



**The Health Care Workforce in New York**  
*Trends in the Supply of and Demand for Health Workers*

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School of Public Health  
University at Albany, State University of New York



## TABLE OF CONTENTS

PREFACE .....	6
EXECUTIVE SUMMARY .....	8
OVERVIEW .....	8
KEY FINDINGS .....	9
BACKGROUND .....	12
OVERVIEW .....	12
GOALS .....	12
DATA SOURCES AND TERMINOLOGY .....	13
A. Data Sources .....	13
B. Terminology.....	14
C. Geographic Areas.....	15
NEW YORK STATE.....	18
HEALTH CARE EMPLOYMENT AS A PERCENT OF TOTAL EMPLOYMENT .....	18
GROWTH IN NEW YORK STATE EMPLOYMENT.....	19
GROWTH IN UPSTATE NEW YORK EMPLOYMENT .....	20
GROWTH IN NEW YORK CITY EMPLOYMENT .....	21
GROWTH IN HEALTH CARE EMPLOYMENT .....	22
PUBLIC AND PRIVATE HEALTH WORKFORCE EMPLOYMENT.....	23
THE NEW YORK STATE HEALTH WORKFORCE BY SETTING.....	24
NEW YORK STATE HEALTH CARE EMPLOYMENT BY REGION.....	25
A. Hospital Employment .....	26
B. Nursing and Personal Care Facility Employment.....	27
C. Home Health Care Services Employment .....	28
D. Offices and Clinics of Doctors of Medicine .....	28
HEALTH CARE EMPLOYMENT BY OCCUPATION .....	30
A. U.S. Health Care Workforce.....	30
B. New York State Health Care Workforce .....	30
C. Licensure Data for Selected Health Professions for New York State .....	32
D. Trends in RN Education in New York State, 1996 – 2006.....	33
E. Survey of Human Resources Directors.....	35
FUTURE DEMAND FOR HEALTH WORKERS .....	37
A. Growth in the United States by Health Care Occupation .....	37
B. Growth in the United States by Health Care Setting .....	37
C. Growth in New York State by Health Care Occupation.....	38
D. The Impact of Technology on the Demand for Health Care Workers.....	40
NEW YORK CITY.....	42
HEALTH WORKFORCE EMPLOYMENT IN NEW YORK CITY.....	42
PUBLIC AND PRIVATE SECTOR HEALTH WORKFORCE EMPLOYMENT .....	42
PUBLIC AND PRIVATE SECTOR HEALTH WORKFORCE EMPLOYMENT .....	43
THE HEALTH WORKFORCE BY SETTING.....	45
NEW YORK CITY HOSPITAL EMPLOYMENT TRENDS .....	47

NEW YORK CITY NON-HOSPITAL HEALTH SETTING EMPLOYMENT TRENDS.....	49
THE HEALTH WORKFORCE BY OCCUPATION .....	51
A. Changes in the New York City Health Care Workforce.....	51
B. Licensure Data for Selected Health Professions for New York City.....	53
C. Future Demand for Health Workers in New York City.....	54
D. Survey of Human Resources Directors.....	55
UPSTATE NEW YORK AND LONG ISLAND.....	56
CAPITAL DISTRICT .....	56
A. Employment by Setting.....	56
B. Licensed Health Professionals .....	57
C. Employment Projections by Health Occupation.....	58
D. Survey of Human Resources Directors.....	58
CENTRAL NEW YORK .....	59
A. Employment by Setting.....	59
B. Licensed Health Professionals .....	60
C. Employment Projections by Health Occupation.....	61
D. Survey of Human Resources Directors.....	61
FINGER LAKES .....	62
A. Employment by Setting.....	62
B. Licensed Health Professionals .....	63
C. Employment Projections by Health Occupation.....	64
D. Survey of Human Resources Directors.....	64
HUDSON VALLEY.....	65
A. Employment by Setting.....	65
B. Licensed Health Professionals .....	66
C. Employment Projections by Health Occupation.....	67
D. Survey of Human Resources Directors.....	67
LONG ISLAND.....	68
A. Employment by Setting.....	68
B. Licensed Health Professionals .....	69
C. Employment Projections by Health Occupation.....	70
D. Survey of Human Resources Directors.....	70
MOHAWK VALLEY.....	71
A. Employment by Setting.....	71
B. Licensed Health Professionals .....	72
C. Employment Projections by Health Occupation.....	73
D. Survey of Human Resources Directors.....	73
NORTH COUNTRY .....	74
A. Employment by Setting.....	74
B. Licensed Health Professionals .....	75
C. Employment Projections by Health Occupation.....	76
D. Survey of Human Resources Directors.....	76
SOUTHERN TIER.....	77
A. Employment by Setting.....	77
B. Licensed Health Professionals .....	78
C. Employment Projections by Health Occupation.....	79

D. Survey of Human Resources Directors.....	79
WESTERN NEW YORK.....	80
A. Employment by Setting.....	80
B. Licensed Health Professionals.....	81
C. Projected Demand for Health Occupations.....	82
D. Survey of Human Resources Directors.....	82
NEW YORK STATE METROPOLITCAN STATISTICAL AREAS .....	83
ALBANY-SCHENECTADY-TROY MSA.....	83
BINGHAMTON MSA.....	84
BUFFALO-NIAGARA MSA.....	85
ELMIRA MSA .....	86
GLENS FALLS MSA .....	87
NASSAU-SUFFOLK MSA .....	88
POUGHKEEPSIE-NEWBURGH-MIDDLETOWN MSA.....	89
PUTNAM-ROCKLAND-WESTCHESTER .....	90
ROCHESTER MSA .....	91
SYRACUSE MSA .....	92
APPENDIX I .....	94
NEW YORK STATE REGISTERED NURSING GRADUATIONS, 1996 – 2006.....	96



## **PREFACE**

This report tracks the health workforce in New York State and includes sections on the New York City labor market region and labor market regions and MSAs in Upstate New York. This report is designed to provide information about health workforce trends and developments to the health industry, health professionals, educators, policy makers, and the public.

The effort is primarily supported through funding from the 1199 Hospital League Health Care Industry Planning and Placement Fund, Inc., a joint labor management fund responsible for the education and training of its members. This report helps the Fund to better understand trends in the supply and demand for health workers in New York City and throughout New York State; more effectively plan for health worker education and training; and target available training dollars to meet priority needs. The Center also receives support from the Bureau of Health Professions, HRSA, for analysis of health workforce data and trends.

The Center for Health Workforce Studies is part of the School of Public Health, University at Albany, State University of New York. The Center is a not-for-profit research organization dedicated to health workforce data collection and analysis. Several Center staff contributed to the development of this report, including Robert Martiniano, Jean Moore, and Sandra McGinnis.





## EXECUTIVE SUMMARY

### Overview

The success of the health care system in this country is dependent upon qualified personnel. Access to care, quality of care, and cost of care are all affected by the availability of properly educated and trained workers. In formulating policies, plans, and programs, the health industry, policymakers, educators, and other stakeholders need timely data on the supply, demand, distribution, education, and use of the workers needed to deliver essential services.

The health workforce – health care professionals and others working in health care facilities – is an important component of the country’s economy, representing nearly 11% of all workers. Health sector employment is one of the fastest growing employment sectors in the country. It is projected to grow at twice the rate of all other sectors in the U.S. between 2002 and 2012. Not surprisingly, half of the fastest growing occupations in the U.S. over that same period are projected to be in health care.

In 2004, there were nearly 920,000 jobs in New York’s health sector. This represented one in nine jobs in the state. Health sector employment in New York grew by nearly 5% between 2000 and 2004. While hospitals continued to be the largest employer in New York’s health sector in 2004, there has been little growth in hospital employment since 2000. However, other settings including home care, offices and clinics, and nursing homes have experienced substantial job growth over that same time period.

However, the health industry in New York faces pressures from a variety of sources:

- Financial uncertainties attributed to rising health care costs, coupled with proposed cuts in Medicare and Medicaid reimbursement;
- Plans to restructure hospitals and nursing homes, potentially including closures;
- Increased concern about patient safety and medical errors;
- Growing interest in the potential of health information technology to improve efficiency and safety, but limited resources to invest in this technology; and
- Persistent shortages of health workers in a variety of occupations.

This report presents a wide range of data about the health workforce in New York State. It describes trends in the health care workforce in New York State by setting, by occupation, by region, and by metropolitan statistical area.

## **Key Findings**

### **1. Health care employment continues to experience steady growth in New York State despite uncertainties in the general economy.**

Employment in the health care sector in New York State grew steadily between 1990 and 2004, increasing by 19%. During that same period, employment in all other settings increased by only 2%. In upstate New York, health care employment grew by 17%, while employment in all other sectors declined by 5%. Health care employment in New York City grew by 21% between 1990 and 2004, compared to 9% growth in employment in all other sectors.

### **2. Employment in offices and clinics and home health care has grown substantially, while employment in hospitals has remained relatively stable.**

Across the state, jobs in offices and clinics grew by nearly 58% between 1995 and 2004, while home health care jobs grew by 39% during the same time period. Employment in hospitals grew by slightly over 1% between 1995 and 2004.

### **3. Between 2000 and 2003, nurse aide, orderly, and attendant jobs grew the most in New York State, followed by medical and health services managers, medical assistants, and registered nurses.**

The number of nurse aide, orderly, and attendant jobs grew by 7,700, or nearly 9%, between 2000 and 2003. The number of medical and health services manager jobs grew by over 4,300, or 24.4%; the number of medical assistant jobs grew by more than 4,000, or 23.5%; and the number of registered nurse jobs also grew by over 4,000, or 2.5%, during the same time period.

### **4. Hospitals and nursing homes throughout the state continued to report recruitment and retention problems for registered nurses (RNs), particularly experienced RNs. Hospitals reported increasing difficulty recruiting pharmacists and radiologic technicians. Nursing homes reported difficulty recruiting RNs and licensed practical nurses (LPNs).**

Hospitals throughout the state reported problems recruiting experienced RNs, especially for specialty units such cardiac care. They reported difficulty recruiting pharmacists and radiologic technicians. Hospitals in New York City also reported problems recruiting multi-lingual social workers and respiratory therapists. Nursing homes across the state reported difficulty recruiting and retaining RNs and LPNs.

Both hospitals and nursing homes indicated that the major reasons for these recruitment and retention difficulties were shortages of workers within these occupations and competition among health care providers for the existing pool of workers.

- 5. In 2004, the number of RN graduates in New York State increased over the previous year, and graduations are projected to continue to rise in 2005 and 2006.**

Registered nursing graduations in New York State increased by 14% between 2003 and 2004. Due to increased enrollments in both 2003 and 2004, RN graduations are projected to increase further in 2005 and 2006. Estimated RN graduations in 2006 are expected to be higher than the number in 1996, when RN graduations were at an all time high for New York State.

- 6. While most RN education programs cited a rising number of applications, more programs reported turning away an increasing number of qualified applicants.**

Over half of the RN education programs in the state reported turning away a significant number of qualified applicants in 2004. Most of those who did so cited lack of qualified faculty as the main reason. More associate degree programs reported lack of faculty as the reason for turning away qualified applicants than bachelor degree programs. More publicly operated programs reported lack of faculty as the reason for turning away qualified applicants than privately operated programs.

- 7. Despite the increasing number of registered nurse graduates in New York State, the number of registered nurses licensed in New York State has not grown accordingly.**

Between 2000 and 2004, registered nursing education programs produced nearly 25,000 graduates. However, during the same time period, the number of RNs licensed in the state increased by only 7,300 more. Additionally, a growing number of licensed RNs are becoming nurse practitioners, which could further diminish RN capacity.

- 8. The number of licensed practical nurses in New York State declined by nearly 6,000, or slightly more than 8%, between 2000 and 2004.**

The number of licensed practical nurses in New York State declined by nearly 6,000, or just over 8%, between 2000 and 2004. All regions of New York State had a declining number of LPNs and, at the same time, nursing homes across the state reported increasing difficulty recruiting LPNs.

- 9. Health care occupations are projected to be among the fastest growing occupations across the country.**

Fifteen of the top thirty fastest growing occupations between 2002 and 2012 in the nation are expected to be health occupations, including medical assistants and physician assistants. Between 2002 and 2012, both registered nurse and home health aide jobs in New York State are projected to increase by over 30,000 each.

- 10. The implementation of emerging health care technology in New York State is currently very uneven, with some providers actively integrating new technology and others doing very little. There are gaps between the current skill levels of the health workforce and the skills required for health care jobs that will increasingly use technology.**

Health care providers reported using many applications of technology, including information technology, such as electronic medical records; tele-health, such as in-home patient monitoring systems; clinical tools; and education, such as computer simulations. The growing use of this technology has not resulted in a reduction in jobs; more often it has led to changes in job responsibilities for many workers. There are concerns about the adequacy of the resources to help train health workers to effectively integrate these technologies in their jobs.

## **BACKGROUND**

### **Overview**

The success of the health care system in this country is dependent upon qualified personnel. Access to care, quality of care, and cost of care are all affected by the availability of properly educated and trained workers. In formulating policies, plans, and programs, the health industry, policymakers, educators, and other stakeholders need timely data on the supply, demand, distribution, education, and use of the workers needed to deliver essential services.

The health workforce – health care professionals and others working in health care facilities – is an important component of the country’s economy, representing nearly 11% of all workers. Health sector employment is one of the fastest growing employment sectors in the country. It is projected to grow at twice the rate of all other sectors in the U.S. between 2002 and 2012. Not surprisingly, half of the fastest growing occupations in the U.S. over that same period are projected to be in health care.

In 2004, there were nearly 920,000 jobs in New York’s health sector. This represented one in nine jobs in the state. Health sector employment in New York grew by nearly 5% between 2000 and 2004. While hospitals continued to be the largest employer in New York’s health sector in 2004, there has been little growth in hospital employment since 2000. However, other settings including home care, offices and clinics, and nursing homes have experienced substantial job growth over that same time period.

However, the health industry in New York faces pressures from a variety of sources:

- Financial uncertainties attributed to rising health care costs, coupled with proposed cuts in Medicare and Medicaid reimbursement;
- Plans to restructure hospitals and nursing homes, potentially including closures;
- Increased concern about patient safety and medical errors;
- Growing interest in the potential of health information technology to improve efficiency and safety but limited resources to invest in this technology; and
- Persistent shortages of health workers in a variety of occupations.

This report presents a wide range of data about the health workforce in New York State. It describes trends in the health care workforce in New York State by setting, by occupation, by region, and by metropolitan statistical area.

### **Goals**

The goals of this report are to:

- Evaluate health care employment in total and by region for New York State, using data on health care setting and licensed health professionals;
- Identify the professions and occupations that are likely to experience significant increases or declines;

- Assist policymakers and other stakeholders to target health professions education and job training funds to meet priority needs;
- Help guide health workforce policies, including decisions about the capacity of health professions education programs; and
- Inform current and prospective students about health care employment prospects and opportunities.

## **Data Sources and Terminology**

### **A. Data Sources**

The data sources used in this report include the following:

#### 1. Center for Health Workforce Studies:

- New York State Registered Nursing Graduations, 1996 – 2006 (April 2005)
- Interviews with Human Resources Directors and Nurse Recruiters

The Center conducts semi-annual telephone interviews and mailed surveys to human resource directors and nurse recruiters from voluntary and public hospitals and nursing homes across the state. They are asked about recruitment and retention trends at their facility, expected changes in services (expansions or reductions), and any impact on the health workforce due to changes in credentialing or certification requirements.

#### 2. United States Bureau of Labor Statistics/New York State Department of Labor:

- Covered Employment and Wages Program (ES-202)

These data were used to evaluate regional changes in health care employment by setting. To determine annual employment numbers for 2004, monthly totals for January through September were averaged.

- Occupational Employment Statistics (OES)

These data were used to evaluate changes in the number of jobs by occupation in New York State and for MSAs within the state. OES estimates are based on a sample of employers. If too few employers respond to the survey, the numbers for certain occupations may not be reported or may not reflect the true count of jobs in the occupations. Additionally, estimates may fluctuate year-to-year based on who responded, especially for smaller geographical areas.

- Employment Projections

Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2002 and the projected number of jobs in those categories in 2012. Annual openings reflect both creation of new positions in the occupation and turnover of workers in positions due to retirements, job changes within the occupation, and career changes to other occupations. Occupations with a small increase in the number of total jobs between 2002 and 2012 but high annual openings indicate significant annual turnover within the occupation rather than expansion of the occupation.

### 3. State Education Department Licensure Data

The licensure numbers presented in this report reflect counts at three points in time: April 1, 2002; June 1, 2003; and April 1, 2004. These are the number of individuals licensed by New York State by profession. This number represents the maximum number of individuals that could be employed in that profession, although some may not be actively working in that profession. Counts by county are based on the mailing address in the licensure file that may be a home or a practice location.

## **B. Terminology**

The settings used in this report are from the federal BLS North American Industry Classification System (NAICS) for the health care sector. The breakdown within the health care sector is as follows:

- Hospitals;
- Nursing and personal care facilities;
- Home health care services;
- Medical and diagnostic laboratories;
- Offices and clinics of doctors of medicine;
- Offices and clinics of dentists;
- Offices and clinics of other health practitioners;
- Outpatient care centers; and
- Other ambulatory health services.

The classification scheme provides standardization among the data sets presented but has some limitations. By limiting the analyses to the NAICS health services industries, health care workers in hospital-operated ambulatory care sites may be included in hospital employment counts. In addition, health care professionals in industries outside of the above settings such as those in schools, insurance firms, or those who are self-employed are excluded from the health sector counts. The Center estimates that, nationally, 12% of the health care workforce is employed outside the standard health care settings.

Occupations are usually grouped by Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) categories. These occupational categories also have limitations. For example,

Registered Nursing (RN) makes no distinction between Nurse Practitioners, RN managers and critical care RNs, etc. The standard “nursing aides, orderlies and attendants” occupational category also includes multiple job titles, levels of training and certification status. There also are some job titles that overlap with occupational classifications, and this may cause some problems in reporting. For example, confusion may result from the difference between defining a home health aide as any individual providing services in the home and one who has completed the certification requirements.

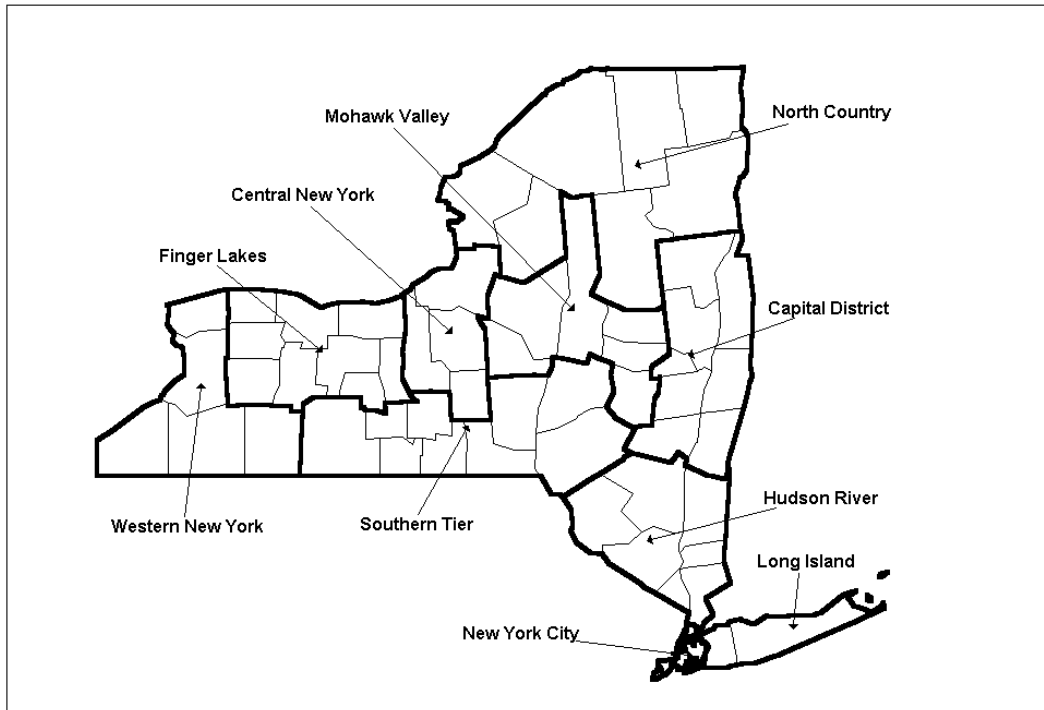
### **C. Geographic Areas**

The labor market regions (Exhibit 1) used in this report are:

- Capital District: The counties of Albany, Columbia, Greene, Rensselaer, Saratoga, Schenectady, Warren, and Washington.
- Central New York: The counties of Cayuga, Cortland, Onondaga, and Oswego.
- Finger Lakes: The counties of Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates.
- Hudson River: The counties of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester.
- Long Island: The counties of Nassau and Suffolk.
- Mohawk Valley: The counties of Fulton, Herkimer, Madison, Montgomery, Oneida, and Schoharie.
- New York City: The counties of Bronx, Kings (Brooklyn), New York (Manhattan), Queens, and Richmond (Staten Island).
- North Country: The counties of Clinton, Essex, Franklin, Hamilton, Jefferson, Lewis, and St. Lawrence.
- Southern Tier: The counties of Broome, Chemung, Chenango, Delaware, Otsego, Schuyler, Steuben, Tioga, and Tompkins.
- Western New York: The counties of Allegany, Cattaraugus, Chautauqua, Erie, and Niagara.



**Exhibit 1**  
**New York State Counties by Labor Department Region**



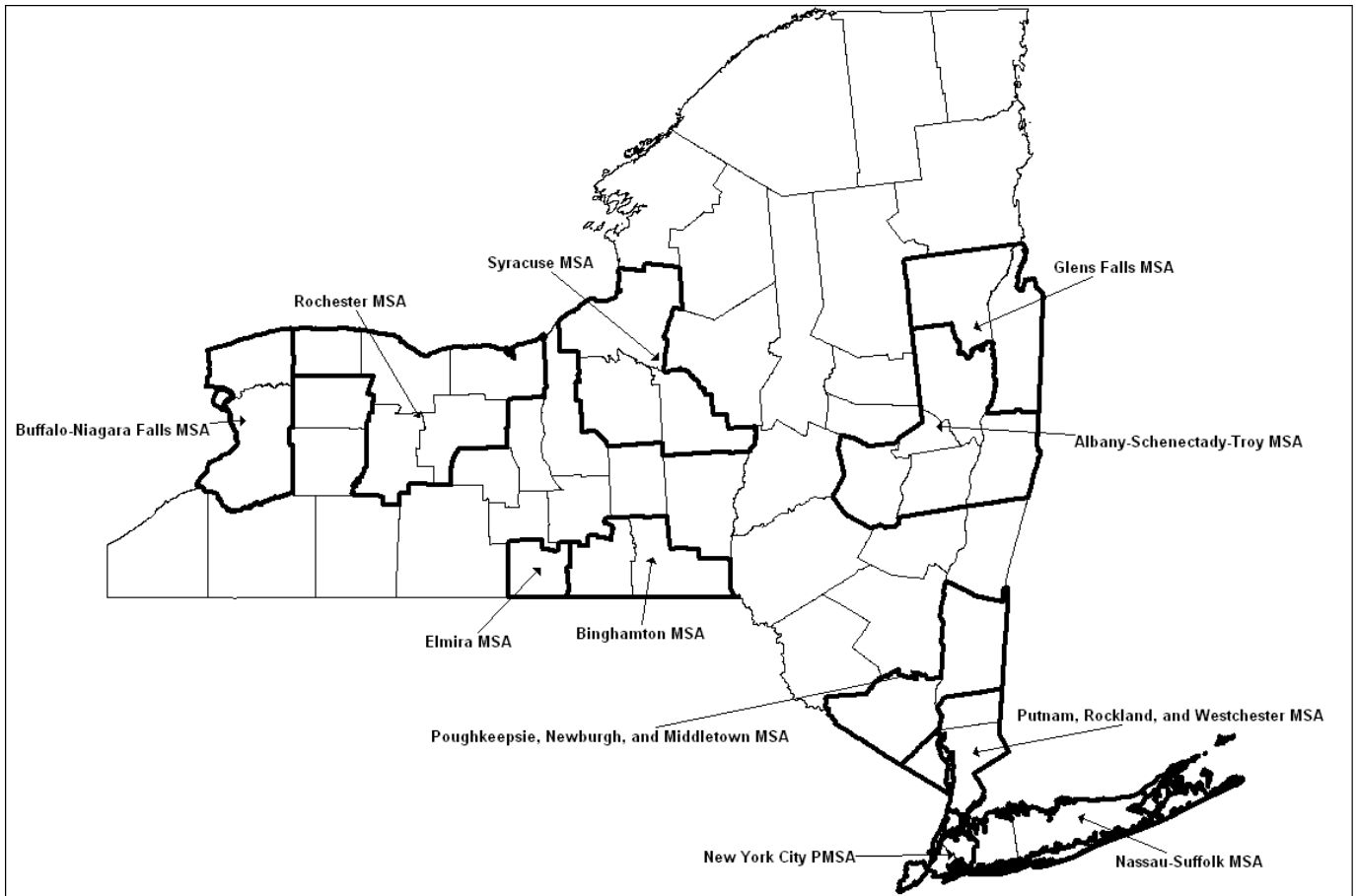
The Metropolitan Statistical Area (MSAs)<sup>1</sup> used in this report (Exhibit 2) are:

- Albany-Schenectady-Troy MSA: Albany, Rensselaer, Saratoga, Schenectady, and Schoharie counties.
- Binghamton MSA: Broome and Tioga counties.
- Buffalo-Niagara Falls MSA: Erie and Niagara counties.
- Elmira MSA: Chemung county.
- Glens Falls MSA: Warren and Washington counties.
- Nassau-Suffolk MSA: Nassau and Suffolk counties.
- New York City PMSA: Bronx, Kings, New York, Queens, Richmond, Westchester, Putnam, and Rockland counties.
- Poughkeepsie, Newburgh, and Middletown MSA: Dutchess and Orange counties.
- Putnam, Rockland, and Westchester MSA: Putnam, Rockland, and Westchester counties.
- Rochester MSA: Livingston, Monroe, Ontario, Orleans, and Wayne counties.
- Syracuse MSA: Madison, Onondaga, and Oswego counties.

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<sup>1</sup> MSA definitions change periodically and may make it difficult to truly understand health workforce employment trends.

**Exhibit 2**  
**New York State Counties by MSA**



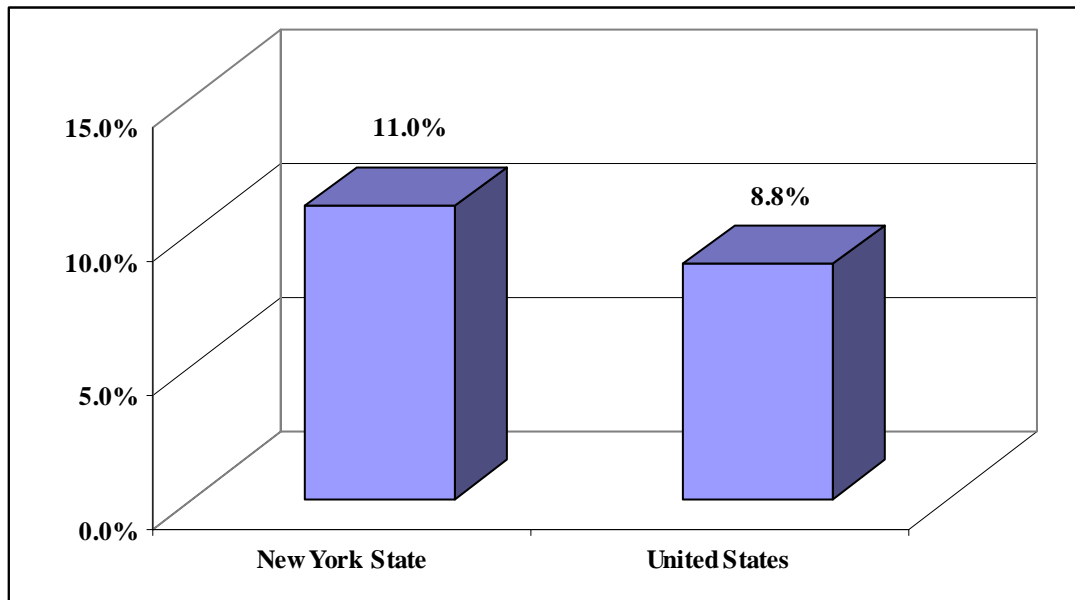
## NEW YORK STATE

### Health Care Employment as a Percent of Total Employment

Between 2002 and 2012, an estimated 3.5 million jobs will be added to the health care sector in the United States. This represents 16% of the total job growth in the nation, and it will increase the percent of health care jobs to total jobs from 9% to 10%. Fifteen of the thirty occupations projected to grow the fastest between 2002 and 2012 are in health care services<sup>2</sup>.

Employment in the health sector accounted for 11% of total employment in New York State in 2002<sup>3</sup>, and this number does not include those health professionals working outside of the health sector (Exhibit 3).

**Exhibit 3**  
**Health Sector Employment as a**  
**Percentage of Total Employment, 2002**



Source: New York State Department of Labor, ES-202; Monthly Labor Review, February 2004, Industry output and employment projections to 2012, Jay M. Berman

<sup>2</sup> Center for Health Workforce Studies, "An Analysis of Bureau of Labor Statistics Occupational Projections, 2002 - 2012," March 2004.

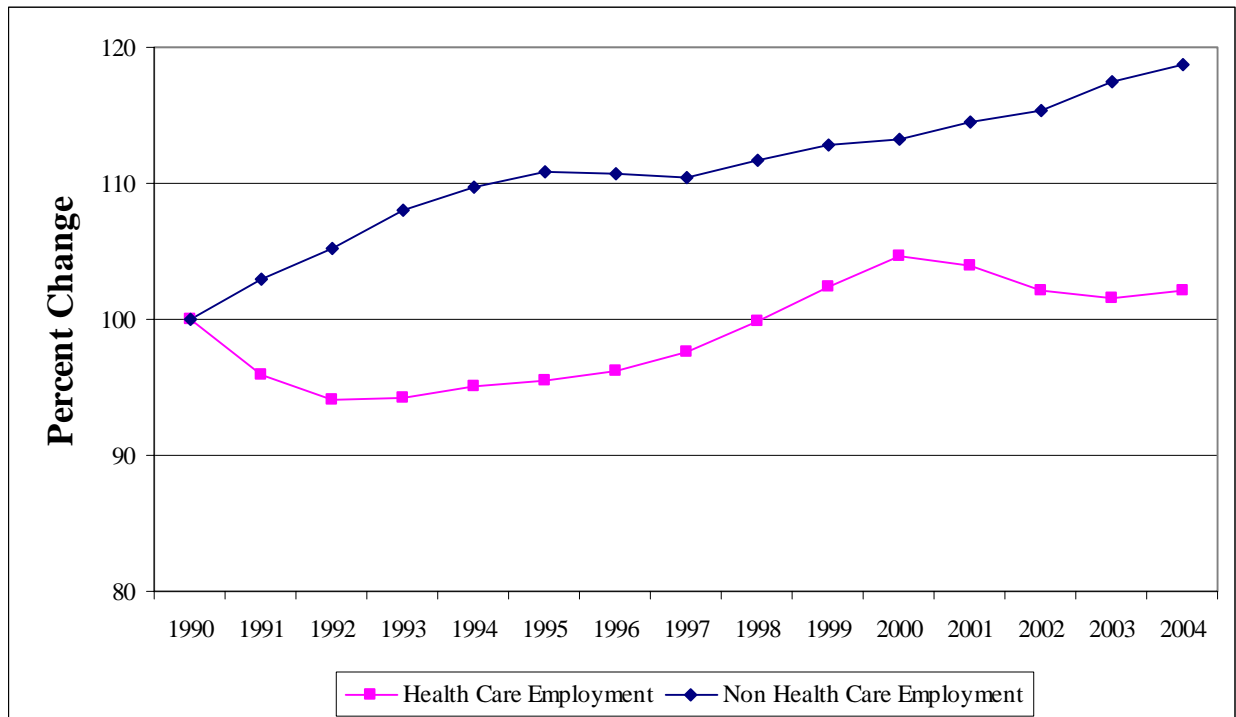
<sup>3</sup> DOL, ES-202

## Growth in New York State Employment

Between 1990 and 2004, employment in health care grew by nearly 19%, while employment in all other sectors grew by slightly over 2% during the same time period. Within the health care sector, employment grew between 1990 and 1995, declined for two years between 1995 and 1997, then grew between 1997 and 2004. The largest increase in health care employment occurred between 1990 and 1995, averaging over 2% per year. Between 1997 and 2004, health care employment increased, on average, by slightly over 1%.

Between 1990 and 2004, employment in all other sectors declined between 1990 and 1992, increased between 1992 and 2000, then declined between 2000 and 2003. There was a slight increase in employment in all other sectors between 2003 and 2004 (Exhibit 4).

**Exhibit 4**  
**New York State Employment Growth between 1990 and 2004**  
**Standardized to 1990**



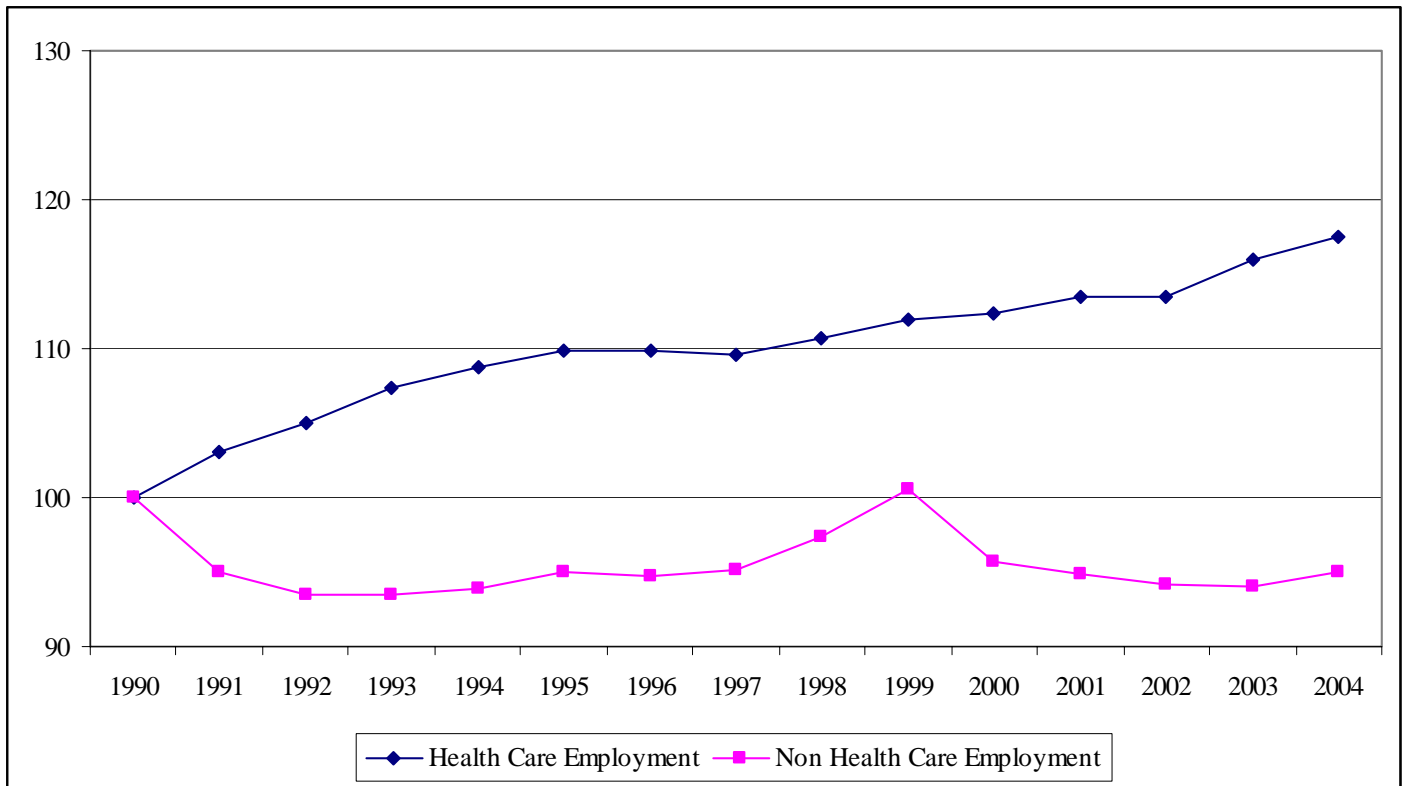
Source: New York State Department of Labor, ES-202

## **Growth in Upstate New York Employment**

The difference in job growth in upstate New York (all counties excluding New York City) was even more dramatic. While employment in health care grew steadily between 1990 and 2004, employment in all other sectors actually declined. Between 1990 and 2004, employment in health care in upstate New York grew by over 17%. In contrast, employment in all other sectors declined by 5% during the same time period.

The sharpest increases in growth in the health care sector occurred between 1990 and 1995, with growth averaging nearly 2% annually. There was limited growth in health care employment between 1997 and 2002, but annual growth rose nearly 2% between 2002 and 2004. Employment outside of health care grew between 1996 and 1999, but experienced declines in employment both before and after that period (Exhibit 5).

**Exhibit 5**  
**Upstate New York Employment Growth between 1990 and 2004**  
**Standardized to 1990**

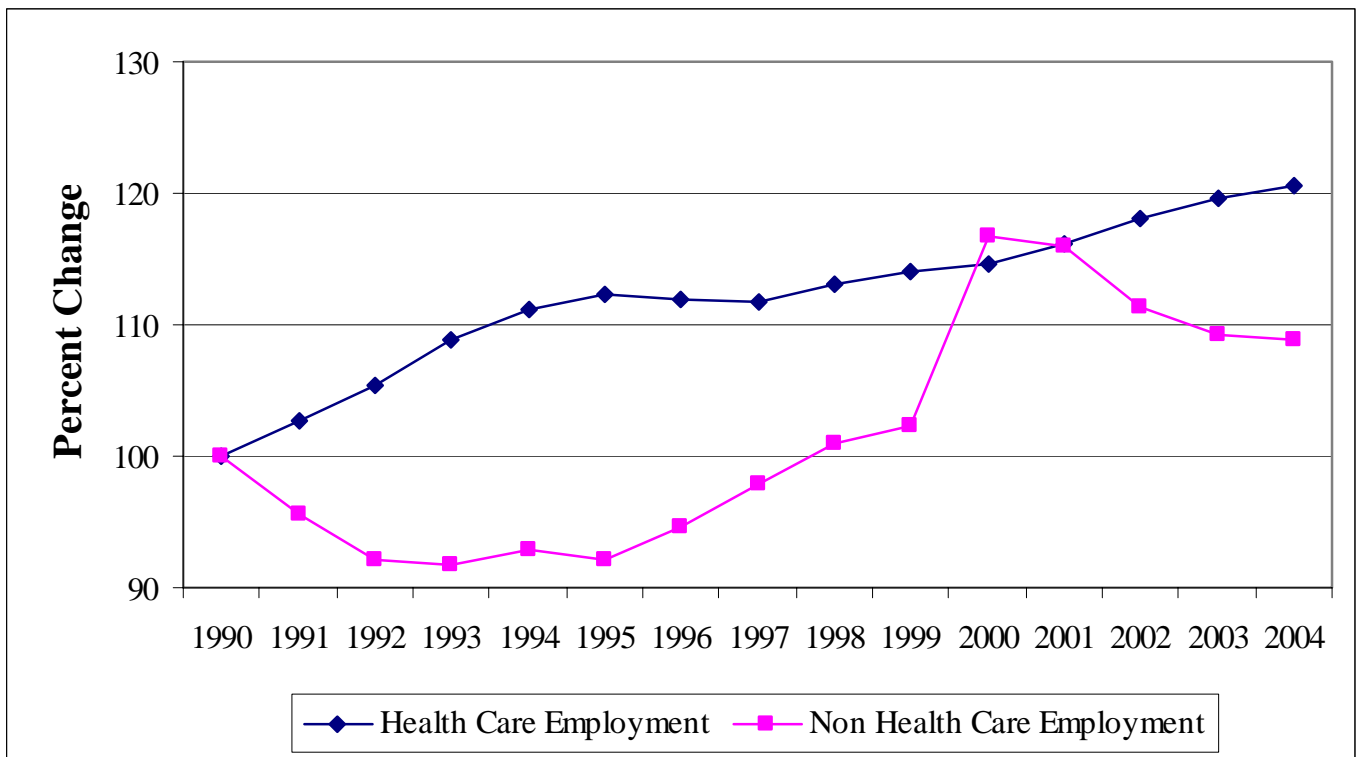


Source: New York State Department of Labor, ES-202

## Growth in New York City Employment

Between 1990 and 2004, employment in the health care sector grew steadily, with the largest increases occurring between 1990 and 1995. Employment in all other sectors experienced more sporadic growth, with significant declines between 1990 and 1995 but substantial growth between 1995 and 2000. Employment in all other sectors began declining between 2000 and 2001 and has steadily declined since then. Between 1990 and 2004, employment in health care in New York City increased by 21%, while employment in all other sectors increased by 9% during the same time period (Exhibit 6).

**Exhibit 6**  
**New York City Employment Growth between 1990 and 2004**  
**Standardized to 1990**

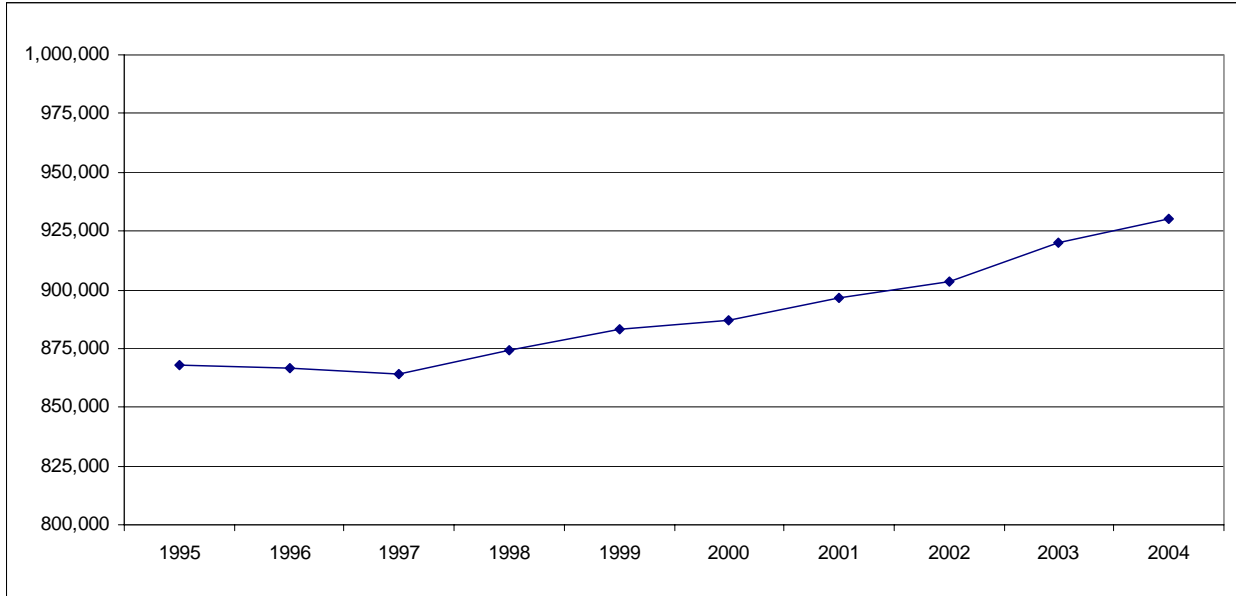


Source: New York State Department of Labor, ES-202

## **Growth in Health Care Employment**

Employment in the health sector in New York State has increased between 1995 and 2004, with the addition of nearly 60,000 jobs, or over a 6% growth. Annual growth in the health sector has remained fairly constant since 1995, with annual growth at about 1% (Exhibit 7).

**Exhibit 7**  
**Trends in Total New York State Health Sector Employment, 1995-2004**

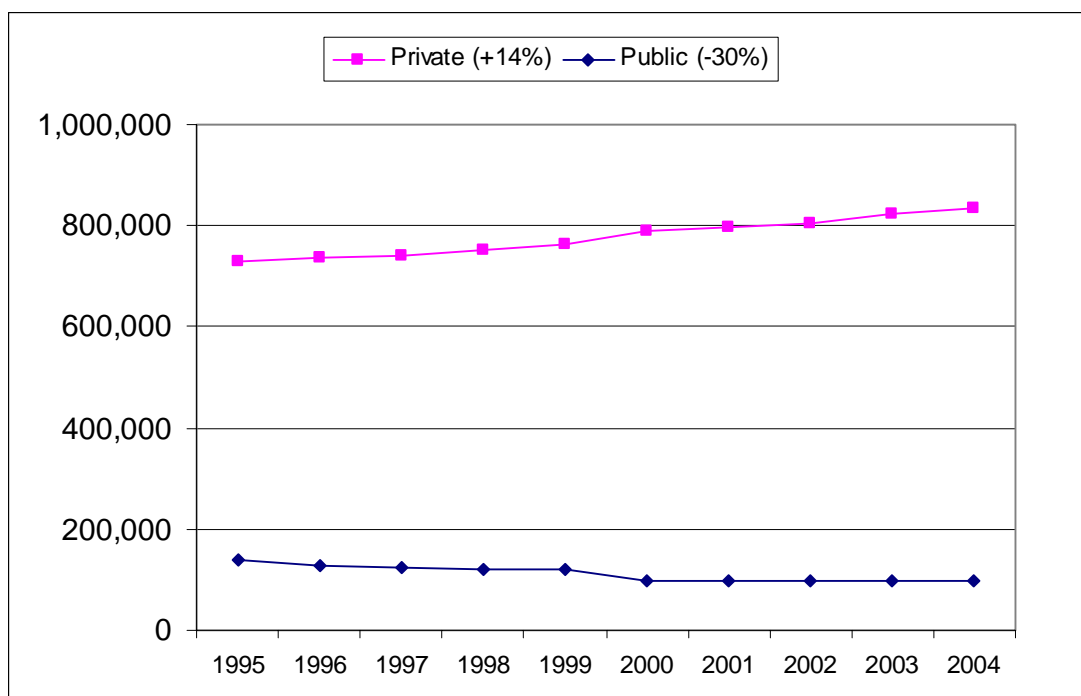


Source: New York State Department of Labor, ES-202

## **Public and Private Health Workforce Employment**

Growth in private and public health sector employment in New York State has followed a pattern of steady growth in private sector employment and a substantial decline in public sector employment. Between 1995 and 2004, private sector health services employment in the state increased by 14%, while public sector health services employment declined by 30% (Exhibit 8).

**Exhibit 8**  
**Trends in Public and Private Health Employment**  
**for New York State, 1994 – 2005**



Sources: New York State Department of Labor, ES-202

Between 1990 and 2004, hospital employment in New York State declined by slightly over 5%, while employment in other settings grew dramatically, including an 82% increase in office and clinic jobs, a 50% increase in home health care jobs, and a 43% increase in nursing and residential care facility jobs (Exhibit 9).



**Exhibit 9**  
**Change in Health Sector Employment between 1990 and 2004 for New York State**

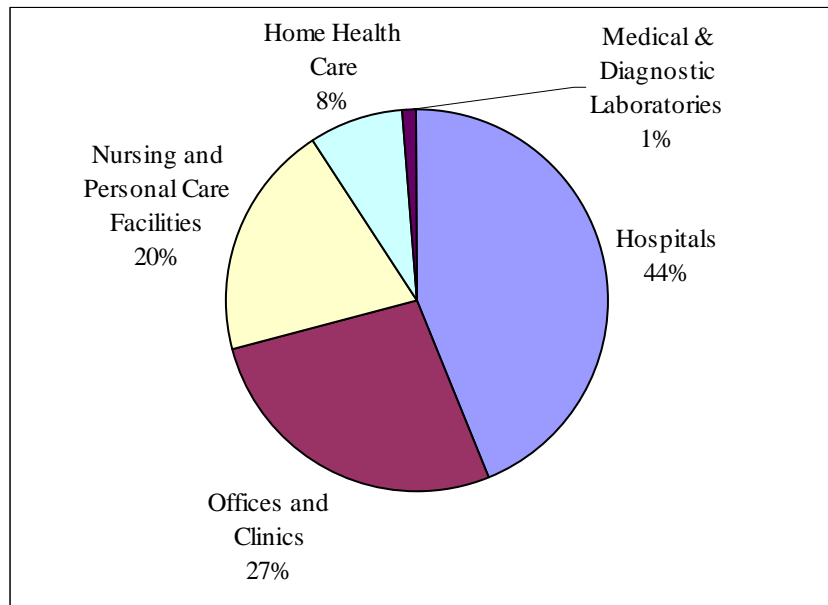
Health Setting	1990	2004	Percent Change
Home Health Care	49,735	74,465	49.7%
Hospitals	430,078	407,677	-5.2%
Medical and Diagnostic Laboratories	12,101	11,259	-7.0%
Nursing and Residential Care Facilities <sup>4</sup>	130,116	185,464	42.5%
Offices and Clinics	138,240	251,315	81.8%

Sources: New York State Department of Labor, ES-202

**The New York State Health Workforce by Setting**

Hospitals employed the largest share of workers in the health services sector in New York State in 2004 (44% of all health sector employees), while most of the remainder worked either in offices and clinics (27%) or nursing and personal care facilities (20%) (Exhibit 10).

**Exhibit 10**  
**Health Sector Employment by Setting**  
**for New York State, 2004**



Sources: New York State Department of Labor, ES-202

<sup>4</sup> Excluding residential mental retardation, mental health, and substance abuse facilities.

## **New York State Health Care Employment by Region**

Health care employment in New York State remained relatively stable between 2000 and 2004, increasing by nearly 5% over that five-year period. Outside of New York City, the region in New York State that had the largest number of health sector jobs was Long Island with over 133,000. The region with the largest percentage increase in health care employment between 2000 and 2004 was the North Country, though they had the smallest total number of jobs. Long Island had the second largest percentage increase in health care employment. Finger Lakes experienced a decline of nearly 2% in total health care employment (Exhibit 11).

### **Exhibit 11 Total Health Care Employment in New York State by Department of Labor Region, 2000 – 2004**

<b>Region</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>Change between 2000 and 2004</b>	
						<b>Number</b>	<b>Percent</b>
Capital District	52,057	53,345	53,450	53,666	53,868	1,811	3.5%
Central New York	30,397	31,265	31,314	31,341	32,296	1,899	6.2%
Finger Lakes	57,230	56,236	53,938	55,135	56,329	-901	-1.6%
Hudson Valley	100,596	100,855	100,302	102,252	104,116	3,520	3.5%
Long Island	125,368	127,569	131,376	133,177	133,589	8,221	6.6%
Mohawk Valley	21,687	21,823	21,751	22,070	22,304	617	2.8%
New York City	376,420	381,772	387,985	394,431	397,859	21,439	5.7%
North Country	14,792	15,375	15,988	16,321	16,580	1,788	12.1%
Southern Tier	30,117	30,568	30,994	31,265	31,346	1,229	4.1%
Western New York	69,402	68,722	68,300	69,237	70,427	1,025	1.5%
<b>Totals</b>	<b>878,066</b>	<b>887,530</b>	<b>895,398</b>	<b>908,895</b>	<b>918,714</b>	<b>40,648</b>	<b>4.63%</b>

Sources: New York State Department of Labor, ES-202; U.S. Census

The Capital District had the most health sector jobs per 100,000 population in 2004 at 5,110 jobs per 100,000 followed by Western New York at 4,909 jobs per 100,000. The North Country had the fewest at 3,889 jobs per 100,000, though their per capita number of health sector jobs increased by 12% between 2000 and 2004, the largest increase of any region (Exhibit 12).

**Exhibit 12**  
**Total Health Care Employment in New York State**  
**by Department of Labor Region Per 100,000, 2000 & 2004**

Region	2000		2004			
	Population	# of Jobs	Rate per 100,000		# of Jobs	Rate per 100,000
			Population	Population		Population
Capital District	1,029,927	52,057	5,054	1,054,074	53,868	5,110
Central New York	711,275	30,397	4,274	714,503	32,296	4,520
Finger Lakes	1,199,588	57,230	4,771	1,203,918	56,329	4,679
Hudson Valley	2,179,189	100,596	4,616	2,258,276	104,116	4,610
Long Island	2,753,913	125,368	4,552	2,815,129	133,589	4,745
Mohawk Valley	505,700	21,687	4,289	505,985	22,304	4,408
New York City	8,008,278	376,420	4,700	8,104,079	397,859	4,909
North Country	425,871	14,792	3,473	426,349	16,580	3,889
Southern Tier	718,973	30,117	4,189	719,376	31,346	4,357
Western New York	1,443,743	69,402	4,807	1,425,399	70,427	4,941
<b>Totals</b>	<b>18,976,457</b>	<b>878,066</b>	<b>4,627</b>	<b>19,227,088</b>	<b>918,714</b>	<b>4,778</b>

Sources: New York State Department of Labor, ES-202; U.S. Census

**A. Hospital Employment**

Between 2000 and 2004, overall hospital employment in New York State increased by over 5,200 jobs, or more than 1%. The region that experienced the greatest percentage increase in hospital employment was the North Country, followed by Long Island. Hospital employment increased in the North Country by over 15% and on Long Island by nearly 5%. Some regions experienced employment losses at hospitals during the same period. The Finger Lakes region experienced the largest decline at 3.5%. In terms of absolute numbers, New York City experienced the largest increase, at over 3,200 jobs, followed by Long Island with over 2,200 jobs (Exhibit 13).

**Exhibit 13**  
**Change in Hospital Employment in New York State**  
**by Department of Labor Region, 2000 to 2004**

Region	2000	2001	2002	2003	2004	Change, 2000 to 2004	
						Number	Percent
Capital District	20,664	20,793	20,958	21,377	20,898	234	1.1%
Central New York	11,194	11,417	11,300	11,187	11,273	79	0.7%
Finger Lakes	26,544	25,462	24,355	24,720	25,619	-925	-3.5%
Hudson Valley	39,672	39,649	39,511	39,266	38,979	-693	-1.7%
Long Island	45,263	45,854	46,939	47,181	47,475	2,212	4.9%
Mohawk Valley	9,507	9,624	9,330	9,414	9,466	-41	-0.04%
New York City	199,051	201,931	201,617	202,804	202,259	3,208	1.6%
North Country	7,133	7,881	8,066	8,386	8,399	1,266	15.1%
Southern Tier	14,847	15,047	15,106	15,247	15,105	258	1.7%
Western New York	28,548	28,200	27,946	28,088	28,203	-345	-1.2%
<b>Totals</b>	<b>402,423</b>	<b>405,858</b>	<b>405,128</b>	<b>407,670</b>	<b>407,676</b>	<b>5,253</b>	<b>1.3%</b>

Sources: New York State Department of Labor, ES-202

**B. Nursing and Personal Care Facility Employment**

Employment at nursing and personal care facilities in New York State increased by over 11,000 jobs between 2000 and 2004, with Long Island experiencing the largest percentage increase of nearly 19%. Between 2000 and 2004, the Finger Lakes experienced the only reduction in employment at nursing and personal care facilities, declining slightly less than 1% (Exhibit 14).

**Exhibit 14**  
**Change in Nursing and Personal Care Facility Employment**  
**in New York State by Department of Labor Region, 2000 to 2004**

Region	2000	2001	2002	2003	2004	Change, 2000 to 2004	
						Number	Percent
Capital District	13,921	14,636	14,755	14,582	14,989	1,068	7.7%
Central New York	6,983	6,991	7,339	7,267	8,080	1,097	15.7%
Finger Lakes	12,432	12,672	11,810	12,341	12,350	-82	-0.7%
Hudson Valley	20,703	20,569	21,058	21,780	23,590	2,887	13.9%
Long Island	18,858	18,363	20,376	20,947	22,427	3,569	18.9%
Mohawk Valley	6,298	6,373	6,529	6,482	6,444	146	2.3%
New York City	62,144	63,979	64,862	63,554	63,208	1,064	1.7%
North Country	3,263	2,961	3,250	3,192	3,340	77	2.4%
Southern Tier	7,405	7,462	7,598	7,455	7,477	72	1.0%
Western New York	16,695	16,950	17,584	17,673	18,063	1,368	8.2%
<b>Totals</b>	<b>168,702</b>	<b>170,956</b>	<b>175,160</b>	<b>175,273</b>	<b>179,968</b>	<b>11,266</b>	<b>6.7%</b>

Sources: New York State Department of Labor, ES-202

### C. Home Health Care Services Employment

Between 2000 and 2004, employment in home health care services in New York State increased by over 9,000 jobs, with New York City adding over 10,000 home health care jobs, or an increase of more than 32%. The Southern Tier increased by nearly 250 jobs, or slightly over 26%, during the same time period. Home health care employment declined in five other regions between 2000 and 2004, with the Finger Lakes experiencing the largest decrease at nearly 19%, followed by Central New York which declined over 17% (Exhibit 15).

**Exhibit 15**  
**Change in Home Health Care Services Employment**  
**in New York State by Department of Labor Region, 2000 to 2004**

Region	2000	2001	2002	2003	2004	Change, 2000 to 2004	
						Number	Percent
Capital	3,010	2,954	2,976	2,941	2,712	-298	-9.9%
Central	1,473	1,382	1,318	1,278	1,221	-252	-17.1%
Finger Lakes	5,232	4,719	4,519	4,161	4,242	-990	-18.9%
Hudson Valley	6,138	5,675	5,696	6,345	6,351	213	3.5%
Long Island	10,307	10,691	10,773	10,833	10,919	86	0.8%
Mohawk Valley	1,081	1,008	1,052	1,076	1,080	-1	-0.01%
New York City	31,342	32,192	35,209	39,516	41,447	10,105	32.2%
North Country	540	495	512	553	577	37	6.9%
Southern Tier	936	939	1,068	1,079	1,181	245	26.2%
Western New York	4,550	3,945	4,107	4,216	4,540	-10	-0.02%
<b>Totals</b>	<b>64,609</b>	<b>64,000</b>	<b>67,230</b>	<b>71,998</b>	<b>74,270</b>	<b>9,135</b>	<b>14.1%</b>

Sources: New York State Department of Labor, ES-202

### D. Offices and Clinics of Doctors of Medicine

Employment in offices and clinics of doctors increased by more than 10% between 2000 and 2004. New York City added nearly 9,000 jobs, an increase of slightly over 11%. Employment in offices and clinics of doctors increased by almost 2,000 jobs on Long Island, or by 7.4%, during the same time period. Western New York was the only region that experienced a decline in jobs in the offices and clinics of doctors, losing over 700 jobs between 2000 and 2004, for a decrease of slightly over 7% (Exhibit 16).

**Exhibit 16**  
**Change in Offices and Clinics of Doctors of Medicine**  
**in New York State by Department of Labor Region, 2000 to 2004**

<b>Region</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>Change, 2000 to 2004</b>	
						<b>Number</b>	<b>Percent</b>
Capital District	7,303	7,565	7,884	8,301	8,642	1,339	18.3%
Central New York	4,894	5,047	5,232	5,417	5,452	558	11.4%
Finger Lakes	5,667	5,723	5,919	6,120	6,146	479	8.5%
Hudson Valley	16,831	17,173	17,560	18,164	18,277	1,446	8.6%
Long Island	26,885	27,848	28,153	28,448	28,873	1,988	7.4%
Mohawk Valley	2,544	2,527	2,542	2,673	2,783	239	9.4%
New York City	78,266	79,029	80,503	85,072	87,145	8,879	11.3%
North Country	2,153	2,241	2,331	2,402	2,461	308	14.3%
Southern Tier	3,739	3,862	3,983	4,140	4,222	483	12.9%
Western New York	10,444	10,550	9,274	9,648	9,707	737	-7.1%
<b>Totals</b>	<b>158,726</b>	<b>161,565</b>	<b>163,381</b>	<b>170,385</b>	<b>173,708</b>	<b>16,456</b>	<b>10.4%</b>

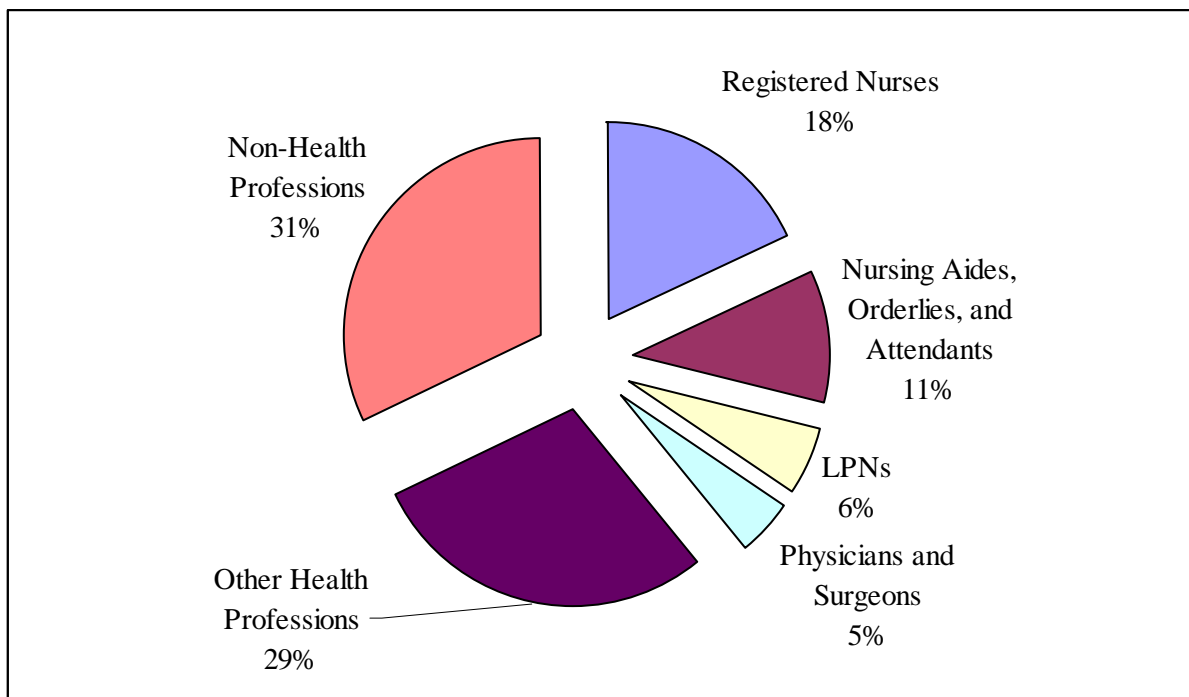
Sources: New York State Department of Labor, ES-202

## Health Care Employment by Occupation

### A. U.S. Health Care Workforce

Nursing occupations continue to constitute the largest number of workers in the health care industry. Over one-third of all jobs in the health care sector are in registered nursing, licensed practical nursing, or nursing aides, orderlies, and attendants. Another nearly one-third are in non-health care fields, such as information technology, housekeeping, and food service (Exhibit 17).

**Exhibit 17**  
**Health Care Employment in the U.S., 2002<sup>5</sup>**



Source: U.S. Department of Labor, Bureau of Labor Statistics, Industry Employment by Occupation

### B. New York State Health Care Workforce

Changes in the number of health care jobs in New York State between 2000 and 2003 varied by occupation. While these data represent positions and not discrete individuals or full time equivalents (i.e. an individual working two jobs, whether full time or part time, would be counted twice), they are useful in identifying trends in occupations or job titles. Jobs for:

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<sup>5</sup> Includes all workers in health sector employment. It does not include health professionals working outside of the health sector.

- Nursing aide, orderly, and attendant jobs increased by 7,700 or 8.6%;
- Medical and health service manager jobs increased by 4,340 or 24.4%;
- Medical assistant jobs increased by 4,050 or 23.5%;
- Registered nurse jobs increased by 4,040 or 2.5%;
- Social worker jobs decreased by 5,220 or 13%; and
- Medical secretary jobs decreased by 2,220 or 15.1% (Exhibit 18).

**Exhibit 18**  
**Number of Jobs in Selected Health Occupations for New York State**

Occupation	2000	2001	2002	2003	Change 2000 to 2003	
					Number	Percent
<b>HEALTH CARE TECHNICIANS AND TECHNOLOGISTS</b>						
Cardiovascular Technologists and Technicians	2,280	2,820	3,090	3,620	1,340	58.8%
Dietetic Technicians	1,890	2,010	1,660	1,520	-370	-19.6%
Licensed Practical and Licensed Vocational Nurses	47,370	45,580	48,560	47,990	620	1.3%
Medical and Clinical Laboratory Technicians	10,690	9,800	8,960	9,750	-940	-8.8%
Medical and Clinical Laboratory Technologists	9,480	9,760	9,050	9,680	200	2.1%
Medical Records and Health Information Technicians	6,450	6,270	6,340	7,030	580	9.0%
Nuclear Medicine Technologists	1,090	1,000	1,080	1,180	90	8.3%
Pharmacy Technicians	10,290	10,420	10,120	9,870	-420	-4.1%
Radiologic Technologists and Technicians	12,010	10,850	11,050	10,700	-1,310	-10.9%
Surgical Technologists	4,790	4,280	4,510	4,100	-690	-14.4%
<b>HEALTH CARE PROFESSIONALS</b>						
Dental Hygienists	11,140	12,400	10,000	9,910	-1,230	-11.0%
Dietitians and Nutritionists	3,910	4,180	4,280	4,240	330	8.4%
Pharmacists	12,860	14,500	13,730	12,620	-240	-1.9%
Physical Therapists	9,490	10,410	9,970	11,340	1,850	19.5%
Registered Nurses	159,670	160,380	163,600	163,710	4,040	2.5%
Respiratory Therapists	4,890	4,850	4,380	4,430	-460	-9.4%
Social Workers	40,190	34,020	35,900	34,970	-5,220	-13.0%
<b>MANAGERS/ADMINISTRATIVE SUPPORT</b>						
Medical and Health Services Managers	17,760	19,290	19,820	22,100	4,340	24.4%
Medical Secretaries	14,730	12,720	13,460	12,510	-2,220	-15.1%
<b>HEALTH CARE PARAPROFESSIONALS</b>						
Dental Assistants	16,870	15,120	17,600	18,110	1,240	7.4%
Home Health Aides	107,130	109,330	108,210	105,790	-1,340	-1.3%
Medical Assistants	17,260	21,730	19,160	21,310	4,050	23.5%
Nursing Aides, Orderlies, and Attendants	90,000	89,270	90,930	97,700	7,700	8.6%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics



### C. Licensure Data for Selected Health Professions for New York State

State licensure data are a source of information on the supply of health professionals. Data are available from the New York State Education Department (SED) on the number of individuals actively licensed in a health profession. By law, SED licenses more than 25 health professions, and individuals must secure a New York State license before practicing in one of these health professions. *Licensure data in a health profession represents the upper limit on the number of individuals in New York who can practice in the profession.* It is important to recognize the limitations of these data; chiefly that some individuals who are licensed in a health profession may be working either less than full time or not at all in the profession. Licensure data can, however, provide valuable information on major trends in the supply of health professionals in the state. Exhibit 19 presents the number of licensees in selected occupations in between 2000 and 2004 New York State.

Between 2000 and 2004, the number of registered nurses who were licensed increased by about 7,300, or 3.2%. The number of social workers who were licensed increased by over 3,000, or nearly 8% during the same time period. The number of licensed practical nurses decreased by almost 6,000, or 8.2%. The number of certified nurse practitioners in the state grew by more than 30% between 2000 and 2004.

**Exhibit 19**  
**Changes in the Number of Licensed Individuals**  
**in Selected Health Service Occupations for New York State<sup>6</sup>, 2000 to 2004**

Profession	2000	2001	2002	2003	2004	Change 2002 to 2004	
						Number	Percent
Dental Hygienists	9,045	6,108	9,036	9,112	9,149	104	1.1%
Dietitians-Nutritionists	4,608	4,661	4,404	4,531	4,622	14	0.3%
Licensed Practical Nurses	72,707	68,912	69,548	68,754	66,746	-5,961	-8.2%
Nurse Practitioners	8,948	9,789	10,481	11,195	11,717	2,769	30.9%
Occupational Therapists	7,253	7,743	8,161	8,697	8,946	1,693	23.3%
Occupational Therapy Assistants	3,126	3,366	3,536	3,591	3,614	488	15.6%
Pharmacists	18,961	19,317	18,498	19,029	19,136	175	0.9%
Physical Therapists	13,729	14,915	15,351	16,152	16,556	2,827	20.6%
Physical Therapy Assistants	3,865	4,220	4,311	4,417	4,367	502	13.0%
Registered Nurses	230,866	234,820	233,299	235,663	238,192	7,326	3.2%
Registered Physician Assistants	5,347	5,805	6,294	6,806	7,229	1,882	35.2%
Respiratory Therapy Technicians	1,723	1,728	1,728	1,649	1,519	-204	-11.8%
Respiratory Therapists	4,585	4,596	4,681	4,655	4,504	-81	-1.8%
Social Workers	38,370	39,194	40,008	40,892	41,413	3,043	7.9%
Speech-Language Pathologists	8,998	9,589	10,158	10,525	10,914	1,916	21.3%

Source: New York State Education Department, Office of Professions

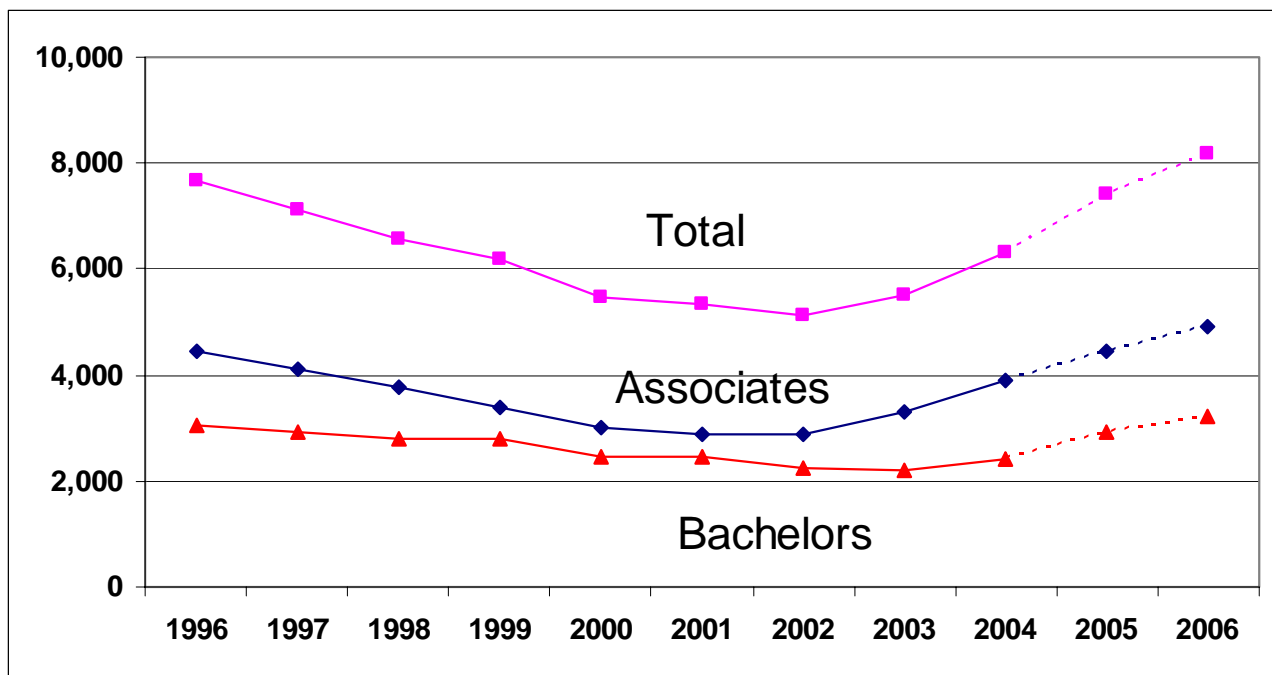
<sup>6</sup> Note: This total includes all New York State licensed individuals regardless of whether the address given in the licensure file was a New York State address, while tables of licensees by region in Parts II and III include only those individuals with an address within the region.

#### D. Trends in RN Education in New York State, 1996 – 2006

The Center surveys registered nursing education programs in New York State annually to better understand trends affecting the supply of registered nurses (RNs) in the state. The brief survey includes questions on applications, acceptances, and graduations for the current year as well as projected graduations through 2006. Of the 105 nursing programs in New York State, 98 responded to the survey for a 93% response rate. Data for the 7 non-respondents were imputed from responses to previous surveys; consequently, the following data reflect enrollment and graduations of all registered nursing programs in the state.

After six consecutive years of declining RN graduations between 1997 and 2002, overall RN graduations increased in each of the past two years (2003 and 2004). RN graduations from both associate degree and bachelor degree programs increased between 2003 and 2004 and are projected to continue to increase in 2005 and 2006 (Exhibit 20). Based on current applicants and acceptances to RN educational programs, overall RN graduations are projected to continue increasing through 2006.

**Exhibit 20**  
**New York State RN Graduations by Degree Type, 1996 to 2006**



While the increase in graduations reflects growing interest in the nursing field, many programs are at full capacity and reported turning away qualified applicants. In fact, more than 50% of the respondents reported turning away qualified applicants in 2004, up from the number in 2003 that reported turning away qualified applicants. Both an increasing number of associate degree and bachelor degree programs reported turning away qualified applicants (Exhibit 21).

**Exhibit 21**  
**Percent of Respondents Reporting Turning Away Qualified Applicants**  
**by Program Type and HSA Region**

HSA Region	Type of Program					
	All Nursing Programs		Associate Degree		Bachelor Degree	
	2003	2004	2003	2004	2003	2004
<b>New York State</b>	49%	57%	68%	73%	26%	39%
<b>Western NY</b>	44%	44%	50%	50%	33%	33%
<b>Finger Lakes</b>	55%	80%	100%	100%	29%	67%
<b>Central NY</b>	50%	64%	70%	80%	0%	25%
<b>NY-Penn</b>	100%	100%	100%	100%	100%	100%
<b>Northeastern NY</b>	64%	57%	82%	55%	0%	67%
<b>Hudson Valley</b>	36%	43%	50%	63%	0%	17%
<b>New York City</b>	46%	54%	54%	83%	36%	25%
<b>Nassau-Suffolk</b>	71%	75%	100%	100%	33%	50%

The main reason cited for turning away qualified applicants was lack of faculty, with nearly 80% of the RN education programs reporting lack of faculty as the main reason for turning away qualified applicants. Over 50% of the programs that turned away qualified applicants cited lack of clinical training sites and 20% reported space at the school as a reason for turning away qualified applicants. Almost 80% of the programs that reported lack of the faculty as a barrier to increasing admissions were publicly sponsored educational programs and the same number were associate degree programs (Exhibit 22).

**Exhibit 22**  
**Reasons for Turning Away Qualified Applicants by Sponsorship and by Degree Type**

Reason for Turning Away Qualified Applicant	Total	Sponsorship		Degree Type	
		Public	Private	Associates Degree	Bachelors Degree
Lack of Faculty	43	33	10	33	10
Lack of Training Sites	31	23	8	24	7
Lack of Financial Aid	6	3	3	4	2
Lack of classroom/lab space	11	5	6	9	2
Other	14	13	1	8	6
<b>Totals<sup>7</sup></b>	56	40	16	42	14

See Appendix I for the full report of New York State Nursing Graduations, 1996 – 2006.

<sup>7</sup> Nursing education programs may indicate more than one reason for turning away qualified applicants.

## E. Survey of Human Resources Directors

As part of the Health Workforce Tracking System, the Center surveys a sample of Human Resource Directors and Nurse Recruiters from a sample of voluntary and public hospitals and nursing homes located throughout New York State. In the past, the Center only conducted a telephone survey of a sample of New York City hospitals. This year, the Center expanded this effort to include mail-in surveys for upstate New York and Long Island hospitals and for nursing homes throughout New York State, including New York City. Thirty-eight hospitals outside of New York City responded to their survey and 109 nursing homes throughout New York State responded to their survey. These surveys requested information on the degree of difficulty in recruiting and retaining certain occupations and the reasons for those difficulties. Information from these surveys is documented in this report by Department of Labor region.

### 1. Hospitals

Hospitals throughout New York State, reported substantial difficulties recruiting and retaining pharmacists, radiologic technicians, and registered nurses. The major reasons cited were shortages of workers and competition among health care providers for the limited number of available workers in these occupations. Additional occupations that hospitals reported recruitment and retention difficulties were dietitians/nutritionists, physician assistants, and licensed practical nurses (Exhibit 23).

**Exhibit 23**  
**Recruitment and Retention Difficulties Reported by Hospitals**  
**In New York State**

	Percent of Respondents Reporting Difficulties in		Reasons Cited for Difficulties <sup>8</sup>			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Funding Levels
<b>Pharmacists</b>	90%	53%	58%	55%	45%	8%
<b>Radiologic Technicians</b>	84%	38%	58%	53%	32%	5%
<b>RNs</b>	71%	38%	62%	62%	33%	12%
<b>Dietitians/Nutritionists</b>	47%	14%	37%	34%	26%	3%
<b>Physician Assistants</b>	39%	39%	13%	16%	18%	3%
<b>LPNs</b>	35%	22%	82%	39%	32%	21%

<sup>8</sup> Respondents are instructed to select all that apply. Consequently, percentages may add up to more than 100%.

2. Nursing homes

Nursing homes throughout New York State who responded to the survey reported substantial difficulties recruiting and retaining registered nurses and licensed practical nurses. The major reasons cited for these recruitment and retention difficulties were shortages of workers and competition among health care providers for the limited number of workers in these occupations. Low salaries were also cited as a reason for the recruitment and retention difficulties. The nursing homes also indicated that they were having difficulty recruiting and retaining physical therapists, occupational therapists, masters prepared social workers, and dietitians/nutritionists (Exhibit 24).

**Exhibit 24**  
**Recruitment and Retention Difficulties Reported by Nursing Homes**  
**in New York State**

	Percent of Respondents Reporting Difficulties in		Reasons Cited for Difficulties <sup>9</sup>			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Funding Levels
<b>RNs</b>	81%	55%	68%	61%	54%	11%
<b>LPNs</b>	80%	51%	71%	63%	47%	10%
<b>Physical Therapists</b>	51%	28%	26%	31%	28%	6%
<b>Occupational Therapists</b>	48%	32%	26%	30%	27%	6%
<b>MSWs</b>	44%	20%	12%	13%	13%	1%
<b>Dietitians/Nutritionists</b>	38%	12%	21%	16%	16%	1%

<sup>9</sup> Respondents are instructed to select all that apply. Consequently, percentages may add up to more than 100%.

## **Future Demand for Health Workers**

### **A. Growth in the United States by Health Care Occupation**

According to the Bureau of Labor Statistics, nearly 9% of jobs nationally were in the health sector in 2002. With the health sector projected to add 3.4 million of the 21 million new jobs in the nation between 2002 and 2012, one in 10 jobs in the nation in 2012 will be in the health sector. Between 2002 and 2012, health sector jobs in the United States are projected to grow by 30%, more than twice the projected rate for jobs in all other settings (13.5%). Additionally, fifteen of the thirty occupations projected to grow the fastest between 2002 and 2012 are health occupations<sup>10</sup>.

The health occupations projected to have the biggest percentage increase in new jobs are:

- medical assistants (59%);
- physician assistants (49%);
- home health aides (48%);
- medical records and health information technicians (47%); and
- physical therapists assistants (45%).

The health occupations projected to have the largest number of new jobs are:

- registered nurses (623,000);
- nurse aides, orderlies, and attendants (343,000)
- home health aides (279,000)
- personal and home care aides (246,000)
- medical assistants (215,000)

### **B. Growth in the United States by Health Care Setting**

Within the health sector, jobs in ambulatory care settings are projected to increase by 41% in the United States, nearly 1.9 million jobs. Jobs in nursing and residential care facilities<sup>11</sup> are projected to increase 34%, or 942,000. Jobs in hospitals are projected to increase by over 15%, or 632,000 jobs (Exhibit 25).

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<sup>10</sup> Center for Health Workforce Studies, "An Analysis of Bureau of Labor Statistics Occupational Projections, 2002 - 2012," March 2004.

<sup>11</sup> Not including mental health facilities

**Exhibit 25**  
**National Projected Health Sector Job Growth by Setting, 2002 – 2012**

Health Care Settings	2002	2012	Growth	
			Number	Percent
Ambulatory health care	4,634,000	6,532,000	1,899,000	41.0%
Hospitals	4,153,000	4,785,000	632,000	15.2%
Nursing and residential care facilities	2,743,000	3,685,000	942,000	34.3%
<b>Totals</b>	11,530,000	15,002,000	3,473,000	30.1%

Source: Monthly Labor Review, February 2002, Industry output and employment projections to 2012, Jay M. Berman

**C. Growth in New York State by Health Care Occupation**

Between 2002 and 2012, the Labor Department projects that the number of registered nursing jobs will increase by nearly 34,000, with 7,000 annual openings. The number of home health aide jobs is projected to increase by almost 33,000, with about 4,800 annual openings, during the same time period. The number of nursing aide, orderly, and attendant jobs is projected to increase by slightly over 5,000, though there will be over 2,600 annual openings, mostly attributed to turnover of workers in existing jobs rather than growth in new jobs. Annual openings reflect both new job growth and replacement of individuals in existing positions (Exhibit 26).

**Exhibit 26**  
**Employment Projections for Health Care Occupations<sup>12</sup>**  
**for New York State, including New York City, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurse	168,130	202,020	33,890	20.2%	6,910
Home Health Aides	113,330	146,220	32,890	29.0%	4,780
Nursing Aides, Orderlies, and Attendants	95,780	109,720	13,940	14.6%	2,650
Licensed Practical Nurse	46,980	52,260	5,280	11.2%	1,550
Social Workers	36,170	43,180	7,010	19.4%	1,320
Medical Assistances	20,390	29,550	9,160	44.9%	1,300
Dental Assistants	17,000	22,010	5,010	29.5%	980
Medical and Health Services Managers	21,860	25,830	3,970	18.2%	830
Pharmacists	13,000	15,250	2,250	17.3%	480
Physical Therapists	11,180	14,200	3,020	27.0%	410
Radiologic Technologists and Technicians	10,660	12,410	1,750	16.4%	380
Emergency Medical Technicians and Paramedics	10,450	12,970	2,520	24.1%	370
Clinical, Counseling, and School Psychologists	9,880	11,240	1,360	13.8%	360
Medical and Clinical Laboratory Technologists	9,520	10,540	1,020	10.7%	360
Dental Hygienists	8,990	11,680	2,690	29.9%	350
Physician Assistants	6,240	8,710	2,470	39.6%	350
Medical Secretaries	12,730	13,640	910	7.1%	330
Speech Language Pathologists and Audiologists	7,810	9,200	1,390	17.8%	330
Medical and Clinical Laboratory Technicians	8,940	9,690	750	8.4%	320
Medical Records and Health Information Technicians	6,440	8,730	2,290	35.6%	320
Pharmacy Technicians	9,610	11,400	1,790	18.6%	310
Respiratory Therapists	4,500	5,730	1,230	27.3%	270
Occupational Therapists	6,100	7,560	1,460	23.9%	230
Dietitians and Nutritionists	4,620	5,140	520	11.3%	170
Medical Transcriptionists	4,340	5,030	690	15.9%	150
Surgical Technologists	4,010	4,760	750	18.7%	130
Psychiatric Aides	5,450	5,630	180	3.3%	90

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 - 2012

<sup>12</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2002 and the projected number of jobs in those categories in 2012. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.



## **D. The Impact of Technology on the Demand for Health Care Workers**

### Overview

The attention directed at the use of technology in health care is has grown tremendously over the past two or three years. Most planners and policy-makers recognize a tremendous potential for technology to reduce medical errors, help contain the costs of providing care, and improve patient outcomes. The relatively low level of current technology adoption, paired with the increasing pressure to accelerate technology adoption, may result in a demand for health workers experienced with new technologies that far exceeds the supply. Workforce training in technology will become an increasingly important issue throughout the country over the next several years.

This project investigated the latest developments in health care technology, prevalence of various types of technology in New York City area hospitals, and the impact of technology adoption on training needs for health care workers. The 1199 Hospital League Health Care Industry Planning and Placement Fund funded this project, in order to inform planning of training programs targeted to New York City health workers.

Study methods included a review of the literature on emerging health care technologies and the implications for the health workforce, site visits to selected New York City hospitals to view new technologies in use and talk to workers and their supervisors about their training needs and experiences, telephone interviews with facility representatives about their current and future use of new technologies, and participation in a technology conference sponsored by City University of New York about current and planned use of new technologies.

The first section of the report describes the findings of the literature review, while the second section presents the results of the site visits and interview of New York City hospitals. The study identified five major categories of technology emerging in health care that were of growing interest to the hospitals: electronic medical records, telehealth, clinical technology, distance learning/continuing education, and other technologies.

### Key Findings

- Technology adoption in New York City Hospitals is currently very uneven, with some health care providers taking the lead and others doing very little.
- Funding is a large issue – both funding the purchase and set-up of the product and funding the training for the staff.
- Interoperability (the ability of systems to interface with one another electronically) is a serious issue both within and between facilities, and can limit the potential of electronic systems and make the recruitment of workers with the requisite skills more difficult.
- Technology products and systems vary widely by vendor, and expecting new hires to be trained to a specific system is not often realistic. Most training is vendor-driven, and often is done by vendors or by facility personnel.

- There will be increasing demand for basic computer literacy for the growing number of health care technology end-users
- Demand for support people such as medical informatics and information technology professionals is expected to grow.
- Exposure to and use of technology should be integrated into the curricula of education programs for all health professionals.
- There are gaps between the skills health workers will need as use of technology in health care increases and their current skills.

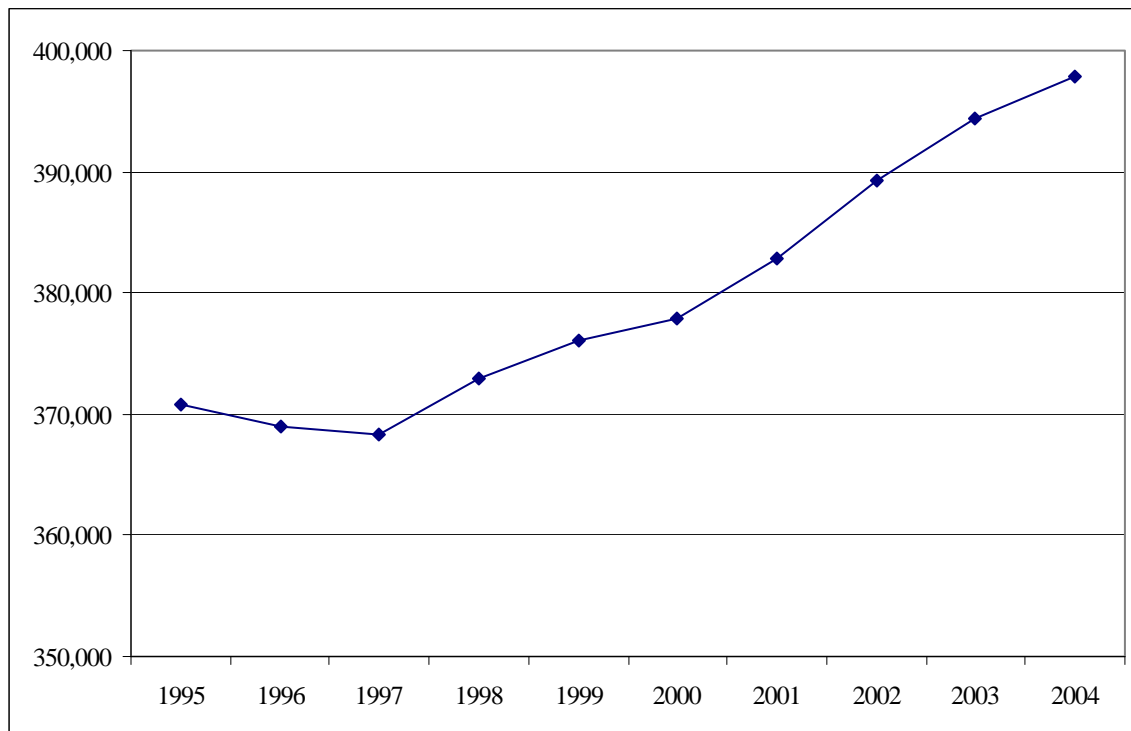
The full report entitled, “The Role of Innovative Technology in Improving the Quality of Patient Care: Training Implications for the Health Work Force,” is available from the Center for Health Workforce Studies upon request.

## NEW YORK CITY

### Health Workforce Employment in New York City

Between 1995 and 2004, health care employment in New York City increased by over 8%. All of that growth occurred after 1997, when growth in health care employment averaged more than 1% annually (Exhibit 27).

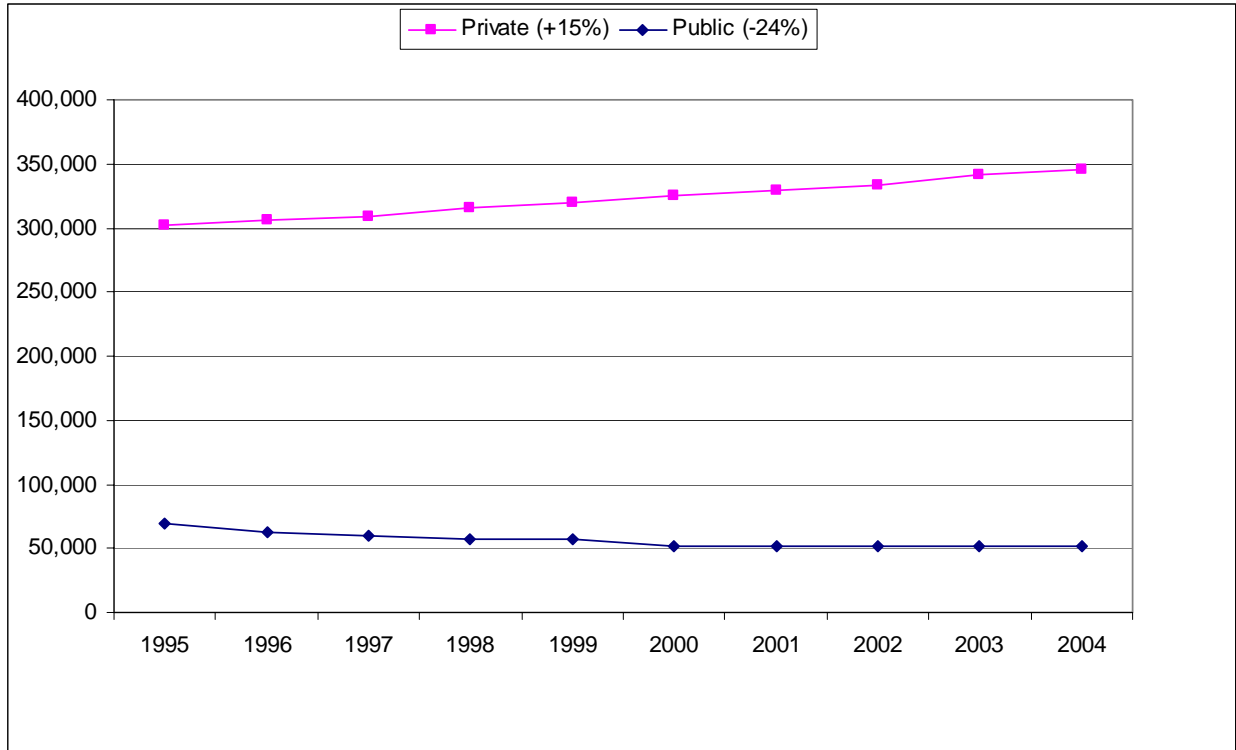
**Exhibit 27**  
**Trends in Health Care Employment, 1995 - 2004**



## **Public and Private Sector Health Workforce Employment**

Between 1995 and 2004, private sector health care employment increased by 15%, while public sector health care employment decreased by 24% in the City (Exhibit 28).

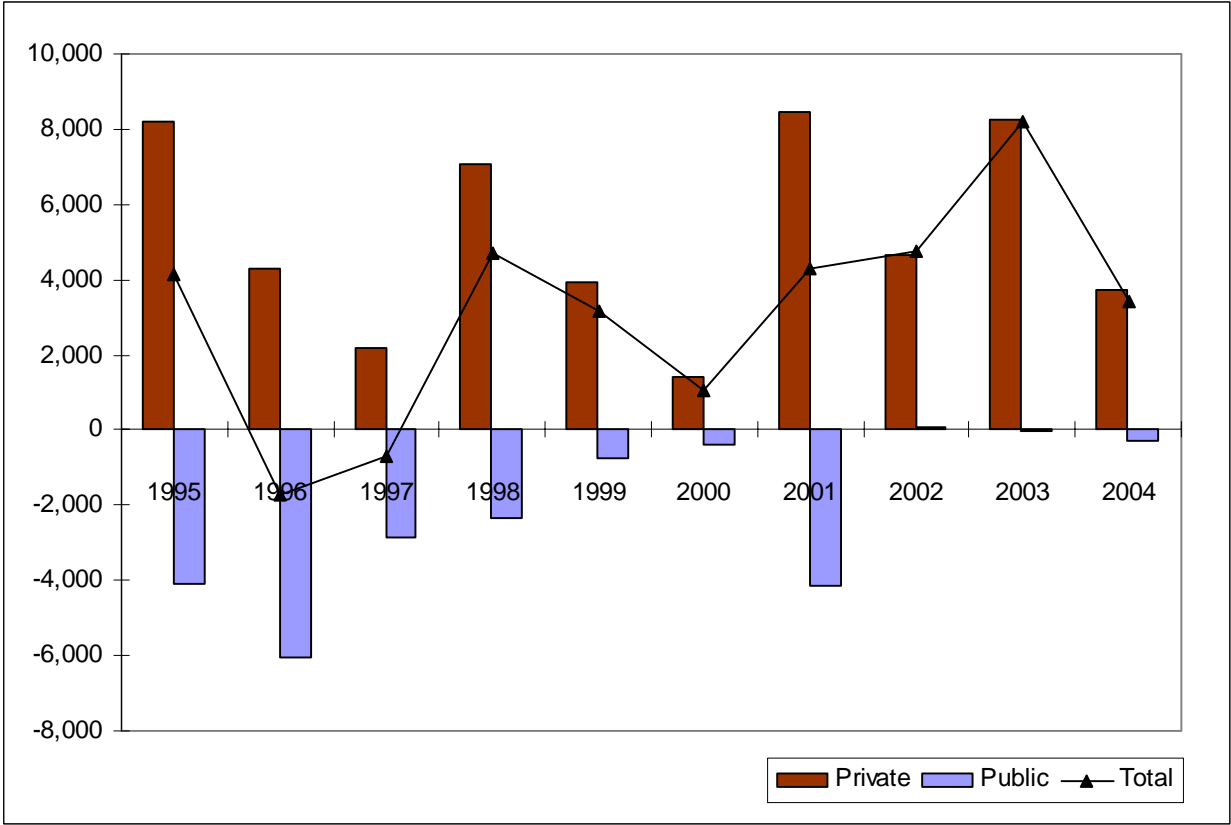
**Exhibit 28**  
**Trends in Public and Private Health Employment**  
**for New York City, 1995 – 2004**



Source: New York State Department of Labor, ES-202

While total health care employment increased in 1995, significant declines in public sector health care employment in 1996 and 1997 offset employment gains in the private sector, leading to a decline in overall health care employment. Starting in 1998, increases in private sector health care employment outpaced decreases in public sector health care employment, leading to an increase in overall health care employment. For the past three years, public sector health care employment has remained stable while private health care sector employment has continued to grow. (Exhibit 29).

**Exhibit 29**  
**Change in the Number Employed in Health Care from the Previous Year**  
**for Public and Private Employment in New York City, 1995 to 2004**

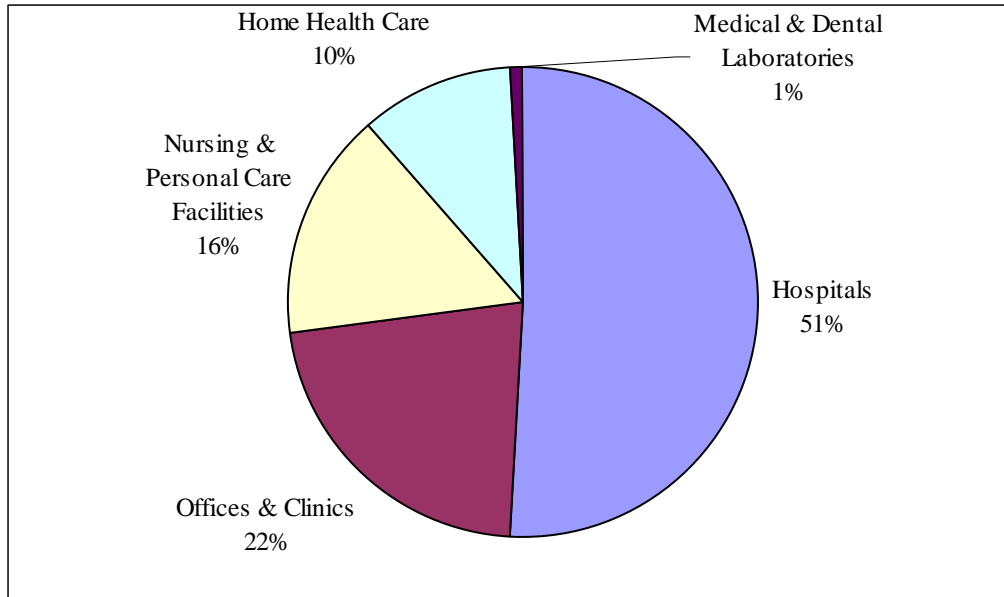


Source: New York State Department of Labor, ES-202

## The Health Workforce by Setting

Hospitals were the largest employer of New York City health workers, accounting for more than half of all health care employment in 2004. Offices and clinics and nursing and personal care facilities followed, at 22% and 16%, respectively (Exhibit 30).

**Exhibit 30**  
**Health Sector Employment by Setting**  
**for New York City, 2004**



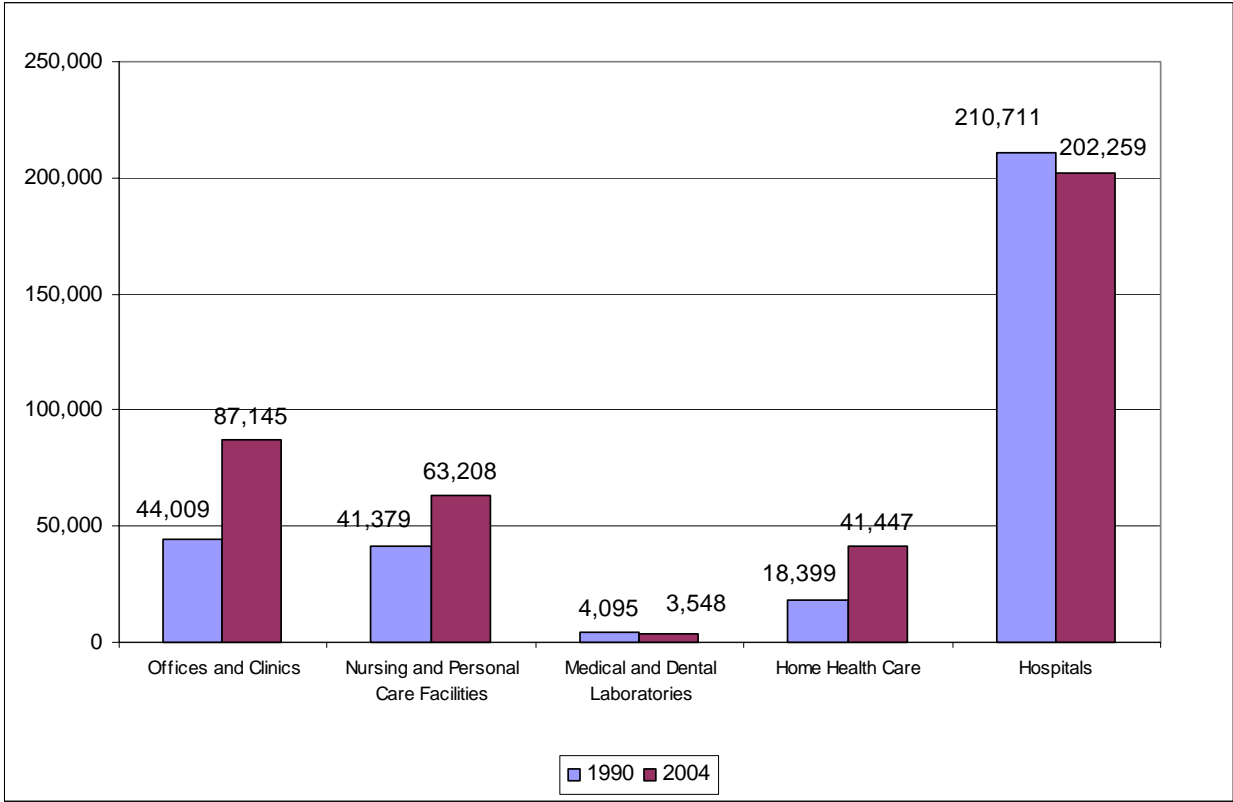
Source: New York State Department of Labor, ES-202

Between 1990 and 2004, health sector employment significantly increased in certain employment settings in New York City, including:

- Home health care, with an increase of 125%;
- Office and clinics, with an increase of 98%; and
- Nursing and personal home care facilities, with an increase of 53%.

Hospital employment in New York City declined by 4% between 1990 and 2004, primarily driven by significant decreases in public sector hospital employment. Employment in New York City medical and dental laboratories had an overall decline of 13% (Exhibit 31).

**Exhibit 31**  
**Number of Workers by Healthcare Setting in New York City**  
**1990 and 2004**



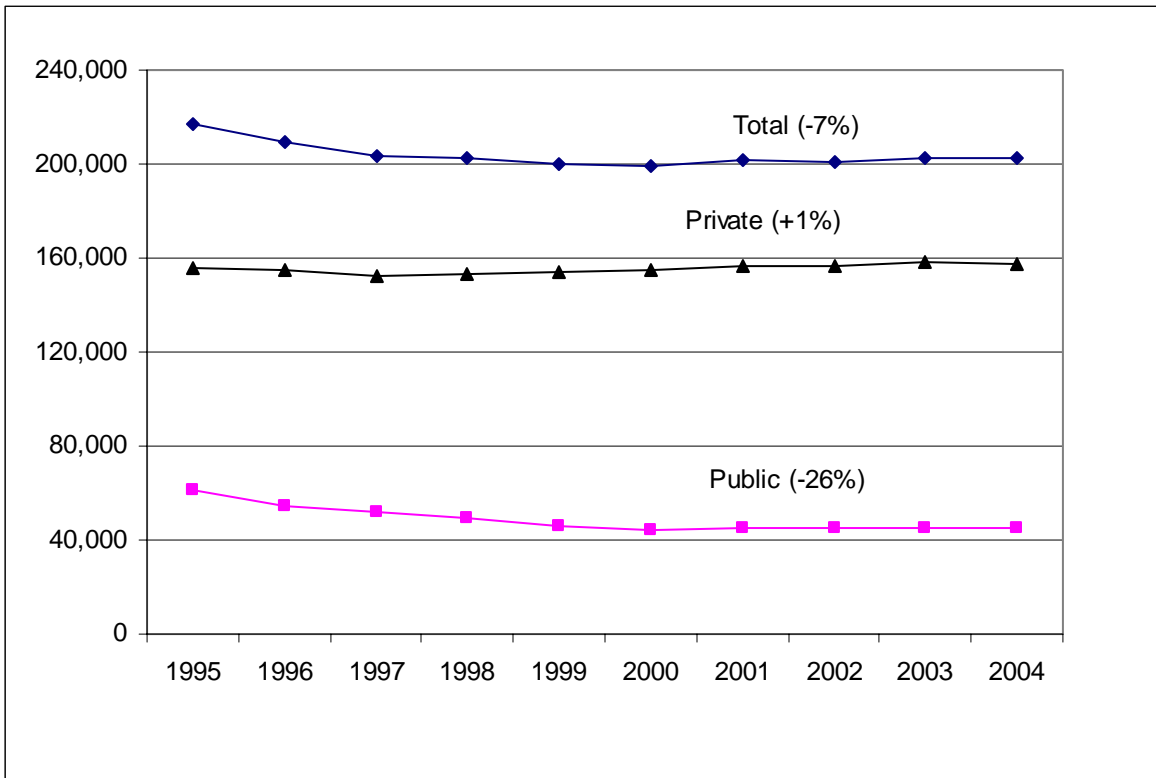
Source: New York State Department of Labor, ES-202

## New York City Hospital Employment Trends

Overall, total hospital employment in New York City declined by almost 7% between 1995 and 2004, with private sector hospital jobs increasing by 1% and public sector hospital jobs decreasing by 26% during that time period.

In 1995, private sector hospital employment was 2 ½ times larger than public sector hospital employment. By 2004, private sector hospital employment was 3 ½ times larger than public sector hospital employment, due in large part a substantial decline in public sector hospital employment in the mid to late 1990's (Exhibit 32).

**Exhibit 32**  
**Trends in Hospital Employment for New York City, 1995 – 2004**

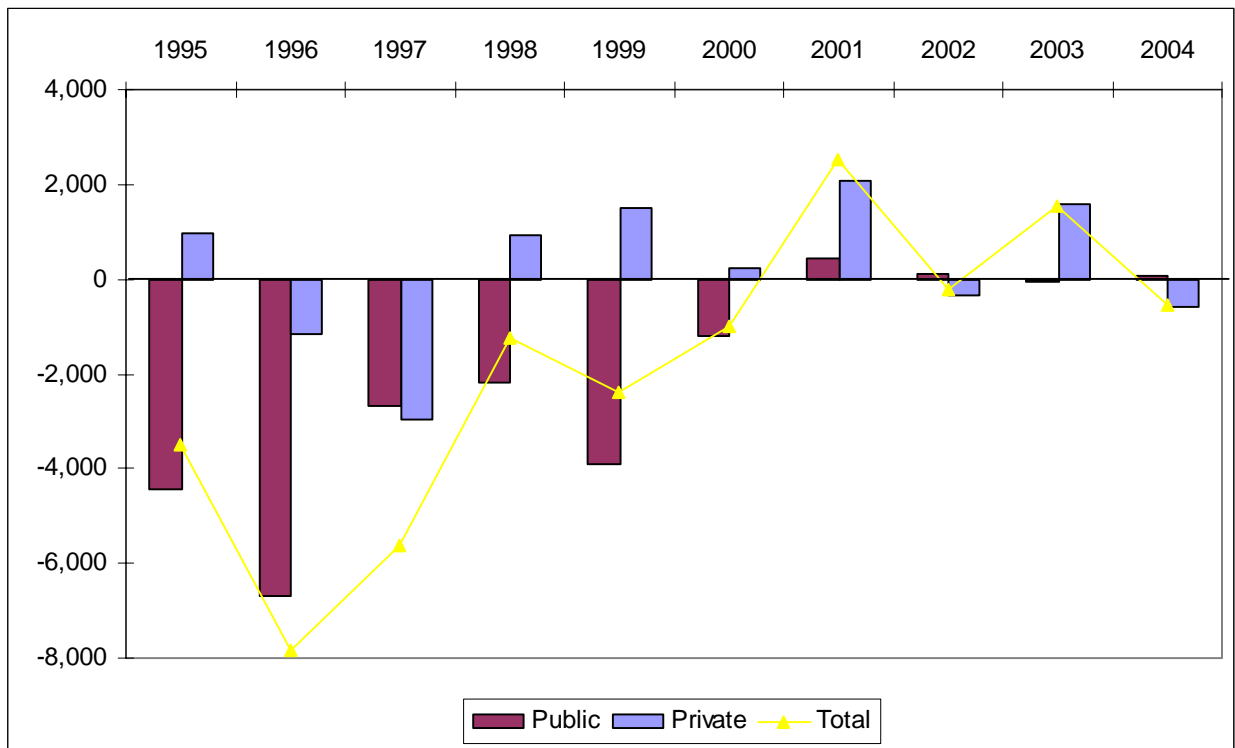


Source: New York State Department of Labor, ES-202



Annual changes in total hospital employment were driven by substantial decreases in public hospital employment between 1995 and 1999, when these decreases overshadowed minimal increases in private hospital employment, creating an overall decline in hospital employment in New York City. Since 2000, public hospital employment has remained relatively stable, with very slight increases, while private hospital employment both increased and decreased between 2000 and 2004, depending on the year (Exhibit 33).

**Exhibit 33**  
**Annual Change from the Prior Year in Hospital Employment for New York City,**  
**Public and Private Employment, 1995 – 2004**



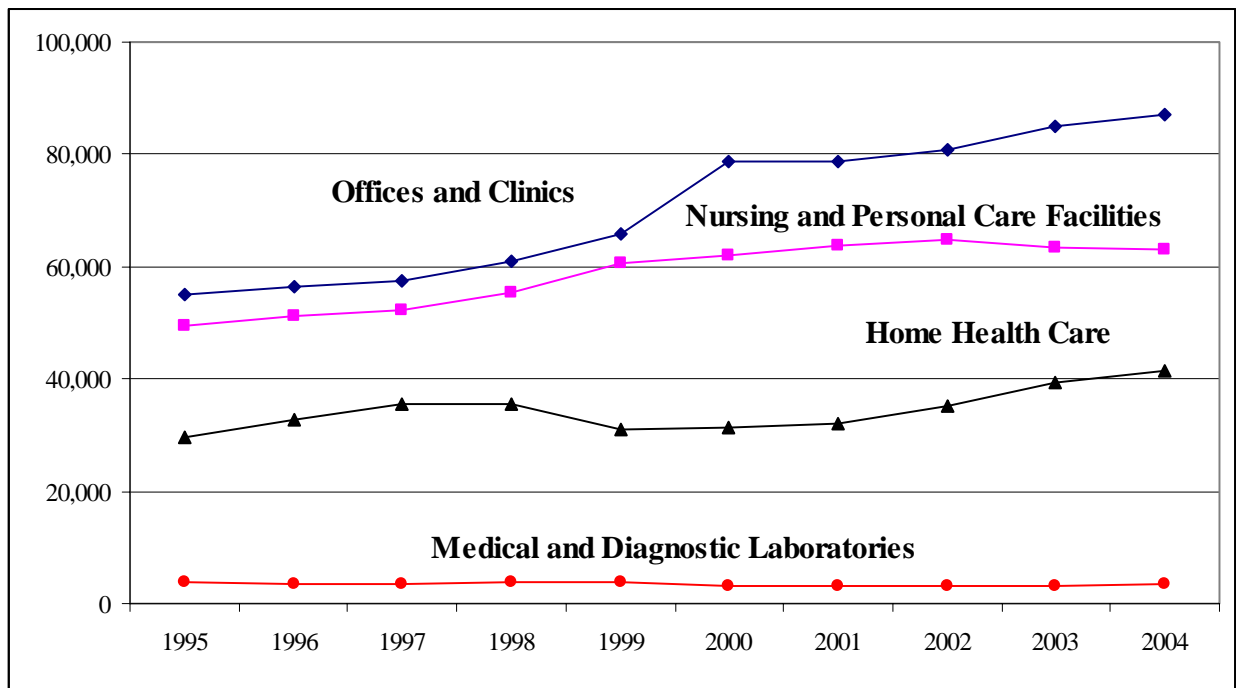
Source: New York State Department of Labor, ES-202

## **New York City Non-Hospital Health Setting Employment Trends**

Between 1994 and 2005, the most significant trends in health sector employment outside of hospitals were as follows:

- Employment in home health care increased by slightly more 39% between 1995 and 2004. After increases in home health care employment between 1995 and 1997, followed by two years of decline in 1998 and 1999, employment in home health care grew by almost 34% between 1999 and 2004 (both increases and decreases in home care employment may reflect, in part, changes in governmental reimbursement policies);
- Employment in offices and clinics and in nursing and personal care facilities increased nearly 58% and over 27% respectively, between 1995 and 2004; and
- Employment in medical and dental laboratories decreased 6% between 1995 and 2004 (Exhibit 34).

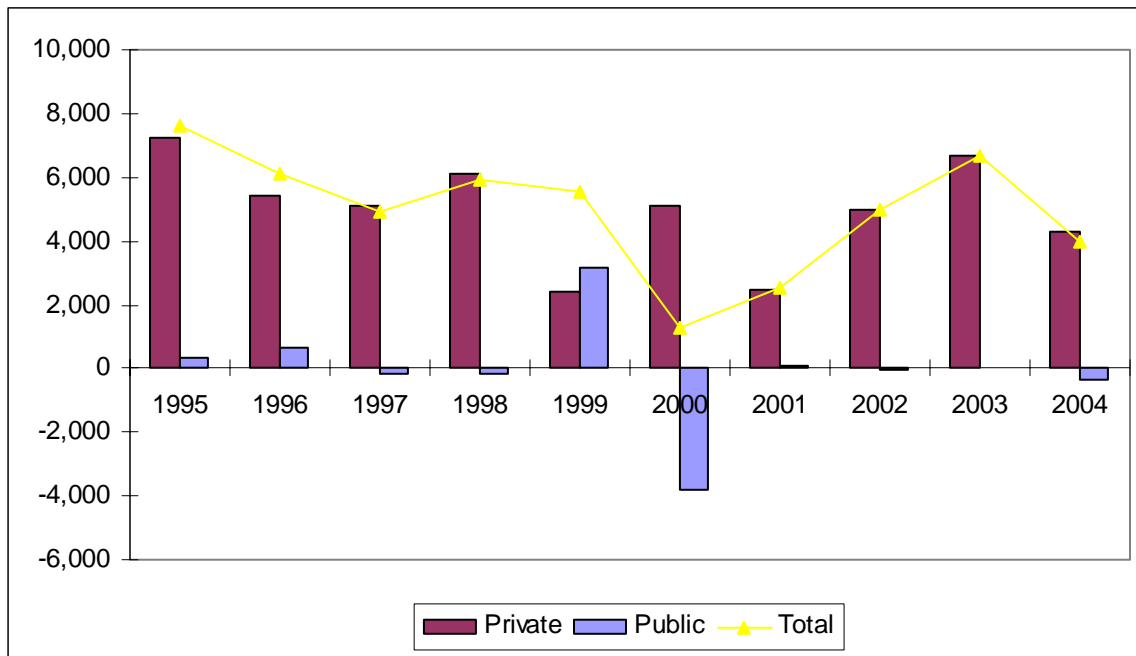
**Exhibit 34**  
**Trends in Non-Hospital Health Employment for New York City, 1995 – 2004**



Source: New York State Department of Labor, ES-202

Between 1995 and 2004, annual changes in non-hospital health care employment in New York City were driven by substantial year-to-year increases in private employment, including the addition of over 5,000 new jobs each year between 1995 and 1998. While private employment in the non-hospital health sector continued to increase between 2000 and 2004, public employment in the non-hospital health sector dramatically declined in 2000 then remained relatively stable between 2001 and 2004 (Exhibit 35).

**Exhibit 35**  
**Annual Change from the Prior Year in Non-Hospital Health Care Employment**  
**for New York City, Public and Private, 1995 - 2004**



Source: New York State Department of Labor, ES-202

## **The Health Workforce by Occupation**

### **A. Changes in the New York City Health Care Workforce**

Changes in the number of health care jobs in New York City between 2000 and 2003 varied by occupation. While these data represent positions and not discrete individuals or full time equivalents (i.e. an individual working two jobs, whether full time or part time, would be counted twice), they are useful in identifying trends in occupations or job titles. Jobs for:

- Nursing aide, orderly, and attendant jobs increased by nearly 4,000 or 8.2%;
- Medical and health services manager jobs increased by over 3,000, or 33.0%;
- Dental assistant jobs increased by 1,750, or 25.1%;
- Physical therapist jobs increased by almost 1,000, or 43.5%;
- Home health aide jobs declined by nearly 6,800, or 10.9%; and
- Radiologic technologist and technician jobs declined by 1,450 or almost 26% (Exhibit 36).

**Exhibit 36**  
**Number of Jobs in Selected Health Occupations for the New York City PMSA**

Occupation	2000	2001	2002	2003	Change, 2000 to 2004	
					Percent	Number
<b>HEALTH CARE TECHNICIANS/TECHNOLOGISTS</b>						
Cardiovascular Technologists and Technicians	930	1,240	1,440	1,800	870	93.5%
Medical and Clinical Laboratory Technologists	4,490	4,920	4,740	5,100	610	13.6%
Pharmacy Technicians	3,920	3,880	3,960	4,340	420	10.7%
Medical Records and Health Information Technicians	2,850	2,740	2,880	3,070	220	7.7%
Nuclear Medicine Technologists	550	500	490	510	-40	-7.3%
Medical and Clinical Laboratory Technicians	5,640	5,080	4,810	5,550	-90	-1.6%
Licensed Practical Nurses	20,690	18,400	21,210	20,370	-320	-1.5%
Dietetic Technicians	930	740	640	580	-350	-37.6%
Surgical Technologists	2,920	2,550	2,550	2,250	-670	-22.9%
Radiologic Technologists and Technicians	5,640	4,670	4,320	4,190	-1,450	-25.7%
<b>HEALTH CARE PROFESSIONALS</b>						
Physical Therapists	3,610	4,780	4,480	5,180	1,570	43.5%
Registered Nurses	79,260	77,740	81,190	79,990	730	0.9%
Pharmacists	5,560	7,080	6,790	5,950	390	7.0%
Dietitians and Nutritionists	2,340	2,220	2,350	2,190	-150	-6.4%
Respiratory Therapists	2,370	2,220	2,100	2,150	-220	-9.3%
Social Workers	22,060	18,890	20,120	21,340	-720	-3.3%
Dental Hygienists	N/A	5,250	3,390	3,080	N/A	N/A
<b>MANAGEMENT/ADMINISTRATIVE SUPPORT</b>						
Medical and Health Services Managers	9,220	10,440	10,540	12,260	3,040	33.0%
Medical Secretaries	4,930	3,990	5,140	4,210	-720	-14.6%
<b>HEALTH CARE PARAPROFESSIONALS</b>						
Nursing Aides, Orderlies, and Attendants	44,670	45,060	44,990	48,540	3,870	8.7%
Dental Assistants	6,980	7,760	8,780	8,730	1,750	25.1%
Medical Assistants	8,550	10,190	8,420	9,690	1,140	13.3%
Home Health Aides	61,960	60,590	55,090	55,200	-6,760	-10.9%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

## B. Licensure Data for Selected Health Professions for New York City

The occupations with the largest percent increase in licensed health care professionals in New York City between 2002 and 2004 were speech-language pathologists at 14.2% followed by nurse practitioners at 13.9%. The number of registered nurses showed little growth with a 0.1% increase or 214 during that same time period.

Several occupations declined in numbers during the same time period, including pharmacists at 8%, licensed practical nurses at almost 11%, and respiratory therapist technicians at nearly 16%. (Exhibit 37).

### Exhibit 37 Changes in the Number of Licensed Individuals in Selected Health Service Occupations for New York City, 2002 to 2004

Profession	2002	2003	2004	Change 2002 to 2004	
				Number	Percent
Speech-Language Pathologists	2,213	2,364	2,528	315	14.2%
Nurse Practitioners	1,929	2,098	2,197	268	13.9%
Occupational Therapists	1,930	2,128	2,177	247	12.8%
Registered Physician Assistants	1,945	2,098	2,186	241	12.4%
Physical Therapists	3,632	3,922	3,959	327	9.0%
Dietitians-Nutritionists	1,336	1,406	1,432	96	7.2%
Social Workers	14,810	15,033	15,156	346	2.3%
Occupational Therapy Assistants	824	833	834	10	1.2%
Registered Nurses	52,984	53,075	53,198	214	0.1%
Dental Hygienists	1,435	1,428	1,434	-1	-0.1%
Physical Therapy Assistants	1,013	1,023	997	16	-1.6%
Respiratory Therapists	1,204	1,154	1,149	-55	-4.6%
Ophthalmic Dispensers	965	942	917	-48	-5.0%
Pharmacists	5,084	5,201	4,679	-405	-8.0%
Licensed Practical Nurses	16,834	16,047	15,022	-1,812	-10.8%
Respiratory Therapist Technicians	522	455	441	-81	-15.5%

Source: New York State Education Department, Office of Professions

### **C. Future Demand for Health Workers in New York City**

According to the New York State Department of Labor (DOL), twelve of the top twenty-five fastest-growing occupations for the New York City region between 2002 and 2012 will be health care occupations (Exhibit 38).

The health occupations projected to have the biggest percentage increase in new jobs are:

- medical assistants (47.3%);
- physician assistants (45.5%);
- physical therapy assistants (45%);
- physical therapy aides (40.3%); and
- occupational therapy aides (36.7%).

Some of the occupations with high percentage growth, however, are relatively small occupations so that the actual number of new jobs will be moderate. Some large occupations have lower percentage growth but will add more jobs overall. The health occupations projected to have the largest average number of annual openings are:

- registered nurses (3,220);
- home health aides (2,040);
- social workers (660); and
- licensed practical nurses (590).

**Exhibit 38**  
**Employment Projections for Health Care Occupations<sup>13</sup>**  
**for New York State, including New York City, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	72,980	89,940	16,960	23.2%	3,230
Home Health Aides	51,060	64,760	13,700	26.8%	2,040
Nursing Aides, Orderlies, and Attendants	41,180	47,980	6,800	16.5%	1,220
Social Workers	17,880	20,870	2,990	16.7%	600
Licensed Practical Nurses	16,540	18,820	2,280	13.8%	590
Medical Assistants	8,620	12,700	4,080	47.3%	570
Medical and Health Services Managers	10,750	12,960	2,210	20.6%	430
Dental Assistants	6,080	8,310	2,230	36.7%	380
Pharmacists	5,860	6,790	930	15.9%	200
Medical and Clinical Laboratory Technologists	4,590	5,210	620	13.5%	180
Medical and Clinical Laboratory Technicians	4,470	4,890	420	9.4%	160
Physical Therapists	3,850	4,990	1,140	29.6%	150
Physician Assistants	2,460	3,580	1,120	45.5%	150
Radiologic Technologists and Technicians	3,730	4,390	660	17.7%	140
Medical Records and Health Information Technicians	2,530	3,400	870	34.4%	130
Pharmacy Technicians	4,040	4,830	790	19.6%	130
Emergency Medical Technicians and Paramedics	3,990	4,670	680	17.0%	120
Respiratory Therapists	1,870	2,420	550	29.4%	120
Medical Secretaries	3,580	3,810	230	6.4%	90
Cardiovascular Technologists and Technicians	1,560	2,040	480	30.8%	80
Dietitians and Nutritionists	2,070	2,360	290	14.0%	80
Occupational Therapists	1,940	2,470	530	27.3%	80
Physical Therapy Assistants	1,310	1,860	550	42.0%	80

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 – 2012

**D. Survey of Human Resources Directors**

Hospitals and nursing homes in New York City reported similar recruitment and retention difficulties as the state as a whole as outlined on pages 30 and 31 of this report. Additionally, hospitals in New York City reported continued difficulties recruiting and retaining multi-lingual, masters prepared social workers and respiratory therapists.

<sup>13</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2002 and the projected number of jobs in those categories in 2012. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.



## UPSTATE NEW YORK AND LONG ISLAND

### Capital District

#### A. Employment by Setting

Between 2000 and 2004, health employment in the Capital District grew by over 1,800 jobs or 3.5%. Employment in doctor's offices increased by over 18% between 2000 and 2004. Employment for other ambulatory health services increased by nearly 17%, though there were only 108 more jobs. Employment in hospitals increased by slightly over 1% and employment in nursing and personal care facilities increased by nearly 8%.

Between 2000 and 2004, employment in outpatient care centers declined by nearly 28%, employment in medical and diagnostic laboratories declined by slightly over 24%, and employment in offices of other health practitioners declined by almost 11% (Exhibit 39).

**Exhibit 39**  
**Number of Workers by Healthcare Setting in the Capital District**  
**between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	3,010	2,954	2,976	2,941	2,712	-298	-9.9%
Hospitals	20,664	20,793	20,958	21,377	20,898	234	1.1%
Medical and Diagnostic Laboratories	435	445	404	330	321	-105	-24.1%
Nursing and Personal Care Facilities	13,921	14,636	14,755	14,582	14,989	1,068	7.7%
Offices and Clinics of Dentists	2,566	2,667	2,655	2,711	2,732	166	6.5%
Offices and Clinics of Doctors of Medicine	7,303	7,565	7,884	8,301	8,642	1,339	18.3%
Offices of Other Health Practitioners	1,665	1,734	1,606	1,456	1,486	-179	-10.8%
Other Ambulatory Health Services	645	667	678	736	753	108	16.7%
Outpatient Care Centers	1,848	1,884	1,533	1,232	1,335	-513	-27.8%
<b>Totals</b>	52,057	53,345	53,450	53,666	53,868	1,811	3.5%

Source: New York State Department of Labor, ES-202

**B. Licensed Health Professionals**

The number of nurse practitioners in the Capital District grew by 13.5% between 2002 and 2004, followed by an increase in the number of occupational therapists at 8.9% and physical therapists at 7.3%. The number of registered nurses increased by over 230 during the same time period, though it represented little growth. The number of pharmacists, LPNs, and respiratory therapists declined slightly between 2002 and 2004. (Exhibit 40).

**Exhibit 40**  
**Change in the Number of Selected Licensed Health Care Occupations<sup>14</sup>**  
**for the Capital District, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Nurse Practitioners	512	550	581	69	13.5%
Occupational Therapists	451	477	491	40	8.9%
Physical Therapists	863	906	926	63	7.3%
Physician Assistants	447	468	476	29	6.5%
Speech-Language Pathologists	709	730	754	45	6.3%
Dietitians-Nutritionists	258	270	273	15	5.8%
Social Workers	1,942	2,006	2,043	101	5.2%
Occupational Therapy Assistants	315	331	328	13	4.1%
Dental Hygienists	740	758	760	20	2.7%
Physical Therapy Assistants	397	406	398	1	0.3%
Registered Nurses	14,558	14,670	14,792	234	0.2%
Pharmacists	1,241	1,287	1,233	-8	-0.1%
Licensed Practical Nurses	4,976	4,995	4,924	-52	-0.1%
Respiratory Therapists	305	302	300	-5	-1.6%

Source: New York State Education Department, Office of Professions

<sup>14</sup> County was determined by using the address included in the licensure file though the county can either be a home or practice location.

**C. Employment Projections by Health Occupation**

The New York State Department of Labor estimates that between 2002 and 2012, the largest number of job openings in the Capital District is projected for home health aides at nearly 2,000 new jobs. This is a 32% increase in the number of total jobs and job openings (due to both growth and replacement) with 280 average annual job opening. Additionally, the number of registered nursing jobs are projected to grow by over 16% between 2002 and 2012, with 360 average annual job openings (Exhibit 41).

**Exhibit 41  
Employment Projections for the Top Ten Health Care Growth Occupations  
for the Capital District, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	9,710	11,300	1,590	16.4%	360
Home Health Aides	6,140	8,130	1,990	32.4%	280
Nursing Aides, Orderlies, and Attendants	6,920	7,660	740	10.7%	160
Licensed Practical Nurses	3,010	3,280	270	9.0%	100
Social Workers	2,230	2,620	390	17.5%	80
Medical Assistants	900	1,380	480	53.3%	70
Medical and Health Services Managers	1,730	1,950	220	12.7%	50
Physical Therapists	860	1,160	300	34.9%	40
Dental Assistants	460	640	180	39.1%	30
Dental Hygienists	580	810	230	39.7%	30

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 - 2012

**D. Survey of Human Resources Directors**

Hospitals and nursing homes in the Capital District reported similar recruitment and retention difficulties as the state as a whole as described on pages 30 and 31 of this report. Additionally, nursing homes in the Capital District reported problems retaining certified nurse aides due to competition among health care providers for workers in that occupation and low salaries.

## Central New York

### A. Employment by Setting

Total health care employment in the Central New York region grew by 6.2% between 2000 and 2004. Employment in Central New York in medical and dental laboratories increased by over 125% between 2000 and 2004 and employment in offices of other health practitioners<sup>15</sup> increased by 31.5% during the same period. Between 2000 and 2004, the largest number of jobs were added in nursing and personal care facilities, with nearly 1,100 jobs added.

The largest declines in jobs occurred in outpatient care centers at nearly 21%, and in home health care services at slightly over 17% (Exhibit 42).

**Exhibit 42**  
**Number of Workers by Healthcare Setting in Central New York**  
**Between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	1,473	1,382	1,318	1,278	1,221	-252	-17.1%
Hospitals	11,194	11,417	11,300	11,187	11,273	79	0.7%
Medical and Diagnostic Laboratories	352	682	684	696	714	441	125.3%
Nursing and Personal Care Facilities	6,983	6,991	7,339	7,267	8,080	1,097	15.7%
Offices and Clinics of Dentists	1,654	1,702	1,735	1,728	1,732	78	4.7%
Offices and Clinics of Doctors of Medicine	4,894	5,047	5,232	5,417	5,452	558	11.4%
Offices of Other Health Practitioners	1,063	1,205	1,329	1,398	1,398	335	31.5%
Other Ambulatory Health Services	635	579	592	663	721	86	13.5%
Outpatient Care Centers	2,149	2,261	1,785	1,707	1,705	-444	-20.7%
<b>Totals</b>	<b>30,397</b>	<b>31,265</b>	<b>31,314</b>	<b>31,341</b>	<b>32,296</b>	<b>1,899</b>	<b>6.2%</b>

Source: New York State Department of Labor, ES-202

<sup>15</sup> Offices of other health practitioners include chiropractors, podiatrists, and optometrists.

## B. Licensed Health Professionals

Between 2002 and 2004, the number of speech-language pathologists increased in Central New York by over 11%, and the number of physician assistants increased by 10% during the same period. The number of registered nurses grew by nearly 200 during the same time period, though it represented little growth, just over 2%.

The number of licensed respiratory therapists declined by nearly 4% between 2002 and 2004, while the number of licensed practical nurses decreased by over 2% and the number of pharmacists declined slightly during the same time period (Exhibit 43).

**Exhibit 43**  
**Change in the Number of Licensed Health Care Occupations**  
**for Central New York, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Speech-Language Pathologists	331	356	368	37	11.2%
Physician Assistants	200	229	220	20	10.0%
Physical Therapists	505	520	551	46	9.1%
Physical Therapy Assistants	170	181	180	10	5.9%
Occupational Therapy Assistants	87	90	89	2	2.3%
Registered Nurses	9,110	9,204	9,304	194	2.1%
Dietitians-Nutritionists	171	168	168	-3	1.8%
Dental Hygienists	494	494	502	8	1.6%
Nurse Practitioners	810	847	814	4	0.5%
Social Workers	972	982	975	3	0.3%
Occupational Therapists	227	248	225	-2	-0.1%
Pharmacists	588	592	580	-8	-1.4%
Licensed Practical Nurses	4,188	4,176	4,089	-99	-2.3%
Respiratory Therapists	296	301	285	-11	-3.7%

Source: New York State Education Department, Office of Professions

**C. Employment Projections by Health Occupation**

The Bureau of Labor Statistics estimates that between 2002 and 2012, the total number of registered nursing jobs in the Central New York region is projected to increase by nearly 1,500 jobs, with 300 average annual job openings due to both growth and replacement. During the same period, there will be 130 annual job openings for nurse aides and orderlies. The majority of those annual job openings will be due to aides and orderlies leaving the field. The total number of home health aide jobs is projected to increase by 35.5% with 120 average annual job openings (Exhibit 44).

**Exhibit 44  
Employment Projections for the Top Ten Health Care Growth Occupations  
for the Central New York Region, 2002-2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	6,950	8,440	1,490	21.4%	300
Nursing Aides, Orderlies, and Attendants	3,440	4,250	810	23.5%	130
Home Health Aides	2,450	3,320	870	35.5%	120
Licensed Practical Nurse	2,170	2,560	390	18.0%	90
Medical Assistants	830	1,250	420	50.6%	60
Social Workers	1,280	1,530	250	19.5%	50
Dental Assistants	550	750	200	36.4%	40
Medical and Health Services Managers	670	820	150	22.4%	30
Physical Therapists	520	710	190	36.5%	30
Radiologic Technologists and Technicians	680	830	150	22.1%	30

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 – 2012

**D. Survey of Human Resources Directors**

Nursing homes in Central New York reported similar recruitment and retention difficulties as the state as a whole as described on page 31 of this report. Additionally, nursing homes in Central New York reported problems retaining certified nurse aides due to competition among health care providers for workers in that occupation and low salaries.

## **Finger Lakes**

### **A. Employment by Setting**

Total health care employment in the Finger Lakes region declined by nearly 2% between 2000 and 2004, driven in large part by reductions in employment in home health care services and in hospitals.

Employment in other ambulatory health services increased by over 50% between 2000 and 2004, followed by medical and diagnostic laboratories at over 20%, although the number of jobs only increased by 109.

Between 2000 and 2004, employment declined in home health care services by nearly 1,000 jobs, or 19%, and in outpatient care centers by 13% (Exhibit 45). The number of hospital jobs declined by over 900 jobs, or nearly 4%.

**Exhibit 45**  
**Number of Workers by Healthcare Setting in the Finger Lakes**  
**between 2000 and 2004**

<b>Setting</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>Change Between</b>	
						<b>2000 to 2004</b>	
						<b>Number</b>	<b>Percent</b>
Home Health Care Services	5,232	4,719	4,519	4,161	4,242	-990	-18.9%
Hospitals	26,544	25,462	24,355	24,720	25,619	-925	-3.5%
Medical and Diagnostic Laboratories	537	578	594	586	646	109	20.3%
Nursing and Personal Care Facilities	12,432	12,672	11,810	12,341	12,350	-82	-0.7%
Offices and Clinics of Dentists	3,020	3,006	3,018	3,070	3,082	62	2.1%
Offices and Clinics of Doctors of Medicine	5,667	5,723	5,919	6,120	6,146	479	8.5%
Offices of Other Health Practitioners	1,235	1,296	1,392	1,439	1,498	263	21.3%
Other Ambulatory Health Services	815	912	945	1,211	1,226	411	50.4%
Outpatient Care Centers	1,748	1,869	1,385	1,487	1,520	-228	-13.0%
<b>Totals</b>	<b>57,230</b>	<b>56,236</b>	<b>53,938</b>	<b>55,135</b>	<b>56,329</b>	<b>-901</b>	<b>-1.6%</b>

Source: New York State Department of Labor, ES-202

## B. Licensed Health Professionals

Between 2002 and 2004, the number of speech-language pathologists in the Finger Lakes increased by nearly 40%, which far outstripped the growth in the second fastest-growing occupation (nurse practitioners at 10%). The number of registered nurses showed little growth, with a 1% increase over that time period.

The number of respiratory therapists declined by slightly more than 8%, the number of licensed practical nurses declined by over 5%, and the number of pharmacists declined by 3% (Exhibit 46).

**Exhibit 46**  
**Change in the Number of Licensed Health Care Occupations**  
**for the Finger Lakes Region, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Speech-Language Pathologists	570	771	795	225	39.5%
Nurse Practitioners	1,047	1,117	1,153	106	10.1%
Physician Assistants	405	426	444	39	9.6%
Occupational Therapists	501	529	538	37	7.4%
Physical Therapists	765	814	820	55	7.2%
Social Workers	1,652	1,707	1,727	75	4.5%
Physical Therapy Assistants	227	235	237	10	4.4%
Registered Nurses	14,402	14,471	14,549	147	1.0%
Dietitian-Nutritionists	233	236	233	0	0.0%
Dental Hygienists	979	980	978	-1	-0.1%
Pharmacists	943	982	915	-28	-3.0%
Occupational Therapy Assistants	218	220	208	-10	-4.6%
Licensed Practical Nurses	5,885	5,780	5,575	-310	-5.3%
Respiratory Therapists	256	237	235	-21	-8.2%

Source: New York State Education Department, Office of Professions



**C. Employment Projections by Health Occupation**

The number of total registered nursing jobs in the Finger Lakes region is projected to increase by nearly 1,800 between 2002 and 2012, with over 410 average annual job openings due to growth and replacement. The Bureau of Labor Statistics estimates that between 2002 and 2012, there will be 290 annual job openings for home health aides. The majority of the annual job openings will be due to home health aides leaving the field. Over 1,000 nursing aide, orderly and attendant jobs are projected between 2002 and 2012, with 180 annual job openings for both new and replacement positions (Exhibit 47).

**Exhibit 47  
Employment Projections for the Top Eleven Health Care Growth Occupations  
for the Finger Lakes Region, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	10,880	12,660	1,780	16.4%	410
Home Health Aides	7,080	9,070	1,990	28.1%	290
Nursing Aides, Orderlies, and Attendants	6,350	7,390	1,040	16.4%	180
Licensed Practical Nurses	3,770	4,010	240	6.4%	100
Social Workers	2,330	2,780	450	19.3%	80
Dental Assistants	910	1,090	180	19.8%	50
Medical and Health Services Managers	1,050	1,200	150	14.3%	40
Pharmacists	760	930	170	22.4%	40
Dental Hygienists	1,180	1,400	220	18.6%	30
Medical Assistants	590	810	220	37.3%	30
Speech Language Pathologists	830	960	130	15.7%	30

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 – 2012

**D. Survey of Human Resources Directors**

Hospitals and nursing homes in the Finger Lakes region reported similar recruitment and retention difficulties as the state as a whole as described on pages 30 and 31 of this report. Additionally, nursing homes in the Finger Lakes reported problems retaining certified nurse aides due to competition among health care providers for workers in that occupation and low salaries.

## Hudson Valley

### A. Employment by Setting

Total health care employment in the Hudson Valley increased by 3.5% between 2000 and 2004. Employment in other ambulatory health services (e.g. ambulance services, blood banks) in the Hudson Valley grew by nearly 26% between 2000 and 2004, while employment in offices of other health practitioners (14.1%), outpatient care centers (14.0%) , and nursing and personal care facilities (13.9%) all increased during the same period.

Employment in medical and dental laboratories declined by almost 45% between 2000 and 2004, and employment in hospitals declined by nearly 2% during the same period (Exhibit 48).

**Exhibit 48**  
**Number of Workers by Healthcare Setting in the Hudson Valley**  
**between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	6,138	5,675	5,696	6,345	6,351	213	3.5%
Hospitals	39,672	39,649	39,511	39,266	38,979	-693	-1.7%
Medical and Diagnostic Laboratories	2,556	2,726	1,318	1,410	1,413	-1,143	-44.7%
Nursing and Personal Care Facilities	20,703	20,569	21,058	21,780	23,590	2,887	13.9%
Offices and Clinics of Dentists	6,139	6,269	6,466	6,625	6,568	429	7.0%
Offices and Clinics of Doctors of Medicine	16,831	17,173	17,560	18,164	18,277	1,446	8.6%
Offices of Other Health Practitioners	3,636	3,791	3,812	3,984	4,147	511	14.1%
Other Ambulatory Health Services	1,396	1,515	1,546	1,672	1,758	362	25.9%
Outpatient Care Centers	3,525	3,489	3,337	3,006	3,033	-492	14.0%
<b>Totals</b>	<b>100,596</b>	<b>100,855</b>	<b>100,302</b>	<b>102,252</b>	<b>104,116</b>	<b>3,520</b>	<b>3.5%</b>

Source: New York State Department of Labor, ES-202

## B. Licensed Health Professionals

The number of nurse practitioners in the Hudson Valley grew over 13% between 2002 and 2004, while the number of occupational therapists and occupational therapy assistants each increased by about 9% during the same period. While licensed registered nurses increased by over 250, it represented little overall growth.

The number of licensed pharmacists decreased by slightly over 5% between 2002 and 2004 while the number of licensed practical nurses decreased by nearly 6% (Exhibit 49).

**Exhibit 49**  
**Change in the Number of Licensed Health Care Occupations**  
**for the Hudson Valley, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Nurse Practitioners	1,239	1,353	1,405	166	13.4%
Occupational Therapy Assistants	547	592	599	52	9.5%
Occupational Therapists	1,079	1,166	1,176	97	9.0%
Physical Therapists	1,919	2,030	2,084	165	8.6%
Physician Assistants	549	597	599	50	8.3%
Speech-Language Pathologists	1,352	1,396	1,457	105	7.8%
Dietitian-Nutritionists	659	684	687	28	4.2%
Physical Therapy Assistants	428	439	446	18	4.2%
Social Workers	6,153	6,312	6,402	249	4.0%
Dental Hygienists	988	1,011	1,024	36	3.6%
Registered Nurses	30,205	30,322	30,457	252	0.8%
Respiratory Therapists	574	570	565	-9	-1.6%
Pharmacists	2,091	2,135	1,984	-107	-5.1%
Licensed Practical Nurses	7,749	7,595	7,310	-439	-5.7%

Source: New York State Education Department, Office of Professions

### C. Employment Projections by Health Occupation

The Bureau of Labor Statistics estimates that between 2002 and 2012, there will be over 2,700 new jobs in the Hudson Valley for registered nurses, with 640 average annual job openings. During the same period, home health aide jobs are projected to increase by nearly 3,300, with almost 500 average annual job openings. The number of nursing aide, orderly, and attendant jobs is projected to increase by nearly 1,100 between 2002 and 2012, with 240 average annual job openings (Exhibit 50).

**Exhibit 50**  
**Employment Projections for the Top Eleven Health Care Growth Occupations**  
**for the Hudson Valley Region, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	17,180	19,930	2,750	16.0%	640
Home Health Aides	12,200	15,460	3,260	26.7%	490
Nursing Aides, Orderlies, and Attendants	9,780	10,850	1,070	10.9%	240
Licensed Practical Nurses	5,340	5,900	560	10.5%	180
Social Workers	4,100	5,020	920	22.4%	170
Dental Assistants	2,810	3,520	710	25.3%	150
Medical and Health Services Managers	2,210	2,570	360	16.3%	80
Emergency Medical Technicians and Paramedics	1,350	1,720	370	27.4%	60
Physical Therapists	1,670	2,100	430	25.7%	60
Dental Hygienists	1,430	1,800	370	25.9%	50
Medical Records and Health Information Technicians	900	1,250	350	38.9%	50

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 - 2012

### D. Survey of Human Resources Directors

Hospitals and nursing homes in the Hudson Valley reported similar recruitment and retention difficulties as the state as a whole as described on pages 30 and 31 of this report.

## Long Island

### A. Employment by Setting

Total health care employment in the Long Island region grew by 6.6% between 2000 and 2004. Between 2000 and 2004, employment in nursing and personal care facilities in the Long Island region increased by nearly 3,600 new jobs (almost 19%), and employment in hospitals increased by over 2,200 new jobs (nearly 5%). During the same period, employment in other ambulatory health services increased by nearly 20% (Exhibit 51).

**Exhibit 51**  
**Number of Workers by Healthcare Setting on Long Island**  
**between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	10,307	10,691	10,773	10,833	10,919	86	0.8%
Hospitals	45,263	45,854	46,939	47,181	47,475	2,212	4.9%
Medical and Diagnostic Laboratories	2,728	2,789	2,729	2,749	2,881	153	5.6%
Nursing and Personal Care Facilities	18,858	18,363	20,376	20,947	22,427	3,569	18.9%
Offices and Clinics of Dentists	9,411	9,564	9,661	9,851	9,826	415	4.4%
Offices and Clinics of Doctors of Medicine	26,885	27,848	28,153	28,448	28,873	1,988	7.4%
Offices of Other Health Practitioners	6,366	6,742	6,924	7,062	6,862	496	7.8%
Other Ambulatory Health Services	1,463	1,537	1,393	1,593	1,749	286	19.5%
Outpatient Care Centers	4,087	4,182	4,428	4,513	4,577	490	12.0%
<b>Totals</b>	<b>125,368</b>	<b>127,569</b>	<b>131,376</b>	<b>133,177</b>	<b>133,589</b>	<b>8,221</b>	<b>6.6%</b>

Source: New York State Department of Labor, ES-202

## B. Licensed Health Professionals

Between 2002 and 2004, the number of nurse practitioners in Long Island increased by nearly 18%, the number of physician assistants increased by almost 17%, and the number of occupational therapists increased by over 12%. The number of registered nurses increased by nearly 600, but represented only little growth.

Between 2002 and 2004, the number of licensed pharmacists declined more than 2%, and the number of licensed practical nurses decreased by nearly 7% (Exhibit 52).

**Exhibit 52**  
**Change in the Number of Licensed Health Care Occupations**  
**for Long Island, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Nurse Practitioners	1,784	2,034	2,103	319	17.9%
Physician Assistants	1,158	1,252	1,350	192	16.6%
Occupational Therapists	1,403	1,532	1,579	176	12.5%
Occupational Therapy Assistants	293	317	323	30	10.2%
Physical Therapists	2,621	2,824	2,855	234	8.2%
Speech-Language Pathologists	2,392	2,400	2,533	141	5.9%
Physical Therapy Assistants	850	878	886	36	4.2%
Social Workers	7,325	7,475	7,553	228	3.1%
Dietitian-Nutritionists	867	820	885	18	2.1%
Registered Nurses	36,865	37,139	37,437	572	1.6%
Dental Hygienists	1,611	1,636	1,634	23	1.4%
Respiratory Therapists	808	803	793	-15	-1.9%
Pharmacists	3,449	3,556	3,371	-78	-2.3%
Licensed Practical Nurses	9,866	9,626	9,223	-643	-6.5%

Source: New York State Education Department, Office of Professions

### C. Employment Projections by Health Occupation

The Bureau of Labor Statistics estimates that between 2002 and 2012, there will be nearly 4,600 new jobs for registered nurses in the Long Island region, with 930 average job openings. The number of home health aides jobs will increase by over 6,100 during the same period, although average number of annual job openings will be fewer than for registered nurses (830 openings). Employment of medical assistants will grow by nearly 44%, with over 2,200 new jobs between 2002 and 2012 (Exhibit 53).

**Exhibit 53**  
**Employment Projections for the Top Ten Health Care Growth Occupations**  
**for the Long Island Region, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	22,570	27,160	4,590	20.3%	930
Home Health Aides	16,460	22,590	6,130	37.2%	830
Medical Assistants	5,150	7,400	2,250	43.7%	330
Nursing Aides, Orderlies, and Attendants	11,700	13,150	1,450	12.4%	300
Licensed Practical Nurses	5,870	6,490	620	10.6%	190
Social Workers	3,680	4,840	1,160	31.5%	190
Dental Assistants	3,340	4,280	940	28.1%	180
Medical and Health Services Managers	2,590	3,150	560	21.6%	110
Dental Hygienists	2,170	2,780	610	28.1%	80
Radiologic Technologists and Technicians	2,040	2,460	420	20.6%	80

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 - 2012

### D. Survey of Human Resources Directors

Hospitals and nursing homes on Long Island reported similar recruitment and retention difficulties as the state as a whole as described on pages 30 and 31 of this report. Additionally, nursing homes on Long Island reported problems retaining certified nurse aides due to competition among health care providers for workers in that occupation and low salaries.

## Mohawk Valley

### A. Employment by Setting

Total health care employment in the Mohawk Valley increased by nearly 3% between 2000 and 2004. Employment in a variety of outpatient settings increased between 2000 and 2004.

Between 2000 and 2004, employment in offices of other health practitioners increased by slightly over 21%, and employment in other ambulatory health services increased by slightly over 18% during the same period. Employment in offices and clinics of doctors of medicine Mohawk Valley increased by 239 jobs, or over 9%, while employment in nursing and personal care facilities increased 146 jobs, or 2.3%.

During the same period, employment in home health care services and hospitals declined slightly (Exhibit 54).

**Exhibit 54**  
**Number of Workers by Healthcare Setting in the Mohawk Valley**  
**between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	1,081	1,008	1,052	1,076	1,080	-1	-0.01%
Hospitals	9,507	9,624	9,330	9,414	9,466	-41	-0.04%
Medical and Diagnostic Laboratories	367	384	384	391	404	37	10.1%
Nursing and Personal Care Facilities	6,298	6,373	6,529	6,482	6,444	146	2.3%
Offices and Clinics of Dentists	901	915	908	941	977	76	8.4%
Offices and Clinics of Doctors of Medicine	2,544	2,527	2,542	2,673	2,783	239	9.4%
Offices of Other Health Practitioners	437	441	444	494	529	92	21.1%
Other Ambulatory Health Services	223	216	234	254	274	41	18.4%
Outpatient Care Centers	327	336	329	345	347	20	6.1%
<b>Totals</b>	<b>21,687</b>	<b>21,823</b>	<b>21,751</b>	<b>22,070</b>	<b>22,304</b>	<b>617</b>	<b>2.8%</b>

Source: New York State Department of Labor, ES-202



## B. Licensed Health Professionals

Between 2002 and 2004, the number of pharmacists in the Mohawk Valley increased by over 38%, followed by the increase in licensed speech-language pathologists by just over 10%. The number of registered nurses increased by slightly less than 1%.

Several licensed occupations declined during the period, with the number of licensed practical nurses declining by almost 3% and the number of physical therapists assistants declining by nearly 6% (Exhibit 55).

**Exhibit 55**  
**Change in the Number of Licensed Health Care Occupations**  
**for the Mohawk Valley, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Pharmacists	300	437	415	115	38.3%
Speech-Language Pathologists	158	156	174	16	10.1%
Nurse Practitioners	334	344	354	20	6.0%
Occupational Therapists	280	293	294	14	5.0%
Physical Therapists	289	309	302	13	4.5%
Dietitians-Nutritionists	69	62	72	3	4.3%
Social Workers	513	532	529	16	3.1%
Physician Assistants	108	109	110	2	1.9%
Registered Nurses	6,356	6,380	6,408	52	0.8%
Dental Hygienists	276	277	277	1	0.4%
Respiratory Therapists	141	138	140	-1	-0.7%
Occupational Therapy Assistants	195	193	192	-3	-1.5%
Licensed Practical Nurses	3,511	3,497	3,420	-91	-2.6%
Physical Therapist Assistants	195	186	184	-11	-5.6%

Source: New York State Education Department, Office of Professions

**C. Employment Projections by Health Occupation**

The Bureau of Labor Statistics estimates that between 2002 and 2012, there will be nearly 600 new registered nurse jobs in the Mohawk Valley region, with 140 average annual job openings due to both job growth and replacement. Total jobs for home health aides will increase by nearly 23%, or 720 new jobs, with 110 average annual job openings (Exhibit 56).

**Exhibit 56  
Employment Projections for the Top Eight Health Care Growth Occupations  
for the Mohawk Valley Region, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	3,990	4,570	580	14.5%	140
Home Health Aides	3,180	3,900	720	22.6%	110
Nursing Aides, Orderlies, and Attendants	3,470	3,900	430	12.4%	90
Licensed Practical Nurses	2,160	2,300	140	6.5%	60
Social Workers	680	850	170	25.0%	40
Dental Assistants	420	520	100	23.8%	20
Medical and Health Services Managers	360	410	50	13.9%	20
Pharmacists	350	420	70	20.0%	20

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 – 2012

**D. Survey of Human Resources Directors**

Hospitals and nursing homes in the Mohawk Valley reported similar recruitment and retention difficulties as the state as a whole as described on pages 30 and 31 of this report. Hospitals in the Mohawk Valley also reported difficulties retaining licensed practical nurses and patient care associates due to competition among health care providers for workers in those occupations. Additionally, nursing homes in the Mohawk Valley reported problems recruiting and retaining certified nurse aides due to competition among health care providers for workers in that occupation and low salaries.

## North Country

### A. Employment by Setting

Total health care employment in the North Country grew by more than 12% between 2000 and 2004, adding nearly 1,800 jobs. Between 2000 and 2004, employment in hospitals increased by more than 1,200 new jobs (15.1% growth), while employment in offices and clinics of doctors grew by over 14%, adding more than 300 jobs (Exhibit 57).

**Exhibit 57**  
**Number of Workers by Healthcare Setting in the North Country**  
**between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	540	495	512	553	577	37	6.9%
Hospitals	7,133	7,881	8,066	8,386	8,399	1,266	15.1%
Medical and Diagnostic Laboratories	15	18	20	31	28	13	86.7%
Nursing and Personal Care Facilities	3,263	2,961	3,250	3,192	3,340	77	2.4%
Offices and Clinics of Dentists	719	731	716	684	692	-27	-3.8%
Offices and Clinics of Doctors of Medicine	2,153	2,241	2,331	2,402	2,461	308	14.3%
Offices of Other Health Practitioners	342	379	380	390	405	63	18.4%
Other Ambulatory Health Services	166	174	179	184	212	46	27.7%
Outpatient Care Centers	462	496	535	499	466	4	0.09%
<b>Totals</b>	<b>14,792</b>	<b>15,375</b>	<b>15,988</b>	<b>16,321</b>	<b>16,580</b>	<b>1,788</b>	<b>12.1%</b>

Source: New York State Department of Labor, ES-202

**B. Licensed Health Professionals**

Between 2002 and 2004, the number of occupational therapy assistants in the North Country increased by more than 20%, while the number of licensed occupational therapist increased by 20%. The number of speech-language pathologists and the number of dietitians-nutritionists also substantially increased between 2002 and 2004. Although the percent increases for these occupations were notable for the two-year period, the absolute number of new licensees was relatively modest. Between 2002 and 2004, the number of registered nurses increased by over 90, though it represented little growth.

During the same period, the number of licensed practical nurses declined by 3% and the number of respiratory therapists decreased by nearly 8% in the North Country (Exhibit 58).

**Exhibit 58**  
**Change in the Number of Licensed Health Care Occupations**  
**for the North Country, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Occupational Therapy Assistants	54	60	65	11	20.4%
Occupational Therapists	100	116	120	20	20.0%
Speech-Language Pathologists	158	171	182	24	15.2%
Dietitians-Nutritionists	69	73	78	9	13.0%
Physician Assistants	132	130	145	13	9.8%
Physical Therapy Assistants	121	131	131	10	8.3%
Physical Therapists	233	253	250	17	7.3%
Social Workers	287	304	307	20	7.0%
Nurse Practitioners	180	185	185	5	2.8%
Registered Nurses	4,734	4,779	4,827	93	2.0%
Dental Hygienists	195	200	196	1	0.5%
Pharmacists	300	307	294	-6	-2.0%
Licensed Practical Nurses	2,498	2,483	2,424	-74	-3.0%
Respiratory Therapists	66	63	61	-5	-7.6%

Source: New York State Education Department, Office of Professions

**C. Employment Projections by Health Occupation**

The Bureau of Labor Statistics estimates that between 2002 and 2012, the number of jobs for registered nurses in the North Country will grow by over 17%, with 140 average annual openings. During the same period, total home health aide jobs are projected to increase by over 800 jobs (42.5%), with 120 average annual openings (Exhibit 59).

**Exhibit 59**  
**Employment Projections for the Top Seven Health Care Growth Occupations**  
**for the North Country Region, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	3,610	4,230	620	17.2%	140
Home Health Aides	2,920	3,750	830	28.4%	120
Licensed Practical Nurses	1,310	1,460	150	11.5%	50
Nursing Aides, Orderlies, and Attendants	1,740	1,940	200	11.5%	40
Dental Assistants	240	290	50	20.8%	20
Medical and Health Services Managers	360	430	70	19.4%	20
Psychiatric Aides	550	620	70	12.7%	20

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 – 2012

**D. Survey of Human Resources Directors**

Hospitals in the North Country reported similar recruitment and retention difficulties as the state as a whole as described on page 30 of this report. Hospitals in the North Country also reported difficulties recruiting licensed practical nurses attributed to shortages of LPNs and difficulties recruiting and retaining patient care associates due to low salaries.

## Southern Tier

### A. Employment by Setting

Total health care employment in the Southern Tier grew by slightly over 4% between 2000 and 2004, or 1,229 positions. Between 2000 and 2004, employment in other ambulatory health services grew by 35%, employment in home health care services grew by over 26%, and employment in offices of other health practitioners grew by nearly 21%. Employment in hospitals and nursing and personal care facilities grew very little during the same period.

Between 2000 and 2004, employment in outpatient care centers decreased by nearly 22%, and employment in medical and diagnostic laboratories declined by almost 14% (Exhibit 60).

**Exhibit 60**  
**Number of Workers by Healthcare Setting in the Southern Tier**  
**Between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	936	939	1,068	1,079	1,181	245	26.2%
Hospitals	14,847	15,047	15,106	15,247	15,105	258	1.7%
Medical and Diagnostic Laboratories	117	126	138	107	101	-16	-13.7%
Nursing and Personal Care Facilities	7,405	7,462	7,598	7,455	7,477	72	1.0%
Offices and Clinics of Dentists	1,522	1,506	1,527	1,545	1,596	74	4.9%
Offices and Clinics of Doctors of Medicine	3,739	3,862	3,983	4,140	4,222	483	12.9%
Offices of Other Health Practitioners	710	738	812	845	858	148	20.8%
Other Ambulatory Health Services	260	289	311	334	351	91	35.0%
Outpatient Care Centers	582	600	450	513	455	-127	-21.8%
<b>Totals</b>	<b>30,117</b>	<b>30,568</b>	<b>30,994</b>	<b>31,265</b>	<b>31,346</b>	<b>1,229</b>	<b>4.1%</b>

Source: New York State Department of Labor, ES-202

**B. Licensed Health Professionals**

Between 2002 and 2004, the number of occupational therapists in the Southern Tier increased by nearly 16%, and the number of social workers increased by almost 8%.

Between 2002 and 2004, the number of respiratory therapists in the Southern Tier decreased by more than 8%, while the number of pharmacists declined by 6%. The number of registered nurses declined by slightly over 3% and the number of licensed practical nurses declined by more than 2% during the same period (Exhibit 61).

**Exhibit 61**  
**Change in the Number of Licensed Health Care Occupations**  
**for the Southern Tier, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Occupational Therapists	226	253	262	36	15.9%
Social Workers	1,024	1,083	1,105	81	7.9%
Physician Assistants	165	176	177	12	7.3%
Nurse Practitioners	472	493	494	22	4.7%
Speech-Language Pathologists	277	284	290	13	4.7%
Physical Therapists	414	433	426	12	2.9%
Occupational Therapy Assistants	74	78	76	2	2.7%
Dietitians-Nutritionists	161	165	165	4	2.5%
Physical Therapy Assistants	207	216	210	3	1.4%
Dental Hygienists	461	459	463	2	0.4%
Licensed Practical Nurses	3,360	3,429	3,436	-76	-2.3%
Registered Nurses	8,525	8,389	8,260	-265	-3.1%
Pharmacists	546	557	513	-33	-6.0%
Respiratory Therapists	184	178	169	-15	-8.2%

Source: New York State Education Department, Office of Professions

### C. Employment Projections by Health Occupation

The Bureau of Labor Statistics estimates that between 2002 and 2012, there will be 2,130 average annual job openings for registered nurses in the Southern Tier, and employment of registered nurses is projected to increase by nearly 900 new jobs during the period. Employment of home health aides is projected to increase by almost 1,000 new jobs between 2002 and 2012, with 140 annual job openings (Exhibit 62).

**Exhibit 62**  
**Employment Projections for the Top Eleven Health Care Growth Occupations**  
**for the Southern Tier Region, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	5,890	6,770	880	14.9%	210
Home Health Aides	3,210	4,170	960	29.9%	140
Nursing Aides, Orderlies, and Attendants	3,790	4,290	500	13.2%	100
Licensed Practical Nurses	2,360	2,550	190	8.1%	70
Medical Assistants	660	950	290	43.9%	40
Social Workers	1,130	1,360	230	20.4%	40
Dental Hygienists	530	690	160	30.2%	30
Dental Assistants	490	630	140	28.6%	20
Medical and Health Services Managers	660	770	110	16.7%	20
Radiologic Technologists and Technicians	500	550	50	10.0%	20
Speech-Language Pathologists	320	380	60	18.8%	20

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 – 2012

### D. Survey of Human Resources Directors

Hospitals and nursing homes in the Southern Tier reported similar recruitment and retention difficulties as the state as a whole as described on pages 30 and 31 of this report. Additionally, nursing homes in the Southern Tier reported problems retaining certified nurse aides due to competition among health care providers for workers in that occupation and low salaries.



## Western New York

### A. Employment by Setting

Health care employment in the Western New York increased by 1.5% between 2000 and 2004. Between 2000 and 2004, the number of jobs in offices of other health practitioners increased by about 350 jobs, or nearly 20%, while employment in nursing and personal care facilities increased by almost 1,400 jobs, or over 8%.

Between 2000 and 2004, employment in medical and dental laboratories declined by over 10%, while jobs in physician offices and clinics declined by over 7%. Employment in hospitals declined by slightly more than 1% during the same time period (Exhibit 63).

**Exhibit 63**  
**Number of Workers by Healthcare Setting in Western New York**  
**between 2000 and 2004**

Setting	2000	2001	2002	2003	2004	Change Between 2000 to 2004	
						Number	Percent
Home Health Care Services	4,550	3,945	4,107	4,216	4,540	-10	-0.02%
Hospitals	28,548	28,200	27,946	28,088	28,203	-345	-1.2%
Medical and Diagnostic Laboratories	857	748	708	715	770	-87	-10.2%
Nursing and Personal Care Facilities	16,695	16,950	17,584	17,673	18,063	1,368	8.2%
Offices and Clinics of Dentists	3,484	3,490	3,518	3,535	3,608	124	3.6%
Offices and Clinics of Doctors of Medicine	10,444	10,550	9,274	9,648	9,707	-737	-7.1%
Offices of Other Health Practitioners	1,757	1,804	1,952	2,042	2,104	347	19.7%
Other Ambulatory Health Services	1,120	1,131	1,173	1,229	1,252	132	11.8%
Outpatient Care Centers	1,946	1,902	2,038	2,091	2,180	234	12.0%
<b>Totals</b>	<b>69,402</b>	<b>68,722</b>	<b>68,300</b>	<b>69,237</b>	<b>70,427</b>	<b>1,025</b>	<b>1.5%</b>

Source: New York State Department of Labor, ES-202

## B. Licensed Health Professionals

Between 2002 and 2004, the number of physician assistants in Western New York increased by nearly 17%, while the number of nurse practitioners grew by 9%.

Between 2002 and 2004, the number of pharmacists declined by almost 7%, and the number of respiratory therapists declined by 6%. During the same time period, the number of registered nurses declined slightly, and the number of licensed practical nurses declined by just over 5% (Exhibit 64).

**Exhibit 64**  
**Change in the Number of Licensed Health Care Occupations**  
**for Western New York, 2002 to 2004**

Occupation	2002	2003	2004	Change between 2002 and 2004	
				Number	Percent
Physician Assistants	346	383	404	58	16.8%
Nurse Practitioners	837	902	912	75	9.0%
Occupational Therapists	695	730	740	45	6.5%
Speech-Language Pathologists	858	899	913	55	6.4%
Dietitians-Nutritionists	278	293	292	14	5.0%
Physical Therapy Assistants	249	261	261	12	4.8%
Dental Hygienists	928	948	961	33	3.6%
Social Workers	1,527	1,598	1,576	49	3.2%
Physical Therapists	1,144	1,194	1,181	37	3.2%
Occupational Therapy Assistants	634	636	631	-3	-0.5%
Registered Nurses	18,774	18,683	18,603	-171	-0.9%
Licensed Practical Nurses	7,530	7,404	7,149	-381	-5.1%
Respiratory Therapists	432	413	406	-26	-6.0%
Pharmacists	1,556	1,584	1,455	-101	-6.5%

Source: New York State Education Department, Office of Professions

**C. Projected Demand for Health Occupations**

The Bureau of Labor Statistics estimates that between 2002 and 2012, there will be an average of 450 annual job openings in Western New York for registered nurses, with RN jobs projected to increase by nearly 1,800. The total number of home health aide jobs is projected to increase by almost 2,300 between 2002 and 2012, with 330 average annual job openings (Exhibit 65).

**Exhibit 65  
Employment Projections for the Western New York Region, 2002 – 2012**

	2002	2012	Growth Between 2002 and 2012		Avg. Annual Openings
			Number	Percent	
Registered Nurses	13,020	14,770	1,750	13.4%	450
Home Health Aides	7,410	9,680	2,270	30.6%	330
Nursing Aides, Orderlies, and Attendants	7,440	8,520	1,080	14.5%	210
Licensed Practical Nurses	4,670	5,170	500	10.7%	150
Social Workers	2,370	2,930	560	23.6%	100
Medical Assistants	1,180	1,580	400	33.9%	60
Dental Assistants	1,190	1,400	210	17.6%	50
Medical and Health Services Managers	1,350	1,560	210	15.6%	50
Pharmacists	1,050	1,230	180	17.1%	40

Source: New York State Department of Labor, Labor Market Information, Occupational Outlook, 2002 - 2012

**D. Survey of Human Resources Directors**

Hospitals and nursing homes in Western New York reported similar recruitment and retention difficulties as the state as a whole as described on pages 30 and 31 of this report. Hospitals in the Western New York also reported difficulties retaining patient care associates due to competition among health care providers for workers in that occupation. Additionally, nursing homes in Western New York reported problems recruiting and retaining certified nurse aides due to shortage of workers and competition among health care providers for workers in that occupation.

**NEW YORK STATE METROPOLITCAN STATISTICAL AREAS**

**Albany-Schenectady-Troy MSA**

Health care employment in the Albany-Schenectady-Troy MSA increased by nearly 4% between 2000 and 2004. Employment in nursing and residential care facilities showed the most growth with a nearly 17% increase. Employment in hospitals and ambulatory care services remained stable over the same period (Exhibit 66).

**Exhibit 66  
Health Care Employment by Setting,  
Albany-Schenectady-Troy MSA, 2000 – 2004**

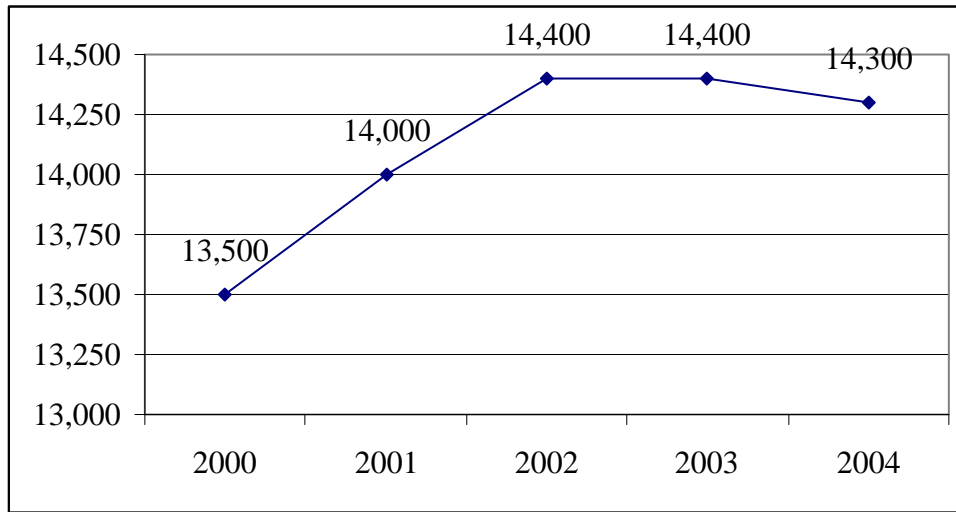
<b>Setting</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>Change 2000 to 2004</b>	
						<b>Number</b>	<b>Percent</b>
Ambulatory Health Care Services	15,400	15,600	15,300	15,100	15,300	-100	-0.6%
Hospitals	15,900	15,400	15,900	16,100	16,000	100	0.6%
Nursing and Residential Care Facilities	12,800	13,300	13,500	13,700	14,400	1,600	12.5%
<b>Totals</b>	<b>44,100</b>	<b>44,300</b>	<b>44,700</b>	<b>44,900</b>	<b>45,700</b>	<b>1,600</b>	<b>3.6%</b>

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Binghamton MSA**

Industry-specific employment figures for the Binghamton MSA combined health care and social assistance employment. Employment in these sectors increased by 7% from 13,530 jobs in 2000 to 14,300 jobs in 2004. Most of this growth, however, occurred between 2000 and 2002, with a slight decline in employment between 2002 and 2004 (Exhibit 67).

**Exhibit 67**  
**Health Care and Social Assistance Employment,**  
**Binghamton MSA, 2000 to 2004**

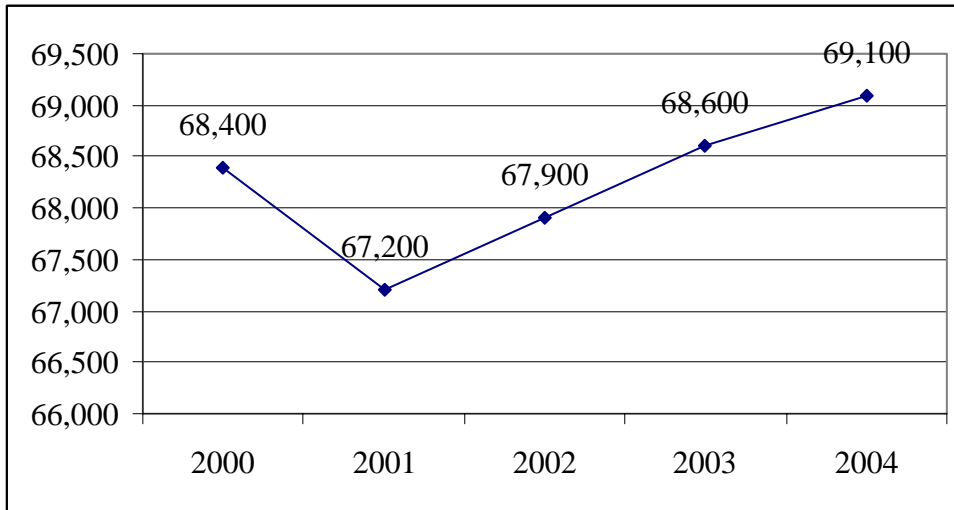


Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Buffalo-Niagara MSA**

Industry-specific employment figures were available for Buffalo-Niagara MSA combined health care and social assistance employment. Overall employment in these sectors increased by 1% in the Buffalo-Niagara MSA between 2000 and 2004. (Exhibit 68).

**Exhibit 68**  
**Health Care and Social Assistance Employment**  
**Buffalo-Niagara MSA, 2000 – 2004**

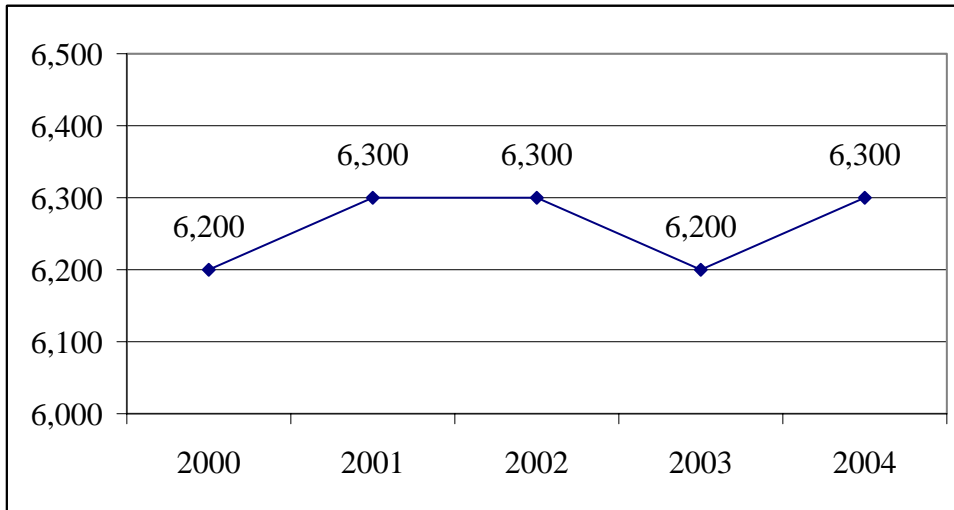


Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Elmira MSA**

Industry-specific employment figures for the Elmira MSA combined health care and social assistance employment. Employment in these sectors increased by almost 2% from 6,200 jobs in 2000 to 6,300 jobs in 2004. (Exhibit 69).

**Exhibit 69**  
**Health Care and Social Assistance Employment,**  
**Elmira MSA, 2000 to 2004**

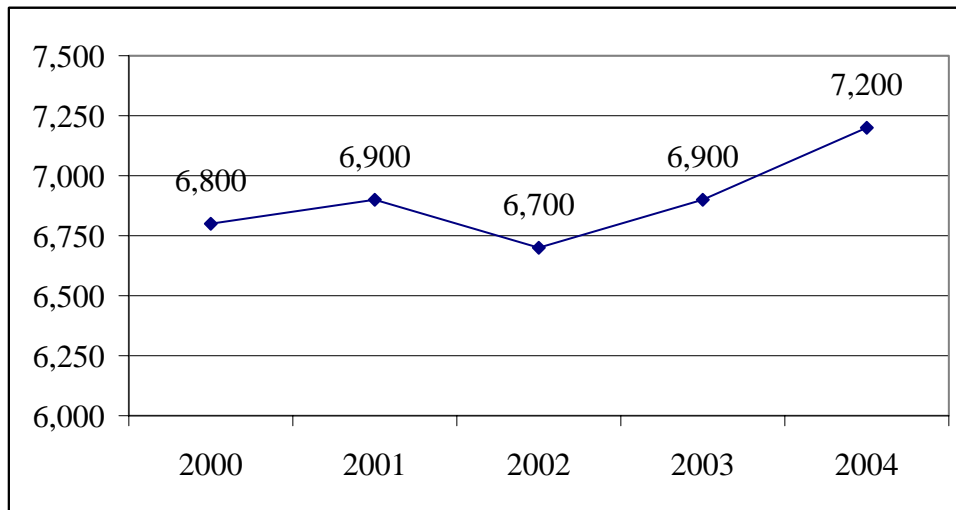


Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Glens Falls MSA**

Industry-specific employment figures for the Glens Falls MSA combined of health care and social assistance employment. Employment in these sectors increased by just over 6%, from 6,800 jobs in 2000 to 7,200 jobs in 2004. (Exhibit 70).

**Exhibit 70  
Growth in Health Care and Social Assistance Employment,  
Glens Falls MSA, 2000 to 2004**



Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics



## Nassau-Suffolk MSA

Health care employment in the Nassau-Suffolk MSA increased by nearly 9% between 2000 and 2004. Employment in nursing and residential care facilities experienced the largest increase (14.8%), followed by hospitals (7.6%) and ambulatory health care services (7.3%). (Exhibit 71).

### **Exhibit 71 Health Care Employment by Setting, Nassau-Suffolk MSA, 2000 – 2004**

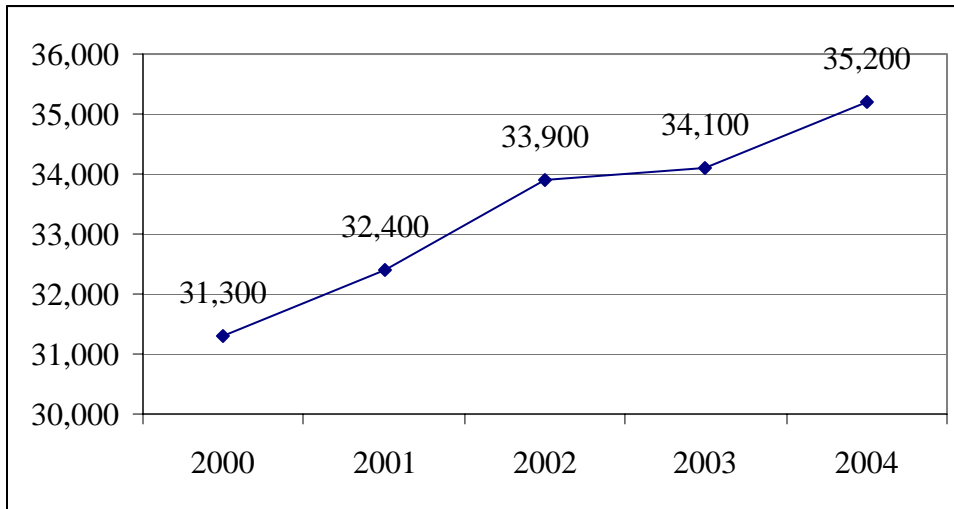
<b>Setting</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>Change 2000 to 2004</b>	
						<b>Number</b>	<b>Percent</b>
Ambulatory Health Care Services	62,700	64,300	65,100	66,000	67,300	4,600	7.3%
Hospitals	38,200	38,200	40,000	40,600	41,100	2,900	7.6%
Nursing and Residential Care Facilities	25,700	25,800	26,600	27,800	29,500	3,800	14.8%
<b>Totals</b>	<b>126,600</b>	<b>128,300</b>	<b>131,700</b>	<b>134,400</b>	<b>137,900</b>	<b>11,300</b>	<b>8.9%</b>

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Poughkeepsie-Newburgh-Middletown MSA**

Industry-specific employment figures for the Poughkeepsie-Newburgh-Middletown MSA combined health care and social assistance employment. Employment in these sectors increased by over 12%, from 31,300 jobs in 2000 to 35,200 jobs in 2004. (Exhibit 72).

**Exhibit 72**  
**Health Care and Social Assistance Employment,**  
**Poughkeepsie-Newburgh-Middletown MSA, 2000 to 2004**

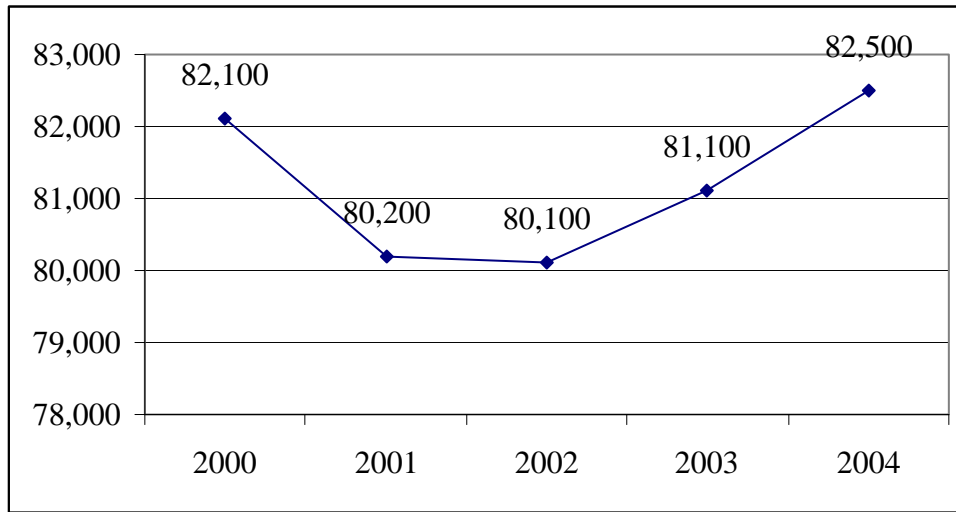


Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Putnam-Rockland-Westchester**

Industry-specific employment figures for the Putnam-Rockland-Westchester MSA combined health care and social assistance employment. Employment in these sectors increased from 82,100 jobs in 2000 to 82,500 jobs in 2003, but there was a sharp decline in employment between 2000 and 2001 (Exhibit 73).

**Exhibit 73**  
**Health Care and Social Assistance Employment,**  
**Putnam-Rockland-Westchester MSA, 2000 to 2004**

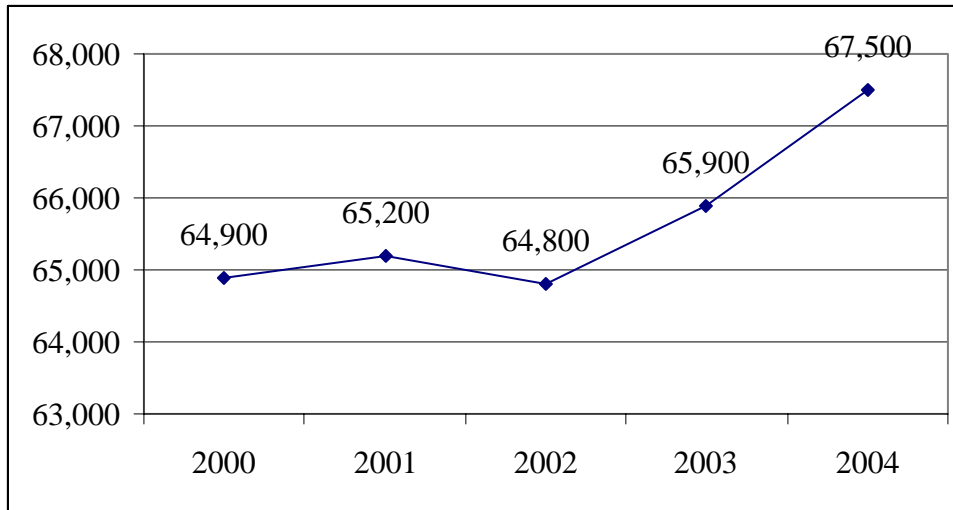


Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Rochester MSA**

Industry-specific employment figures for the Rochester MSA combined health care and social assistance employment. Employment in these sectors increased by 4%, from 64,900 in 2000 to 67,500 in 2004. (Exhibit 74).

**Exhibit 74**  
**Growth in Health Care and Social Assistance Employment,**  
**Rochester MSA, 2000 – 2004**

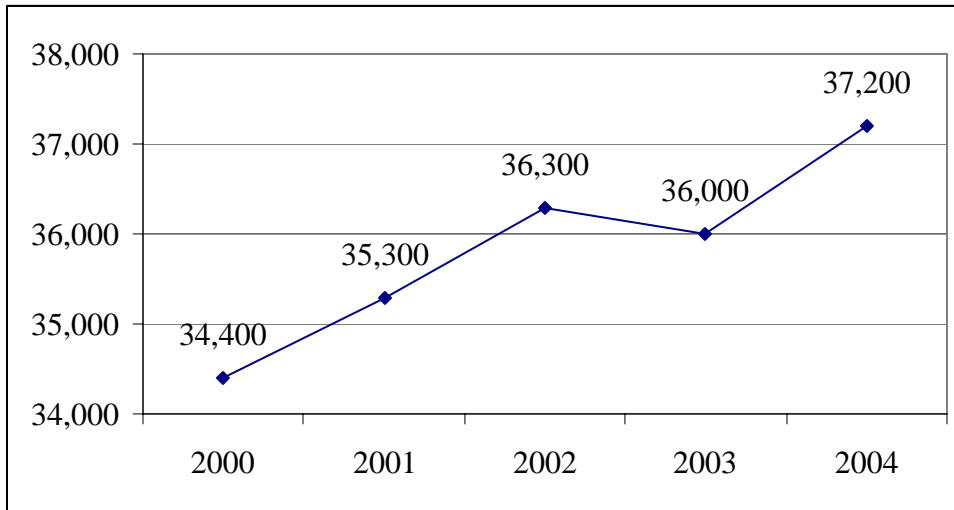


Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics

**Syracuse MSA**

Industry-specific employment figures for the Syracuse MSA combined health care and social assistance employment. Employment in these sectors increased by 8% between 2000 and 2004. (Exhibit 75).

**Exhibit 75**  
**Health Care and Social Assistance Employment,**  
**Syracuse MSA, 2000 – 2004**



Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics



## Appendix I





**New York State Registered Nursing Graduations, 1996 – 2006**

**April 2005**

**Robert Martiniano  
Jean Moore  
Sandra McGinnis**

The Center for Health Workforce Studies  
School of Public Health, University at Albany  
One University Place  
Rensselaer, NY 12144-3456  
Phone: (518) 402-0250  
Fax: (518) 402-0252  
<http://chws.albany.edu>



# NEW YORK STATE REGISTERED NURSING GRADUATIONS, 1996 - 2006

## BACKGROUND

The Center for Health Workforce Studies at the School of Public Health, University at Albany (the Center) surveys registered nursing education programs in New York State annually to better understand trends affecting the supply of registered nurses (RNs) in the state. The brief survey includes questions on applications, acceptances, and graduations for the current year as well as projected graduations through 2006. This report summarizes the responses to the 2004 survey.

Of the 105 nursing programs in New York State, 98 responded to the survey for a 93% response rate. Data for the 7 non-respondents were imputed from responses to previous surveys; consequently, the following data reflect enrollment and graduations of all registered nursing programs in the state. It is important to note that *not all RN graduations represent new registered nurses* as many RNs who have completed an associate degree or diploma program return to school to obtain a bachelors degree in nursing (BSN). Based on survey responses, the Center estimates that approximately 40% of 2004 bachelor degree graduates were already RNs, which means that approximately 14% of all RN program graduates in the state were already licensed as RNs.

While not every RN educated in New York State will become licensed and practice in the state, and some RNs practicing in New York were educated outside of the state, RNs educated in New York are by far the single largest source of RNs practicing in the state. A 2002 survey of RNs in the state conducted by the Education Department found that over 78% of licensed RNs had completed their nursing education in the state.<sup>16</sup>

Funding for the data analysis portion of this study was provided by the federal Bureau of Health Professions in the Health Resources and Services Administration.

## KEY FINDINGS

- 1. For the second consecutive year, the number of RNs graduates in New York State increased over the previous year.**

It is estimated that nearly 6,300 individuals graduated from registered nursing education programs in New York State in 2004. This is the second successive year that RN graduations have increased, following six consecutive years of declining graduations. Even with this increase, the number of graduates in 2004 was 18% lower than the number in 1996, when the number of nursing graduates was at an all time high for the state (Table 1 and Figure 1).

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<sup>16</sup> New York State Education Department, Office of the Professions and Fiscal Analysis and Research Unit, Registered Nurses in New York State, 2002, Volume 1: Demographic, Educational, and Workforce Characteristics, September 2003.

**2. RN graduations are projected to continue to rise in 2005 and 2006.**

RN graduations are projected to continue to rise in 2005 and 2006. The number of RN graduations in 2006 is expected to be more than 30% higher than the number of RN graduates in 2004. With these anticipated increases, RN graduations in 2006 are estimated to be 6% higher than 1996 RN graduations (Table 1 and Figure 1).

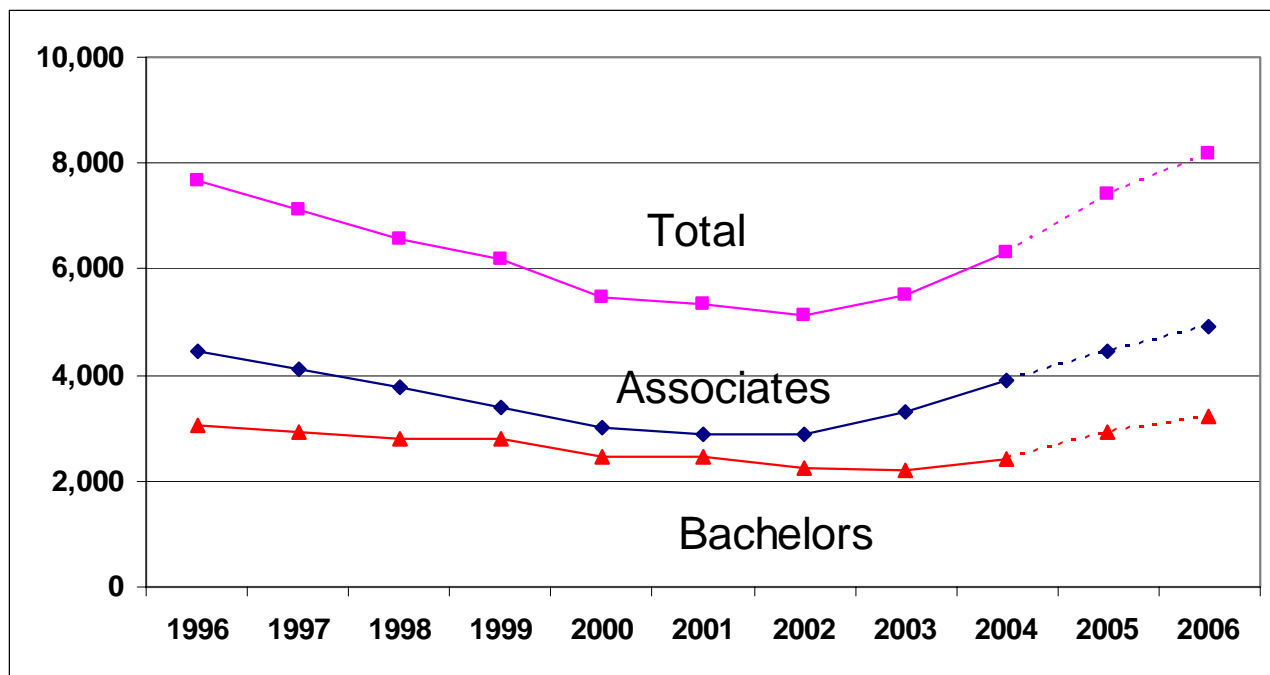
**3. Graduations from both associate degree and bachelor degree RN programs increased between 2003 and 2004. Both associate and bachelor degree RN programs anticipate an increasing number of RN graduations through 2006.**

Associate degree RN graduations decreased by more than 35% between 1996 and 2002, while bachelor degree RN graduations decreased by more than 28% between 1996 and 2003. Associate degree graduations began increasing in 2003 and are projected to rise by 71% between 2002 and 2006. Bachelor degree RN program graduations began increasing in 2004 and are expected to rise by 47% between 2003 and 2006 (Table 1 and Figure 1).

Table 1  
New York State RN Graduations by Degree Type, 1996 to 2006

Degree Type	Actual Graduations									Projected Graduations	
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Associates	4,447	4,102	3,763	3,381	3,015	2,885	2,877	3,311	3,878	4,463	4,932
Bachelors	3,062	2,911	2,780	2,792	2,437	2,437	2,248	2,199	2,407	2,922	3,238
Diplomas	176	94	13	4	4	12	3	3	11	22	12
Total	7,685	7,107	6,556	6,177	5,456	5,334	5,128	5,513	6,296	7,407	8,182

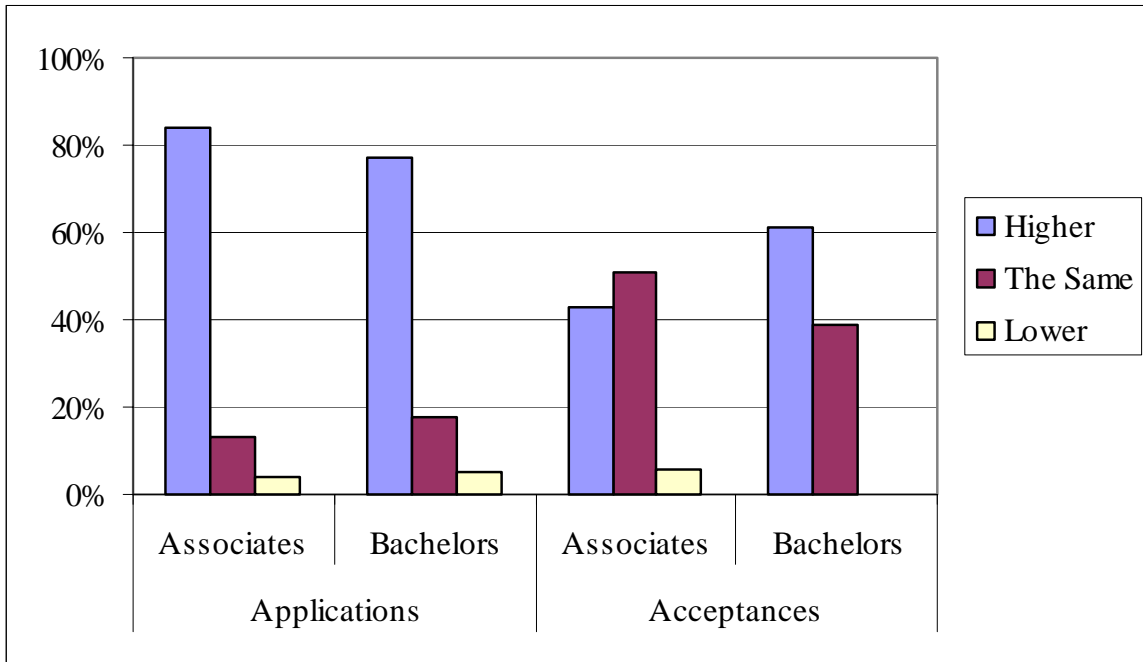
**Figure 1**  
**New York State RN Graduations by Degree Type, 1996 to 2006**



- 4. For the third consecutive year, both associate and bachelor degree programs reported a significant increase in applications and acceptances to their programs. Based on anticipated acceptances, RN graduations will likely rise for the next several years.**

Nearly 84% of associate degree programs and almost 77% of bachelor degree programs reported an increase in the number of applications in 2004 over 2003. This was the fourth consecutive year that nursing education programs reported an increasing number of applications over the prior year. Additionally, more than 43% of associate degree programs and over 61% of bachelor degree programs reported an increase in acceptances.

**Figure 2**  
**Percentage Change in the Number of Applications and Acceptances**  
**By Degree Type between 2003 and 2004**



**5. In 2004, an increasing number of survey respondents reported turning away qualified applicants, compared to 2003.**

Fifty-seven percent of respondents (56) indicated they turned away qualified applicants, compared to 49% of the respondents (48) in 2003. Nearly 75% of associate degree programs and almost 40% of bachelor degree programs reported turning away qualified applicants in 2004, compared to 68% and 26%, respectively, in 2003. An increasing number of programs in five of the eight regions of the state reported turning away qualified applicants (Table 2).

**Table 2**  
**Percent of Respondents Reporting Turning Away Qualified Applicants**  
**by Program Type and HSA Region**

HSA Region	Type of Program					
	All Nursing Programs		Associate Degree		Bachelor Degree	
	2003	2004	2003	2004	2003	2004
New York State	49%	57%	68%	73%	26%	39%
Western NY	44%	44%	50%	50%	33%	33%
Finger Lakes	55%	80%	100%	100%	29%	67%
Central NY	50%	64%	70%	80%	0%	25%
NY-Penn	100%	100%	100%	100%	100%	100%
Northeastern NY	64%	57%	82%	55%	0%	67%
Hudson Valley	36%	43%	50%	63%	0%	17%
New York City	46%	54%	54%	83%	36%	25%
Nassau-Suffolk	71%	75%	100%	100%	33%	50%

6. It is estimated that an increasing number of qualified applicants were turned away in 2004.

The percent of nursing education programs that reported turning away 81 or more qualified applicants increased between 2003 and 2004. The percent of nursing education programs that reported turning away at least 41 qualified applicants more than doubled from 11% in 2003 to 23% in 2004. The percents of both associate degree and bachelor degree nursing education programs that reported turning away at least 41 qualified applicants also more than doubled, 12% to 25% and 9% to 21%, respectively (Table 3). Based on responses to these ranges, it is estimated that between 1,700 and 2,800 qualified applicants were turned away in 2004.

**Table 3**  
**Number of Qualified Applicants Turned Away**  
**by Program Type**

Number of Qualified Applicants Turned Away	Type of Program					
	All Nursing Programs		Associate Degree		Bachelor Degree	
	2003	2004	2003	2004	2003	2004
1 – 20	24%	26%	35%	32%	6%	18%
21 – 40	17%	10%	21%	16%	11%	0%
41 – 60	0%	5%	0%	4%	0%	8%
61 – 80	3%	5%	5%	5%	0%	5%
81 or More	8%	13%	7%	16%	9%	8%

**7. Lack of faculty continued to be the main reason that nursing education programs reported turning away qualified applicants.**

Seventy-seven percent (43 of 56) of programs that reported turning away qualified applicants cited lack of faculty as a reason. Over 50% percent of these programs reported that lack of clinical training sites was another reason for turning away qualified applicants. Another 20% cited space at the school as a reason for turning away qualified applicants.

Of those RN education programs that cited lack of faculty as the reason for turning away qualified applicants, 33 (77%) were publicly sponsored programs and 33 (77%) were associate degree programs (Table 4).

**Table 4  
Reasons for Turning Away Qualified Applicants by Sponsorship and by Degree Type**

Reason for Turning Away Qualified Applicant	Total	Sponsorship		Degree Type	
		Public	Private	Associates Degree	Bachelors Degree
Lack of Faculty	43	33	10	33	10
Lack of Training Sites	31	23	8	24	7
Lack of Financial Aid	6	3	3	4	2
Lack of classroom/lab space	11	5	6	9	2
Other	14	13	1	8	6
<b>Totals<sup>17</sup></b>	56	40	16	42	14

**8. Forty-four percent (43) of all survey respondents reported actively recruiting faculty.**

Less than half (44%) of the all respondents indicated they were actively recruiting nursing faculty. Slightly more privately sponsored nursing programs reported actively recruiting faculty than publicly sponsored nursing programs, and more associate degree programs reported actively recruiting faculty than bachelor degree programs.

Of the forty-three programs that reported turning away qualified applicants due to lack of faculty, nineteen (44%) were actively recruiting faculty. Fifteen of the thirty-three publicly sponsored nursing programs (45%) that reported turning away qualified applicants due to lack of faculty were actively recruiting faculty. Fourteen of the thirty-three associate degree nursing programs (42%) that reported turning away qualified applicants due to lack of staff were actively recruiting faculty (Table 5).

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<sup>17</sup> Nursing education programs may indicate more than one reason for turning away qualified applicants



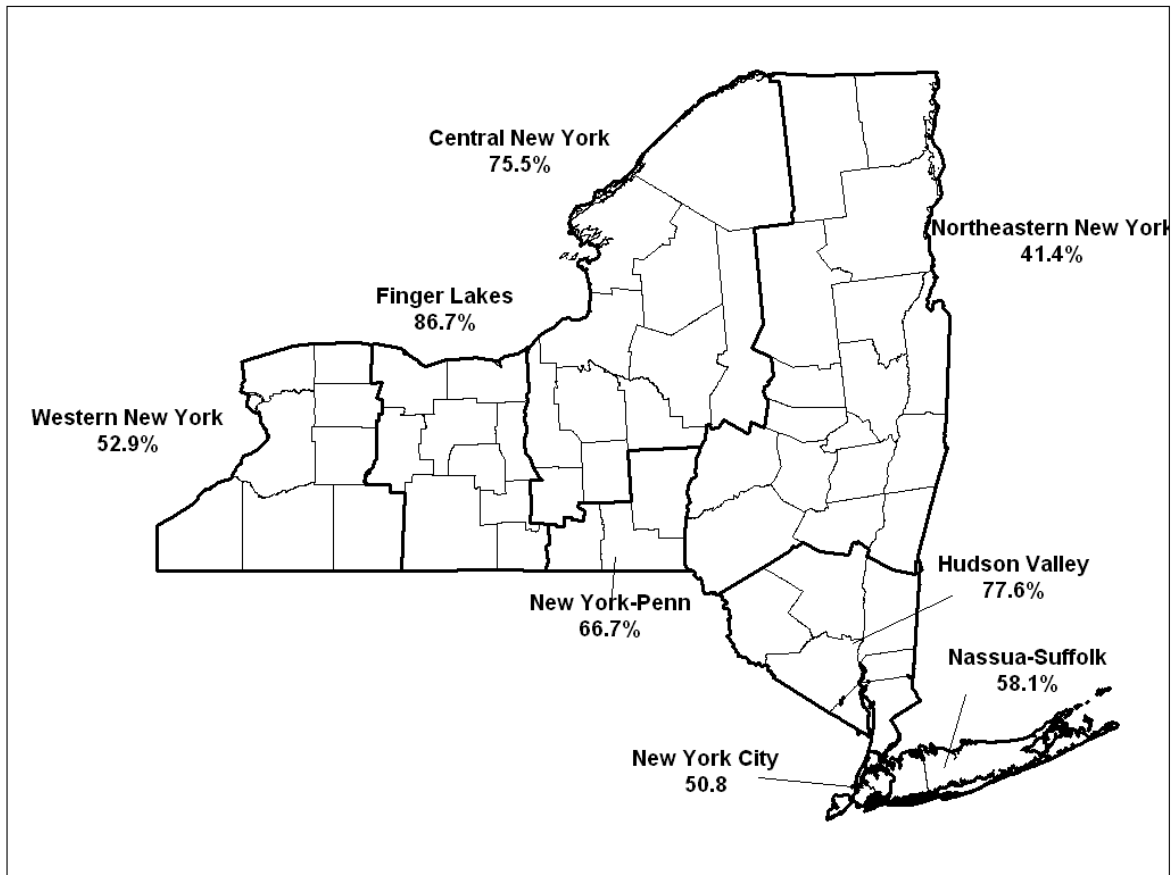
**Table 5  
Nursing Programs Actively Recruiting Faculty**

	<b>Total</b>	<b>Sponsor</b>		<b>Degree Type</b>		
		<b>Public</b>	<b>Private</b>	<b>Associates Degree</b>	<b>Bachelors Degree</b>	<b>Diploma</b>
Turned away qualified applicants and cited lack of faculty as reason	19	15	4	14	5	0
Turned away qualified applicants and cited other reasons	6	1	5	2	4	0
Didn't turn away qualified applicants	18	5	13	6	11	1
<b>Totals</b>	<b>43</b>	<b>21</b>	<b>22</b>	<b>22</b>	<b>20</b>	<b>1</b>

**9. Increases in RN graduations are projected for all regions of New York State between 2005 and 2006.**

All regions in New York State experienced double digit declines in RN graduations between 1996 and 2002, ranging from a low of 17% in the Northeastern New York Region to a high of 51% in the NY-Penn Region. In contrast, all regions are projected to experience significant increases in RN graduations between 2002 and 2006, ranging from 41% in the Northeastern New York Region to 87% in the Finger Lakes Region. Every region is projected to have an increase in the number of RN graduations between 2004 and 2005. Projected increases in graduations in 2006 will result in RN graduations in six of the eight regions that will be higher than their 1996 RN graduations (Figure 3 and Table 6).

**Figure 3**  
**Projected Percentage Increase in RN Graduations, 2002 – 2006, by HSA Region**



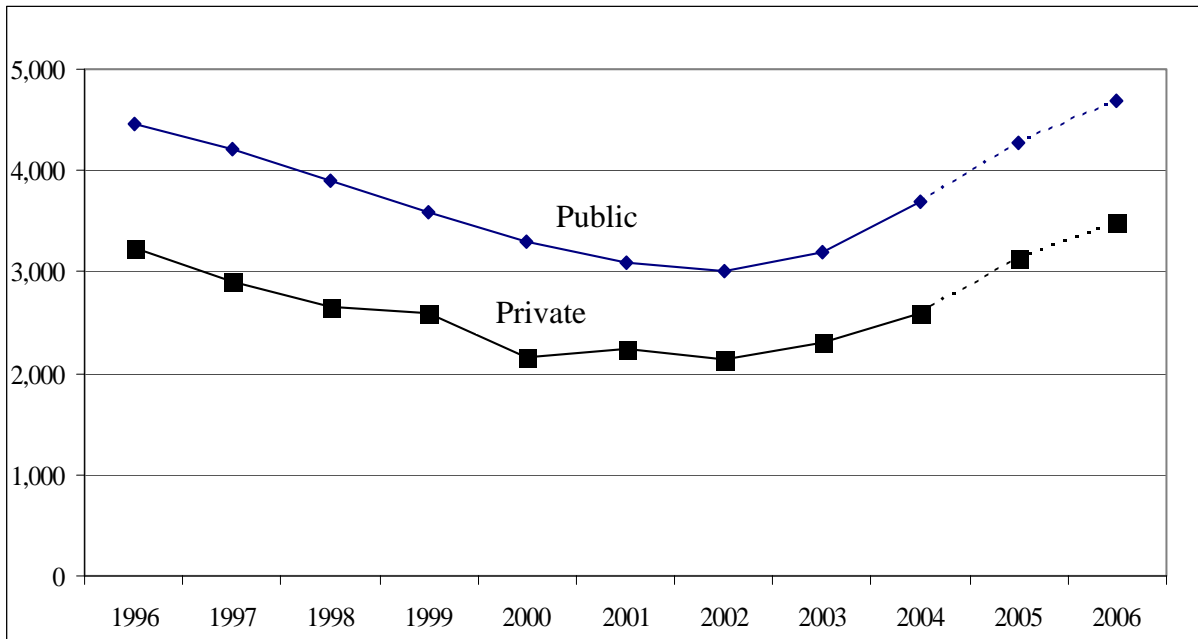
**Table 6**  
**Percent Change in the Number of RN Graduations by Region**

Region	1996	2002	2003	2004	Projected		Percent Change		
					2005	2006	96 to 02	02 to 06	96 to 06
Western New York	890	535	473	605	735	818	-39.9%	52.9%	-8.1%
Finger Lakes	654	442	482	536	704	825	-32.4%	86.7%	26.1%
Central NY	961	666	724	835	1,038	1,169	-30.7%	75.5%	21.6%
NY-Penn	92	45	50	60	70	75	-51.1%	66.7%	-18.5%
Northeastern NY	641	531	628	658	673	751	-17.2%	41.4%	17.2%
Hudson Valley	1,058	616	689	886	996	1,094	-41.8%	77.6%	3.4%
New York City	2,258	1,544	1,605	1,793	2,111	2,329	-31.6%	50.8%	3.1%
Long Island	937	677	795	867	1,027	1,070	-27.7%	58.1%	14.2%

10. **Between 2002 and 2003, both publicly and privately sponsored RN education program graduations increased and are projected to continue increasing through 2006.**

RN graduations have been steadily increasing since 2002 in both publicly sponsored (SUNY, CUNY, and Excelsior College) and privately sponsored programs (including hospital based programs) and are projected to continue increasing through 2006 (Figure 4).

**Figure 4**  
**Change in RN Graduations in Public and Independent Nursing Programs**



## DISCUSSION

While increased enrollments in RN education programs and renewed interest in nursing as a career have fueled an increase in nursing graduations, RN production in New York State must increase beyond currently projected 2006 levels to meet the future demand for RNs in the state.

The federal Bureau of Labor Statistics (BLS) forecasts that between 2002 and 2012, over 1.1 million RN job openings will occur in the United States, including 627,000 new jobs. New York State currently employs approximately 7.3% of the active nursing workforce, and it will need to produce nearly 80,000 *new* RNs over that same 10 year period, or 8,000 *new* RNs per year, just to meet BLS projections. With an estimated 14% of RN graduates already holding an RN license, New York State would have to produce more than 9,300 RNs per year to produce 8,000 new RNs.

HRSA's National Center for Health Workforce Analysis estimated that New York State had a shortage of over 16,000 RNs, or 11%, in 2000 and is projecting a shortage of over 12,500 RNs, or 8%, by 2005. However, by 2010, the shortage is projected to exceed 17,000 RNs, or 10% of the nursing workforce and increase to almost 30,000, or 16%, by 2015<sup>18</sup>.

One factor affecting future production of RNs is the capacity of nursing programs to produce more graduates. The 2004 survey found that many New York State nursing programs are currently at capacity and nearly half of the programs are actively recruiting nursing faculty. Problems related to recruitment and retention of faculty, inadequate classroom and laboratory space, and an insufficient number of clinical training sites must be addressed in order for RN education programs to accommodate more entrants in registered nursing.

Nursing scholarship and loan repayment programs are an approach often suggested for addressing the RN shortage. When targeted appropriately, nursing scholarships can enhance the diversity of the RN workforce by providing opportunities to qualified under represented minority applicants who would not be able to afford nursing school and can address problems of maldistribution by targeting placements to underserved communities. This can be particularly effective when partnered with other strategies such as collaborations between nursing programs and high schools, mentoring programs, and other targeted recruitment tools.

The utility of scholarships and loan repayment for increasing the supply of RNs overall, however, is limited by the capacity limitations of RN education programs in the State. To fully address current or future RN shortages in New York State, a multi-pronged approach is required that will address not only the issue of attracting students into nursing but also the issue of also removing the barriers to expanding program capacity.

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<sup>18</sup> *Projected Supply, Demand, and Shortages of Registered Nurses: 2000 – 2020*, Health Resources and Services Administration, Bureau of Health Professions, National Center for Health Workforce Analysis, July 2002.