



The U.S. Health Workforce: Definitions, Dollars, and Dilemmas

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OVERVIEW — *In the labor-intensive U.S. health care industry, the dollars that flow to members of the health workforce account in large part for the billions that public and private insurers, as well as individual consumers, pay for health services each year. An understanding of what the workforce is, what coverage and payment procedures govern its members, and what policy concerns it raises is crucial to prudent management of public entitlement and discretionary health programs. This background paper provides a comprehensive view of the structure of the health workforce. It explores public and private insurance coverage and payment policies, as well as discretionary grant programs, that govern it. The paper also looks at health workforce concerns: supplies of certain types of physicians, health workforce mix, challenges from complementary and alternative medicine, shortages of nurses and pharmacists (and some other practitioners), maldistribution issues, and lack of diversity in response to demographic changes. It presents proposals that are on the table to reform the health workforce, at a time when it is demanding greater attention from health policymakers.*

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Health workforce issues have confounded public policymakers for generations, in part because of lack of consensus on government's role in determining and regulating the structure and distribution of physicians, nurses, dentists, pharmacists, allied health professionals, and other health workers. Federal and state governments face significant challenges in drawing clear pictures of the national health workforce as well as in depicting regional and state profiles. This is due in part to varying definitions, some narrow and some broad, of workforce composition and in part to the multiplicity of data sources, such as the Department of Labor, Department of Health and Human Services (DHHS), and numerous private organizations.

Public and private coverage and payment policies relating to members of the health workforce tend to be physician-based, radiating out to other types of practitioners. For example, allopathic and osteopathic physicians (those with M.D. and D.O. degrees, respectively) generally can bill the Medicare program directly, but the right to do so varies for other practitioners. In centering on physicians, the federal Medicare program seems to set the tone for other payers—both Medicaid and private payers—although Medicare's coverage and payment streams can be difficult to follow. This is mainly due to the program's subsets of Part A, Part B, and Medicare+Choice providers—facilities and practitioners—and variety of payment systems. For example, in Part B, there is a division between “direct billing” and “billing incident to physician services,” depending upon who provides care to the Medicare beneficiary. Medicaid, with its provider-centered mandatory and optional services and its myriad contractual arrangements with private insurers and health plans, also presents an intricate pathway for health workforce researchers to follow.

While federal payments to members of the health workforce for delivery of services are significantly greater than the amounts spent on workforce training, health professions financing cannot be ignored. Medicare graduate medical education (GME) funds, for the most part, have not been directed toward influencing health workforce policy. Discretionary Public Health Service Act Title VII and VIII funds *have*, but in relatively small amounts under the threat of reductions in their appropriations from year to year. Medicaid GME tends to target specific health workforce goals in those states that provide it. Private payers have been inconsistent, given the wide variation in coverage and payment policies among different health insurers and health plans and even differences in contracts for the same insurer or plan.

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With its composition and behavior largely subject to marketplace conditions, the health workforce has changed significantly in recent years. The number of practitioners other than physicians has grown rapidly, influencing patterns of care. Complementary and alternative medicine (CAM) has expanded significantly, taking a rising share of mostly consumer dollars. At the same time, marked shortages of certain health professionals—most conspicuously, nurses and pharmacists—have occurred, putting pressure on an already maldistributed health workforce. Moreover, as the U.S. population has become ever more diverse, the health workforce reflects relatively small percentages of underrepresented minorities.

For those who believe that better planning and coordination of the health workforce is essential to a more effective health system—or even to the rudiments of a health system—fragmentation and compartmentalization of various workforce segments make reform difficult. Policy change tends to come at a slow pace, affecting individual segments, such as primary care physicians, categories of advanced practice nurses, or international medical graduates (IMGs). Nonetheless, some comprehensive proposals have been put on the table, waiting for a renewed commitment on the part of the administration and Congress to address health workforce policy.

DEFINITIONS: DESCRIPTION OF THE HEALTH WORKFORCE

Attempts at Definition: From Limited to Broad

On the surface, the term “health workforce” seems simple enough. It refers to health professionals—for example, physicians, nurses, dentists, and pharmacists—who work in health service settings. Depending upon who is counting, the term may also encompass health professionals who work in other environments, such as educational institutions, research organizations, and government agencies. It may even include others who work in health care settings, such as administrators, public health monitors, medical records personnel, and laboratory assistants; this category may even include support workers who do not immediately come to mind when one thinks of health care.

The three layers of definition are reflected in Bureau of Labor Statistics (BLS) data for fiscal year (FY) 2001 categorizing 15.1 million (10.4 percent) of the nation’s 145.6 million workers as health professionals or other health workers employed in health service or other settings.¹ The data support the claim last year by DHHS Assistant Surgeon General Sam Shekar, M.D., that “more than one in ten Americans works in health care or is a health professional.”² The DHHS totals and percentages—drawn from the BLS statistics—appear in Table 1. It is important to note that the 15.1 million total includes not only health professionals but also

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all other workers in health settings, so it is based on the broadest definition of the health workforce.

By definition and composition, the health workforce is an evolving entity. It is a moving target as clinicians who are not physicians—nurse practitioners, for example—gain expanded practice and payment rights; as new types of health employees, such as diagnostic medical sonographers and nuclear medicine technologists, join the health workforce as a result of technological innovations; and as complementary and alternative practitioners, such as acupuncturists, challenge conventional medicine by getting increased shares of consumer (and sometimes other payer) dollars. Its movement is reflected, too, in international and national events' bringing on new contingencies, such as the need for health physicists in Department of Homeland Security emergency response teams.

BLS categories represent a federal imprimatur on the U.S. health workforce.

TABLE 1
Health Workforce Share of the Total Workforce

Type of Worker by Setting	Number of Workers (in millions)	Percentage of U.S. Workforce
Health professionals in health service settings	8.7	6.0
Health professionals in other settings	2.3	1.6
Other workers in health service settings	4.1	2.8
Total	15.1	10.4

Source: Sam Shekar, M.D., "Geriatrics Is a 21st Century Issue," 2002.

Categories for Counting Noses

The data on health professionals and other workers in various settings are drawn from two BLS classifications: "Healthcare Practitioners and Technical Occupations,"³ listed in Table 2, and "Healthcare Support Occupations,"⁴ presented in Table 3. BLS uses these categories to count those in various health occupations and to project their numbers in the future. In a sense, the categories represent a federal imprimatur on the nature and composition of the U.S. health workforce.

The BLS occupational categories in Table 2 do not indicate the many subcategories in certain professions. For example, the table does not indicate the many specialties and subspecialties among physicians. "Physicians and Surgeons, All Other," which is under the "Physicians and

TABLE 2
Health Care Practitioners and Technical Occupations

HEALTH DIAGNOSING AND TREATING PRACTITIONERS

- Chiropractors
- Dentists
 - Dentists, General*
 - Oral and Maxillofacial Surgeons*
 - Orthodontists*
 - Prosthodontists*
 - Dentists, All Other Specialists*
- Dietitians and Nutritionists
- Optometrists
- Pharmacists
- Physicians and Surgeons
 - Anesthesiologists*
 - Family and General Practitioners*
 - Internists, General*
 - Obstetricians and Gynecologists*
 - Pediatricians, General*
 - Psychiatrists*
 - Surgeons*
 - Physicians and Surgeons, All Other*
- Physician Assistants
- Podiatrists
- Registered Nurses
- Therapists
 - Audiologists*
 - Occupational Therapists*
 - Physical Therapists*
 - Radiation Therapists*
 - Recreational Therapists*
 - Respiratory Therapists*
 - Speech-Language[-Hearing] Pathologists*
 - Therapists, All Other*
- Veterinarians
- Miscellaneous Health Diagnosing and Treating Practitioners

HEALTH TECHNOLOGISTS AND TECHNICIANS

- Clinical Laboratory Technologists and Technicians
 - Medical and Clinical Laboratory Technologists*
 - Medical and Clinical Laboratory Technicians*
- Dental Hygienists
- Diagnostic-Related Technologists and Technicians
 - Cardiovascular Technologists and Technicians*
 - Diagnostic Medical Sonographers*
 - Nuclear Medicine Technologists*
 - Radiologic Technologists and Technicians*
- Emergency Medical Technicians and Paramedics
- Health Diagnosing and Treating Practitioner Support Technicians
 - Dietetic Technicians*
 - Pharmacy Technicians*
 - Psychiatric Technicians*
 - Respiratory Therapy Technicians*
 - Surgical Technologists*
 - Veterinary Technologists and Technicians*
- Licensed Practical and Licensed Vocational Nurses
- Medical Records and Health Information Technicians
- Opticians, Dispensing
- Miscellaneous Health Technologists and Technicians
 - Orthotists and Prosthetists*
 - Health Technologists and Technicians, All Other*

OTHER HEALTH CARE PRACTITIONERS AND TECHNICAL OCCUPATIONS

- Occupational Health and Safety Specialists and Technicians
 - Occupational Health and Safety Specialists*
 - Occupational Health and Safety Technicians*
- Miscellaneous Health Practitioners and Technical Workers
 - Athletic Trainers*
 - Healthcare Practitioners and Technical Workers, All Other*

Source: Bureau of Labor Statistics, U.S. Department of Labor, "Standard Occupational Classification: 29-0000 Healthcare Practitioners and Technical Occupations."

Surgeons" heading in the table, is very broad, covering all physicians and surgeons who are not listed in separate categories. The Association of American Medical Colleges' (AAMC's) residency matching program table for 1996–2002 contains 24 specialties, some of which (like internal medicine) have two or more subspecialties.⁵ For a list of the specialties and subspecialties, see Appendix—Table 1.

Designation of "Major" Health Care Occupations

Of the health workers in Table 1, nearly 11 million are considered by DHHS to be in "major health care occupations." Approximately 14.2 million workers are expected to be in the occupations designated "major" in 2010. Table 4 contains BLS data on the distribution of persons in those occupations in 2000 and projected to be in them in 2010.⁶

Because the figures in Table 4 are rounded, they do not necessarily add up to the totals indicated earlier. Also, there is a large discrepancy between the number of physicians indicated on the chart and that claimed by the American Medical Association (AMA) for 2000. The AMA indicates that there were 813,770 total physicians in the United States, including IMGs, U.S. medical graduates, and Canadian medical graduates. The AMA count includes physicians in office- and hospital-based patient care (including medical residents) and in other types of professional activity, as well as those who are not in active clinical practice.⁷ The discrepancy between the BLS and AMA figures is a good illustration of the difficulty of coming up with agreed-upon workforce data.

DOLLARS: PUBLIC AND PRIVATE PAYER RECOGNITION OF THE HEALTH WORKFORCE

The Medicare Coverage and Payment Model

Following the Dollars — Public (Medicare and Medicaid) and private payers help define the health workforce by their coverage and payment policies. When it comes to who counts—or is counted—in the health workforce, "follow the dollars" is particularly true. Because Medicare, which covers not only eligible persons 65 and older but also younger people with disability determinations, tends to be the largest payer for most hospitals and many practitioners, the dollars it directs to providers have a major influence on the health workforce.

When the Medicare statute was enacted in 1965, the program was based on private insurance that was underwritten at the time, vestiges of which are still reflected in the program's being inpatient-facility- and physician-centered. While private insurers' coverage and payment policies vary significantly, sometimes even for the same insurer in different contracts, Medicare has evolved to be the standard bearer for some of them. Medicare program policies have significant influence on the shape of the health

TABLE 3
Health Care
Support Occupations

NURSING, PSYCHIATRIC, AND HOME HEALTH AIDES

- Home Health Aides
- Nursing Aides, Orderlies, and Attendants
- Psychiatric Aides

OCCUPATIONAL AND PHYSICAL THERAPIST ASSISTANTS AND AIDES

- Occupational Therapist Assistants and Aides
 - Occupational Therapist Assistants*
 - Occupational Therapist Aides*
- Physical Therapist Assistants and Aides
 - Physical Therapist Assistants*
 - Physical Therapist Aides*

OTHER HEALTH CARE SUPPORT OCCUPATIONS

- Massage Therapists
- Miscellaneous Health Care Support Occupations
 - Dental Assistants*
 - Medical Assistants*
 - Medical Equipment Preparers*
 - Medical Transcriptionists*
 - Pharmacy Aides*
 - Veterinary Assistants and Laboratory Animal Caretakers*
 - Health Care Support Workers, All Other*

Source: Bureau of Labor Statistics, U.S. Department of Labor, "Standard Occupational Classification: 31-0000 Healthcare Support Occupations."

TABLE 4
Breakdown of Major Health Occupations,
2000 and 2010

Health Occupation	2000		2010	
	No. of Workers	Percentage of Total Health Workforce	No. of Workers	Percent Change
Physicians	598,000	6	705,000	+18
Dentists	152,000	2	161,000	+6
Pharmacists	217,000	2	270,000	+24
Registered Nurses	2,194,000	22	2,755,000	+26
Mental and Behavioral Health Occupations ^a	518,000	5	657,000	+27
Therapists	479,000	5	639,000	+33
Public and Environmental Health ^b	241,000	2	302,000	+25
Health Technicians and Technologists	2,459,000	25	3,090,000	+26
Health Service Occupations ^c	3,197,000	32	4,264,000	+33

Source: Sam Shekar, M.D., "Geriatrics Is a 21st Century Issue," 2002.

^aPsychologists, social workers, marriage and family therapists, mental health counselors, and substance abuse and behavioral disorder counselors

^bNursing aides, home health care aides, dental assistants, medical assistants, pharmacy aides, and others

^cEpidemiologists, environmental engineers, environmental scientists and technologists, health educators, occupational health and safety personnel

workforce and the roles of those who compose it. In the Medicare program, in other federal programs (such as the Federal Employees Health Benefits Program, CHAMPUS, and TRICARE), and in federal-state Medicaid programs, allopathic and osteopathic physicians set the standard for other health professionals. Physician services are the foundation for the determination of fees (as well as whether all or a portion of the fees will be paid), right to bill as an independent agent, and supervision of or ultimate responsibility for care that is provided. In terms of compensation, physicians significantly outrank other practitioners,⁸ as indicated by the BLS data in Table 5.

The history of Medicare includes a series of struggles by health professionals, such as chiropractors, not only to be Medicare providers but also to attain the status that physicians have, such as the ability to receive direct payments through the program. For example, certified registered nurse anesthetists (CRNAs) were successful in the 1980s in gaining direct

Medicare payment, and professionals such as surgical technologists and pastoral counselors are currently lobbying for similar recognition.

Medicare Parts A and B and Medicare+Choice — In terms of Medicare services provided in inpatient and outpatient settings, there is a mix of policies governing what service is provided, in which setting it takes place, and who is involved in performing it. An examination of Medicare Part A, Medicare Part B, and Medicare+Choice coverage and payment policies is a good place to start:

■ Part A covers inpatient care in hospitals and skilled nursing facilities (SNFs). It also covers home health services for Medicare beneficiaries who need care at home within 14 days of a hospital stay of at least three days. (Part B covers home health services under other conditions.) In addition, Part A covers hospice, which is most often a home service, although it has an inpatient component as well. Hospital-based services under Part A occur in various types of facilities, such as

TABLE 5
Mean Hourly Earnings and Mean Weekly Hours
for Certain Full- and Part-Time Health Workers
in the United States, 2001

	Full- and Part-Time Hourly Mean Earnings (in dollars)	Mean Weekly Hours
Physicians	60.14	38.0
Dentists	38.43	29.6
Optometrists	41.38	36.3
Registered Nurses	22.68	33.3
Pharmacists	32.81	31.8
Dietitians	19.42	36.5
Respiratory Therapists	19.10	34.6
Occupational Therapists	23.19	32.9
Physical Therapists	23.79	36.2
Speech Pathologists	27.51	35.9
Physician Assistants	32.90	38.9

Source: Bureau of Labor Statistics, "National Compensation Survey: Occupational Wages in the United States, 2001."

community and public hospitals, children's hospitals, "specialty" hospitals (for example, freestanding and distinct-part psychiatric and medical rehabilitation facilities), and critical-access hospitals. In traditional Medicare, dental services are excluded from the program, aside from limited services provided in inpatient hospitals under Part A.⁹

■ Part B covers outpatient care: physician services, medical rehabilitation services (generally provided by occupational therapists [OTs], physical therapists [PTs], and speech-hearing-language pathologists, in addition to specialty physicians), behavioral health services (including those offered by clinical psychologists and clinical social workers in addition to psychiatrists), and, without a pre-hospitalization requirement, home health care (intermittent skilled, home aide, and medical equipment services). Ambulatory surgery and clinical laboratory services also fall under Part B, as do chiropractic care (limited to manipulation of the spine to correct a subluxation), nutritionists' services for Medicare beneficiaries with diabetes and kidney disease, and services of health professionals such as nurse practitioners (NPs) and physician assistants (PAs).¹⁰

■ Medicare+Choice, Medicare's managed care program, requires health plans to offer Part A and Part B services and gives them the flexibility to add others, such as an outpatient prescription drug or dental benefit, perhaps at an additional premium.¹¹ Because health plans receive payments from the Medicare program for the provision of bundled services to enrolled Medicare beneficiaries, they pay—on a salary or contractual basis—physicians and other practitioners for the services they offer, so that the clinicians do not deal directly with Medicare carriers.

Billing: Direct and Incident to Physician's Services — Certain practitioners can receive direct payments from Medicare and others cannot. Two Medicare Payment Advisory Commission (MedPAC) reports to Congress, *Medicare Payment to Advanced Practice Nurses and Physician Assistants*,¹² and *Medicare Coverage of Nonphysician Practitioners*,¹³ both issued in June 2002, offer descriptions of the coverage and payment policies.

Most Part A services—inpatient hospital care as well as SNF, inpatient medical rehabilitation, Part A home health, and children's hospital services—are under prospective payment systems, so that inpatient organizations receive facility payments that help to finance their salaried employees. Physicians and some other practitioners bill separately, under Part B, for the services they provide in settings covered under Part A.

Part B services are billed in two ways, depending upon the status of the practitioners:¹⁴

■ Direct billing—Physicians bill directly under their own billing numbers. Subject to a fee schedule oriented to resource-based practice expenses,¹⁵ they receive 100 percent of the physician fee. OTs, PTs, and clinical psychologists also can bill directly (under their own billing

Part B services are billed in two ways, depending upon the status of the practitioners.

numbers) for services within their legal scopes of practice and receive 100 percent of the physician fee. CRNAs also qualify for direct payment—at 100 percent if they are not medically directed and at 50 percent if they are, in which case the supervising anesthesiologist gets the other half of the fee. NPs and clinical nurse specialists (CNSs) receive 75 percent of the physician fee when they provide services within their legal scopes of practice in hospitals and 85 percent of the fee schedule amount when they furnish such services in other settings. Certified nurse midwives (CNMs) receive 65 percent of the physician fee. PAs receive 85 percent of the physician fee.

■ **Billing incident to physician services**—Physicians bill directly (under their billing numbers), at 100 percent of the fee schedule, for services that are provided by other types of practitioners, even when those practitioners were the actual providers of the services. This occurs when the practitioners—NPs, CNSs, CNMs, and PAs—are the physicians' employees and under their direct supervision. Other stipulations that govern billing incident to physician services include initiation of the course of treatment by the physician and his or her presence in the office or clinic while the services are provided.

As MedPAC points out in its two reports, several health disciplines are petitioning Congress for separate reimbursement from Medicare. They include orthopedic physician assistants (OPAs), who are licensed in three states; surgical technologists (as first assistants in surgery), who are licensed in one state; marriage and family therapists, who are licensed or certified in 44 states; licensed professional clinical counselors or licensed mental health counselors, who are recognized in 45 states and the District of Columbia; and pastoral counselors, who are licensed or certified in 6 states but licensed under another counseling discipline in 37 states. State laws determine scopes of practice for such practitioners.¹⁶

The Role of Medicare GME — Medicare GME funding, which goes to teaching hospitals, is under Part A. It has two parts: direct and indirect. Direct GME funds cover allopathic, osteopathic, podiatric, and dental residents' salaries and fringe benefits, allocated hospital overhead connected with training programs, and other costs (such as teaching physicians' supervisory costs).

Indirect GME dollars, added to inpatient prospective payment diagnosis-related group rates, recognize the added costs teaching hospitals incur as a result of their teaching programs. Indirect medical education payments began in FY 1984, as part of the new inpatient prospective payment system (PPS). Add-ons to the diagnosis-related-group rates upon which the inpatient PPS operates, indirect payments are currently paid at the rate of 5.5 percent per 0.1 IRB.

There are some nursing and allied health expenditures in the Medicare GME program, but they are modest amounts (approximately \$300 million), given estimated Medicare GME outlays of \$7.8 billion in 2000. The

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number of physician residents per teaching hospital was capped effective the start of each hospital's 1996 fiscal year.

Medicaid Coverage and Payment Policies

As a federal-state entitlement program for certain persons and families with low incomes and resources, Medicaid allows states a great deal of flexibility to administer their own plans. However, the federal government, in return for matching funds, has certain requirements. For example, "a state's Medicaid program *must* offer medical assistance for certain *basic* services to most categorically needy populations." The services include the following:

inpatient hospital services; outpatient hospital services; prenatal care; vaccines for children; physician services; nursing facility services for persons aged 21 or older; family planning services and supplies; rural health clinic services; home health care for persons eligible for skilled-nursing services; laboratory and x-ray services; pediatric and family NP services; nurse-midwife services; federally qualified health center services and ambulatory services of an FQHC that would be available in other settings; and early periodic screening, diagnostic, and treatment services for children under age 21.¹⁷

The federal government also provides matching funds for certain *optional* services. Following are some of the most common services among the 34 that are approved:

Diagnostic services, clinic services, intermediate-care facilities for the mentally retarded, prescribed drugs and prosthetic devices, optometrist services and eyeglasses, nursing facility services for children under 21, transportation services, rehabilitation and PT services, and home and community-based care to certain persons with chronic impairments.¹⁸

Under federal-state Medicaid arrangements, states are responsible for purchasing health services and paying health providers under their Medicaid programs, although the trend has been for them to contract with health plans under managed care arrangements. Some states also have undertaken initiatives to give different types of practitioners incentives to select certain specialty areas and practice locations. Given individual states' considerable leeway in administration of their Medicaid programs, there is a great deal of variation from state to state on practitioners' legal scopes of practice and payment rates. As with Medicare, physicians set the standard.

Currently, all state Medicaid programs cover medical services provided by NPs, CNMs, or PAs in their fee-for-service or managed care plans either at the same rate or a lower rate than that paid to physicians. Payment for NPs ranges from a low of 60 percent of the physician fee in Arizona to 100 percent in at least 19 states. For CNMs, payments range from a low of 70 percent of the physician fee schedule in Illinois and New Jersey to 100 percent in 26 other states. Reimbursement rates for

Some states have Medicaid GME programs that direct training support to certain types of practitioners.

PAs range from 75 percent of the physician fee in Kentucky and North Dakota to 100 percent in 32 states. Four states require a physician on site when a PA provides a service before Medicaid will pay for that service.¹⁹

Some states also have Medicaid GME programs that direct training support to certain types of practitioners, such as primary-care physicians or nurses. As indicated by Tim Henderson, director of the National Conference of State Legislatures' Institute for Primary Care and Workforce Analysis, they include the following:

- Georgia, which uses intergovernmental transfers to draw down additional federal matching funds to help support the clinical training of medical residents affiliated with Area Health Education Centers (AHECs), which focus on rural and underserved communities.
- Michigan, which has a primary care pool directed at training entering physicians in the fields of general practice, family practice, preventive medicine, obstetrics, and geriatrics, and also has initiatives for third- and fourth-year dental students and for psychiatric residents in community mental health settings.
- Tennessee, which has a program to provide primary care medical training in community sites.
- Utah, which has developed a Medicare GME pool for medical, dental, and podiatric graduate training.
- Minnesota, which has a trust fund to support medical, dental, advanced practice nursing, and pharmacy training programs, among other activities.
- New York, which has a funding pool designed to reduce its number of medical residents, increase its emphasis on primary care, and increase its numbers of underrepresented minorities and practitioners trained in ambulatory settings.²⁰

Separate from Medicaid, Arkansas, Colorado, and Texas use state appropriations to address certain health workforce goals. Arkansas and Colorado support family practice residencies, while Texas has programs for family practice, general internal medicine, and general pediatrics.²¹ Three of 40 states that appropriate general funds for family medicine training, they are singled out because of special innovations in using the funds to address state workforce needs.

Federal Discretionary Health Professions Funds

In addition to the federal Medicare GME entitlement funds spent on health professions training, there are discretionary health professions funds that are subject to the congressional authorization and appropriations processes. Two of them are Titles VII and VIII of the Public Health Service Act. Title VII covers medical, dental, and allied health and Title VIII includes general and advanced practice nursing. The following are key initiatives in the two titles:

Titles VII and VIII of the Public Health Service Act provide discretionary health professions funds.

- **Minority and Disadvantaged Health Professions**—To increase minority representation in the health professions in order to improve health care access to indigent populations and to areas that are medically underserved. Provides support to health professions schools and scholarships to disadvantaged and minority students who attend a health professions or nursing school. Includes Centers of Excellence programs, the Health Careers Opportunity Program, the Scholarship for Disadvantaged Students program, and the Faculty Loan Repayment Program.
- **Primary Care Medicine and Dentistry**—To promote the training of primary-care practitioners, including general pediatricians, generalists in internal medicine, family physicians, dentists, and PAs.
- **Interdisciplinary, Community-Based Linkages**—To provide clinical training opportunities to health professions and nursing students in specific areas. Includes the AHEC program; the Health Education and Training Center program, which centers on the border between the United States and Mexico; and the Geriatrics Health Professions Program, which supports geriatric faculty fellowships, entry of geriatric physicians into academic medicine, and geriatric training in health professions schools and facilities.
- **Quentin N. Burdick Program for Rural Interdisciplinary Training**—To improve access to rural health care by strengthening the distribution, diversity, and quality of health care practitioners through collaboration among academic institutions, rural health care agencies, and health care providers.
- **National Center for Health Workforce Analysis**—To collect and analyze health professions data, assist state and local workforce planning efforts, conduct workforce issues analyses, evaluate health professions training programs, and develop tools for and conduct research on the health workforce. Includes not only the national center, the only federal effort that focuses on health workforce supply and demand and related issues, but also—through cost-sharing agreements with DHHS' Health Resources and Services Administration (HRSA)—the Regional Centers for Health Workforce Studies at the University of California at San Francisco, State University of New York at Albany, University of Illinois at Chicago, University of Washington, and University of Texas.
- **Public Health Workforce Development**—To offer support to preventive medicine residencies and dental public health, public health training centers, public health traineeships, and health administration traineeships and special projects.
- **Nurse Education Act/Nursing Workforce Development**—To fund nursing schools to train advanced practice nurses, including primary care and non-primary-care NPs, CNMs, CNNs, public health nurses, nurse administrators, and CRNAs. Also to provide workforce diversity grants to increase nursing education opportunities for disadvantaged students, including underrepresented minorities.

There are also significant discretionary funds for the health professions in the VA budget.

■ Student Financial Assistance—To provide loans to needy and disadvantaged medical and nursing students.²²

There are also significant discretionary funds for the health professions in the Department of Veterans Affairs (VA) and Department of Defense (DoD) budgets. The VA is the largest single provider of clinical health services in the nation and is second only to CMS (which administers Medicare GME) in funding health professions education. Approximately 76,000 trainees (medical, dental, and other residents and clinical psychology interns, as well as nursing, OT, PT, and many other health professionals) receive training at the VA's approximately 140 medical centers and 800 outpatient clinics each year. Of the 100,000 physician residents trained in the United States each year, 28,000 rotate through the VA. The air force, army, and navy within DoD also have health professions programs. The navy, for example, offers approximately 900 training positions through more than 50 in-service residency and fellowship programs.

Private Payers' Policies

Because of the variation from one private insurer or health plan to another and among different contracts for a given payer, private coverage and payment policies relating to members of the health workforce tend to be all over the map. With physicians setting the standard, some payers follow the Medicare model, some recognize and pay practitioners other than physicians anywhere from 100 percent to a lesser amount of the physician fee, and some simply do not recognize practitioners who are not physicians.

Health insurance options provided to employees by employers or offered on Web sites such as www.eHealthInsurance.com tend to have physician directories available (for health maintenance organization and preferred provider plans) and make reference to "eligible providers." Providers who are not physicians are often subject to physician referral, with restrictions detailed in the definitions and exclusions of the plan. For example, in one plan, "health care practitioner" is defined in the following way: "means only a licensed physician, PA, NP, PT, OT, speech therapist, chiropractor or mental health provider acting within the scope of his or her license."²³

The same plan defines "home health aide," "nurse," "physician," and "therapist," as follows:

Home Health Aide: A person whose main function is to provide post-hospital health aide services. If state or local licensing or certification is required, the person must be licensed or certified as a home health aide where the service is performed. If licensing or certification is not required, any person who meets the minimum training qualifications recognized by the National Home Caring Council, National League of Nursing, or Center for Medicare and Medicaid Services will be considered a home

Private coverage and payment policies relating to members of the health workforce tend to be all over the map.

health aide, provided that [he or she is] employed through a licensed or Medicare-certified home health care agency.

Nurse: For the purposes of the Post-Hospital Benefit, a professional nurse legally designated 'RN' (registered nurse) or 'LPN' (licensed practical nurse) who, where licensing is required, holds a valid license from the state in which the nursing service is performed. 'LPN' shall include a licensed vocational nurse ('LVN') and any other similarly designated nurse in those jurisdictions in which a professional nurse is designated as other than an 'LPN' and for whom licensing is required.

Physician: A licensed doctor of medicine or osteopathy acting within the scope of his or her license.

Therapist: A licensed PT, OT, or speech therapist who is acting within the scope of his or her license where the services are performed.²⁴

Many states have enacted laws mandating that private payers cover services provided by practitioners other than physicians, such as NPs, CNMs, and CRNAs. Moreover, some states "have enacted 'any willing provider' laws and other states are considering them. These laws generally prohibit health care plans from denying access to any licensed provider whose training and scope of practice" include the services covered by the health plan and who "is willing to meet the terms and conditions of the plan." In addition, any-willing-provider bills have been introduced in Congress, but none has been enacted.²⁵ By a unanimous vote, the Supreme Court on April 2 of this year ruled that states may require managed care plans to accept all doctors, hospitals, and other providers into their networks, as long as the providers agree to the insurer's terms of service (*Kentucky Association of Health Plans v. Miller*).

DILEMMAS: SOME HEALTH WORKFORCE CHALLENGES

Health care policy has seesawed over the years between government regulation (or attempts to regulate) the size, composition, and distribution of the health workforce and market-oriented approaches of supply and demand. Efforts to shape the health workforce have focused mainly on supplies of physicians and nurses, not only through Medicare GME and state Medicaid and other support but also through provisions of Titles VII and VIII.

The strongest attempt to regulate the health workforce—in this case, physicians—came during the Clinton administration, in the ill-fated 1994 Health Security Act proposal. The proposal would have placed "strict limits on the number of physicians permitted to enter GME programs, controlled entry into each specialty, and effectively shut the door to all but a few IMGs."²⁶

While the debate continues about the extent to which the federal government should inject itself into workforce issues, rapid changes in the

The strongest attempt to regulate the health workforce came during the Clinton administration.

mix of health professionals and other workers, challenges from CAM, and shifting demographics are having significant effects on the nature of the health workforce.

Composition of the Physician Workforce

Discussion over the supply of and demand for physicians has been ongoing since a Graduate Medical Education National Advisory Committee (GMENAC) report issued in 1981 indicated that the United States had produced too many physicians. While the discussion of whether this country is educating too many or too few physicians is still going on, there are several issues to be considered:

■ The respective numbers and proportion of primary care and specialty physicians, estimated to be at 274,653 general-care specialists and 52,294 in primary care subspecialties, and 486,823 in other specialties in 2000 by the AMA.²⁷ In 1994, HRSA's Council on Graduate Medical Education called for half of the physician workforce to be primary care practitioners. HRSA, among others, has directed much of its effort to increasing the supply of such practitioners, especially physicians in family practice. Others have argued that there is a growing shortage of specialists, particularly "anesthesiologists, gerontologists, cardiologists, pulmonologists, urologists, oncologists, gastroenterologists, hematologists and a variety of intensive care physicians."²⁸

■ The number of IMGs in Medicare GME-supported residency training programs, who made up 5,000 of 22,000 first-year residents at last count.²⁹

■ The participation of physicians in medical research, as reflected by a 25 percent decline in physician scientists on medical school faculties over the past two decades.³⁰

Rapid Changes in the Health Workforce Mix

This country's health workforce experienced a couple of significant shifts during the 1990s. First, the number of practitioners other than physicians grew rapidly, "with the number of graduates of training programs for nonphysicians more than doubling between 1992 and 1997." Second, state legislatures approved laws to expand "the allowable scope of practice for these providers; in 1997 alone, 37 states enacted 83 such laws." Finally, managed care experienced dramatic growth, with a byproduct being movement of care "from physicians to nonphysician clinicians as a means of cost containment."³¹

A study of trends in care between 1987 and 1997, published this January in the *New England Journal of Medicine*, shows definite practice shifts for physicians, chiropractors, midwives, nurses or NPs, optometrists, podiatrists, PAs, PTs or OTs, psychologists, social workers, and others. As shown in Table 6, the number of visits to both physicians and nonphysicians during an office or clinic encounter increased significantly.³²

The number of practitioners other than physicians grew rapidly during the 1990s.

TABLE 6
Visits to Clinicians Other Than Physicians
and to Both Physician and Nonphysician Clinicians
by Study Respondents, 1987 and 1997
(in percent of total visits by study respondents)

Type of Clinician	One or More Visits to a Clinician Who Is Not a Physician ^a		One or More Visits to Both a Physician and a Nonphysician Clinician ^b	
	1987	1997	1987	1997
Chiropractor	6.4	4.1	71.9	82.2
Midwife	0.1	0.3	62.1	72.9
Nurse or Nurse Practitioner	11.6	15.8	77.0	85.6
Optometrist	2.6	6.3	70.7	77.3
Podiatrist	3.2	0.7	82.8	93.7
Physician Assistant	0.7	2.2	64.2	80.1
Physical Therapist or Occupational Therapist	1.5	2.6	90.2	97.2
Psychologist	1.8	2.0	78.9	89.1
Social Worker	0.4	0.7	81.4	90.5
Other	7.8	12.4	83.7	94.3

Source: Benjamin G. Druss, Steven C. Marcus, Mark Olfson, Terri Tanielian, and Harold Alan Pincus, "Trends in Care by Nonphysician Clinicians in the United States."

^aBased on 21,501 visits in 1987 and 22,505 visits in 1997.

^bBased on 6,414 visits in 1987 and 7,703 visits in 1997.

Challenges from Complementary and Alternative Medicine

In the minds of many Americans, complementary and alternative health practitioners also belong to the health workforce, although BLS does not include most of them on its list of health occupations. (Chiropractors, massage therapists, and osteopaths, particularly osteopaths who use manipulation, seem to fall in both conventional and alternative camps.) A significant number of U.S. health care consumers seek out such practitioners for care. A 1998 study published in *JAMA* indicated that 42.1 percent of Americans used alternative therapies in 1997, at an estimated cost of \$21.2 billion (at least \$12.2 billion of it out of pocket), compared with 33.8 percent in 1990. "Total 1997 out-of-pocket expenditures relating

to alternative therapies were conservatively estimated at \$27 billion, which is comparable with the projected 1997 out-of-pocket expenditures for all U.S. physician services.³³ It is likely that the percentage and dollars have increased significantly since then.

According to the National Center for Complementary and Alternative Medicine (NCCAM), CAM is “a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.” NCCAM, established as an independent component of the National Institutes of Health by Congress in 1999, identifies the major types as follows:

- Alternative medical systems (practitioners of homeopathic medicine, naturopathic medicine, traditional Chinese medicine [including acupuncture], and Ayurveda).
- Mind-body interventions (practitioners who use techniques involving “meditation, prayer, mental healing, and creative art, music, or dance therapies”).
- Biologically based therapies (practitioners who work with “dietary supplements, herbal products, and the use of other so-called ‘natural’ but as yet scientifically unproven therapies”).
- Manipulative and body-based methods (practitioners of chiropractic or osteopathic manipulation and massage).
- Energy therapies (practitioners of biofield therapies, including “qi gong, Reiki, and therapeutic touch,” and bioelectromagnetic-based therapies, “such as pulsed fields, magnetic fields, or alternating current or direct current fields”).³⁴

As some CAM therapies move into conventional medicine, receiving recognition from both public and private payers, they pose a challenge to conventional medicine and public and private coverage and payment policies that govern it.

Shortages of Certain Members of the Health Workforce

Nurses — Shortages of certain health professionals—most prominently, nurses and pharmacists—have caused some to call on federal and state governments to take regulatory approaches to increase supplies and others to appeal to the health industry to make changes in working conditions, wages, and career opportunities. Addressing the shortage of nurses, Julie Sochalski provides these statistics in the September/October 2002 *Health Affairs*:

Nursing in the United States is at a critical juncture, competing with enticing high-tech industries for a diminishing pool of new labor while trying to meet the demands placed by an aging population and increasing treatment complexity on the health care system. Updated estimates from the Bureau of Health Professions of DHHS show a national shortfall of 110,700 RN full-time equivalents in 2000. Furthermore, BLS

Nursing shortages in the nation’s hospitals are particularly acute.

identifies nursing as one of the top 20 occupations to be affected by baby-boomer retirements, with employers needing to replace an estimated 331,000 RNs between 1998 and 2008. These conditions are colliding with a 30-year gradual decline in nursing as a career.³⁵

Nursing shortages in the nation's hospitals are particularly acute. The reasons, according to a group of researchers, are "the result of an imposing combination of factors":

Rising demand for RNs driven by increasing admissions and sicker patients requiring more intensive nursing care; lack of good RN substitutes; a less-than-satisfactory working climate for many RNs; inflation-adjusted earnings that have fallen in all but two years since 1993; declining enrollment in nursing education programs each year since 1995; and a strong economy in the late 1990s that allowed some married RNs to reduce time spent in the workforce. In addition, evidence suggests that RN shortages in hospital intensive-care units and operating rooms are attributable in part to demographic changes in the RN workforce.³⁶

Pharmacists — As pharmaceuticals replace other therapies in various segments of health care, there is "increased demand for pharmacists, the third-largest health professional group and the sole profession specifically trained to deliver pharmaceutical services." Demands on pharmacists have grown from dispensing medications to performing certain clinical functions, as reflected in upgrading of educational requirements in 2004. The doctor of pharmacy (Pharm.D.) degree will replace the baccalaureate degree as the required entry-level credential.³⁷

According to a 2000 study by HRSA, vacancy rates stood at "7 percent in community pharmacies, 9 percent in hospitals, 11 percent in public hospitals, and up to 18 percent in federal facilities." Although the active pharmacy workforce increased by 24,400 pharmacists between 1991 and 2000, to a total of 196,000 pharmacists in practice in 2000, prescription drug use increased by 46 percent from 1992 to 2000. While pharmacists increased their workloads significantly, that was not enough to fill in the gap, in part because of greater administrative and billing burdens. BLS projected 216,865 pharmacy jobs in all industries in 2000. One result of the demand for pharmacists has been the growth of pharmacy technicians and assistants, who increased from 123,000 in 1996 to 247,000 in 2000.³⁸

Others — There are also questions about supply and distribution patterns in other health care occupations, with the question of shortages sometimes subject to debate. When it comes to health professions other than nurses, pharmacists, and physicians, growth may be telling, as reflected in an analysis of BLS occupational projections by Edward Salsberg and R. Martiniano of the Center for Health Workforce Studies, State University of New York at Albany.³⁹ Their analysis indicates that 15 of the BLS-designated health occupations in Tables 2 and 3 rank among the 30 fields of employment in the United States that are predicted to be the fastest growing in this decade. The 15 health occupations, designated

There is "increased demand for pharmacists, the third-largest health professional group."

by rank as well as by the number employed in 2000 and projected to be employed in 2010, appear in Table 7.

Maldistribution of the Health Workforce

As mentioned in the previous section, whether for nurses, pharmacists, physicians, or persons in other health occupations, there are maldistribution issues that concern those who would like government to exert more influence on the health workforce and those who support a market approach. For example, while the supply of physicians is a

TABLE 7
Health Occupations among
the 30 Fastest-Growing Fields of Employment

Occupation	Rank	No. Employed in 2000	No. Projected for 2010
Personal and Home Care Aides	8	414,000	672,000
Medical Assistants	10	329,000	516,000
Physician Assistants	12	58,000	89,000
Medical Records and Health Information Technicians	13	136,000	202,000
Home Health Aides	15	615,000	907,000
Physical Therapist Aides	16	36,000	53,000
Occupational Therapist Aides	17	9,000	12,000
Physical Therapist Assistants	18	44,000	64,000
Audiologists	19	13,000	19,000
Occupational Therapist Assistants	23	17,000	23,000
Speech-Language Pathologists	25	88,000	122,000
Mental Health and Substance Abuse Social Workers	26	83,000	116,000
Dental Assistants	27	247,000	339,000
Pharmacy Technicians	30	190,000	259,000

Source: Edward S. Salsberg and R. Martiniano, "Health Care Employment Projections: An Analysis of Bureau of Labor Statistics Occupational Projections, 2000-2010."

matter of debate (see “Composition of the Physician Workforce” above), there seems to be little doubt that there is maldistribution of physicians among urban, suburban, rural, and frontier areas in the United States. Data show that the number of active allopathic nonfederal physicians in metropolitan areas grew by 74 percent and by 61 percent in nonmetropolitan areas between 1980 and 2000.⁴⁰

Given freedom of choice among clinicians to practice wherever they please (unless they have scholarship or loan obligations that mandate service in particular locales), maldistribution is a recurrent problem. DHHS has several ways of tracking shortage areas. The designations are as follows:

- Health Professional Shortage Area (HPSA)—An area that has shortages of primary medical, dental, or mental health services whether by geography (urban or rural), population group, or medical or other public facilities.
- Medically Underserved Area (MUA)—A county or group of contiguous counties, a group of county or civil divisions, or a group of urban census tracts characterized by a shortage of personal health services for residents.
- Medically Underserved Population (MUP)—A group of people who face economic, cultural, or linguistic barriers to the delivery of health care.

According to HRSA, more than 34 federal programs depend upon the shortage designations to determine eligibility or give funding preference and approximately 20 percent of the U.S. population is located in primary medical care HPSAs.⁴¹ Examples of initiatives designed to bring providers to shortage areas include the following:

- National Health Service Corps—Recruits and retains health professionals (primary care physicians, NPs, PAs, CNMs, dentists, dental hygienists, clinical or counseling psychologists, clinical social workers, marriage and family therapists, psychiatric nurse specialists, and licensed professional counselors) to deliver care in underserved communities. Has scholarship and loan repayment programs.
- Rural Health Clinics—Provide health care in rural areas designated to be short of personal health services or primary health providers. Must employ an NP or PA; have arrangements with a physician to provide medical direction, guidance, and supervision; and have an agreement with a Medicare-certified hospital for referral and admission of patients.
- Community Health Centers—Provide preventive and primary health services in medically underserved areas. Provided services to 9.6 million people in 2000, with care given by physicians, NPs, PAs, dentists, and dental hygienists.
- AHECs—Address the health workforce needs of medically underserved communities. Multi-institutional, multidisciplinary

The health workforce has not kept pace with the United States’ racial and ethnic mix.

community-based programs initially funded through federal grants but eventually self-sustaining. Work mainly with primary care fields of family medicine, internal medicine, pediatrics, and obstetrics/gynecology as well as nursing, dentistry, public health, and the allied health professions.

Lack of Diversity in Response to Demographic Changes

While the population of the United States has shifted dramatically in terms of its racial and ethnic mix, the health workforce has not kept pace. There are “at least four practical reasons [that] can be put forth for attaining greater diversity in the workforce,” according to Jordan J. Cohen, Barbara A. Gabriel, and Charles Terrell, in the September/October 2002 *Health Affairs*, “(1) advancing cultural competency, (2) increasing access to high quality health care services, (3) strengthening the medical research agenda, and (4) ensuring optimal management of the health care system.”⁴²

According to the 2000 census, between 1990 and 2000, the African American, Native American, Asian/Pacific Islander, and Hispanic populations significantly outstripped the white population in population growth. By 2025, the figures will be even more dramatic.⁴³ The census figures appear in Table 8.

In 1999, despite their proportions of the population, African Americans and Hispanics “made up only 2.6 percent and 3.5 percent, respectively, of the physician workforce” and Native-Americans constituted “merely 0.1 percent of America’s doctors,” according to Cohen, Gabriel, and Terrell. Asians/Pacific Islanders, on the other hand, were overrepresented—at 9.1 percent—relative to their share of the population.⁴⁴

TABLE 8
Racial Breakdown of U.S. Population in 1990, 2000, and 2025 (projected)

	1990		2000		2025	
	No.	% of Total Pop.	No.	% of Total Pop.	No.	% of Total Pop.
White	208,741,000	83.9	226,232,000	82.2	265,306,000	78.5
African American	30,517,000	12.3	35,307,000	12.8	47,089,000	13.9
Native American	2,067,000	0.8	2,434,000	0.9	3,399,000	1.0
Asian/Pac. Islander	7,467,000	3.0	11,157,000	4.1	22,020,000	6.5
Hispanic Origin	22,379,000	9.0	32,440,000	11.8	61,433,000	18.2

Source: U.S. Census Bureau, Statistical Abstract of the United States, 2001.

The March 2000 National Sample Survey of Registered Nurses indicated that 12.3 percent—compared with 10.3 percent in 1996—were in one or more identified ethnic and racial groups and 1.1 percent did not report their backgrounds. The breakdown was as follows: “Black/African American (non-Hispanic), 4.9 percent; Native American, 0.5 percent; Asian, 3.5 percent; Native Hawaiian/Pacific Islander, 0.2 percent; Hispanic, 2.0 percent; and of two or more racial backgrounds, 1.2 percent.”⁴⁵

Minorities are more likely to pursue higher degrees in nursing, however, according to Sochalski. Drawing on the 2000 National Sample Survey of Registered Nurses, she reports that “52 percent of minority nurses who graduated before 1996 had at least a B.S.N. degree, compared with 42 percent of white nurses. Among new nurses (those graduating between 1996 and 2000), 41 percent of minority nurses and 42 percent of white nurses had a BSN or higher degree.”⁴⁶

Other health professions also reflect lack of diversity, with dentistry being quite prominent. “Dentistry contains 6.8 percent underrepresented minorities [African Americans, Native Americans, and Hispanics], compared with 8.5 percent of physicians and 24.8 percent of the population,” write Elizabeth Mertz and Edward O’Neil, drawing on American Dental Association data. “First-year dental students in 1999 were 34 percent non-white” and just 10.2 percent were underrepresented minorities.⁴⁷

The term “underrepresented minorities,” which is used by DHHS for programs to increase the diversity of the health workforce, is very important. Whereas the Census Bureau defines minorities as “blacks,” “American Indians, Eskimos, and Aleutians,” “Asian, Pacific Islanders,” and “Hispanic origin,” HRSA uses “underrepresented minorities,” which includes all the categories except “Asian, Pacific Islanders.” That is because, as already indicated, Asian/Pacific Islanders are over- rather than underrepresented in the health professions, as opposed to members of the other categories. This highlights the importance of definitions in health workforce policy.

SOME RESPONSES: PROPOSALS FOR CHANGE

Given the strength of the individual lobbies for workforce participants and the reluctance of Congress and all but the Clinton administration to make sweeping changes, government responses to shaping of the health workforce have been marginal. Organizations such as the AAMC have resisted significant changes in Medicare GME, and the AMA and specific physician specialty academies and colleges have worked to preserve physician prerogatives. At the same time, organizations representing nurses and allied health professionals, such as OTs, PTs, and speech pathologists, have struggled to strengthen their members’ participation in public programs.

Omnibus reconciliation measures going back more than 20 years contain provisions affecting both the Medicare GME provisions in the Social Security Amendments of 1983 (part of the Social Security Act) and Titles VII and VII of the Public Health Service Act. In terms of their impact on the health workforce, they more often than not are budget- rather than practice-directed. An example is the steady erosion—for the purpose of budget savings—of the Medicare indirect medical education add-on since it went into effect in FY 1984. Another example is President Bush's FY 2004 HRSA budget, which reduces and even zeros out certain health professions programs, putting pressure on interest groups with affected members to lobby Congress to save the programs.

As with much of health policy, calls for change tend to represent tinkering at the edges, although some public policy and health industry leaders have urged or are urging more comprehensive reforms. Examples include the following:

- Development of an all-payer health services trust fund or pool—drawing from both public and private sources—to fund health professions education.
- Use of Medicare GME policy to train specific kinds of physicians (for example, primary-care doctors, certain types of specialists, or U.S. as opposed to IMG residents) or to increase or limit the numbers of physicians produced.
- Proactive approaches to address the heavy debt that physicians and some other clinicians build up during educational and training, debt that influences their choice of career practice.
- Incentives to encourage greater coordination and collaboration among and even integration of members of the health workforce.
- Interdisciplinary approaches to foster teamwork among physicians, nurses, and other members of the health workforce.
- Recognition in coverage and payment policies of the significant shift away from inpatient to outpatient services in the past few decades and the importance of training in ambulatory settings.
- Greater acknowledgment of practitioners other than physicians and of certain alternative practitioners in public coverage and payment policies.
- Programs targeting shortages of certain practitioners, such as nurses and pharmacists.
- Proactive or even coercive programs to address maldistribution of practitioners in frontier, rural, and even inner-city areas.
- Initiatives to increase the number of underrepresented minorities in medicine, nursing, the allied health professions, and other health occupations.

Given rising federal and state budget deficits, there seems to be little momentum for assertive workforce approaches. Even plugging-the-gap

Calls for change in health workforce policy tend to represent tinkering at the edges.

initiatives, such as addressing nursing shortfalls, are lagging. The only comprehensive funding proposal on the table is the health services trust fund or pool that would draw from both public and private sources to achieve “public good” workforce goals. No consensus exists, however, on what those goals are: To support the missions of academic health centers, which have the medical and other schools that train health professionals? To assure the production of certain types of physicians? Nurses? Other personnel?

In an introduction to *Health Affairs*' September/October 2002 special issue on health workforce issues, Editor John Iglehart writes that the 1981 GMENAC report indicating that the United States had produced too many physicians, “coupled with the pro-market, anti-planning mentality of the incoming Reagan administration, led to a long lapse of governmental and academic attention to physician workforce policy issues. Now, the subject of the health care workforce is making its way back on the public policy agenda, fueled mostly by serious concern over a shortage of nurses.” Extending his concern to “countless other issues involving dentists, pharmacists, and other health professionals; cross-professions concerns about insufficient diversity; the impact of informatics; and the adequacy of providers trained to care for the growing elderly population,” Iglehart entitles his preface “The Woeful Neglect of Health Care Workforce Issues.”

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APPENDIX — TABLE 1

Physician Positions Offered in the Annual Residency Matching Program

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| ■ Anesthesiology | ■ Obstetrics/Gynecology |
| ■ Dermatology | ■ Ophthalmology |
| ■ Emergency Medicine | ■ Orthopedic Surgery |
| ■ Family Practice | ■ Pathology |
| ■ General Surgery | ■ Pediatrics |
| <i>Preliminary</i> | <i>Pediatrics–Emergency Medicine</i> |
| <i>Surgery–Plastic Surgery</i> | <i>Pediatrics–Physical Medicine and Rehabilitation</i> |
| ■ Internal Medicine | <i>Pediatrics/Psychology/Child Psychology</i> |
| <i>Medicine–Emergency Medicine</i> | <i>Primary</i> |
| <i>Medicine–Family Practice</i> | ■ Physical Medicine and Rehabilitation |
| <i>Medicine–Neurology</i> | ■ Plastic Surgery |
| <i>Medicine–Pediatrics</i> | ■ Preventive Medicine |
| <i>Medicine–Physical Medicine and Rehabilitation</i> | ■ Psychiatry |
| <i>Medicine–Preventive Medicine</i> | <i>Psychiatry–Child Psychiatry</i> |
| <i>Medicine–Psychiatry</i> | <i>Psychiatry–Family Practice</i> |
| <i>Preliminary</i> | <i>Psychiatry–Neurology</i> |
| <i>Primary</i> | ■ Radiation Oncology |
| ■ Medical Genetics | ■ Radiology – Diagnostic |
| ■ Neurological Surgery | ■ Transitional |
| ■ Neurology | ■ Urology |
| ■ Nuclear Medicine | |

Source: Association of American Medical Colleges, "Table 1: Positions Offered in the Matching Program, 1996–2002."; accessed March 23, 2003, at http://www.nrmp.org/res_match/tables/table1_2002.pdf.