

**An Overview of the United States Health Care System
And Its Workforce**

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Organization

◆ Governance structures

The health care system in the United States (US) is a decentralized, market-based system without universal access. The system is a shifting mixture of public, private, and voluntary sector programs. The role of the federal government includes that of a major payor for care through large programs such as Medicaid and Medicare, a provider of health services to special populations, and a supporter of the education and training of many types of health care providers. States responsibilities include the funding and coordination of public health functions, financing and delivery of personal health services, and the regulation of providers of medical care.

◆ Funding for the health care system

Both public and private sources finance the US health care system. In 2001, the private sector, including private insurance and out-of-pocket payments by individuals, was the source of over one-half (54%) of the funds expended for health. Public spending which includes Medicare and Medicaid was the source for the remainder of the national health care expenditures.¹

There are two types of private health insurance available in the US: individually purchased policies, which are usually limited in coverage and relatively expensive to purchase; and insurance provided as one of the benefits of employment. Employer sponsored insurance varies by size of firm, type of industry, the employee's work status, and other factors. Private health insurance is the greatest source of health insurance coverage for people under age 65.²

The US Government finances many health services. Medicare provides public insurance for people who are age 65 or older as well as for people with certain types of disabilities. The Medicaid Program provides medical assistance for certain individuals and families with low incomes and resources. Although the Federal government establishes general guidelines for the program, the Medicaid program is a state administered program and each state sets its own requirements. The US Department of Veterans Affairs health services system provides inpatient, outpatient, and long-term care services to veterans through a system of 172 hospitals and outpatient clinics. The Department of Defense is a provider of health services to active and retired military members and their dependents. The Indian Health Service provides health services to an estimated 1.34 million American Indians and Alaskan natives. Inmates in federal and state prison systems receive government-funded health services that may vary in extent and coverage by individual facility.²

¹ Centers for Medicare & Medicaid Services, Office of the Actuary: National Health Statistics Group.

² Barton, PL. Financing the U.S. Health Services System. In *Understanding the U.S. Health Services System*. Chicago: Health Administration Press, 1999.

◆ Service delivery

There is not a universal delivery system for health services in the U.S., but multiple modes of delivering care to different populations with varying levels and types of health insurance.

Primary care generally occurs in the health care provider's (i.e. physician, dentist, therapist) office; a hospital outpatient clinic, a community or neighborhood health center; a migrant health center, or other ambulatory care site. Physicians, nurse-practitioners, and physician assistants generally provide ambulatory care for episodic or chronic conditions and acute inpatient hospital care either in their offices or in the hospital. Long term care is often the domain of nursing and various types of therapists. Tertiary medical treatment is generally provided in major teaching hospitals, particularly in academic health centers that include medical schools and their university teaching hospitals.

The Department of Health and Human Services is the United States government's principal agency for public health activities at the national level. The Department includes over 300 programs, covering a wide spectrum of activities.³ State and local governments have established health departments to deliver and regulate public health services.

◆ Relationship with social services

Home care is provided to people of all ages who have insurance coverage or other resources to pay for these services, but the majority of home care clients are Medicare beneficiaries.⁴ Many home health agencies are organized as not-for-profits. A significant proportion of care for people with chronic mental illness occurs in the public sector.

◆ Key constraints in provision

In general, rural areas in the United States are more likely to face a shortage of physicians. In urban areas, while there may be enough physicians, population groups may not have access to health care (and health care providers). The provider and care seeker may speak different languages, come from differing cultures that value health services in quite different ways, and employ customs and beliefs that are conflicting.

◆ Training arrangements for doctors and nurses

The responsibility for producing the health work force is shared between the public and private sectors. The federal government provides direct financial assistance for the basic training of some health professions, and subsidizes the graduate training of physicians through Medicare payments to teaching hospitals. States, through their university and

³ Department of Health and Human Services. <http://www.hhs.gov>

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college systems, support the education and training of a wide range of health professionals. Private universities also educate and train the workforce.

There are two educational pathways for physician licensure: allopathic education (MD) and osteopathic education (DO). Both allopathic and osteopathic physicians enter medical school after completing a four-year undergraduate degree and required prerequisite courses in the biological and physical sciences.⁵

After a physician has completed medical school, one or more years of post-graduate training must be completed in order to be eligible for licensure for practice. Licensure of physicians and other health professionals is a responsibility of state governments. Most physicians complete more years of post-graduate training than the minimum required by state law because most wish to be eligible for certification in a particular specialty. The minimum number of years of post-graduate training required for certification is determined by individual specialties and ranges from three years to seven years. Upon completion of the minimum requirements for certification in a specialty, some physicians choose to complete additional training in a subspecialty.⁵

Different levels of nursing preparation exist. The entry level is the nurse's aide, whose training may consist of institution specific on the job training. No licensure is associated with this level of nursing, although a certificate of completion may be awarded. The licensed practical nurse (LPN) or licensed vocational nurse (LVN) is the next level of nursing and requires formalized training, often in a community college of vocational program, of an average of 12 months. State licensure is required for the LPN/LVN. The third level of nursing preparation, and what is generally considered the first level of professional training, is that of the registered nurse. RN's may achieve their education and training in one of four ways: hospital diploma programs, the original method of training, which require an average of three years of training; associate degree programs offered by community colleges; college and university baccalaureate programs; and generic master's degree programs for college graduates who are not yet nurses. The RN must be licensed by the state to practice.^{6,7}

Advanced Practice Nurse (APN) is an umbrella term that includes these specialty roles: Clinical Nurse Specialist (CNS), Nurse Practitioner (NP), Certified Registered Nurse Anesthetist (CRNA), and Certified Nurse-Midwife (CNM). Advanced Practice Nurses have met educational and clinical practice requirements beyond the 2 to 4 years of basic nursing education required by all registered nurses.⁸

⁵ Coffman J, Rosenoff E, Grumbach K. United States Medical Workforce: Characteristics and Policy Update. Center for the Health Professions. University of California, San Francisco. 2000.

⁶ Barton, PL. The Health Services Work Force. In *Understanding the U.S. Health Services System*. Chicago: Health Administration Press, 1999.

⁷ American Association of Critical Care Nurses. <http://www.aacn.nche.edu/Publications/issues/Aug02.htm>.

⁸ American Association of Critical Care Nurses. <https://www.aacn.org/AACN/Advanced.nsf/>

Finance

In 2001, US health care spending grew 8.7 percent (see Table 1) to \$5,035 per capita (see Table 2), and reached a total of \$1.4 trillion (See Table 3). Health spending's share of the Gross Domestic Product (GDP) rose .8 percentage points to 14.1 percent (See Table 4). Total public funding exceeded private funding growth for the second year in a row. Important sources of public funding growth were increased Medicaid spending in the midst of a recession and increased payments to Medicare providers. Spending on private health insurance grew and accounted for 35 percent of the health expenditures.^{9, 10}

In 2001, there was an 8.3 percent rise in hospital spending which accounted for 30 percent of the health care spending increase (See Figure 1). Although prescription drugs remain the fastest growing spending category, growth in spending slowed in both 2000 and 2001 (See Figures 1 and 2). Spending on home health services rose mostly due to increases in public-sector funding. Nursing home expenditures rose in 2001 however, nursing home expenditures are one of the slowest growing health care sectors due to a steady, decade-long decline in age-adjusted use rates (See Table 5 and Figure 1).^{8, 9}

Physicians and other Clinical Services accounted for 22 percent of national health care spending in 2001.¹ Physicians in the US receive compensation from a variety of sources including commercial insurance, Medicaid, Medicare, and the patient. Payment source will vary by practice setting. Prior to the 1990s, most self-employed physicians received fee-for-service payments based on 'reasonable and customary' charges for their services. Over the past decade, two other payment methods have become the most common forms of physician compensation: discounted fee-for-service and capitation. Under discounted fee-for-service, physicians agree to accept discounted payments for providing care to enrollees of health plans with which they contract. Under capitation, physicians are paid a set fee for each enrollee regardless of the number and type of services provided.² Most nurses and allied health personnel are employed and receive a salary or are paid on an hourly basis.

The Center for Medicare and Medicaid Services projects that the average annual change from the previous year in national health care expenditures to be 8.6 percent in 2002, 7.3 percent for 2003, 7.1 percent in 2004, and 7.2 percent in 2005. Longer term projections include growth at an average annual rate of 7.3 percent from 2002 to 2012 resulting in projected \$3.1 trillion total national health expenditure in 2012.⁶

⁹ Centers for Medicare & Medicaid Services. <http://cms.hhs.gov/statistics/nhe/historical/highlights.asp>

¹⁰ Levie K, et al. Trends in U.S Health Care Spending, 2001. *Health Affairs*; 22(1):2003.

Provision

The exact number of physicians in the US is difficult to determine because there is no one comprehensive source of data. The American Medical Association collects and manages physician data through a Physician Masterfile. Although this is the most complete source of data on US physicians and will be used to present physician data in this paper, the Masterfile, with the exception of the most recent edition, excludes osteopathic physicians. Osteopathic physician data is collected by the American Osteopathic Association and is presented in this paper to the extent that the information is available.

As Table 6 indicates, according to the AMA Masterfile, in 2000 there were 738,602 active physicians in the US including physicians in training (residents/fellows). The American Osteopathic Association estimates that there are 46,000 active osteopathic physicians in the US.¹¹ According to the AMA, primary care physicians which in this case include the specialties of family practice, general practice, internal medicine, and pediatrics account for 37 percent of the patient care physicians. Graduates of international medical schools (IMGs) comprise 25 percent of the US physician workforce. The physician workforce is not evenly distributed across the US, and in fact over one half (56.2%) of physicians in 2000 were located in 10 states.¹²

The precise number of active registered nurses (RNs) in the US is also a difficult number to establish. The National Sample Survey of Registered Nurses provides information about the current profile of RNs with an active license to practice. This study has been conducted every four years since 1980. According to the National Sample Survey of Registered Nurses in March 2000, there were an estimated 2,696,540 people with a license to practice as a Registered Nurse. Among these nurses, 2,201,813 were employed in nursing. Among those employed in nursing, 1,576,675 were employed full-time.

Tables 12 and 13 examine the employment setting of RNs employed in nursing.¹³ In 2000, it was estimated that there was a nurse shortage of 110,000 RN full-time equivalents (FTEs) or 6 percent (See Table 11). Based on what is known about trends in the supply of RNs and their anticipated demand, the shortage is expected to grow relatively slowly until 2010, by which time it will have reached 12 percent. At that point demand will begin to exceed supply at an accelerated rate and by 2015 the shortage, a relatively modest 6 percent in the year 2000, will have almost quadrupled to 20 percent. If not addressed, and if current trends continue, the shortage is projected to grow to 29 percent by 2020.¹⁴

¹¹ <http://www.aoa-net.org/Consumers/omed.htm>

¹² American Medical Association (AMA). Physician Characteristics and Distribution in the US, 2002 Edition.

¹³ Division of Nursing. Health Resources and Services Administration. The Registered Nurse Population, March 2000.

¹⁴ National Center for Health Workforce Analysis. Health Resources and Services Administration. Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020, 2002.

Table 1: Average Annual Percent Change from Previous Year Shown

	1997	1998	1999	2000	2001
National Health Expenditures	5.1	5.2	6.1	7.4	8.7

Source: Center for Medicare and Medicaid Services, Office of the Actuary.

Table 2: National Health Expenditures per capita in US Dollars

	1990	1997	1998	1999	2000	2001
National Health Expenditures	2,738	4,007	4,178	4,392	4,672	5,035
Private	1,627	2,160	2,283	2,411	2,563	2,749
Public	1,111	1,846	1,895	1,980	2,109	2,286
Federal	758	1,321	1,340	1,391	1,481	1,608
State and Local	353	526	555	590	628	678

Source: Center for Medicare and Medicaid Services, Office of the Actuary.

Table 3: National Health Expenditures in Billions of US Dollars

	1990	1997	1998	1999	2000	2001
National Health Expenditures	696	1,092.7	1150	1219.7	1310	1424.5
Private	413.5	589.2	628.4	669.7	718.7	777.9
Public	282.5	503.6	521.6	550	591.3	646.7
Federal	192.7	360.2	368.7	386.2	415.1	454.8
State and Local	89.8	143.4	152.9	163.8	176.2	191.8

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary: National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis.

Table 4: National Health Expenditures as percentage of Gross Domestic Product

	1990	1997	1998	1999	2000	2001
National Health Expenditures	12	13.1	13.1	13.2	13.2	14.1
Private	7.1	7.1	7.2	7.2	7.3	7.7
Public	4.9	6.1	5.9	5.9	6.0	6.4
Federal	3.3	4.3	4.2	4.2	4.2	4.5
State and Local	1.5	1.7	1.8	1.8	1.8	1.9

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary: National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis.

Table 5: National Health Expenditures by categories in billions of US Dollars

	1990	1997	1998	1999	2000	2001
National Health Expenditures	696	1092.7	1150	1219.7	1310	1424.5
Hospital Care	253.9	367.6	378.4	393.7	416.5	451.2
Physician and Clinical Services	157.5	241	256.8	270.2	288.8	313.6
Other Professional Services	18.2	33.4	35.5	36.7	38.8	42.3
Dental Services	31.5	50.2	53.2	56.4	60.7	65.6
Other Personal Health Care	9.6	27.7	30.2	33.6	36.7	40.9
Nursing Home and Home Health	65.3	119.6	122.7	121.9	125.5	132.1
Prescription Drugs	40.3	75.7	87.3	104.4	121.5	140.6
Other Medical Products	33.1	44	45.4	47.7	48.9	50.1
Government Administration and Net Cost of Private Health Insurance	40	60.8	64.3	73.2	80.7	89.7
Government Public Health Activities	20.2	35.4	38	40.9	44.1	46.4
Investment	26.4	37.2	38.2	41	47.7	52
Research	12.7	18.7	20.5	23.5	29.1	32.8
Construction	13.7	18.5	17.7	17.6	18.6	19.2

Source: Center for Medicare and Medicaid Services, Office of the Actuary.

Table 6: Number of US Physicians and number per 100,000 Population

	1992	1997	1998	1999	2000	2001
Active Physicians						
MD(-residents)	510,938	585,728	614,798	628,905	642,877	660,962
/100,000	199	215	223	225	228	232
MD(+residents)	597,406	685,604	707,790	721,741	738,602	754,636
/100,000	233	251	257	259	262	264
DO(+residents)	--	--	--	--	--	46,450
/100,000	--	--	--	--	--	16
MD+DO(+residents)	--	--	--	--	--	801,086
/100,000	--	--	--	--	--	281
Patient Care Physicians						
MD(- residents)	448,752	520,755	528,744	532,498	551,705	575,265
/100,000	175	191	192	191	196	202
MD(+residents)	535,220	620,631	621,736	625,334	647,430	668,939
/100,000	209	228	225	224	229	234
Patient Care USMGs (includes Canadian)						
MD (-residents)	349,143	391,845	400,887	406,164	417,314	433,278
/100,000	136	144	145	146	148	152
MD (+residents)	416,689	473,708	471,944	474,686	490,620	504,842
/100,000	162	174	171	170	174	177
Patient Care IMGs						
MD (-residents)	99,609	128,910	127,857	126,334	134,391	141,987
/100,000	39	47	46	45	48	50
MD (+residents)	118,531	146,923	149,792	150,648	156,810	164,097
/100,000	46	54	54	54	56	58

Source: AMA. Physician Characteristics and Distribution in the US 2003-2004 , Chicago 2003. Also prior annual editions; Bureau of Health Profession, Area Resource File, Access System 2002; US Census Bureau.

Notes:

-- indicates that data is not available

Patient care physician data does not include physicians that have not been classified.

**Table 7: Number of Patient Care Primary Care Physicians
And number per 100,000 Population**

	1992	1997	1998	1999	2000	2001
Primary Care						
MD(-residents)	153,689	174,485	179,258	183,531	187,808	197,336
/100,000	60	64	65	66	67	69
MD(+residents)	188,929	216,598	218,421	221,206	226,289	236,074
/100,000	74	79	79	79	80	83
DO(+residents)	--	--	--	--	--	21,961
/100,000	--	--	--	--	--	8
MD+DO (+residents)	--	--	--	--	--	258,035
/100,000	--	--	--	--	--	90
FP						
MD(-residents)	43,257	51,815	54,594	56,583	58,711	62,270
MD(+residents)	49,269	61,918	63,923	66,055	68,453	71,760
GP						
MD	20,175	16,340	15,846	15,432	13,008	13,694
IM						
MD(-residents)	59,611	69,749	71,077	72,291	75,509	79,158
MD(+residents)	81,753	93,797	93,227	92,976	96,469	100,400
PD						
MD(-residents)	30,646	36,581	37,741	39,225	40,580	42,214
MD(+residents)	37,732	44,543	45,425	46,743	48,358	50,220

Source: AMA. Physician Characteristics and Distribution in the US, 2003-2004, Chicago 2003. Also prior annual editions; Bureau of Health Professions, Area Resource File, Access System 2002; US Census Bureau.

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Table 8: Number of Patient Care Specialist Physicians and number per 100,000 Population

	1992	1997	1998	1999	2000	2001
Specialists						
MD(-residents)	295,063	346,270	349,486	348,967	363,897	377,929
/100,000	115	127	127	125	129	132
MD(+residents)	346,291	404,033	403,315	404,128	421,141	432,865
/100,000	135	148	146	145	149	152

Source: AMA. Physician Characteristics and Distribution in the US, 2003-2004, Chicago 2003. Also prior editions; US Census Bureau.

Notes:

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Specialists=Total Primary Care MD-Primary Care MD

Table 9: Total Number of Medical School Graduates

	1992	1997	1998	1999	2000	2001
MD	15,355	15,890	15,963	16,005	15,714	15,785
DO	1,532	2,009	2,096	2,169	2,279	2,510

Source: Association of American Medical Colleges.

<http://www.aamc.org/data/facts/famg92002.htm> ; AACOM, Annual Osteopathic Medical School Questionnaires. <http://www.aacom.org/data/annual report/annualreport2002.pdf>

Table 10: US Population in Thousands

	1990	1992	1996	1997	1998	1999	2000	2001
US Resident Population	249,623	256,514	269,394	272,647	275,854	279,040	282,125	285,318

Source: US Census Bureau. <http://eire.census.gov/popest/data/national/tables>.

Table 11: Number and Number per 100,000 population of RNs employed in nursing

	1990	1996	1997	1998	1999	2000
Number	1,789,600	2,137,100	2,158,500	2,180,000	2,201,800	2,201,813
Number (FTE)	1,508,300	1,834,250	1,855,650	1,877,300	1,889,200	1,889,243
/100,000 (FTE)	604	681	681	681	677	670

Source: Bureau of Health Professions, Health Resources and Services Administration, as reported to OECD.

Table 12: RNs by employment setting as percentage of all RNs employed in nursing

	1988	1992	1996	2000
Hospital %	67.9	66.5	60.1	59.1
Ambulatory%	7.7	7.8	8.5	9.5
Nursing and Social Care Facilities %	6.6	7	8.1	6.9
Other %	17.8	18.7	23.3	24.5

Source: National Sample of Registered Nurses, 1988, 1992, 1996, 2000.

Table 13: Employment setting of primary positions of RNs employed in nursing: 2000

Employment Setting	Number
Hospital	1,300,323
Nursing Home	152,894
Nursing Education	46,655
Community/Public Health	282,618
Student Health	83,269
Occupational Health	36,395
Ambulatory Care	209,324
Insurance	51,667
Planning/Licensing	11,005
Other	18,033
Unknown	9,631

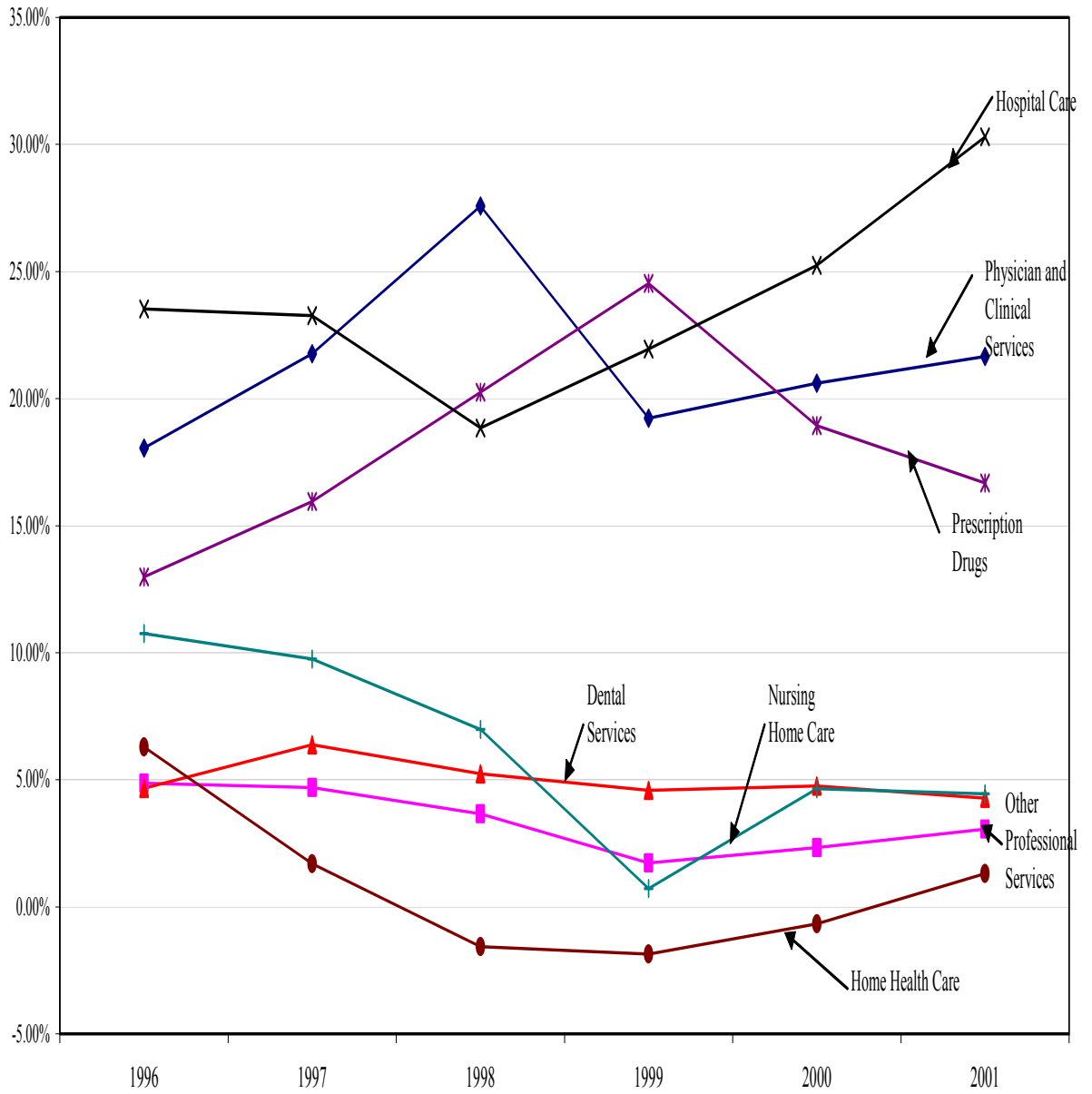
Source: National Sample Survey of Registered Nurses, March 2000.

Table 13: Number of Allied health professionals

	1999	2000	2001
Audiologist	12,950	11,530	11,040
Occupational Therapist	78,950	75,150	77,080
Physical Therapist	131,050	120,410	126,490
Radiation Therapist	12,340	13,100	13,450
Recreational Therapist	30,190	26,940	26,830
Respiratory Therapist	80,230	82,670	82,930
Speech-language Pathologist	85,920	82,850	83,080
Medical and Clinical Laboratory Technologist	145,750	144,530	145,400
Medical and Clinical Laboratory Technician	142,090	146,060	146,890
Dental Hygienist	90,050	148,460	149,900
Cardiovascular technologists and technician	41,490	40,080	40,990
Diagnostic medical sonographer	29,280	31,760	32,990
Nuclear medicine technologist	17,880	18,030	17,360
Radiologic technologist and technician	177,850	172,080	168,250
Emergency medical technician and paramedic	172,360	165,530	170,670
Respiratory therapy technician	33,990	28,230	28,700
Surgical technologist	64,810	68,590	67,460
Licensed practical and licensed vocational nurses	688,510	679,470	683,830
Home health aide	577,530	561,120	560,290
Nursing aides	1,308,740	1,273,460	1,307,680
Medical assistant	281,480	330,830	345,880

Source: Bureau of Labor Statistics. National employment and wage data from the Occupational Employment Statistics survey by occupation, 1999, 2000, 2001.

Figure 1: Select Expenditure Categories as a Percent of Total Expenditure Change



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There are two educational pathways for physician licensure: allopathic education (MD) and osteopathic education (DO). Both allopathic and osteopathic physicians enter medical school after completing a four-year undergraduate degree and required prerequisite courses in the biological and physical sciences.¹⁹

After a physician has completed medical school, one or more years of post-graduate training must be completed in order to be eligible for licensure for practice. Licensure of physicians and other health professionals is a responsibility of state governments. Most physicians complete more years of post-graduate training than the minimum required by state law because most wish to be eligible for certification in a particular specialty. The minimum number of years of post-graduate training required for certification is determined by individual specialties and ranges from three years to seven years. Upon completion of the minimum requirements for certification in a specialty, some physicians choose to complete additional training in a subspecialty.⁵

Different levels of nursing preparation exist. The entry level is the nurse's aide, whose training may consist of institution specific on the job training. No licensure is associated with this level of nursing, although a certificate of completion may be awarded. The licensed practical nurse (LPN) or licensed vocational nurse (LVN) is the next level of nursing and requires formalized training, often in a community college of vocational program, of an average of 12 months. State licensure is required for the LPN/LVN. The third level of nursing preparation, and what is generally considered the first level of professional training, is that of the registered nurse. RN's may achieve their education and training in one of four ways: hospital diploma programs, the original method of training, which require an average of three years of training; associate degree programs offered by community colleges; college and university baccalaureate programs; and generic master's degree programs for college graduates who are not yet nurses. The RN must be licensed by the state to practice.^{20 21}

Advanced Practice Nurse (APN) is an umbrella term that includes these specialty roles: Clinical Nurse Specialist (CNS), Nurse Practitioner (NP), Certified Registered Nurse Anesthetist (CRNA), and Certified Nurse-Midwife (CNM). Advanced Practice Nurses have met educational and clinical practice requirements beyond the 2 to 4 years of basic nursing education required by all registered nurses.²²

¹⁹ Coffman J, Rosenoff E, Grumbach K. United States Medical Workforce: Characteristics and Policy Update. Center for the Health Professions. University of California, San Francisco. 2000.

²⁰ Barton, PL. The Health Services Work Force. In *Understanding the U.S. Health Services System*. Chicago: Health Administration Press, 1999.

²¹ American Association of Critical Care Nurses.

<http://www.aacn.nche.edu/Publications/issues/Aug02.htm>.

²² American Association of Critical Care Nurses. <https://www.aacn.org/AACN/Advanced.nsf/>

Finance

In 2001, US health care spending grew 8.7 percent (see Table 1) to \$5,035 per capita (see Table 2), and reached a total of \$1.4 trillion (See Table 3). Health spending's share of the Gross Domestic Product (GDP) rose .8 percentage points to 14.1 percent (See Table 4). Total public funding exceeded private funding growth for the second year in a row. Important sources of public funding growth were increased Medicaid spending in the midst of a recession and increased payments to Medicare providers. Spending on private health insurance grew and accounted for 35 percent of the health expenditures.^{23, 24}

In 2001, there was an 8.3 percent rise in hospital spending which accounted for 30 percent of the health care spending increase (See Figure 1). Although prescription drugs remain the fastest growing spending category, growth in spending slowed in both 2000 and 2001 (See Figures 1 and 2). Spending on home health services rose mostly due to increases in public-sector funding. Nursing home expenditures rose in 2001 however, nursing home expenditures are one of the slowest growing health care sectors due to a steady, decade-long decline in age-adjusted use rates (See Table 5 and Figure 1).^{8, 9}

Physicians and other Clinical Services accounted for 22 percent of national health care spending in 2001.¹ Physicians in the US receive compensation from a variety of sources including commercial insurance, Medicaid, Medicare, and the patient. Payment source will vary by practice setting. Prior to the 1990s, most self-employed physicians received fee-for-service payments based on 'reasonable and customary' charges for their services. Over the past decade, two other payment methods have become the most common forms of physician compensation: discounted fee-for-service and capitation. Under discounted fee-for-service, physicians agree to accept discounted payments for providing care to enrollees of health plans with which they contract. Under capitation, physicians are paid a set fee for each enrollee regardless of the number and type of services provided.² Most nurses and allied health personnel are employed and receive a salary or are paid on an hourly basis.

The Center for Medicare and Medicaid Services projects that the average annual change from the previous year in national health care expenditures to be 8.6 percent in 2002, 7.3 percent for 2003, 7.1 percent in 2004, and 7.2 percent in 2005. Longer term projections include growth at an average annual rate of 7.3 percent from 2002 to 2012 resulting in projected \$3.1 trillion total national health expenditure in 2012.⁶

²³ Centers for Medicare & Medicaid Services. <http://cms.hhs.gov/statistics/nhe/historical/highlights.asp>

²⁴ Levie K, et al. Trends in U.S Health Care Spending, 2001. *Health Affairs*; 22(1):2003.

Provision

The exact number of physicians in the US is difficult to determine because there is no one comprehensive source of data. The American Medical Association collects and manages physician data through a Physician Masterfile. Although this is the most complete source of data on US physicians and will be used to present physician data in this paper, the Masterfile, with the exception of the most recent edition, excludes osteopathic physicians. Osteopathic physician data is collected by the American Osteopathic Association and is presented in this paper to the extent that the information is available.

As Table 6 indicates, according to the AMA Masterfile, in 2000 there were 738,602 active physicians in the US including physicians in training (residents/fellows). The American Osteopathic Association estimates that there are 46,000 active osteopathic physicians in the US.²⁵ According to the AMA, primary care physicians which in this case include the specialties of family practice, general practice, internal medicine, and pediatrics account for 37 percent of the patient care physicians. Graduates of international medical schools (IMGs) comprise 25 percent of the US physician workforce. The physician workforce is not evenly distributed across the US, and in fact over one half (56.2%) of physicians in 2000 were located in 10 states.²⁶

The precise number of active registered nurses (RNs) in the US is also a difficult number to establish. The National Sample Survey of Registered Nurses provides information about the current profile of RNs with an active license to practice. This study has been conducted every four years since 1980. According to the National Sample Survey of Registered Nurses in March 2000, there were an estimated 2,696,540 people with a license to practice as a Registered Nurse. Among these nurses, 2,201,813 were employed in nursing. Among those employed in nursing, 1,576,675 were employed full-time.

Tables 12 and 13 examine the employment setting of RNs employed in nursing.²⁷ In 2000, it was estimated that there was a nurse shortage of 110,000 RN full-time equivalents (FTEs) or 6 percent (See Table 11). Based on what is known about trends in the supply of RNs and their anticipated demand, the shortage is expected to grow relatively slowly until 2010, by which time it will have reached 12 percent. At that point demand will begin to exceed supply at an accelerated rate and by 2015 the shortage, a relatively modest 6 percent in the year 2000, will have almost quadrupled to 20 percent. If not addressed, and if current trends continue, the shortage is projected to grow to 29 percent by 2020.²⁸

²⁵ <http://www.aoa-net.org/Consumers/omed.htm>

²⁶ American Medical Association (AMA). Physician Characteristics and Distribution in the US, 2002 Edition.

²⁷ Division of Nursing. Health Resources and Services Administration. The Registered Nurse Population, March 2000.

²⁸ National Center for Health Workforce Analysis. Health Resources and Services Administration. Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020, 2002.

Table 1: Average Annual Percent Change from Previous Year Shown

	1997	1998	1999	2000	2001
National Health Expenditures	5.1	5.2	6.1	7.4	8.7

Source: Center for Medicare and Medicaid Services, Office of the Actuary.

Table 2: National Health Expenditures per capita in US Dollars

	1990	1997	1998	1999	2000	2001
National Health Expenditures	2,738	4,007	4,178	4,392	4,672	5,035
Private	1,627	2,160	2,283	2,411	2,563	2,749
Public	1,111	1,846	1,895	1,980	2,109	2,286
Federal	758	1,321	1,340	1,391	1,481	1,608
State and Local	353	526	555	590	628	678

Source: Center for Medicare and Medicaid Services, Office of the Actuary.

Table 3: National Health Expenditures in Billions of US Dollars

	1990	1997	1998	1999	2000	2001
National Health Expenditures	696	1,092.7	1150	1219.7	1310	1424.5
Private	413.5	589.2	628.4	669.7	718.7	777.9
Public	282.5	503.6	521.6	550	591.3	646.7
Federal	192.7	360.2	368.7	386.2	415.1	454.8
State and Local	89.8	143.4	152.9	163.8	176.2	191.8

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary: National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis.

Table 4: National Health Expenditures as percentage of Gross Domestic Product

	1990	1997	1998	1999	2000	2001
National Health Expenditures	12	13.1	13.1	13.2	13.2	14.1
Private	7.1	7.1	7.2	7.2	7.3	7.7
Public	4.9	6.1	5.9	5.9	6.0	6.4
Federal	3.3	4.3	4.2	4.2	4.2	4.5
State and Local	1.5	1.7	1.8	1.8	1.8	1.9

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary: National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis.

Table 5: National Health Expenditures by categories in billions of US Dollars

	1990	1997	1998	1999	2000	2001
National Health Expenditures	696	1092.7	1150	1219.7	1310	1424.5
Hospital Care	253.9	367.6	378.4	393.7	416.5	451.2
Physician and Clinical Services	157.5	241	256.8	270.2	288.8	313.6
Other Professional Services	18.2	33.4	35.5	36.7	38.8	42.3
Dental Services	31.5	50.2	53.2	56.4	60.7	65.6
Other Personal Health Care	9.6	27.7	30.2	33.6	36.7	40.9
Nursing Home and Home Health	65.3	119.6	122.7	121.9	125.5	132.1
Prescription Drugs	40.3	75.7	87.3	104.4	121.5	140.6
Other Medical Products	33.1	44	45.4	47.7	48.9	50.1
Government Administration and Net Cost of Private Health Insurance	40	60.8	64.3	73.2	80.7	89.7
Government Public Health Activities	20.2	35.4	38	40.9	44.1	46.4
Investment	26.4	37.2	38.2	41	47.7	52
Research	12.7	18.7	20.5	23.5	29.1	32.8
Construction	13.7	18.5	17.7	17.6	18.6	19.2

Source: Center for Medicare and Medicaid Services, Office of the Actuary.

Table 6: Number of US Physicians and number per 100,000 Population

	1992	1997	1998	1999	2000	2001
Active Physicians						
MD(-residents)	510,938	585,728	614,798	628,905	642,877	660,962
/100,000	199	215	223	225	228	232
MD(+residents)	597,406	685,604	707,790	721,741	738,602	754,636
/100,000	233	251	257	259	262	264
DO(+residents)	--	--	--	--	--	46,450
/100,000	--	--	--	--	--	16
MD+DO(+residents)	--	--	--	--	--	801,086
/100,000	--	--	--	--	--	281
Patient Care Physicians						
MD(- residents)	448,752	520,755	528,744	532,498	551,705	575,265
/100,000	175	191	192	191	196	202
MD(+residents)	535,220	620,631	621,736	625,334	647,430	668,939
/100,000	209	228	225	224	229	234
Patient Care USMGs (includes Canadian)						
MD (-residents)	349,143	391,845	400,887	406,164	417,314	433,278
/100,000	136	144	145	146	148	152
MD (+residents)	416,689	473,708	471,944	474,686	490,620	504,842
/100,000	162	174	171	170	174	177
Patient Care IMGs						
MD (-residents)	99,609	128,910	127,857	126,334	134,391	141,987
/100,000	39	47	46	45	48	50
MD (+residents)	118,531	146,923	149,792	150,648	156,810	164,097
/100,000	46	54	54	54	56	58

Source: AMA. Physician Characteristics and Distribution in the US 2003-2004 , Chicago 2003. Also prior annual editions; Bureau of Health Profession, Area Resource File, Access System 2002; US Census Bureau.

Notes:

-- indicates that data is not available

Patient care physician data does not include physicians that have not been classified.

**Table 7: Number of Patient Care Primary Care Physicians
And number per 100,000 Population**

	1992	1997	1998	1999	2000	2001
Primary Care						
MD(-residents)	153,689	174,485	179,258	183,531	187,808	197,336
/100,000	60	64	65	66	67	69
MD(+residents)	188,929	216,598	218,421	221,206	226,289	236,074
/100,000	74	79	79	79	80	83
DO(+residents)	--	--	--	--	--	21,961
/100,000	--	--	--	--	--	8
MD+DO (+residents)	--	--	--	--	--	258,035
/100,000	--	--	--	--	--	90
FP						
MD(-residents)	43,257	51,815	54,594	56,583	58,711	62,270
MD(+residents)	49,269	61,918	63,923	66,055	68,453	71,760
GP						
MD	20,175	16,340	15,846	15,432	13,008	13,694
IM						
MD(-residents)	59,611	69,749	71,077	72,291	75,509	79,158
MD(+residents)	81,753	93,797	93,227	92,976	96,469	100,400
PD						
MD(-residents)	30,646	36,581	37,741	39,225	40,580	42,214
MD(+residents)	37,732	44,543	45,425	46,743	48,358	50,220

Source: AMA. Physician Characteristics and Distribution in the US, 2003-2004, Chicago 2003. Also prior annual editions; Bureau of Health Professions, Area Resource File, Access System 2002; US Census Bureau.

Notes: -- indicates that data is not available

Patient care physician data does not include physicians that have not been classified.

Table 8: Number of Patient Care Specialist Physicians and number per 100,000 Population

	1992	1997	1998	1999	2000	2001
Specialists						
MD(-residents)	295,063	346,270	349,486	348,967	363,897	377,929
/100,000	115	127	127	125	129	132
MD(+residents)	346,291	404,033	403,315	404,128	421,141	432,865
/100,000	135	148	146	145	149	152

Source: AMA. Physician Characteristics and Distribution in the US, 2003-2004, Chicago 2003. Also prior editions; US Census Bureau.

Notes:

Patient care physician data does not include physicians that have not been classified.

Specialists=Total Primary Care MD-Primary Care MD

Table 9: Total Number of Medical School Graduates

	1992	1997	1998	1999	2000	2001
MD	15,355	15,890	15,963	16,005	15,714	15,785
DO	1,532	2,009	2,096	2,169	2,279	2,510

Source: Association of American Medical Colleges.

<http://www.aamc.org/data/facts/famg92002.htm> ; AACOM, Annual Osteopathic Medical School Questionnaires. <http://www.aacom.org/data/annual report/annualreport2002.pdf>

Table 10: US Population in Thousands

	1990	1992	1996	1997	1998	1999	2000	2001
US Resident Population	249,623	256,514	269,394	272,647	275,854	279,040	282,125	285,318

Source: US Census Bureau. <http://eire.census.gov/popest/data/national/tables>.

Table 11: Number and Number per 100,000 population of RNs employed in nursing

	1990	1996	1997	1998	1999	2000
Number	1,789,600	2,137,100	2,158,500	2,180,000	2,201,800	2,201,813
Number (FTE)	1,508,300	1,834,250	1,855,650	1,877,300	1,889,200	1,889,243
/100,000 (FTE)	604	681	681	681	677	670

Source: Bureau of Health Professions, Health Resources and Services Administration, as reported to OECD.

Table 12: RNs by employment setting as percentage of all RNs employed in nursing

	1988	1992	1996	2000
Hospital %	67.9	66.5	60.1	59.1
Ambulatory%	7.7	7.8	8.5	9.5
Nursing and Social Care Facilities %	6.6	7	8.1	6.9
Other %	17.8	18.7	23.3	24.5

Source: National Sample of Registered Nurses, 1988, 1992, 1996, 2000.

Table 13: Employment setting of primary positions of RNs employed in nursing: 2000

Employment Setting	Number
Hospital	1,300,323
Nursing Home	152,894
Nursing Education	46,655
Community/Public Health	282,618
Student Health	83,269
Occupational Health	36,395
Ambulatory Care	209,324
Insurance	51,667
Planning/Licensing	11,005
Other	18,033
Unknown	9,631

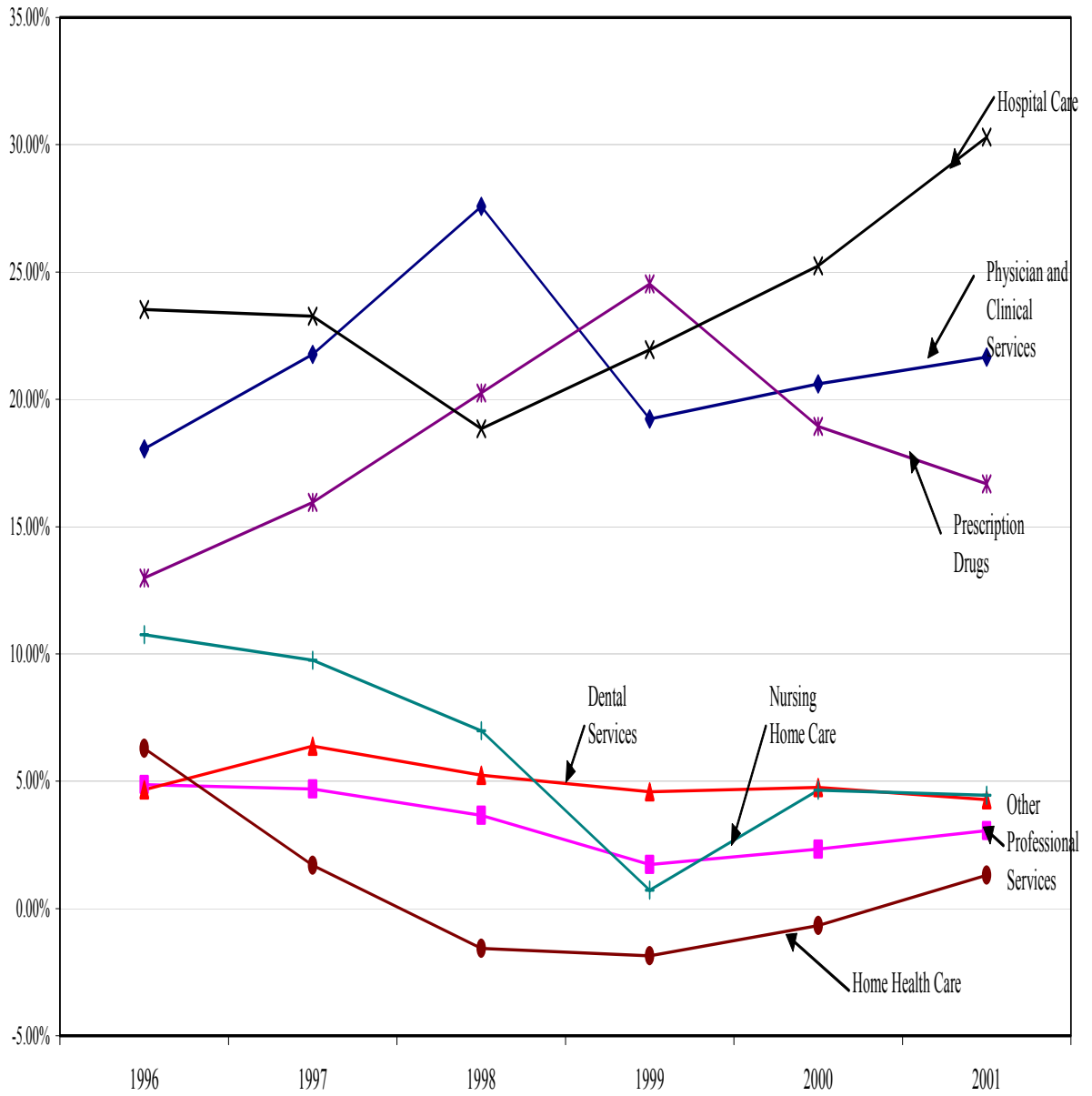
Source: National Sample Survey of Registered Nurses, March 2000.

Table 13: Number of Allied health professionals

	1999	2000	2001
Audiologist	12,950	11,530	11,040
Occupational Therapist	78,950	75,150	77,080
Physical Therapist	131,050	120,410	126,490
Radiation Therapist	12,340	13,100	13,450
Recreational Therapist	30,190	26,940	26,830
Respiratory Therapist	80,230	82,670	82,930
Speech-language Pathologist	85,920	82,850	83,080
Medical and Clinical Laboratory Technologist	145,750	144,530	145,400
Medical and Clinical Laboratory Technician	142,090	146,060	146,890
Dental Hygienist	90,050	148,460	149,900
Cardiovascular technologists and technician	41,490	40,080	40,990
Diagnostic medical sonographer	29,280	31,760	32,990
Nuclear medicine technologist	17,880	18,030	17,360
Radiologic technologist and technician	177,850	172,080	168,250
Emergency medical technician and paramedic	172,360	165,530	170,670
Respiratory therapy technician	33,990	28,230	28,700
Surgical technologist	64,810	68,590	67,460
Licensed practical and licensed vocational nurses	688,510	679,470	683,830
Home health aide	577,530	561,120	560,290
Nursing aides	1,308,740	1,273,460	1,307,680
Medical assistant	281,480	330,830	345,880

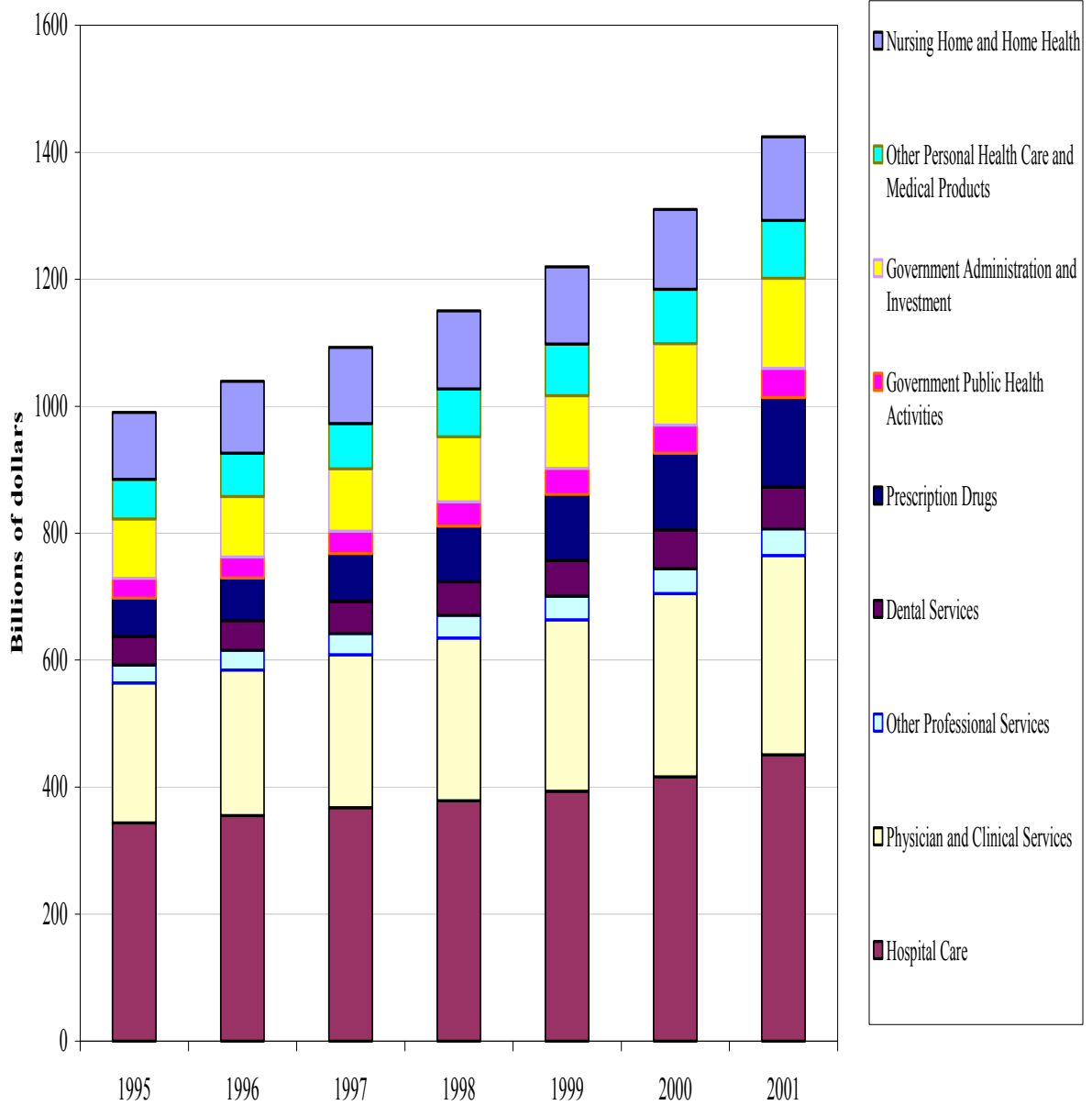
Source: Bureau of Labor Statistics. National employment and wage data from the Occupational Employment Statistics survey by occupation, 1999, 2000, 2001.

Figure 1: Select Expenditure Categories as a Percent of Total Expenditure Change



Source: Centers for Medicare & Medicaid Services. Office of the Actuary

Figure 2: Health Expenditure Category - Cumulative Contribution



Source: Center for Medicare & Medicaid Services. Office of the Actuary

