



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

Spring 2004



MICHIGAN

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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 (BHPr) - 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 BHPr 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

Michigan is a large, industrial, heavily unionized state that has historically provided a generous array of health care services. Its population is much less minority/ethnic in nature than the nation as a whole. Employers participate in a large way to covering health insurance costs, contributing to low insurance rates. The proportion of children and adults who are uninsured is well below the national average.

Moreover, Michigan enjoys having fewer proportions of its population lacking geographical access to health care professionals. The percent of the population living in primary care and dental health professional shortage areas (HPSAs) is below the national average. In relation, the ratio of National Health Service Corps providers per 10,000 population in the state is nearly twice the national average. Moreover, a recent evaluation of Michigan's state loan repayment program, intended to attract health professionals into underserved areas of the state, found that nearly 60 percent of primary care providers completing their service obligation during the 1990s were still practicing in an underserved area. There is increasing interest in finding new sources of funds to expand the program.

Statewide, Michigan's per capita health workforce counts exceed nationwide ratios. The number of registered nurses, dentists, dental hygienists, physician assistants and pharmacists per 100,000 population all are above national averages. Physician supply per capita generally mirrors the national average.

However, new and growing problems with health workforce supply have surfaced. Medicaid provider reimbursement rates for most health professionals have been frozen or reduced in recent years due to the state's budget problems. Budget and economic difficulties have also increased the number of uninsured, particularly in the Detroit area where large numbers of residents without health insurance coverage have no access to primary care physicians.

As is occurring in most states, there is increased evidence of an overall shortage of nurses and at least a geographic maldistribution (particularly in the state's rural, upper peninsula region as well as the inner city of Detroit) of physicians, dentists and pharmacists in Michigan. Growing concerns about a pharmacist shortage, particularly in the state's rural areas, are occurring at the same time that applications to Michigan's pharmacy schools have risen sharply. Although there is growing concern that Michigan will be facing an overall shortage of dentists in the near future, oral health experts generally agree that the state's dental workforce shortage now is largely a maldistribution problem. The dentist shortage is seen becoming acute in rural areas and also in impoverished areas of larger cities.

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		MI	U.S.
Total Population (2001)		9,990,817	284,796,887
Sex (2000)	% Female	51.0	50.9
	% Male	49.0	49.1
Age (2000)	% less than 18	26.1	25.7
	% 18-64	61.6	61.9
	% 65 or over	12.3	12.4
% Minority/Ethnic (2002)		20.2	30.9
% Metropolitan (2002)		82.2	81.3

Sources: U.S. Census Bureau, AARP.

Only one-fifth of Michigan residents are minorities.

Table I-b.

PROFESSION UTILIZATION	MI	U.S.
% Adults who Reported Having Routine Physical Exam Within Past Two Years (1997)	83.5	83.2 (Median)
Average # of Retail Prescription Drugs per Resident (2002)	11.9	10.6
% Adults who Made Dental Visit in Preceding Year by Annual Family Income (1999):		
Less than \$15,000	43	
\$15,000 - \$34,999	66	
\$ 35,000 or more	81	

Sources: CDC, AARP, GAO.

Less than half of Michigan adults with incomes less than \$15,000 made a dental visit in the preceding year.

Table I-c.

ACCESS TO CARE		MI	U.S.
% Non-elderly (under age 65) Without Health Insurance	2000-2001	11	17
	1999-2000	11	16
% Children Without Health Insurance	2000-2001	7	12
	1999-2000	8	12
% Not Obtaining Health Care Due to Cost (2000)		9.0	9.9
% Living in Primary Care HPSA (2003)		18.0	21.3
# Practitioners Needed to Remove Primary Care HPSA Designation (2003)		242	--
% Living in Dental HPSA (2003)		12.9	14.7
# Practitioners Needed to Remove Dental HPSA Designation (2003)		285	--

HPSA = Health Professional Shortage Area

Sources: KFF, AARP, BPHC-DSD.

Michigan has a greater proportion of non-elderly and children without health insurance than the U.S. as a whole.

Table I-d.

PROFESSIONS SUPPLY			
Profession	# Active Practitioners	# Active Practitioners per 100,000 Population	
		MI	U.S.
Physicians (1998)	18,770	191.1	198
Physician Assistants (1999)	1,230	12.5	10.4
Nurses	RNs (2000)	100,769	782
	LPNs (1998)	17,440	249.3
	CNMs (2000)	194	2.1
	NPs (1998)	2,894	26.3
	CRNAs (1997)	1,300	8.6
Pharmacists (1998)	8,850	90.1	65.9
Dentists (1998)	4,955	50.5	48.4
Dental Hygienists (1998)	7,820	79.6	52.1
% Physicians Practicing Primary Care		26.0 (30.0 U.S.)	
% Registered Nurses Employed in Nursing		78.7 (81.7 U.S.)	
% of MDs Who Are International Medical Graduates (IMGs)		33.0 (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.

One-third of physicians in Michigan are international medical graduates.

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
152	29	71	0.95 (0.49 U.S.)
<i>Field Strength by Profession</i>			
Physicians	74		
Nurses	21		
Physician Assistants	35		
Dentists/Hygienists	7		

HPSA= Health Professional Shortage Area

Source: BPHC-NHSC.

Michigan has nearly twice as many National Health Service Corp professionals per 10,000 population as the U.S. as a whole.

Table I-f.

MANAGED CARE			
Penetration Rate of Commercial and Medicaid HMOs (as % of total population), 2000		MI	U.S.
		27.2	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	No
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.).			No

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.

Twenty-seven percent of Michigan residents receive health care form 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 1995-2000	Bonus or Special Payment Rate for Practice in Rural or Medically Underserved Area
Medicaid	Physicians	*	16.7	Yes	No
	NPs	77	1.4	Yes	No
	Dentists	23	29.7	Yes	No
	# of Enrolled Pharmacies				1,483
	% Change in Physician Fees (All Services), 1993-1998				0.00
	Recent State-Mandated Payment Increases				Yes (various professions)
	Medicare	# Active Practitioners Enrolled (2003)			
% Practitioners who Accept Fee as Full Payment (2003)				97.3	

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

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

* Numerator data for physicians and nurse practitioners from state Medicaid agencies were unusable: many professionals were apparently double-counted, perhaps due to varying participation in different health plans.

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

Michigan had no change in Medicaid fees for physicians 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	4
		Private Schools	0
		Osteopathic Schools	1
# of Medical Students (<i>Allopathic and Osteopathic</i>)	1998-1999	947	
	2000-2001	958	
# Medical Students per 100,000 Population ¹	1998-1999	27.0	
	2000-2001	9.58	
% Newly Entering Students (<i>Allopathic</i>) who are State Residents, 2002-2003		75.4	
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	607	
	2001	616	
# Medical School Graduates per 100,000 Population ¹	1998	6.1	
	2001	6.2	
% Graduates (<i>Allopathic</i>) who are Underrepresented Minorities, 1994-1998		14.44 (10.5 U.S.)	
% 1987-1993 Medical School Graduates (<i>Allopathic</i>) Entering Generalist Specialties		26.7 (26.7 U.S.)	
State Appropriations to Medical Schools (<i>Allopathic and Osteopathic</i>), 2000-2001	Total	\$113.5	
	Per Student	\$118,475	

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.

Three-quarters of newly entering medical students in Michigan are state residents.

Table II-b.

GRADUATE MEDICAL EDUCATION (GME)		
# of Residency Programs (<i>Allopathic and Osteopathic</i>), 2002-2003 ¹		312
# of Physician Residents (<i>Allopathic and Osteopathic</i>), 2002-2003 ¹		4061
# Residents Per 100,000 Population, 2002-2003		40
% Allopathic Residents from In-State Medical School, 2000-2001		24.2
% Residents who are International ² Medical Graduates, 2000-2001		32.5
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		\$173.3 million
	Payments as % of Total Medicaid Hospital Expenditures	31.5 (8.0 U.S.)
	Payments Made Directly to Teaching Programs Under Capitated Managed Care	Yes
	Payments Linked to State Workforce Goals/ Goals of Improved Accountability	Yes
<i>Medicare</i> Payments for Graduate Medical Education, 1998 ³		\$381.8 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.”

**One-quarter of allopathic residents in Michigan are from in-state medical schools.
Nearly one-third of residents are international medical graduates.**

Table II-c.

FAMILY MEDICINE RESIDENCY TRAINING			
# of Residency Programs, 2001-2002	18	# Residencies Located in Inner City	9
		# Residencies Offering Rural Fellowships or Training Tracks	0
# of Family Medicine Residents, 2001-2002			56
# Family Medicine Residents per 100,000 Population, 2001-2002 ¹			0.6
% Graduates (<i>from state's Allopathic and Osteopathic medical schools</i>) who were First Year Residents in Family Medicine, 1995-2001			15.4
% 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			54.4

¹Denominator 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 fifteen percent of Michigan medical school graduates were first year residents in family medicine.

Table II-d.

NURSING EDUCATION				
# of Nursing Schools	48	Public Schools	41	
		Private Schools	7	
# of Nursing Students ¹	10,462	# Associate Degree, 2001-2002		4,259
		# Baccalaureate Degree	2001-2002	4,491
			2002-2003	5,258
		# Masters Degree	2001-2002	930
			2002-2003	817
		# Doctoral Degree	2001-2002	127
			2002-2003	128
# Per 100,000 population ²			104.7	
# of Nursing School Graduates ¹	2,758	# Associate Degree, 2002		1,365
		# Baccalaureate Degree	2001	1,195
			2002	1,129
		# Masters Degree	2001	317
			2002	248
		# Doctoral Degree	2001	15
			2002	16
# Per 100,000 population ²			27.6	

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.

The number of baccalaureate degree nursing students in Michigan rose slightly from 2001 to 2002. The number of baccalaureate degree nursing graduates and master’s students and graduates declined in the same period.

Table II-e.

PHARMACY EDUCATION			
# of Pharmacy Schools	3	Public Schools	3
		Private Schools	0
# of Pharmacy Students, 2002-2003	923	# Baccalaureate Degree	158
		# Doctoral Degree (<i>PharmD</i>)	765
	# Per 100,000 population*	9.2	
# of Pharmacy Graduates, 2001-2002	281	# Baccalaureate Degree	206
		# Doctoral Degree (<i>PharmD</i>)	75
	# Per 100,000 population*	2.8	

* 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	5	Public Schools	3
		Private Schools	2
# of Physician Assistant Program Students, 2002-2003			277²
# Physician Assistant Program Students per 100,000 Population, 2002-2003 ¹			2.77
# of Physician Assistant Program Graduates, 2003			157²
# Physician Assistant Program Graduates per 100,000 Population, 2003 ¹			1.57

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

² Data was only available from four of the programs in Michigan.

Sources: APAP, APAP Annual Report.

Table II-g.

DENTAL EDUCATION			
# of Dental Schools	2	Public Schools	1
		Private Schools	1
# of Dental Students, 2000-2001	718		
# Dental Students per 100,000 Population, 2000-2001*	7.2		
# of Dental Graduates, 1999-2000	176		
# Dental Graduates per 100,000 Population, 2000*	1.8		
State Appropriations to Dental Schools, 1997	Per Student: \$36,503		
	As % of Total Revenue: 29.2 (31.6 U.S.)		

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

Source: ADA.

Table II-h.

DENTAL HYGIENE EDUCATION			
# of Dental Hygiene Training Programs	12	Public Schools	10
		Private Schools	2
# of Dental Hygiene Program Students, 2001-2002	697		
# Dental Hygiene Program Students per 100,000 Population*	7.0		
# of Dental Hygiene Program Graduates, 2000-2001	330		
# Dental Hygiene Program Graduates per 100,000 Population*	3.3		

* 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 MICHIGAN BETWEEN 1975 AND 1995.

Table III-a.

MICHIGAN		
Number of physicians who were trained in MI and who are now practicing in MI as a percentage of all physicians practicing in MI.		40.23
Number of physicians who were trained in MI and are practicing in MI, by practice location (metro code ¹), as a percentage of all physicians practicing in MI.	#00	38.98
	#01	44.90
	#02	41.28
	#03	30.30
	#04	36.99
	#05	52.43
	#06	31.94
	#07	53.29
	#08	29.63
#09	46.43	
Number of physicians who were trained in MI and who are now practicing in MI as a percentage of all physicians who were trained in MI.		44.89
Number of physicians who were trained in MI and are practicing in MI, by practice location (metro code ¹), as a percentage of all physicians trained in MI.	#00	45.80
	#01	44.44
	#02	48.77
	#03	11.24
	#04	14.44
	#05	29.51
	#06	34.16
	#07	77.90
	#08	44.44
#09	66.67	

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 MICHIGAN
BETWEEN 1978 AND 1998.**

Table III-b.

MICHIGAN		
Number of physicians who received their most recent GME training in MI and who are now practicing in MI as a percentage of all physicians practicing in MI.		63.41
Number of physicians who received their most recent GME training in MI and are practicing in MI, by practice location (metro code ¹), as a percentage of all physicians practicing in MI.	#00	69.58
	#01	61.72
	#02	54.81
	#03	29.25
	#04	63.08
	#05	44.64
	#06	46.35
	#07	54.90
	#08	63.16
#09	57.81	
Number of physicians who received their most recent GME training in MI and who are now practicing in MI as a percentage of all physicians who were trained in MI.		50.62
Number of physicians who received their most recent GME training in MI and are practicing in MI, by practice location (metro code ¹), as a percentage of all physicians trained in MI.	#00	59.98
	#01	42.02
	#02	46.34
	#03	7.80
	#04	11.85
	#05	17.48
	#06	28.13
	#07	59.58
	#08	61.54
#09	51.11	

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.

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 be a graduate of a medical school approved by the board; have passed the FLEX, USMLE, or NBME examinations; and have satisfactorily completed 2 years of postgraduate clinical training in a program approved by the board in a board-approved hospital or institution.
LICENSURE REQUIREMENTS: <i>INTERSTATE TELE-CONSULTATION</i>	An individual residing in another state or country and authorized to practice a health profession in that state or country who, in an exceptional circumstance, is called in for consultation or treatment by a health professional in this state may practice without full licensure.
STATE MANDATES INDIVIDUAL PROFESSION PROFILES TO BE PUBLICLY ACCESSIBLE	No.

Sources: State licensing board, HPTS.

Table IV-b.

PHYSICIAN ASSISTANTS	
LICENSURE REQUIREMENTS	Must have satisfactorily completed a program for the training of physicians' assistants approved by the task force on physician assistants and have passed the certifying examination conducted and scored by the national commission on certification of physicians' assistants.
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	<p><i>PRESCRIPTIVE AUTHORITY</i> PA may prescribe non-controlled and Schedule III-V medications as delegated by supervising physician. PA may prescribe seven-day supply of Schedule II drugs as discharge medications. Supervising physician's and PA's names must be indicated on prescription. PAs may request and distribute complimentary starter doses of medication.</p> <p><i>PHYSICIAN SUPERVISION</i> Physician must be continuously available for direct communication in person or by radio, telephone</p>

Source: State licensing board.

Table IV-c.

NURSES	
LICENSURE REQUIREMENTS	<p>Registered Nurses (RNs): Must have completed a registered nurse education program that is acceptable to the board and passed the NCLEX-RN examination.</p> <p>Advanced Practice Nurses (APNs): Must hold a current license to practice as a registered nurse, successfully complete a graduate-level program in their respective specialty area, and successfully pass a board-approved, nationally recognized examination</p> <p>Licensed Practical Nurses (LPNs): Must have completed a practical nurse education program that is acceptable to the board and passed the NCLEX-PN examination.</p>
LICENSURE REQUIREMENTS: <i>FOREIGN-TRAINED NURSES</i>	Must be in compliance with the requirements for a certificate from the Commission on Graduates of Foreign Nursing Schools (COGFNS) or have passed the NCLEX examination and maintained an active license, with no disciplinary sanctions in this country for at least 5 years immediately preceding the application for a Michigan license.
LICENSURE REQUIREMENTS: <i>INTERSTATE TELE-CONSULTATION</i>	None. State does not currently participate in interstate licensure compact developed by National Council of State Boards of Nursing.
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	<p><i>PRESCRIPTIVE AUTHORITY</i> Michigan NPs and CNMs may prescribe both controlled and non-controlled substances as a delegated act. CRNAs may prescribe non-controlled substances as a delegated act.</p> <p><i>PHYSICIAN SUPERVISION</i> APNs can practice without supervision or collaborative agreement within their scope of practice.</p>
RECENT STATE REQUIREMENTS TO IMPROVE WORKING CONDITIONS IN CERTAIN INSTITUTIONS	No. But the Michigan Board of Nursing to passed a resolution in 2001, combating the use of mandatory overtime as a staffing solution. The resolution allows nurses to make decisions about their ability to provide safe care without the threat of a patient abandonment charge against their license.
STATE MANDATES INDIVIDUAL PROFESSION PROFILES TO BE PUBLICLY ACCESSIBLE	No.

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

Table IV-d.

DENTISTS	
LICENSURE REQUIREMENTS	Must be a graduate from an approved dental school, pass all parts of the national board examination that is conducted and scored by the joint commission of national dental examiners, in order to qualify for the licensing examination provided in and pass the combined regional examination in dentistry that is conducted and scored by the northeast regional board of dental examiners.
LICENSURE REQUIREMENTS: <i>INTERSTATE TELE-CONSULTATION</i>	Full License.

Source: State licensing board.

Table IV-e.

PHARMACISTS	
LICENSURE REQUIREMENTS	Must have completed the requirements for a degree in pharmacy from a program of pharmacy education approved by the board; have completed a program of internship pursuant to rules; and have passed the board's jurisprudence examination on state and federal law with a score of not less than 75.
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	Allowed administering immunizations. Involved in collaborative drug therapy management.
STATE MANDATES INDIVIDUAL PROFESSION PROFILES TO BE PUBLICLY ACCESSIBLE	No.

Source: State licensing board.

Table IV-f.

DENTAL HYGIENISTS	
LICENSURE REQUIREMENTS	Must be a graduate of a approved dental hygiene program, pass all parts of the dental hygiene national board examination, and pass the combined regional dental hygiene examination that is conducted and scored by the northeast regional board of dental examiners, incorporated.
RECENT STATE MANDATED EXPANSIONS IN SCOPE OF PRACTICE	<p><i>PRESCRIPTIVE AUTHORITY</i> A 2003 law allows hygienists to administer intraoral block and infiltration anesthesia to patients 18 and over if they receive specific training.</p> <p><i>DENTIST SUPERVISION</i> Dental Hygienists may provide services in certain board approved settings without supervision.</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 Michigan'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	No							
SUPPORT FOR HEALTH PROFESSIONS EDUCATION (stipends, preceptorships) IN UNDERSERVED AREAS	Yes	1	X	X				X
RECRUITMENT / PLACEMENT PROGRAMS FOR HEALTH PROFESSIONALS	Yes	1	X	X	X	X	X	X
PRACTICE DEVELOPMENT SUBSIDIES (i.e., start-up grants)	No							
MALPRACTICE PREMIUM SUBSIDIES	No							
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	Yes	3	X					
PAYMENT BONUSES / OTHER INCENTIVES BY MEDICAID OR OTHER INSURANCE CARRIERS	No							
MEDICAID REIMBURSEMENT OF TELEMEDICINE	No							

Source: State health officials.

Michigan uses recruitment and placement programs for all the major health professions. State health officials rated the impact of such programs high.

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	30-40	>60%	X	X		X		X
SCHOLARSHIP	0	0	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.)

N/A* = Data was not applicable.

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				
	Yes		X				
FROM <i>SECONDARY</i> SOURCES (e.g., state-based professional trade associations)							
PRODUCTION OF RECENT STUDIES OR REPORTS THAT DOCUMENT / EVALUATE THE SUPPLY, DISTRIBUTION, EDUCATION OR REGULATION OF HEALTH PROFESSIONS	Yes		X				
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.

Michigan frequently collects and analyzes physician supply data from both primary and secondary sources, and produces workforce reports for nurses.

VI. EXEMPLARY WORKFORCE LEGISLATION, PROGRAMS AND STUDIES

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

Legislation and Programs

S-1000 (2002)

This law allows a dental hygienist to administer intraoral block and infiltration anesthesia to patients 18 years of age or older. The hygienist must be certified and under the direct supervision of a dentist.

Michigan Center for Nursing

The Michigan Center for Nursing was developed from recommendations in a 2001 report from the Michigan Department of Consumer and Industry services. The purpose of the Center is to make recommendations for cultivating and maintaining a high-quality nursing workforce in Michigan; to foster strategic alliances among nurses, educational institutions, employers and other stakeholders for improvement in the recruitment, education, retention of nurses, and the delivery of health care; and to establish a central resource for nursing workforce data collection and analysis.

Oral Access Grants

Michigan Department of Community Health (DCH), April 2000

The DCH began awarding grants to agencies in 2000 to improve access to oral health for Medicaid beneficiaries and to increase competency of dental students as providers for underserved populations. Agencies receiving grants in the program work with the University of Michigan Dental School to rotate dental students into community health centers.

Studies

Informing the Debate: Nursing Workforce Requirement for the Needs of Michigan Citizens

Institute for Public Policy and Social Research and Institute for Health Care Studies, 2002

This paper discusses the nursing workforce shortage and expected shortages in the state. The paper cites a 24 percent decline in the number of newly licensed nurses in the state since 1997 and the aging workforce as signs of a shortage in the state. According to the report, the nurses must deal with lack of control of their practice, cuts in support staff and resources, mandatory overtime, and staffing shortages resulting in compromised quality of care. The report recommends developing structures within state government for gathering and maintaining information on the profession, developing public and private partnerships to recruit and educate new nurses, and developing incentives for health care delivery systems and educational institutions to partner for change.

Michigan State Loan Repayment Program Evaluation Report 1991-1999

Michigan Center for Rural Health, 2001

This report is an evaluation of the state’s loan repayment program for health professionals. The report looks at the distribution for providers participating in the program and the retention rates of

the providers by location, specialty, and gender. According to the report around 58 percent of primary care providers completed their service obligation and were still practicing in the area.

Study of the Current and Future Needs of the Professional Nursing Workforce in Michigan

Michigan Department of Consumer and Industry Services, 2001

This study looked at data from licensure surveys of Michigan nurses, focus groups of nurses, and a survey of hospitals on the use of nursing personnel for the purpose of developing a profile of the current supply of nurses in the state; identifying factors affecting the quantity and quality of the nursing workforce; reviewing trends in health care delivery; and developing recommendations for further study and policy discussion.

VII. POLICY ANALYSIS

Statewide Organizations with Significant Involvement in Health Workforce Development/Analysis

- Michigan Department of Community Health
- Michigan Center for Nursing
- Michigan Nurses Association
- Michigan Health and Hospital Association

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

Michigan is a large, industrial, heavily unionized state that has historically provided a generous array of health care services. Its population is much less minority/ethnic in nature than the nation as a whole. Employers participate in a large way to covering health insurance costs, contributing to low insurance rates. The proportion of children and adults who are uninsured is well below the national average.

Moreover, Michigan enjoys having fewer proportions of its population lacking geographical access to health care professionals. The percent of the population living in primary care and dental health professional shortage areas (HPSAs) is below the national average. In relation, the ratio of National Health Service Corps providers per 10,000 population in the state is nearly twice the national average. Moreover, a recent evaluation of Michigan's state loan repayment program, intended to attract health professionals into underserved areas of the state, found that nearly 60 percent of primary care providers completing their service obligation during the 1990s were still practicing in an underserved area. There is increasing interest in finding new sources of funds to expand the program.

Statewide, Michigan's per capita health workforce counts exceed nationwide ratios. The number of registered nurses, dentists, dental hygienists, physician assistants and pharmacists per 100,000 population all are above national averages. Physician supply per capita generally mirrors the national average.

However, new and growing problems with health workforce supply have surfaced:

- Medicaid provider reimbursement rates for most health professionals have been frozen or reduced in recent years due to the state's budget problems. Just a quarter of all dentists are enrolled to serve Medicaid patients; but of those, about 30 percent receive annual payments greater than \$10,000 -- twice the proportion of physicians participating in Medicaid.
- Budget and economic difficulties have also increased the number of uninsured, particularly in the Detroit area where large numbers of residents without health insurance coverage have no access to primary care physicians and are seeking basic and costly health care in emergency rooms of the city's public hospitals which already are suffering financial distress. The city's network of free clinics, increasingly having difficulty attracting primary care physicians and nurses due to poor Medicaid payment rates and other factors, has been unable to handle the increased demand.
- As in other states faced with addressing budget shortfalls, Michigan's legislature has been forced in the past few years to make significant cuts to state-funded colleges and universities. All four medical schools, 41 of 48 nursing schools, all three schools of pharmacy, and one of the state's two dental schools are publicly funded. Although the state tends to export many of

the physicians it trains, about two-thirds of the physicians educated at Michigan's one osteopathic medical school ultimately in the state to practice.

- As is occurring in most states, there is increased evidence of an overall shortage of nurses and at least a geographic maldistribution (particularly in the state's rural, upper peninsula region as well as the inner city of Detroit) of physicians, dentists and pharmacists in Michigan. Growing concerns about a pharmacist shortage, particularly in the state's rural areas, are occurring at the same time that applications to Michigan's pharmacy schools have risen sharply.

Physicians and Medicaid Support

In recognition that a small proportion of physicians in Michigan see Medicaid patients, the state Medicaid agency with the Department of Community Health undertook an initiative in 1997 as part of its policy to support graduate medical education to encourage the training of more physicians exposed to the importance of providing basic primary care services to Medicaid patients. The state sought to structure payments to bring physician education more in line with its specific public policy goals to train appropriate numbers of primary care providers, enhance training in rural areas, and support education in ways of particular importance in the treatment of the Medicaid eligible population.

For the first three years of the new policy, a historic cost pool reimbursed each hospital the same amount in payments that it received in 1995 based on their 1995 costs for medical education. A second pool, the primary care pool, seeks to encourage the education of young physicians in the primary care fields of general practice, family practice, preventive medicine, obstetrics and geriatrics. Payments from the primary care pool to hospitals are based on the institution's number of residents in primary care and its share of Medicaid patients. To qualify for reimbursement from either pool, a hospital must submit a report to the state detailing resident profiles and how it is using the funds to support specific public policy goals and priorities. A third pool, the Innovations in Health Professions Education Grant Fund, was established with GME funds formerly included in capitation payments to managed care organizations (MCOs) to foster innovations in health profession education and accelerate the pace of change currently sweeping the state's health care delivery system. Grants are awarded on a competitive basis to programs that support the goals of the new GME initiative, with emphasis on innovative training in managed care arrangements.

The initiative's overall impact on addressing state workforce goals is not yet known. The state does believe that such programs would be more effective if a more coherent policy approach could be developed between Medicaid and Medicare and other payers. State efforts such as Michigan may need to exercise caution on how specifically they direct their initiatives regarding state workforce needs. Physicians have typically responded to other market changes more quickly than to state financing changes. In Michigan, there appears to be no shortage of primary care physicians, but there is evidence of a shortage of some specialists willing to be part of managed care networks.

In 2001, a new formula was established which takes into consideration utilization by and service to the state's Medicaid population. Furthermore, Medicaid agreed to provide funding to educate third and fourth year students at the state's one public dental school that is developing specialized curricula and programs intended to increase further the participation of dentists in Medicaid. Funding covers teaching and other administrative costs that are matchable under Medicaid's

intergovernmental transfer mechanism to draw additional federal matching funds and provide new revenue for the state's dental school.

Nursing

Although data on the state's changing demand for and supply of nurses is lacking, there is a growing consensus that the nursing shortage in Michigan, like elsewhere, is largely 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.

In recognition of the growing concerns about a nursing shortage in the state, the legislature in 2000 directed the Michigan Department of Consumer and Industry Services, in conjunction with the state board of nursing, state nurses association, state hospital association and others, to commission a study to determine the extent and nature of the problem. The study, issued in 2001, found that Michigan's rate of growth in the number of registered nurses is slower than the national growth rate, and similar to findings in other states, reported that Michigan hospitals have serious difficulties filling vacant nursing positions. The study also concluded that additional information on nursing supply and demand in the state is sorely needed. The report also recommended that ongoing collaborative partnerships among nurses, nurse educators, nurse employers and others be established to build capacity for state-level workforce development and research.

A follow up 2002 report by a health services research group has provided additional information about Michigan's nursing workforce shortage and expected shortage and again called for creating structures within state government for collecting nursing supply and demand data and developing public and private partnerships among nursing groups in the state.

The 2001 study, in particular, provided the impetus for the creation of the Michigan Center for Nursing whose purpose is to make recommendations for cultivating and maintaining a high-quality nursing workforce in Michigan through the fostering of strategic alliances among the above-noted entities and other organizations. The Center also is the state's central resource for nursing workforce data collection and analysis.

Concurrent with these efforts to better understand and address the state's nursing shortage are growing concerns about nursing shortages in rural areas of the state. Moreover, there is evidence of continued tensions between employers and nurses over working conditions and other issues. A lengthy nurses strike at northern Michigan hospital has been problematic. Recent information also finds that nursing school enrollment is rising, but shortages of faculty and clinical training opportunities are increasing as well.

Dentistry

Although there is growing concern that Michigan will be facing an overall shortage of dentists in the near future, oral health experts generally agree that the state's dental workforce shortage now is largely a maldistribution problem. The dentist shortage is seen becoming acute in rural areas and also in impoverished areas of larger cities. This is particularly evident is the low number of dentists (less than 25%) statewide and in many rural counties willing to serve a significant volume of Medicaid patients. Access to oral health care for many Medicaid beneficiaries was

further compromised in 2003 when the legislature agreed to eliminate Medicaid dental benefits for adults as part of the state's continued fiscal crisis.

Following that change, another measure introduced (but not enacted) in the legislature would offer dentists who treat Medicaid beneficiaries a tax credit equal to either their annual student loan payments or \$5,000, whichever is less. To be eligible, dentists must be state residents, have their primary practice in the state, and provide at least 12 hours of dental services to Medicaid beneficiaries each month.

Initiatives in Michigan to address this problem do remain. In 2000, the Department of Community Health awarded 22 agencies oral health access grants. In one example, five of these agencies subcontracted with the University of Michigan Dental School to rotate dental students into five community health centers in diverse geographic and population areas to treat Medicaid beneficiaries. The two main goals of this pilot program was to increase access to oral health services for Medicaid beneficiaries, and increase students' competency as providers in caring for underserved populations. As a result of the rotation activities, all five community health centers have hired dentists who were former students of the program to join their dental staff. In addition, the University of Michigan uses this partnership as a recruitment tool to attract students to dental school.

The overall supply of dental hygienists in Michigan appears to be adequate. Over 9,000 hygienists are in practice in a state with 12 hygiene training programs. The demand for hygienists in rural areas of the state, however, looks to be exceeding their supply. As elsewhere, hygienists have few opportunities to practice with limited dentist supervision. A recent change does allow hygienists to practice with less supervision in certain public health settings.

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