ Denominator number is state population from 2000 U.S. Census.

Sources: AAFP, AAFP State Legislation, Kahn et al., Pugno et al. and Schmittling et al. “Entry of U.S. Medical School Graduates”.

Only seven percent of graduates in the state were first year residents in family medicine.

Table II-d.

NURSING EDUCATION				
# of Nursing Schools	44	Public Schools	26	
		Private Schools	18	
# of Nursing Students ¹	7,091	# Associate Degree, 2001-2002		2,532
		# Baccalaureate Degree	2001-2002	3,810
			2002-2003	3,363
		# Masters Degree	2001-2002	1,136
			2002-2003	1,081
		# Doctoral Degree	2001-2002	106
			2002-2003	115
# Per 100,000 population ²			111.2	
# of Nursing School Graduates ¹	2,188	# Associate Degree, 2002		980
		# Baccalaureate Degree	2001	930
			2002	812
		# Masters Degree	2001	371
			2002	380
		# Doctoral Degree	2001	18
			2002	16
# Per 100,000 population ²			34.3	

¹ Annual figure for Associate, Baccalaureate, Masters and Doctoral students/graduates for most recent years available.

² Denominator number is the state population from the 2000 U.S. Census.

Sources: NLN, AACN, State higher education coordinating boards.

Massachusetts nursing school enrollments and graduations declined between 2001 and 2002.

Table II-e.

PHARMACY EDUCATION			
# of Pharmacy Schools	3	Public Schools	0
		Private Schools	3
# of Pharmacy Students, 2002-2003	2102	# Baccalaureate Degree	1
		# Doctoral Degree (<i>PharmD</i>)	2101
	# Per 100,000 population*	33.0	
# of Pharmacy Graduates, 2001-2002	256	# Baccalaureate Degree	7
		# Doctoral Degree (<i>PharmD</i>)	249
	# Per 100,000 population*	4.0	

* Denominator number is state population from 2000 U.S. Census.

Source: AACP.

Table II-f.

PHYSICIAN ASSISTANT EDUCATION			
# of Physician Assistant Training Programs, 2002-2003	2	Public Schools	0
		Private Schools	2
# of Physician Assistant Program Students, 1997-1998			63²
# Physician Assistant Program Students per 100,000 Population, 1997-1998 ¹			0.98
# of Physician Assistant Program Graduates, 2003			31²
# Physician Assistant Program Graduates per 100,000 Population, 2003 ¹			0.48

¹ Denominator number is state population from 2000 U.S. Census.

² Data was only available from one of the programs in Massachusetts.

Sources: APAP, APAP Annual Report.

Table II-g.

DENTAL EDUCATION			
# of Dental Schools	3	Public Schools	0
		Private Schools	3
# of Dental Students, 2000-2001	1344		
# Dental Students per 100,000 Population, 2000-2001*	21.1		
# of Dental Graduates, 1999-2000	327		
# Dental Graduates per 100,000 Population, 2000*	5.1		
State Appropriations to Dental Schools, 1997	Per Student: N/A		
	As % Total Revenue: N/A		

* Denominator number is state population from 2000 U.S. Census.

Source: ADA.

Table II-h.

DENTAL HYGIENE EDUCATION			
# of Dental Hygiene Training Programs	7	Public Schools	5
		Private Schools	2
# of Dental Hygiene Program Students, 2001-2002	354		
# Dental Hygiene Program Students per 100,000 Population*	5.5		
# of Dental Hygiene Program Graduates, 2000-2001	172		
# Dental Hygiene Program Graduates per 100,000 Population*	2.7		

* Denominator number is state population from 2000 U.S. Census.

Sources: ADHA, AMA [Health Professions](#).

III. PHYSICIAN PRACTICE LOCATION

The following tables examine in-state physician practice location from two different vantage points: (1) of all physicians who were trained (went to medical school or received their most recent GME training) in the state between 1975 and 1995, and (2) of all physicians who are now practicing in the state, regardless of where they were trained. Compiled from the American Medical Association’s 1999 Physician Masterfile by Quality Resource Systems, Inc., the data importantly illustrates to what extent physician graduates practice in many of the state’s small towns, using the rural-urban continuum developed by the U.S. Department of Agriculture.

PRACTICE LOCATION (URBAN/ RURAL) OF PHYSICIANS WHO RECEIVED THEIR MEDICAL SCHOOL TRAINING IN MASSACHUSETTS BETWEEN 1975 AND 1995.

Table III-a.

MASSACHUSETTS		
Number of physicians who were trained in MA and who are now practicing in MA as a percentage of all physicians practicing in MA.		23.58
Number of physicians who were trained in MA and are practicing in MA, by practice location (metro code ²), as a percentage of all physicians practicing in MA.	#00	23.32
	#01	28.49
	#02	24.29
	#03	22.00
	#04	22.41
	#05	0.00
	#06	0.00
	#07	0.00
	#08	0.00
	#09	20.00
Number of physicians who were trained in MA and who are now practicing in MA as a percentage of all physicians who were trained in MA.		31.75
Number of physicians who were trained in MA and are practicing in MA, by practice location (metro code ²), as a percentage of all physicians trained in MA.	#00	35.12
	#01	53.40
	#02	30.48
	#03	18.75
	#04	6.19
	#05	0.00
	#06	0.00
	#07	0.00
	#08	0.00
	#09	26.67

¹ 1995 Rural/Urban Continuum Codes for Metro and Nonmetro Counties. Margaret A. Butler and Calvin L. Beale. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture.

Codes # 00-03 indicate metropolitan counties:

00: Central counties of metro areas of 1 million or more
 01: Fringe counties of metro areas of 1 million or more
 02: Counties with metro areas of 250,000 - 1 million
 03: Counties in metro areas of less than 250,000

Codes # 04-09 indicate non-metropolitan counties:

04: Urban population of 20,000 or more, adjacent to metro area

05: Urban population of 20,000 or more, not adjacent to metro area

06: Urban population of 2,500-19,999, adjacent to metro area

07: Urban population of 2,500-19,999, not adjacent to metro area

08: Completely rural (no place w population > 2,500), adjacent to metro area

09: Completely rural (no place w population > 2,500), not adjacent to metro area

NA: Not Applicable; no counties in the state are in the R/U Continuum Code.

**PRACTICE LOCATION (URBAN/ RURAL) OF PHYSICIANS WHO RECEIVED
THEIR MOST RECENT GME TRAINING IN MASSACHUSETTS
BETWEEN 1978 AND 1998.**

Table III-b.

MASSACHUSETTS		
Number of physicians who received their most recent GME training in MA and who are now practicing in MA as a percentage of all physicians practicing in MA.		62.59
Number of physicians who received their most recent GME training in MA and are practicing in MA, by practice location (metro code ¹), as a percentage of all physicians practicing in MA.	#00	67.87
	#01	51.65
	#02	51.20
	#03	35.63
	#04	24.19
	#05	0.00
	#06	0.00
	#07	0.00
	#08	0.00
#09	40.00	
Number of physicians who received their most recent GME training in MA and who are now practicing in MA as a percentage of all physicians who were trained in MA.		47.57
Number of physicians who received their most recent GME training in MA and are practicing in MA, by practice location (metro code ¹), as a percentage of all physicians trained in MA.	#00	55.10
	#01	56.97
	#02	37.93
	#03	21.62
	#04	5.64
	#05	0.00
	#06	0.00
	#07	0.00
	#08	0.00
#09	22.86	

¹ 1995 Rural/Urban Continuum Codes for Metro and Nonmetro Counties. Margaret A. Butler and Calvin L. Beale. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture.

Codes # 00-03 indicate metropolitan counties:

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- 04: Urban population of 20,000 or more, adjacent to metro area
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- 06: Urban population of 2,500-19,999, adjacent to metro area
- 07: Urban population of 2,500-19,999, not adjacent to metro area
- 08: Completely rural (no place w population > 2,500), adjacent to metro area
- 09: Completely rural (no place w population > 2,500), not adjacent to metro area

NA: Not Applicable; no counties in the state are in the R/U Continuum Code.

IV. LICENSURE AND REGULATION OF PRACTICE

States are responsible for regulating the practice of health professions by licensing each provider, determining the scope of practice of each provider type and developing practice guidelines for each profession. The tables below illustrate the licensure requirements for each of the health professions covered in this study as well as additional information on recent expansions in scope of practice or other novel regulatory measures taken by the state.

Table IV-a.

PHYSICIANS	
LICENSURE REQUIREMENTS	Must have completed 1) a minimum of two or more academic years at a legally chartered college or university which must include courses in biology, inorganic chemistry, organic chemistry and physics, or their equivalent as determined by the Board; 2) four academic years of instruction, of not less than thirty-two weeks in each academic year, in a legally chartered medical school, and have received a degree of doctor of medicine or its equivalent; and 3) one year of ACGME approved or accredited Canadian post-graduate medical training.
LICENSURE REQUIREMENTS: <i>INTERSTATE TELE-CONSULTATION</i>	Full License. A temporary license may be granted to a physician who is licensed to practice medicine in another state, or a physician who is eligible for a Massachusetts medical license and is a diplomate of a specialty board approved by the AMA or AOA. Such temporary license enables him/her to act as a substitute physician for a fully licensed Massachusetts physician who is sick, on vacation or maternity leave. Limited to three months.
STATE MANDATES INDIVIDUAL PROFESSION PROFILES TO BE PUBLICLY ACCESSIBLE	Yes. Law passed in 1996 requires the Board of Registration in Medicine to compile a profile for each physician licensed in the state.

Sources: State licensing board, HPTS.

Table IV-b.

PHYSICIAN ASSISTANTS	
LICENSURE REQUIREMENTS	Must have passed the National Commission on Certification of Physician Assistants examination, hold a Bachelor degree in any field, and have completed a two-year accredited physician assistant program.
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	<p><i>PRESCRIPTIVE AUTHORITY</i> Physician Assistants can prescribe schedule II-V medications.</p> <p><i>PHYSICIAN SUPERVISION</i> Physician need not be physically present when PA renders medical services; patient records must be reviewed in a timely manner.</p>

Source: State licensing board.

Table IV-c.

NURSES	
LICENSURE REQUIREMENTS	<p>Registered Nurses: Must have certification of graduation from an approved nursing program and pass the NCLEX-RN examination.</p> <p>APNs: Must have satisfactorily completed a formal educational program recognized by the Board; hold a current certification by a nationally recognized accrediting body; and pass an examination.</p> <p>Licensed Practical Nurses: Must have certification of graduation from an approved nursing program and pass the NCLEX-PN examination.</p>
LICENSURE REQUIREMENTS: <i>FOREIGN-TRAINED NURSES</i>	<p>Graduates of a professional nursing program located outside the United States, or graduates of a professional nursing program located in Canada who are not eligible for licensure by endorsement must be certified by the Board, as a graduate of an approved nursing program. Board certification may be granted on the basis of applicant receipt of a Commission on Graduates of Foreign Nursing Schools certificate, or a Board-designated credentials review and, for graduates of nursing programs offered in a language other than English, achievement of a minimum score of 550 on the Test of English as a Foreign Language (TOEFL)</p>
LICENSURE REQUIREMENTS: <i>INTERSTATE TELE-CONSULTATION</i>	<p>None. State does not currently participate in the interstate licensure compact developed by the National Council of State Boards of Nursing.</p>
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	<p><i>PRESCRIPTIVE AUTHORITY</i> NPs and CNMs can prescribe schedule II-V with physician supervision.</p> <p><i>PHYSICIAN SUPERVISION</i> All advanced practice nurses shall practice in accordance with written guidelines developed in collaboration with and mutually acceptable to the nurse and to the physician.</p>
RECENT STATE REQUIREMENTS TO IMPROVE WORKING CONDITIONS IN CERTAIN INSTITUTIONS	<p>None.</p>
STATE MANDATES INDIVIDUAL PROFESSION PROFILES TO BE PUBLICLY ACCESSIBLE	<p>No.</p>

Sources: State licensing board, AANA, ACNM, Pearson “Annual Legislative Update”, HPTS.

Table IV-d.

DENTISTS	
LICENSURE REQUIREMENTS	Must be eighteen years of age or over, be of good moral character, have satisfactory proof that he has received a diploma from the faculty of a dental college accredited or recognized as accredited by the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs of the American Dental Association, and have passed a board examination.
LICENSURE REQUIREMENTS: <i>INTERSTATE TELE-CONSULTATION</i>	Full License: A limited registration may be granted that allows the dentists licensed in another state to practice dentistry only in the hospital or other institution designated on his registration and under the direction of a registered dentist employed therein. The limited registration is issued for one year and may be renewed for up to five years.

Source: State licensing board.

Table IV-e.

PHARMACISTS	
LICENSURE REQUIREMENTS	Must be a graduate of ACPE-accredited and Board-approved colleges/schools of pharmacy, be 18 years old by the scheduled date of the examination applied for, have acquired no less than 1500 hours of practical experience as a pharmacy intern under the supervision of a Board-approved pharmacist preceptor, be of good moral character, and have passed the NABPLEX and the Massachusetts Pharmacy Law Examination.
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	None.
STATE MANDATES INDIVIDUAL PROFESSION PROFILES TO BE PUBLICLY ACCESSIBLE	No.

Source: State licensing board.

Table IV-f.

DENTAL HYGIENISTS	
LICENSURE REQUIREMENTS	Must be of good moral character, be nineteen years old or over, be a graduate of a school for dental hygienists accredited or recognized as accredited by the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs of the American Dental Association, and have passed a examination.
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	<p><i>PRESCRIPTIVE AUTHORITY</i> None.</p> <p><i>DENTIST SUPERVISION</i> A dental hygienist may practice only in public or private institutions such as schools, hospitals, or orphan asylums and sanitariums, under the general direction of a licensed and qualified dentist, but not otherwise; or in the office of a duly qualified and licensed dentist.</p>

Source: State licensing board, ADHA.

Glossary of Acronyms

CNM: Certified nurse midwife.

CRNA: Certified registered nurse anesthetist.

DEA: Drug Enforcement Agency.

HPSA: Health Professional Shortage Area

NCLEX: National Council Licensure Examination, administered by the National Council of State Boards of Nursing.

NP: Nurse practitioner.

RDHAP: Registered dental hygienist in alternative practice.

V. IMPROVING THE PRACTICE ENVIRONMENT

States have the challenge of not only helping to create an adequate supply of health professionals in the state, but also ensuring that those health professionals are distributed evenly throughout the state. Various programs and incentives are used by states to encourage providers to practice in rural and other underserved areas. The tables in this section describe Massachusetts’s programs as well as the perceived effectiveness of these programs.

RECRUITMENT/ RETENTION INITIATIVES

Table V-a.

INITIATIVE	In Use	Perceived or Known Impact (1= high, 5= low)	Health Professions Affected					
			Physicians	Nurses	Pharmacists	Dentists	Dental Hygienists	Physician Assistants
FOCUSED ADMISSIONS / RECRUITMENT OF STUDENTS FROM RURAL OR UNDERSERVED AREAS	Yes	1	X	X				
SUPPORT FOR HEALTH PROFESSIONS EDUCATION (stipends, preceptorships) IN UNDERSERVED AREAS	Yes	1	X	X		X	X	X
RECRUITMENT / PLACEMENT PROGRAMS FOR HEALTH PROFESSIONALS	Yes	1	X					
PRACTICE DEVELOPMENT SUBSIDIES (i.e., start-up grants)	No							
MALPRACTICE PREMIUM SUBSIDIES	Yes	3	X					
TAX CREDITS FOR RURAL / UNDERSERVED AREA PRACTICE	No							
PROVIDING SUBSTITUTE PHYSICIANS (<i>locum tenens</i> support)	No							
MALPRACTICE IMMUNITY FOR PROVIDING VOLUNTARY OR FREE CARE	No							
PAYMENT BONUSES / OTHER INCENTIVES BY MEDICAID OR OTHER INSURANCE CARRIERS	No							
MEDICAID REIMBURSEMENT OF TELEMEDICINE	No							

Source: State health officials.

Massachusetts state health officials rated focused admissions, support for health professions education in underserved areas, and recruitment/placement programs for health professionals as having a high impact on the supply of health professionals.

LOAN REPAYMENT/ SCHOLARSHIP PROGRAMS *

Table V-b.

Program Type	Number of Programs	Number of Annual Participants	Average Retention Rate	Eligible Health Professions					
				Physicians	Nurses	Pharmacists	Dentists	Dental Hygienists	Physician Assistants
LOAN REPAYMENT	1	15	50%	X	X		X	X	X
SCHOLARSHIP	0	N/A	N/A						

* Includes only state-funded programs which require a service obligation in an underserved area. (NHSC state loan repayment programs are included since the state provides funding.)

Source: State health officials.

WORKFORCE PLANNING ACTIVITIES*

Table V-c.

ACTIVITY	In Use	Health Professions Affected					
		Physicians	Nurses	Pharmacists	Dentists	Dental Hygienists	Physician Assistants
COLLECTION / ANALYSIS OF PROFESSIONS SUPPLY DATA: FROM <i>PRIMARY</i> SOURCES (e.g., licensure renewal process; other survey research)	Yes	X	X	X	X	X	X
FROM <i>SECONDARY</i> SOURCES (e.g., state-based professional trade associations)	Yes	X	X	X	X	X	X
PRODUCTION OF RECENT STUDIES OR REPORTS THAT DOCUMENT / EVALUATE THE SUPPLY, DISTRIBUTION, EDUCATION OR REGULATION OF HEALTH PROFESSIONS	No						
RECENT REGULATORY ACTIONS INTENDED TO REQUIRE OR ENCOURAGE COORDINATION OF POLICIES AND DATA COLLECTION AMONG HEALTH PROFESSIONS GROUPS OR LICENSING BOARDS	No						

* One state health official supplied these responses. Therefore, data may be limited and may not accurately reflect all current workforce-planning activities in the state.

Massachusetts frequently collects and analyzes supply data from both primary and secondary sources for all the major health professions.

VI. EXEMPLARY WORKFORCE LEGISLATION, PROGRAMS AND STUDIES

The following abstracts describe several of Massachusetts's recent endeavors to understand and describe the status of the state's current health care workforce.

Legislation and Programs

H-2547

This law protects dentists and dental hygienists from liability for damages when they volunteer their services without a fee and render emergency care outside their scope of practice. It was enacted in 2003.

Extended Care Career Ladders Initiative (ECCLI)

Boston Workforce Development Coalition, 2000

The state legislature earmarked \$5 million for this program to promote career ladders for certified nurse anesthetists to become licensed practical nurses. The program is coordinated by Workforce Investment Boards, community colleges, and community based organizations and has introduced career ladders in over 50 long-term care workplaces.

MassHealth Access program (MAP)

University of Massachusetts Medical School, 1996

The Office of Community Programs established this program in 1996. The program provides technical assistance, support and policy recommendations for the Mass Health program. It focuses on six areas: 1) cultural competency; 2) clinical and provider education and training; 3) workforce development; 4) dental services development, education, and outreach; 5) health care access projects; and 6) the support of community health centers.

Studies

Health Care Workforce Issues in Massachusetts

Massachusetts Health Policy Forum, June 2000

This issue brief examines the issues facing the Massachusetts health professional workforce. It looks at the dynamics of the health care labor market and the quality of both jobs in the health professions and the quality of health care in the state. The report sites insufficient and declining wages, lack of health insurance, dangerous workloads, and poor management and supervision practice as problems facing the workforce and makes recommendations to the state.

The Oral Health Crisis in Massachusetts

Special Legislative Commission on Oral Health, February 2000

In 1998, the Commission was created to investigate the status of oral health care in the state and review options for increasing access and utilization for services. The report of the Commission looks at the issues in the state and makes recommendation for improvement. Major recommendations include: 1) Improve access to public and private insurance; 2) improve access to oral health screening and treatment services by increasing the private and public capacity; 3) provide statewide individual and population based preventive services for high-risk populations; and 4) develop and implement a oral health data and information system.

Physician Workforce Study

Massachusetts Medical Society, May 2002

This study uses focus group and survey data to examine the practice environment and its effect on the supply of physicians in the state. Some of the findings of the report: 1) there is a growing perception that Massachusetts is a financially and administratively difficult place to practice; 2) there has been a dramatic growth of quality academic medical centers across the country that offer attractive opportunities for physicians who might have otherwise stayed in the state; and 3) physician locational choices on a specialty-by-specialty basis undergo sharp changes annually, creating short-term gaps in the labor market.

Survey of Hospital Nurse Staffing Issues in Massachusetts

Massachusetts Hospital Association and Massachusetts Organization of Nurse Executives, 2002

This survey assesses the depth and severity of workforce shortages in the nursing field and identifies “best practices” that are being used by hospitals to recruit and retain nurses. The report shows that the hospitals in the state are facing high vacancy rates and most are facing a shortage. It also notes that most of the hospitals in the state are actively looking for ways to recruit and retain nurses.

VII. POLICY ANALYSIS

Statewide Organizations with Significant Involvement in Health Workforce Development/Analysis

- Massachusetts Hospital Association
- Massachusetts Nurses Association
- University of Massachusetts School of Medicine
- Commonwealth Corporation

Evidence of Collaboration: Moderate (largely associated with workforce data collection, profession training, and profession recruitment and retention)

Massachusetts is a significantly urban, high-income and heavily unionized state that historically has provided a generous array of public and privately funded health care services for its recipients. The state's initiation in 1997 of a comprehensive expansion of public health insurance coverage under Medicaid—termed MassHealth—is indicative of Massachusetts' low percentage of children and non-elderly without health insurance which ranks them among the nation's lowest in rate of uninsurance.

However, since 2001 when the state began facing severe fiscal pressure and private insurance coverage started to decline, insurance coverage has continue to drop and the viability of the state's uncompensated care pool of funds is threatened. Many of Massachusetts' widely-touted medical centers and hospitals—particularly in the Boston area—have become financially strapped and have not been able to meet increasing demand for services. Although in the past year the financial woes of health care providers in the Boston market have somewhat subsided, many hospitals continue to struggle with capacity constraints due in part to shortages of physicians, nurses and other skilled health care personnel.

Despite these growing concerns with workforce shortages, Massachusetts overall enjoys having a much larger than average per capita supply of physicians, nurses and dentists. In addition, the proportion of the state's population living in primary care and dental health professional shortage areas (HPSAs) is much less than the national average. Surprisingly, the ratio of National Health Service Corps to HPSA population in the state is over twice U.S. figures.

Reductions in state support to higher education have also persisted since 2001. However, with the exception of nursing, a large majority of the state's medical, dental and pharmacy schools are privately owned.

As recent as budget proposals for state fiscal year 2005, government health programs, particularly those administered by the Department of Public Health, are slated to continue receiving major funding reductions. Although Medicaid provider payments have been reduced for certain health providers, overall cuts to the MassHealth (Medicaid) program in recent years have been more modest. In 2003, Medicaid appropriations actually increased well above normal. However, coverage for adult dental care (as well as other optional services under Medicaid) was reduced in 2003.

Medicaid provider participation continues to be a concern, particularly for certain health professionals. Less than 15 percent of the state's practicing dentists are enrolled to serve MassHealth recipients, due in large part to very low reimbursement rates. MassHealth's payment schedule to pharmacists is also viewed as one of the lowest in the nation, and occurs at time when there are growing perceptions that a serious shortage of pharmacists is developing in the state. This is despite the fact that the state now has three schools of pharmacy. All students in these schools are now required to graduate (in a longer period

of time) with a doctorate degree—now the standard entry to practice educational requirement in most states. According to reports, most of these students are now women who often choose to work only part time upon graduation.

Initial statewide efforts to address health care workforce shortages began in 2000 with the establishment of the Massachusetts Health Care Task Force. The task force was charged with conducting a comprehensive analysis of the state's health care industry. That same year, the Massachusetts Health Policy Forum convened a meeting to address health workforce issues in an effort to better understand the growing problem of shortages. About the same time, a health workforce data center to collect and analyze supply and demand trends of (largely) nurses was created at Worcester State College. There appears to be a growing interest in developing other resources for statewide research and analysis on other health professions. The University of Massachusetts School of Medicine Area Health Education Center program is examining the possibility of establishing a workforce data center that researches physician workforce and other health profession supply and demand issues. Other groups, including the Massachusetts Hospital Association and the Commonwealth Corporation, have expressed concern about the need for greater attention to understanding and analyzing statewide nursing workforce supply and demand.

Medicine

Studies by the state medical society suggest that a growing number of working and lifestyle issues related to rising malpractice premiums, managed care, third-party reimbursement, cost-of-living and other concerns have made a growing number of physicians consider leaving the state or not beginning to practice in Massachusetts.

Hoping to counter such beliefs and trends, the state's only public medical school at the University of Massachusetts (out of four total) enjoys a solid reputation of training a large proportion of medical students interested in practicing primary care in the state. About two thirds of graduating students enter a primary care residency program. Although the school only accepts state residents as incoming students, the average proportion of entry-level students who are state residents for the state's four medical schools altogether is just one-third. A large number of students apply for participation in the school's physician loan repayment program in which participants must practice primary care in-state upon completion of their residency. The University says that about 70 percent of these participants ultimately remain in the state to practice.

Nursing

The state's changing demand for and supply of nurses is slowly becoming better understood. While data appears to show that Massachusetts does not yet have an overall nursing shortage, a 2002 survey of hospitals in Massachusetts found that hospitals face growing nurse vacancy rates (the worst in nearly 15 years). As nearly 90 percent of hospitals now have some kind of affiliation with a nursing schools to expand enrollment, there is a consensus that any nursing shortage in Massachusetts, like elsewhere, is associated with an insufficient capacity of nurse training programs (associated with shortages of faculty, space and other resources) to educate more nurses. Increasing numbers of qualified applicants are being turned away from nursing schools due to this lack of capacity. Commonwealth Corporation, in collaboration with nurse employers and other organizations, and with support from the U.S. Department of Labor funding to the state's workforce investment boards, established the Nursing Career Ladder Initiative in 2002 to examine the state's nursing education capacity and make improvements.

In addition, efforts by the state nurses association and others to improve workplace conditions for nurses remain an important policy priority. Requiring a government-set minimum nurse staffing ratios in the state's hospitals is currently being supported by the nursing association.

Dentistry

Although low Medicaid payment rates and other factors historically have contributed to limited oral health care access in the state, Massachusetts does not appear to suffer from an overall shortage of dentists. The state's three dental schools and seven hygiene schools prepare large numbers of dentists and hygienists.

However, there is growing concern with the inability of a large low-income, uninsured and disadvantaged population in Massachusetts to access basic oral health services. Declining participation by dentists in MassHealth, over forty percent of the state's population live in communities with no fluoridated water, and other concerns spurred the creation in 1998 of a special legislative commission on oral health to address the issue. A 2000 report by the Commission offered several recommendations to the state for making improvements, including developing more effective oral health information systems, expanding capacity in both the public and private sector to improve access to oral health screening and treatment services, and providing better statewide preventive services for high-risk populations.

Since the report was issued, considerable attention has been made to addressing these problems. The Massachusetts Department of Public Health's Office of Oral Health has compiled a comprehensive data base on statewide oral health provider supply and location of MassHealth dental care eligibles. In addition, the creation of several public-private partnerships involving the Massachusetts Office of Oral Health, Delta Dental Plans, the state's dental training programs, and others have helped to create and sustain a number of oral health initiatives designed to improve public access to oral health and involve more private dental health professionals in public health functions. Many of these initiatives require significant amounts of volunteer time from private dentists. What is lacking largely are new or expanded government programs (e.g., state loan repayment, state-subsidized public health clinics) that interest and enlist more dental health professionals in public practice more of the time.

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