



## 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



# **The Health Care Workforce in New York, 2009**

## **Trends in the Supply and Demand for Health Workers**

**June 2011**

### **The Center for Health Workforce Studies**

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*Better Information for Better Outcomes*

*The Center for Health Workforce Studies is a not-for-profit research organization whose mission is to provide timely, accurate data and conduct policy-relevant research about the health workforce. The Center's work assists health, professional, and education organizations; policy makers and planners; and other stakeholders to understand issues related to the supply, demand, distribution, and use of health workers.*



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## PREFACE

This report tracks the health workforce in New York and provides information at state and regional levels. It describes health workforce trends and developments to inform key stakeholders including the health industry, health professionals, educators, policy makers, and the public.

This study was supported with 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. With this report, the Fund can better understand trends in the supply of and demand for health workers across the state, more effectively plan for health worker education and training, and target available training dollars to meet priority needs. Additional funding was provided by the New York State Department of Labor (NYSDOL) to expand the scope of the regional reports. Specifically, the regional reports include a section on primary care capacity that described available primary care capacity and shortage areas within the region. Detailed data on the population of the region as well as the health status indicators of the regional population are also included. Finally, the assessment of health workforce demand was expanded to include community health centers and look-alikes.

The Center for Health Workforce Studies at the School of Public Health, University at Albany, conducted the research and produced this report. The Center is a not-for-profit research organization with a mission to provide timely accurate data and conduct policy-relevant research about the health workforce. Several Center staff contributed to the development of this report, including Robert Martiniano, Maria MacPherson, Mark Dionne, and Jean Moore.





## **I. EXECUTIVE SUMMARY**

Health workers are a key element of the health care delivery system. Both federal health reform programs and New York's Medicaid Redesign plan have the potential to transform the health care delivery system in the state, with a new emphasis on primary and preventive services that are accessible and cost-effective. It is unclear whether the state's health care workforce is sufficiently sized and trained to respond to an increase in demand for basic health services.

A health care delivery system is only as good as its workforce. The growth, stability and competency of the health workforce will be essential to the success of emerging models of care, such as the patient-centered medical home. At a time when health care systems are undergoing dramatic change, data and information on the health workforce can contribute greatly to informed decision-making.

The health workforce – health care professionals working inside and outside of the health sector and others working in the health sector – is an important component of the nation's economy, representing more than 9% 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 2008 and 2018. Not surprisingly, more than half of the fastest growing occupations in the U.S. over that same period are projected to be health occupations.

Between 2004 and 2009, health sector employment in New York increased by nearly 80,000 jobs, while employment in all other sectors declined by 15,000 jobs. Since 2004, only nursing homes and personal care facilities lost jobs in the health sector in New York. Ambulatory care, hospitals, and home health care employment all grew during that time period, with employment in home health care increasing by nearly 40%.

Health care has not been immune to the effects of the recent economic downturn. Impacts of the recession on the state's health care delivery system included:

- An increasing number of uninsured and underinsured New Yorkers who delayed seeking care and lacked resources to pay for the health care they received;
- Greater demand for services from safety net providers; and
- Easing of health workforce shortages in many professions.

Health sector employment is a vital part of New York's economy. As the economy continues to recover from the recession, it is expected that health sector job growth will increase and the growing demand for health workers could precipitate future shortages in many health professions and occupations.

This report presents a wide array of data about the health workforce in New York. It describes trends in the state's health care workforce by setting, occupation, and region.

## **KEY FINDINGS**

### **Health sector employment is vital to New York's economy, especially in upstate New York.**

In 2009, health sector employment comprised nearly 12% of all employment in New York. Between 1990 and 2009, jobs in the health care sector increased by 29% while jobs in sectors outside of health care increased by only 0.14%. Between 2008 and 2009, health sector employment in New York increased by over 17,000 jobs while employment in all other sectors declined by 290,000 jobs. In upstate New York, health sector jobs increased by 27% between 1990 and 2009, while jobs in all other sectors declined by 7% over the same time period. Between 2008 and 2009, health sector jobs increased by over 11,000 in upstate New York, while jobs in all other sectors declined by 175,000 over the same time period. Jobs in the health care sector in New York City increased by nearly 33% between 1990 and 2009, while jobs in all other employment sectors increased by only 13%. Between 2008 and 2009, more than 6,000 new health sector jobs were added in New York City, while nearly 110,000 jobs in sectors outside of health care were lost.

### **There is wide regional variation in health sector employment.**

In 2009, there were nearly 5,500 health sector jobs per 100,000 population in the Mohawk Valley region, accounting for 14% of total employment. The Long Island region had almost 5,350 health sector jobs per capita, representing nearly 13% of total employment. By contrast, the North Country region had fewer than 4,000 health sector jobs per capita, accounting for 11% of total employment.

### **Statewide, jobs in ambulatory care and in home health care grew significantly between 2004 and 2009.**

Between 2004 and 2009, jobs in home health care grew by over 28,600, or by 38%, and jobs in ambulatory care increased by more than 29,000, or by 11%. During the same time period, jobs in hospitals increased by almost 22,500, or by 6%, while jobs in nursing and personal care facilities declined by nearly 1,500 or by 1%. Between 2004 and 2009, jobs in ambulatory care increased in all regions, jobs in hospitals grew in 9 out of 10 regions, and jobs in home health care increased in 8 out of 10 regions. Over the same period, jobs in nursing and personal care facilities declined in five of the 10 regions in New York.

### **Primary care physicians are not evenly distributed either across the state or within regions.**

There was wide regional variation in primary care physician capacity, with the New York City and Long Island regions having relatively high numbers of primary care physicians per capita and most upstate regions having much lower numbers of primary care physicians per capita, specifically in the Mohawk Valley, North Country, Central New York, and Western New York regions. There was also a substantial maldistribution of primary care physicians within regions and counties as evidenced by the presence of subcounty, primary care Health Professional Shortage Areas in counties with a seemingly ample supply of primary care physicians.

**Health care providers across the state reported recruitment and retention difficulties for a wide array of professions and occupations.**

- Hospitals, nursing homes, and home health agencies all reported difficulty recruiting experienced registered nurses (RNs). Nursing homes and home health agencies also indicated that the retention of both experienced RNs and newly-trained RNs was problematic. However, with few exceptions, providers reported little difficulty recruiting newly-trained RNs. This was consistent with findings from the most recent survey of nursing deans and directors, in which a much smaller percentage of respondents reported “many jobs” for their graduates in 2010, compared to 2009.
- Hospitals statewide reported difficulty recruiting and retaining clinical laboratory technologists. They also reported that recruitment was problematic for health information technology staff, including both analysts and program managers, as well as medical coders. In half of the state’s regions, hospitals also reported difficulty recruiting pharmacists, with the Hudson Valley and the North Country regions reporting the most difficulties.
- New York’s nursing homes and home health agencies statewide reported difficulty recruiting occupational therapists, physical therapists, speech language pathologists, dietitians/nutritionists, and respiratory therapists.
- Community health centers reported difficulties recruiting dentists, geriatric nurse practitioners, and psychiatric nurse practitioners.

**Statewide, the most substantial job growth between 2008 and 2018 is projected for personal and home care aides, home health aides, and RNs.**

Between 2008 and 2018, the New York State Department of Labor projected more than 6,100 annual job openings for home health aides; nearly 5,000 annual job openings for RNs; and almost 2,400 annual job openings for nursing aides, orderlies, and attendants. There will also be a substantial number of job openings for licensed practical nurses and social workers during the same period.

**While the number of RN graduates in New York increased in 2010 compared to 2009, the majority of growth in the number of graduates was attributable to BSN completions for already licensed RNs.**

For the eighth consecutive year, the number of RN graduations in New York increased, with 3% growth between 2009 and 2010. Deans and directors of RN education programs estimated an 8% increase in RN graduations statewide between 2010 and 2011. Of the nearly 250 additional RN graduates in 2010, compared to 2009, 99% were RNs completing bachelor of science degrees in nursing (BSN degrees).

**Deans and directors of RN education programs report a competitive job market for their graduates.**

Only 25% of RN program deans and directors reported “many jobs” for their graduates, down from 95% of them reporting “many jobs” in 2006 and 2007. There was some regional variation,

with more than 50% of respondents from the North Country and Southern Tier regions reporting “many job openings” for newly-trained RNs.

## **II. BACKGROUND**

### **A. Overview**

Health workers are a key element of the health care delivery system. Both federal health reform programs and New York's Medicaid Redesign plan have the potential to transform the health care delivery system in the state, with a new emphasis on primary and preventive services that are accessible and cost-effective. It is unclear whether the state's health care workforce is sufficiently sized and trained to respond to an increase in demand for basic health services.

A health care delivery system is only as good as its workforce. The growth, stability, and competency of the health workforce will be essential for emerging models of care, such as the patient-centered medical home, to succeed. At a time when health care systems are undergoing dramatic change, data and information on the health workforce can contribute greatly to informed decision-making.

The health workforce – health care professionals working inside and outside of the health sector and others working in health care facilities – is an important component of the nation's economy, representing more than 9% 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 2008 and 2018. Not surprisingly, more than half of the fastest growing occupations in the U.S. over that same period are projected to be health occupations.

Between 2004 and 2009, health sector employment in New York increased by nearly 80,000 jobs, while employment in all other sectors declined by 15,000 jobs. Since 2004, only nursing homes and personal care facilities lost jobs in the health sector in New York. Ambulatory care, hospitals, and home health care employment all grew during that time period, with employment in home health care increasing by nearly 40%. Over a longer period, however, only hospitals declined. Between 1990 and 2009, hospital employment in New York declined by 2% while all other health sectors increased, including home health care whose employment doubled during that time period.

Health care was not immune to the effects of the recent economic downturn. Impacts of the recession on the state's health care delivery system included:

- An increasing number of uninsured and underinsured New Yorkers who delayed seeking care and lacked resources to pay for the health care they received;
- Greater demand for services from safety net providers; and
- Easing of health workforce shortages in many professions.

Health sector employment is a vital part of New York's economy. As the economy continues to recover from the recession, it is expected that health sector job growth will increase and the growing demand for health workers could precipitate future shortages in many health professions and occupations.

This report presents a wide array of data about the health workforce in New York. It describes trends in the state's health care workforce by setting, occupation, and region.

## **B. Objectives and Goals**

The objectives of this report are:

- To describe health care employment trends in New York, using data on jobs by health setting as well as data on health professionals in the state; and
- To identify the health professions and occupations in greatest demand currently as well as offering projections for future demand.

The goals of this report are:

- To assist policymakers and other stakeholders to target health workforce education and job training resources to address the most pressing needs;
- To guide health workforce policies, including decisions about the capacity of health professions education programs; and
- To inform current and prospective students about health care employment prospects and opportunities.

## **C. Data Sources and Terminology**

### *Data Sources*

All data sources for this report are cited unless the data is from primary data collection conducted by the Center for Health Workforce Studies and collaborating partners. The data sources used in this report include the following:

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

- New York State Registered Nursing Graduations, 1996 – 2011
- Surveys of Human Resources Directors in Health Care

The Center conducts annual surveys of human resources directors from nursing homes, home health agencies, and federally qualified health centers (FQHCs) and FQHC look-alikes across New York. The survey asks about the professions and occupations that pose the greatest recruitment and retention problems. The Center partnered with the Healthcare Association of New York State and the six regional associations to survey hospitals, and used data from that survey for this report. In addition, the Center worked with a number of provider organizations to both promote the surveys and develop appropriate questions. These organizations include the Continuing Care Leadership Coalition at the Greater New York Hospital Association, the New York Association of Homes and Services for the Aging, the New York State Health Facilities Association, the Community Health Center Association of New York State, and the Home Care Association of New York State, Inc.

Findings from these surveys are reported statewide and by NYSDOL regions. A list of counties and a map depicting the NYSDOL regions are included on pages 14 and 15. In instances where total responses for a region, either by setting or occupation, were less than five, no information was provided or contiguous regions were combined.

Many home health agencies serve patients in multiple counties and these counties may be located in different NYSDOL regions. Consequently, information on recruitment and retention for home health agencies was reported in each region where service was provided.

2. U.S. Bureau of Labor Statistics (BLS) and the NYSDOL:

- Covered Employment and Wages Program (ES-202)

These data were used to describe regional changes in health care employment by setting. A number of conditions potentially affected the information reported, including closures, mergers, and expansions. Consequently, large changes in jobs in specific health sectors, i.e., hospitals, nursing homes, or home health care, may reflect a change in ownership or the service delivery system rather than workforce issues. These data are reported statewide as well as by NYSDOL region. At times, ES-202 survey responses are not able to be placed into regions. Consequently, summing the regions will not add up to the statewide total.

- Occupational Employment Statistics (OES)

These data were used to describe changes in the number of jobs by occupation in New York, by NYSDOL regions, and for the New York City Primary Metropolitan Statistical Area (PMSA). OES estimates are based on a sample of employers. If too few employers respond to the survey, the numbers for some occupations may not be reported or may not reflect the actual count of jobs in those occupations. Additionally, estimates may fluctuate year-to-year based on response rates, especially for smaller geographical areas.

- Employment Projections

Employment projections used in this report reflect a count of the number of jobs in certain occupational categories and by health care setting. National, state, and regional projections are for the period 2008 to 2018.

Annual openings reflect both newly created positions in the occupation and turnover of workers in existing positions who retire, change jobs, or leave the occupation. Occupations with a small increase in the number of new jobs but a high number of annual openings typically reflects significant annual turnover within the occupation rather than expansion of the occupation.

### 3. State Education Department Licensure Data

The licensure data presented in this report reflect counts of licensed health care professionals in New York at five points in time: April 1, 2005; April 1, 2006; April 1, 2007, April 1, 2008, and April 1, 2009. 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 licensed in a health profession. By law, SED licenses more than 25 health professions, and individuals must secure a New York license before practicing in one of these health professions. Licensure data in a health profession represent the upper limit of the number of individuals in New York who can practice in a 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, or may be working in the profession but in another state. Licensure data, however, can provide valuable information on major trends in the supply of health professionals in the state.

Counts by county are based on the mailing address in the licensure file, which could be either a home or a practice location. Additionally, certain individuals in the file may be licensed to practice in New York but live in another state.<sup>1</sup>

Data on physicians that are included in this report are not drawn from any of the above datasets.

#### *Terminology*

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

- Hospitals (public and private);
- Nursing and personal care facilities (excluding residential, mental retardation, mental health and substance abuse facilities, and other residential care facilities);
- Home health care services;
- Ambulatory care settings (excluding home health care services), including:
  - 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.

This classification scheme provides standardization among the data sets presented but it has some limitations. By limiting the analyses to the NAICS health services industries, health care workers in hospital-sponsored ambulatory care sites may be included in hospital employment

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<sup>1</sup> Note: The total listed in the report includes all New York licensed individuals regardless of whether the address given in the licensure file was a New York address, while tables of licensees by region include only those individuals with an address in the region.



counts. In addition, health care professionals in industries outside of the settings listed, such as those in schools, insurance firms, or who are self-employed, are excluded from the health sector counts. The Center estimates that, nationally, one-fourth of the health care workforce is employed outside of the health care settings that are included in the health care sector defined by BLS.

Occupations are usually grouped by BLS OES categories. These occupational categories also have limitations. Prior to 2010, for example, registered nursing makes no distinction between nurse practitioners (NPs), nurse midwives, and staff registered nurses (RNs). The nursing aides, orderlies, and attendants occupational category also includes multiple job titles, levels of training, and certifications.

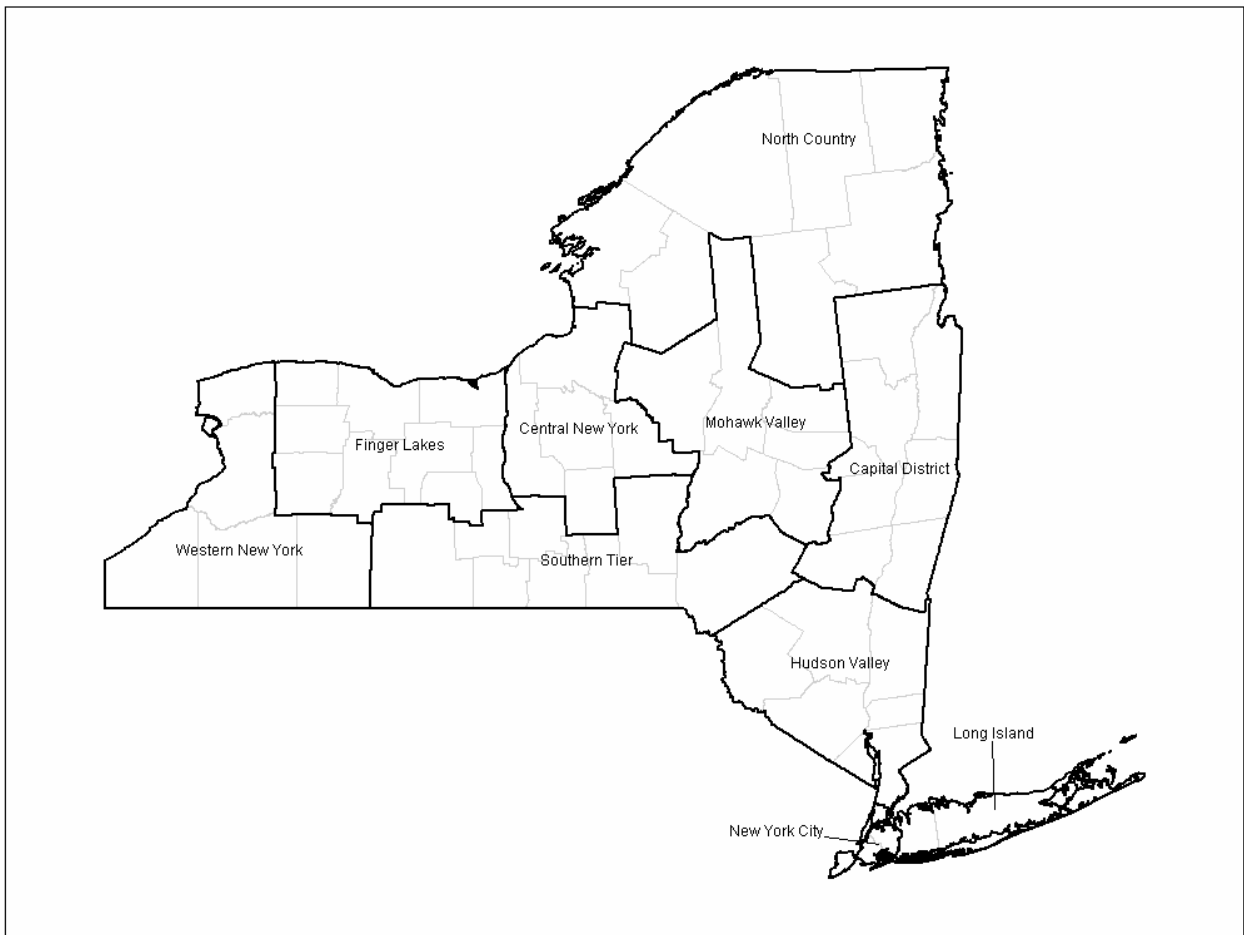
Also, there are some job titles in a health setting that may not necessarily reflected similar OES occupational classifications and this may cause some problems in reporting. For example, confusion may result from the differences in defining a home health aide as any individual providing services in the home or as one who completes home health aide certification requirements.

### *Geographic Areas*

The NYSDOL 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, Madison, Onondaga, and Oswego.
- Finger Lakes: The counties of Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates.
- Hudson Valley: 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, Montgomery, Oneida, Otsego, 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, Schuyler, Steuben, Tioga, and Tompkins.
- Western New York: The counties of Allegany, Cattaraugus, Chautauqua, Erie, and Niagara.

**Exhibit 1**  
**New York State Department of Labor Regions**



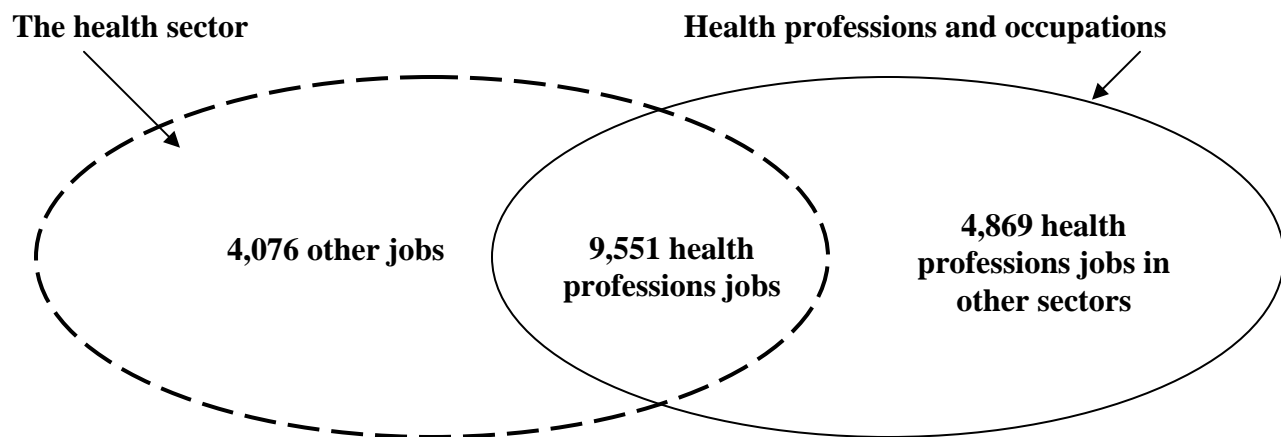
### III. THE HEALTH CARE WORKFORCE IN THE UNITED STATES

#### A. Total Employment

In 2008, there were almost 18.5 million jobs either in the health sector or in health occupations outside of the health sector, accounting for over 12% of the total U.S. workforce.

Of the 18.5 million jobs, slightly more than 13.6 million jobs, or 9.5% of U.S. employment, were in the health sector in 2008, including both health and non health-related occupations. The remaining 4.9 million jobs, or 3% of U.S. employment, were in health occupations outside of the health sector (Exhibits 2 and 3).

**Exhibit 2**  
**The U.S. Health Workforce, 2008, (in thousands)**



**Exhibit 3**  
**The U.S. Health Workforce, 2008 (in thousands)**

	(In Thousands)		
	Health Professions Jobs	Other Jobs	Total Jobs
The Health Sector	9,550.7	4,075.9	13,626.6
Other Work Settings	4,869.0	132,436.1	137,305.1
All Work Settings	14,419.7	136,512.0	150,931.7

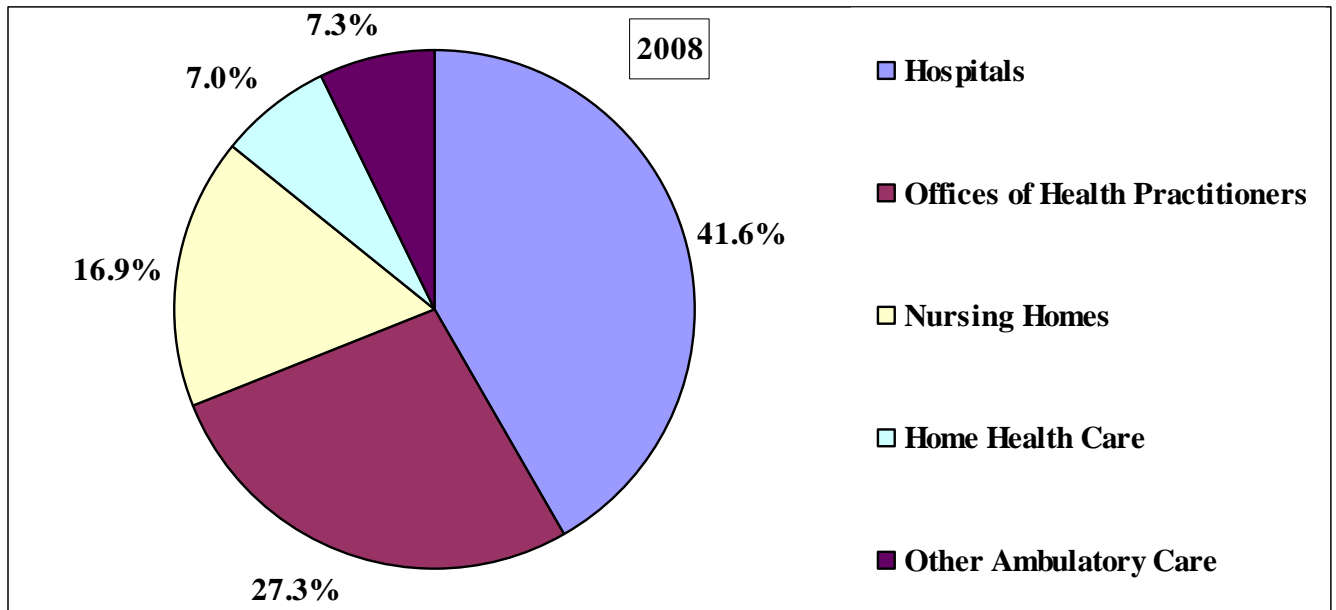
	Number	Percent of Civilian Labor Workforce
Health professions jobs in the health sector	9,550.7	6.3%
Other jobs in the health sector	4,075.9	2.7%
Health professions jobs in other settings	4,869.0	3.2%
Total U.S. Health Care Jobs	18,495.6	12.3%
U.S. Civilian Labor Force Jobs	150,931.7	100.0%

Sources: U.S. Department of Labor, Bureau of Labor Statistics, National Employment Matrix, employment by industry, occupation, and percent distribution, 2008 and projected 2018.

## B. By Settings

Hospitals continue to employ the most health workers in the U.S. (42%) followed by offices of health practitioners (27%) (Exhibit 4). Continued growth in ambulatory care settings are projected to increase the proportion of the workforce in ambulatory care to nearly 30% by 2018.

**Exhibit 4**  
**Percent Distribution of the Workforce by Health Settings, 2008**

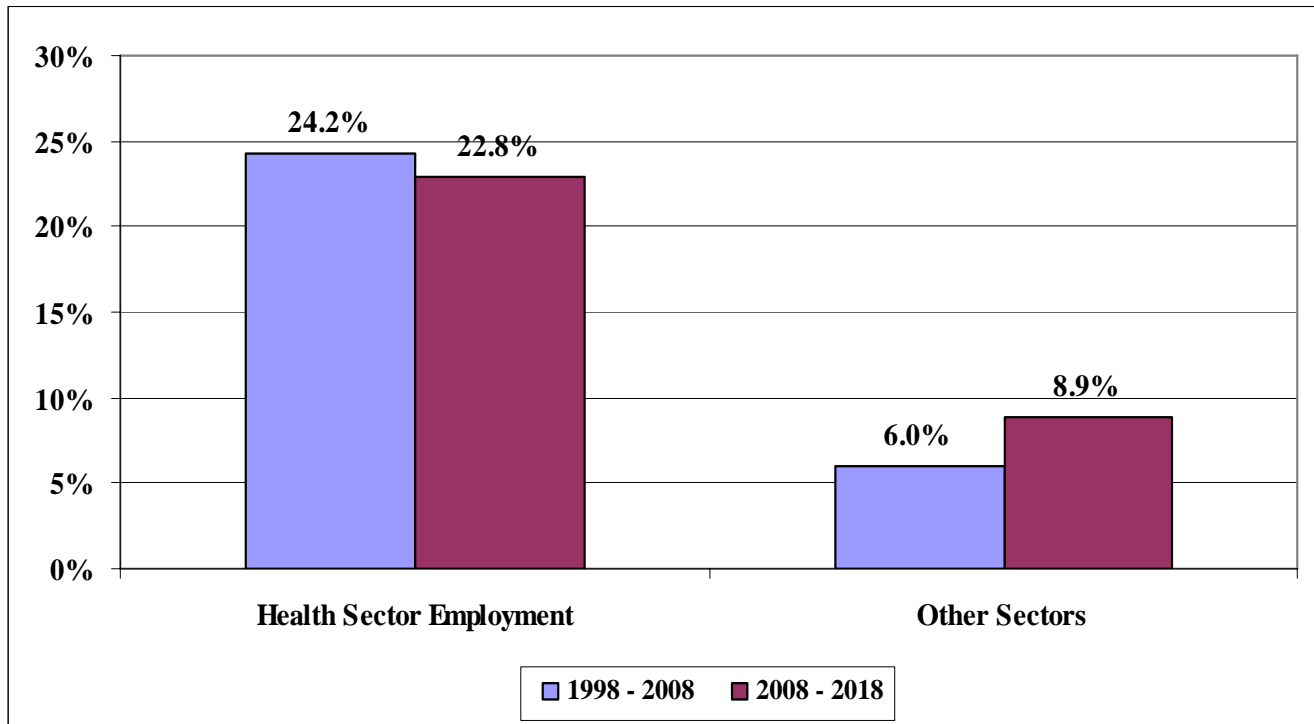


Source: 2008 – 18 National Employment Matrix, Bureau of Labor Statistics

According to the BLS, 9% of jobs nationally were in the health sector in 2008, and about three in every five new jobs created between 2008 and 2018 will be in the health care sector.

Health sector employment is projected to grow from over 13.6 million jobs in 2008 to nearly 16.7 million jobs by 2018. The health sector is expected to grow by nearly 23% during the same time period, compared to almost 9% for all other employment sectors (5).

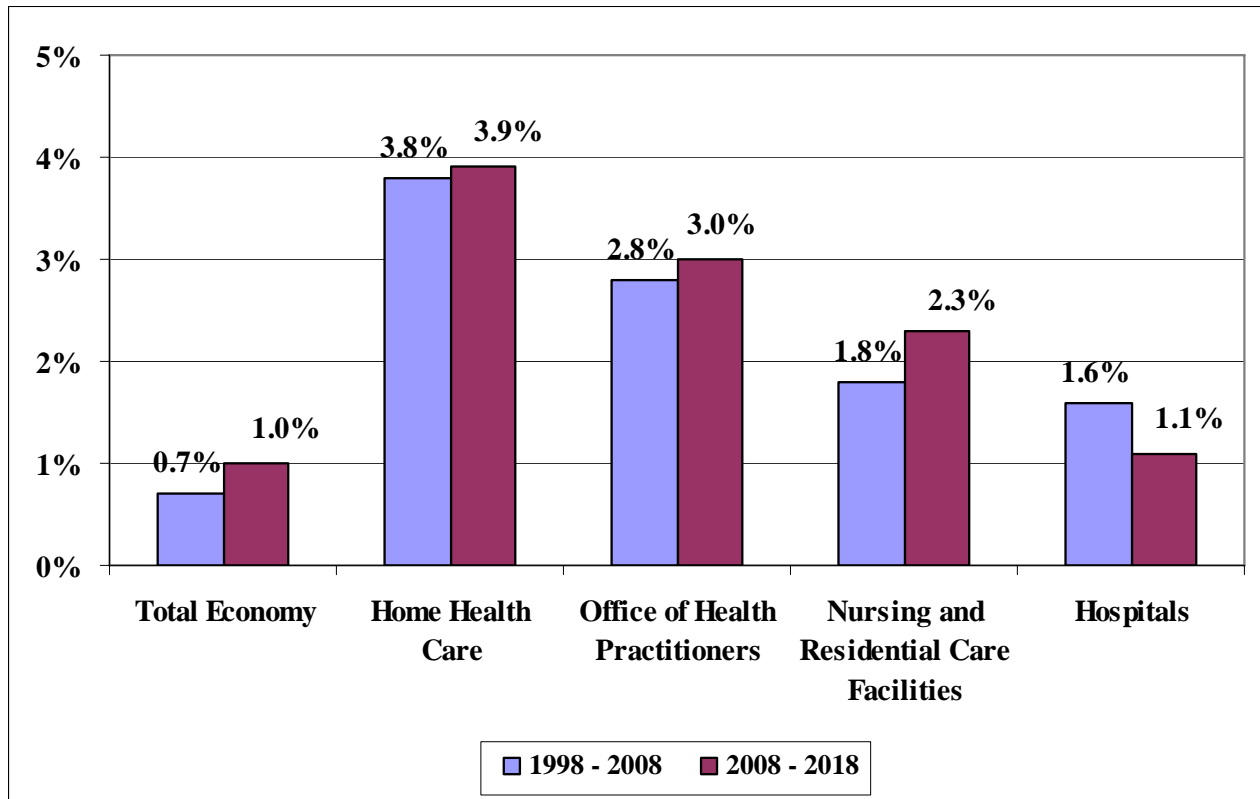
**Exhibit 5**  
**Job Growth in the Health Sector Compared to All Other Employment Sectors in the U.S.**  
**1998–2008 and Projected 2008–2018**



Sources: U.S. Department of Labor, Bureau of Labor Statistics, National Employment Matrix, employment by industry, occupation, and percent distribution, 2008 and projected 2018.

Home health care is projected to experience the fastest job growth across all health settings, with an average annual growth of nearly 4% between 2008 and 2018. Additionally, jobs in offices of health practitioners are projected to grow by 3% annually and jobs in nursing homes are projected to increase by more than 2% annually between 2008 and 2018. Jobs in hospitals are projected to grow just over 1% annually during the same period (Exhibit 6).

**Exhibit 6**  
**Average Annual Growth of Selected Occupational Settings with the Health Care Sector,  
 1998-2008 and 2008-2018**

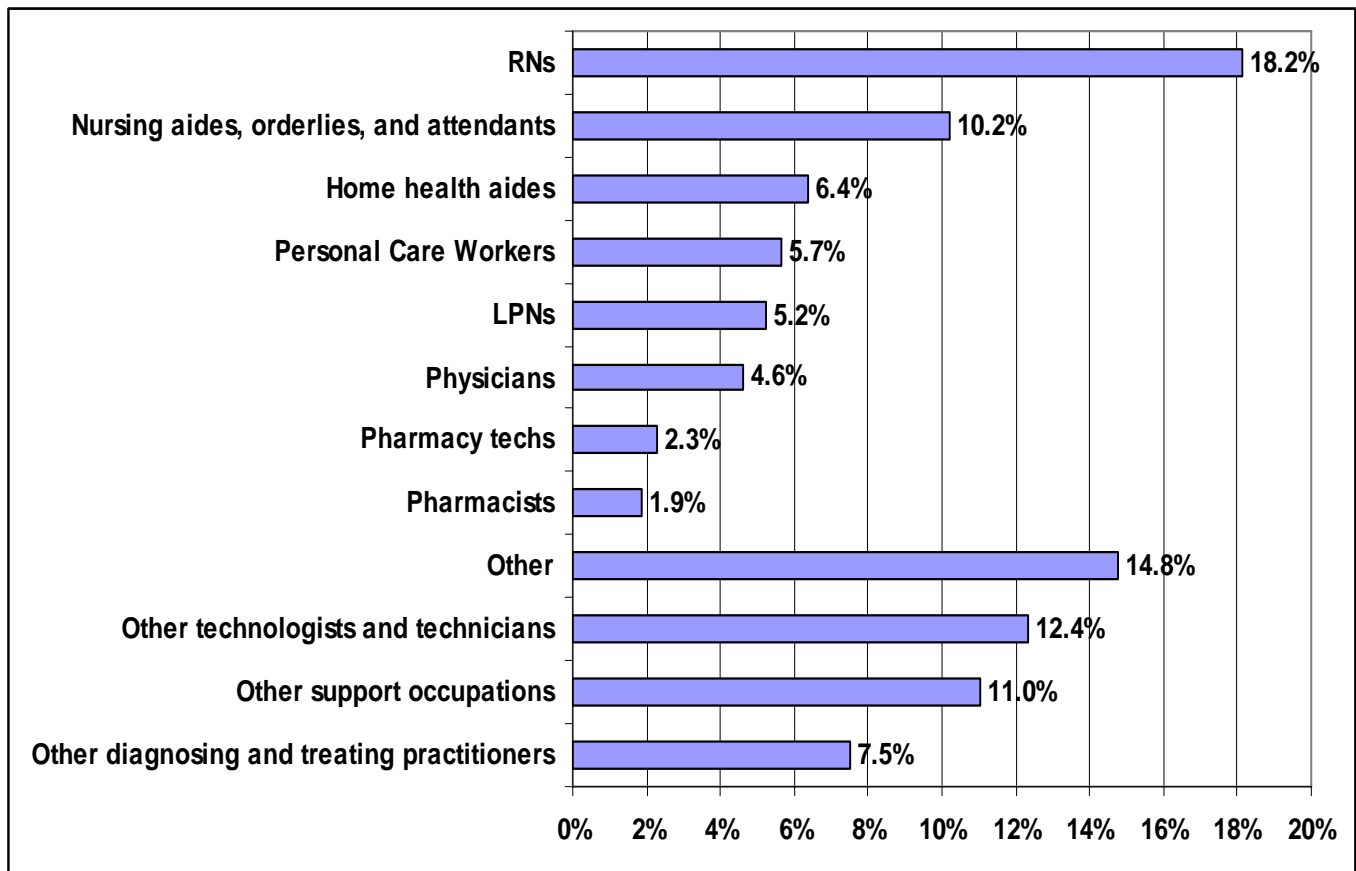


Sources: U.S. Department of Labor, Bureau of Labor Statistics, National Employment Matrix, employment by industry, occupation, and percent distribution, 2008 and projected 2018.

### C. By Occupations

Of the total health care workforce in the U.S. in 2008, RNs (18%) were the single largest health occupation, followed by nursing aides, orderlies, and attendants (10%), and home health aides (6%) (Exhibit7).

**Exhibit 7**  
**Health Care Occupations in the U.S., 2008**



Source: 2008 – 18 National Employment Matrix, Bureau of Labor Statistics

Seventeen of the 30 occupations projected to grow the fastest between 2008 and 2018 are health occupations, including 12 of the top 20<sup>2</sup>:

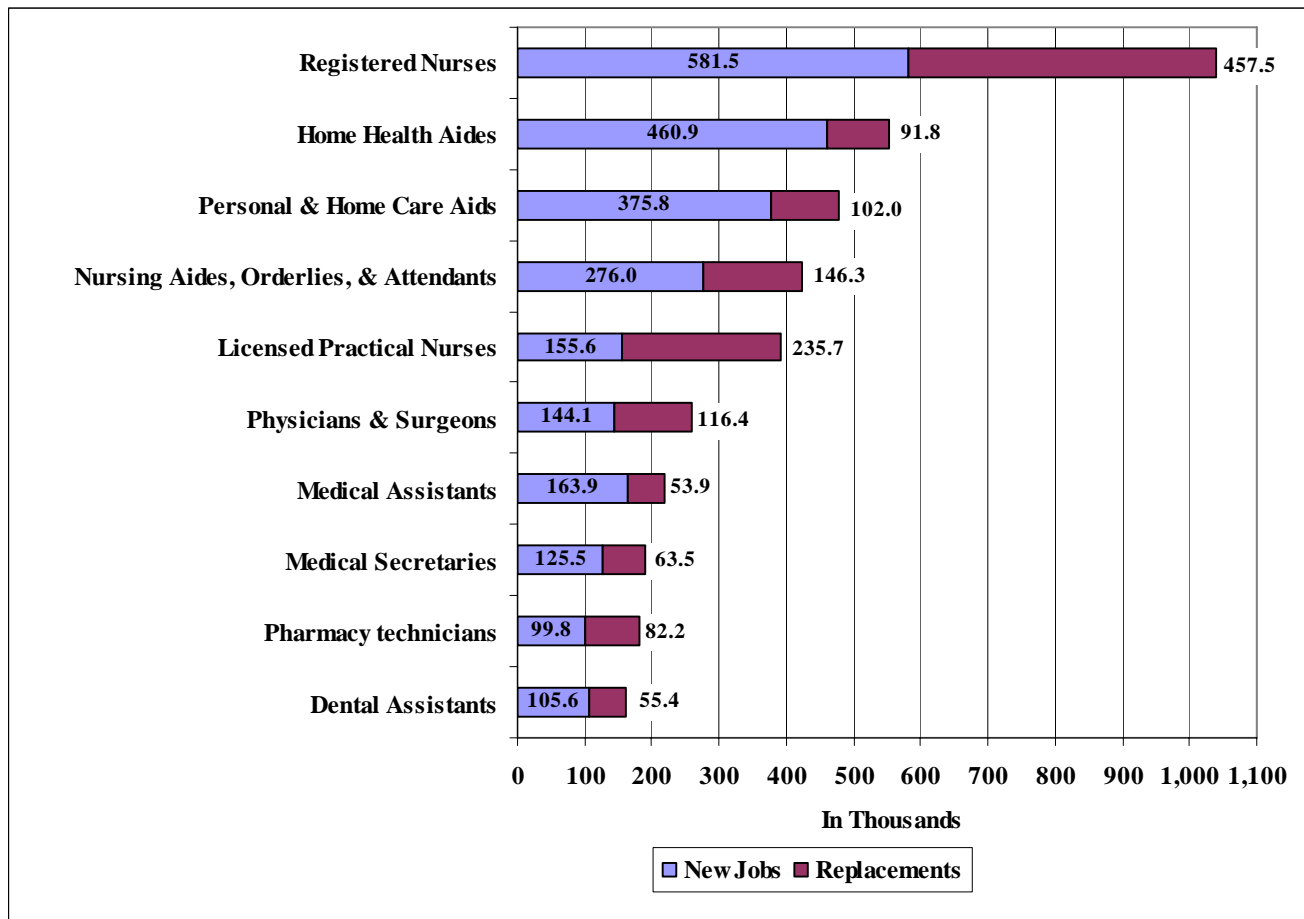
- Home health aides (50%);
- Personal and home care aides (46%);
- Medical scientists, excluding epidemiologists (40%);
- Physician assistants (PAs) (39%);
- Athletic trainers (37%);

<sup>2</sup> Occupational Employment Projections to 2018, Monthly Labor Review, Bureau of Labor Statistics, November 2009.

- Physical therapy assistants (36%);
- Dental hygienists (36%);
- Veterinary technologists and technicians (36%);
- Dental assistants (36%); and
- Medical assistants (34%).

Over one million new RNs are estimated to be needed between 2008 and 2018, including 582,000 for new jobs and 458,000 to replace RNs leaving the profession. During the same period, nearly 553,000 home health aides; about 480,000 personal and home care aides; over 422,000 nursing aides, orderlies, and attendants; and slightly more than 391,000 licensed practical nurses (LPNs) will be needed to fill new and existing jobs (Exhibit 8).

**Exhibit 8**  
**Selected Health Occupations with the Largest Projected Job Need between 2008 and 2018**



Sources: U.S. Department of Labor, Bureau of Labor Statistics, National Employment Matrix, employment by industry, occupation, and percent distribution, 2008 and projected 2018.

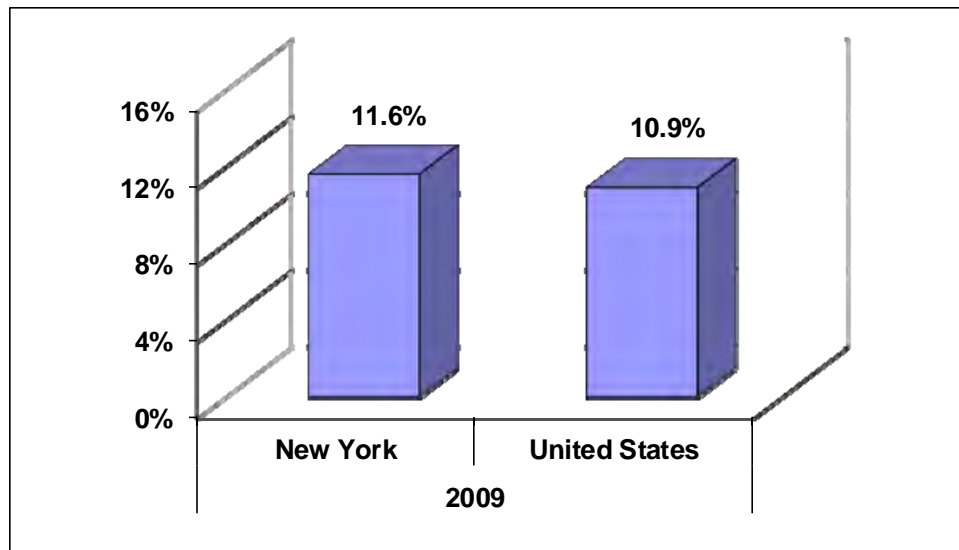


## IV. NEW YORK HEALTH SECTOR EMPLOYMENT

### A. Total Employment

Employment in the health sector accounted for more than 11% of total employment in New York in 2009, slightly higher than the national level. This did not include those health professionals working in other employment sectors outside of the health sector<sup>3</sup> (Exhibit 9).

**Exhibit 9**  
**Health Sector Employment as a Percentage of Total Employment, 2009**



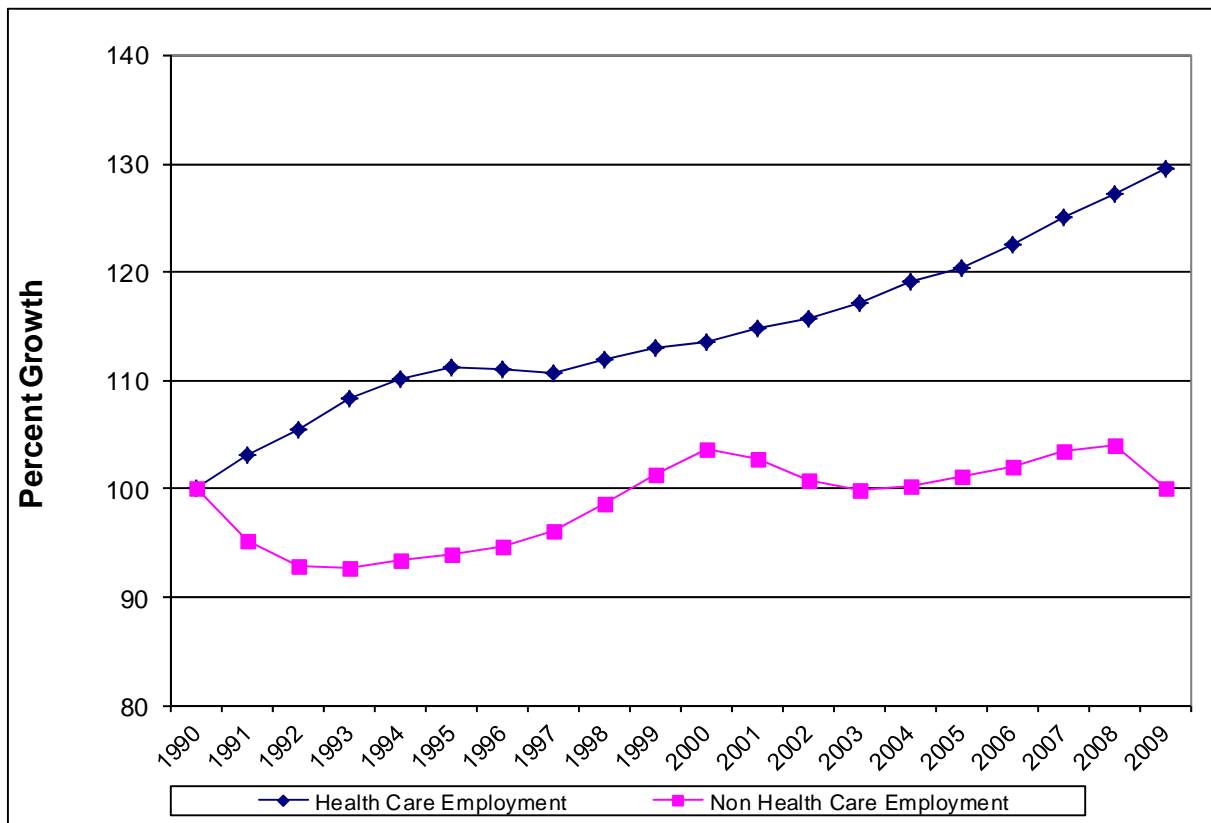
Source: Bureau of Labor Statistics, Current Employment Statistics, Employment, Hours, and Earnings National Database and State and Metro Area Database

<sup>3</sup> Includes only non-farm employees.

Between 1990 and 2009, health care employment in New York expanded by more than 225,000 jobs, or over 29%, while employment in all other sectors grew by 10,000 or less than 1%. More recently, between 2008 and 2009, total employment in New York and employment outside of the health care sector declined by over 300,000 jobs, while employment in the health care sector increased by over 17,000 jobs or nearly 2%.

Additionally, in the 10 years between 1999 and 2009, overall employment in New York declined by slightly over 1% while employment in health care increased by more than 14% (Exhibit 10).

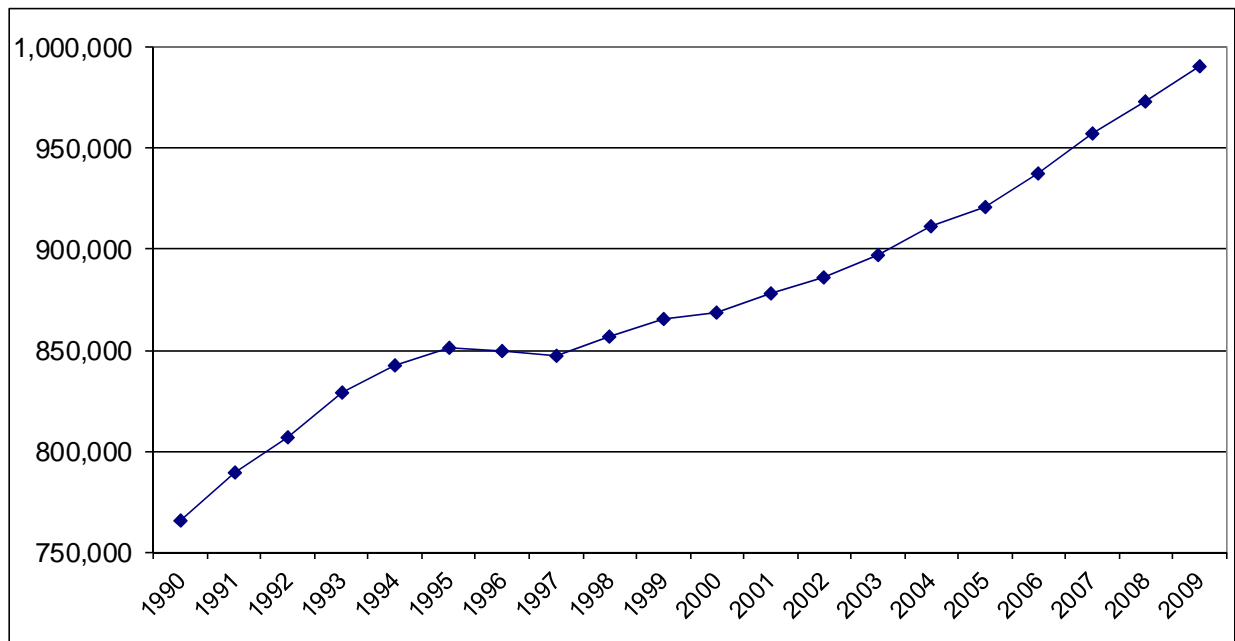
**Exhibit 10**  
**New York Employment Growth between 1990 and 2009, Standardized to 1990**



Source: NYS Department of Labor, ES-202

Health sector employment in New York grew rapidly between 1997 and 2009 after leveling off between 1994 and 1996, with the addition of more than 140,000 jobs, or growth of 14%. Annual growth in the health sector has remained constant since 1997, with yearly growth of more than 1% (Exhibit 11).

**Exhibit 11**  
**Trends in Total New York Health Sector Employment, 1990-2009**

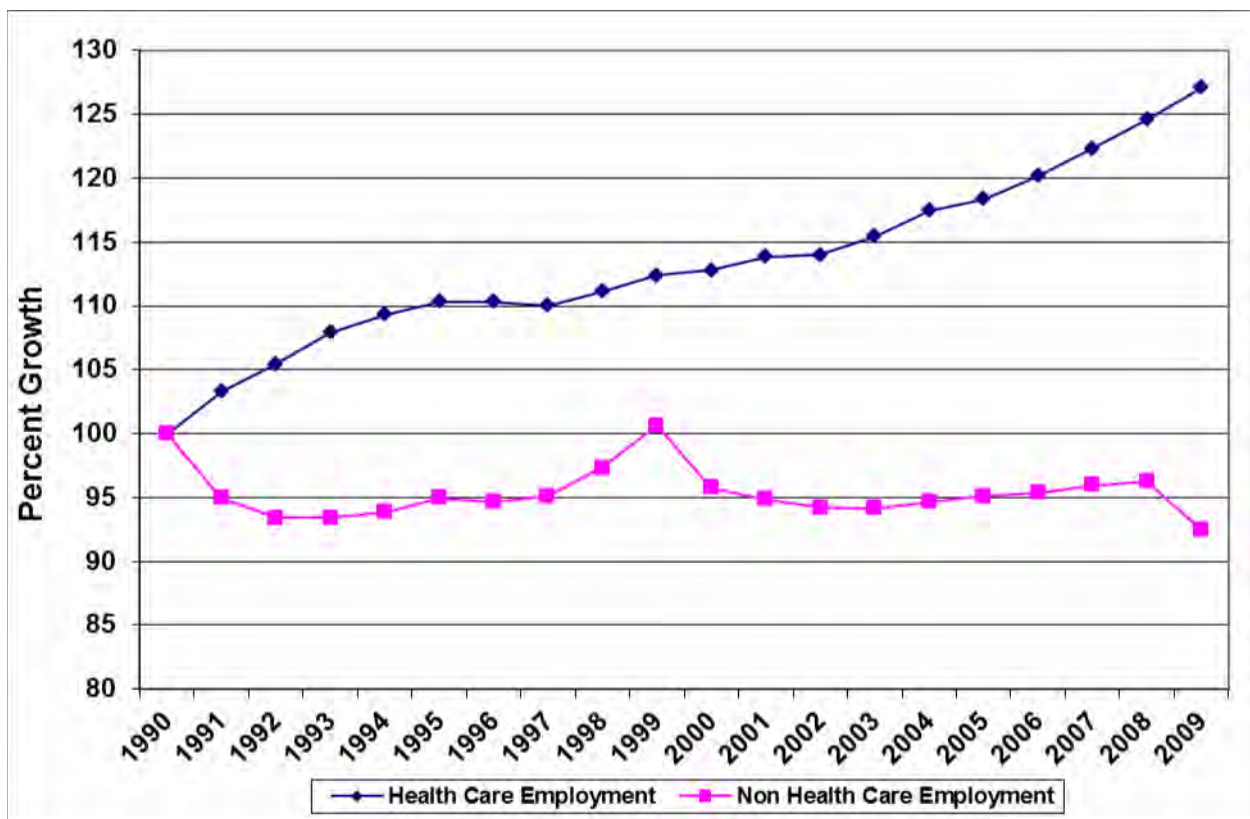


Source: NYS Department of Labor, ES-202

### *Employment Growth in Regions Outside of New York City<sup>4</sup>*

The difference between health care and non-health care job growth in regions outside of New York City was even more dramatic. While employment in the health care sector grew by more than 27% between 1990 and 2009, employment outside of the health care sector declined by over 7% during that same period. Between 2000 and 2008, employment outside of health care remained relatively steady, albeit below the 1990 employment figures, but in 2009, employment dropped significantly in non-health care sectors in areas outside of New York City (Exhibit 12).

**Exhibit 12**  
**Employment Growth in Regions Outside of New York City, 1990-2009,**  
**(Standardized to 1990)**

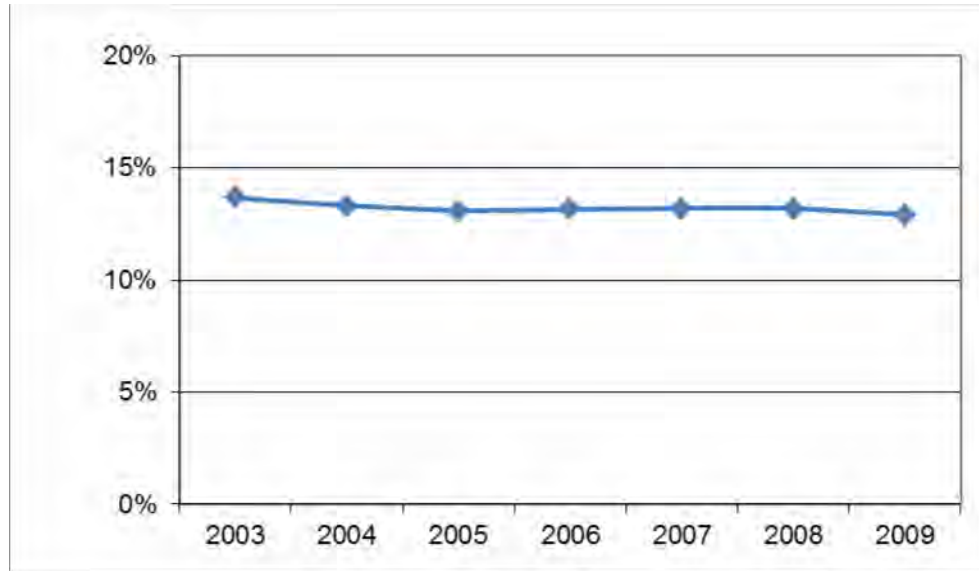


Source: NYS Department of Labor, ES-202

Since 2004, there has been a very slight decline in the percentage of health care jobs in the public sector compared to all health care jobs, decreasing from 13.3% in 2004 to 12.9% in 2009 (Exhibit 13).

<sup>4</sup> For New York City employment growth, please see page 51, Exhibit 40.

**Exhibit 13**  
**Public Health Employment as a Percent of Total Employment for New York, 2003–2009**



Sources: NYS Department of Labor, ES-202

**B. Primary Care**

*Primary Care Physicians*

There were nearly 16,000 community-based, primary care physicians in New York practicing in 2009 or 82 per 100,000 total population. Nearly 43% of them practiced general internal medicine, 22% were in family and general practice, and 21% were in general pediatrics. There were nearly 50 obstetricians/gynecologists (ob/gyns) per 100,000 women ages 15 – 44 and 78 general pediatricians per 100,000 for children ages 0 – 17 (Exhibit 14).

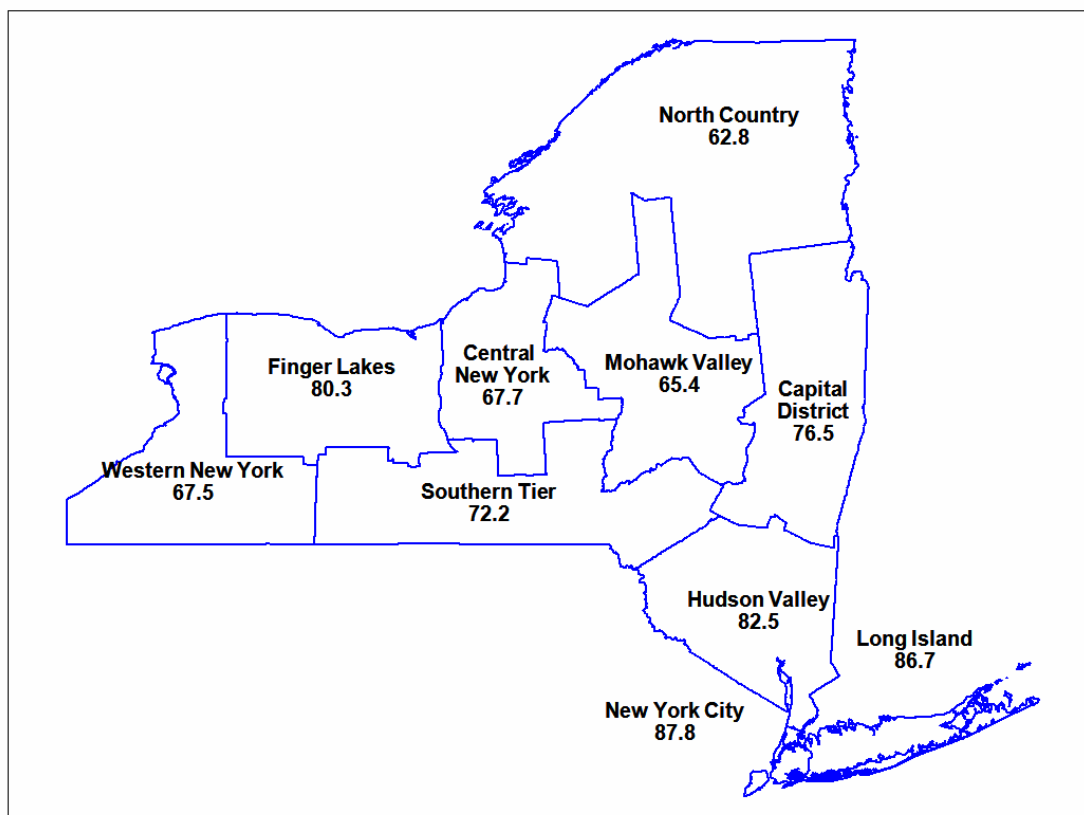
**Exhibit 14**  
**Community-Based, Primary Care Physicians by Specialty in New York, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 Population <sup>5</sup>
Family/General Practice	3,498.3	18.1
Internal Medicine (General)	6,793.4	35.2
Geriatrics	153.2	0.8
Obstetrics/Gynecology	1,998.6	49.8
Pediatrics (General)	3,406.7	77.5
Total	15,850.2	82.0

<sup>5</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 - 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

Community-based, primary care providers were not evenly distributed among regions in the state. New York City (87.8) and Long Island (86.7) had the highest number of these providers per 100,000 total population and the North Country had the lowest at 62.8 per 100,000 (Exhibit 15).

**Exhibit 15**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in New York, 2009**



*Health Professional Shortage Area Designations*

As of June 17, 2011, 114 primary care geographic or special population health professional shortage areas (HPSAs) were designated in New York. There were an additional 87 facility designations, though the vast majority of them were automatic designations as a result of being FQHCs, FQHC look-alikes, or rural health centers. The total population in the geographic and special population primary care HPSAs is 6.1 million,<sup>6</sup> or nearly one-third of the New York population.

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<sup>6</sup> Includes residents living in the special population HPSAs not part of the population being designated and all residents in geographic HPSAs. Individuals living in group settings such as nursing homes, prisons, and college dormitories are excluded from the population count pursuant to HPSA designation rules.

### C. By Setting

Between 1990 and 2009, employment in the health care sector increased by nearly 30%. Employment in home health care (133%) more than doubled between 1990 and 2009, while employment in both ambulatory care settings (excluding home health care) and nursing home and personal care facilities significantly increased during that same period, by 72% and 53%, respectively. Employment in hospitals decreased by 2% between 1990 and 2009 (Exhibit 16).

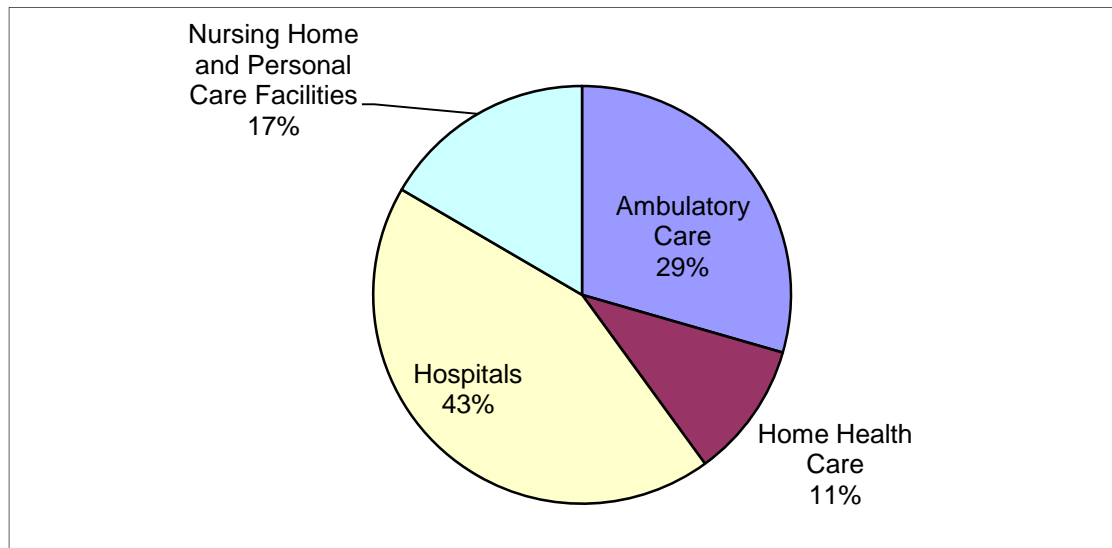
**Exhibit 16**  
**Change in Health Sector Employment between 1990 and 2009 for New York**

Setting	1990	2009	Number Change	Percent Change
Hospitals	439,900	430,237	-9,963	-2.2%
Ambulatory Care (Excluding Home Health)	170,000	291,956	121,956	71.7%
Nursing Home and Personal Care Facilities <sup>7</sup>	107,800	164,421	56,621	52.5%
Home Health Care Services	44,800	104,342	59,542	132.9%
<b>Totals</b>	<b>765,500</b>	<b>990,956</b>	<b>225,456</b>	<b>29.5%</b>

Sources: NYS Department of Labor, ES-202; U.S. Bureau of Labor Statistics, Current Employment Statistics

Hospitals employed the largest share of workers in the health sector in New York in 2009 (43% of all health sector employees), while most of the remainder worked either in ambulatory care (29%) or nursing and personal care facilities (17%) (Exhibit 17).

**Exhibit 17**  
**Health Sector Employment by Setting for New York, 2009**



Sources: NYS Department of Labor, ES-202

<sup>7</sup> Excludes residential mental retardation, mental health, and substance abuse facilities and other residential facilities.

## D. By Region

Health sector employment in New York grew by almost 9% between 2004 and 2009. By 2009, the New York City region had more than 431,000 health sector jobs and the Long Island region had almost 154,000 health sector jobs, reflecting increases of 9% and 13%, respectively. The Mohawk Valley region had the second largest percentage increase in health sector employment, of nearly 12% (Exhibit 18).

**Exhibit 18**  
**Total Health Sector Employment in New York by Department of Labor Region,**  
**2004–2009**

Region	2004	2005	2006	2007	2008	2009	Change Between 2004 and 2009	
							Number	Percent
Capital District	51,632	52,276	51,415	52,417	53,265	54,139	2,507	4.9%
Central New York	34,603	35,338	35,866	36,251	36,594	37,062	2,459	7.1%
Finger Lakes	56,323	56,186	56,762	57,801	59,237	60,192	3,869	6.9%
Hudson Valley	100,982	101,915	103,376	105,831	107,481	108,782	7,800	7.7%
Long Island	136,357	137,318	142,538	146,662	150,814	153,832	17,475	12.8%
Mohawk Valley	24,120	24,762	25,854	26,221	26,639	26,942	2,822	11.7%
New York City	394,090	399,564	408,424	418,453	424,505	430,904	36,814	9.3%
North Country	16,299	16,587	16,517	16,212	16,446	17,009	710	4.4%
Southern Tier	26,881	26,898	26,671	27,172	27,872	28,172	1,291	4.8%
Western New York	69,736	69,882	69,716	69,804	70,275	71,033	1,297	1.9%
<b>Totals</b>	911,732	921,086	937,959	957,663	973,592	990,956	79,224	8.7%

Sources: NYS Department of Labor, ES-202



The Mohawk Valley region had the highest number of health care jobs per capita in 2009 with nearly 5,500 jobs per capita, followed by the Long Island region with more than 5,300 health care jobs per capita. The North Country had the lowest number of health care jobs per capita in 2009 with slightly less than 4,000 jobs per capita. The Mohawk Valley had the highest percent of health care jobs to total jobs in 2009 (14%), followed by Long Island and Hudson Valley regions. Between 2004 and 2009, the number of health care jobs per capita increased by slightly more than 7% between 2004 and 2009, while the number of total jobs per capita decreased by less than 1% (Exhibit 19).

**Exhibit 19**  
**Total Employment and Health Sector Employment in New York,**  
**by Department of Labor Region, Per 100,000, 2004 and 2009**

DOL Regions	2004			
	Total Population	Jobs Per 100,000		% Employment in Health Care
		Total Employment	Health Care Employment	
Capital District	1,050,345	47,684	4,916	10.3%
Central New York	778,712	44,402	4,444	10.0%
Finger Lakes	1,198,811	45,382	4,698	10.4%
Hudson Valley	2,253,450	38,815	4,481	11.5%
Long Island	2,856,427	41,720	4,774	11.4%
Mohawk Valley	493,718	39,523	4,885	12.4%
New York City	8,169,940	42,105	4,824	11.5%
North Country	426,251	35,591	3,824	10.7%
Southern Tier	652,529	41,137	4,120	10.0%
Western New York	1,417,750	44,363	4,919	11.1%
<b>Totals</b>	19,297,933	42,882	4,725	11.0%
DOL Regions	2009			
	Total Population	Jobs Per 100,000		% Employment in Health Care
		Total Employment	Health Care Employment	
Capital District	1,065,402	46,733	5,082	10.9%
Central New York	773,606	43,904	4,791	10.9%
Finger Lakes	1,193,363	44,685	5,044	11.3%
Hudson Valley	2,289,762	37,606	4,751	12.6%
Long Island	2,875,904	41,094	5,349	13.0%
Mohawk Valley	490,080	39,232	5,497	14.0%
New York City	8,391,881	42,467	5,135	12.1%
North Country	429,092	35,433	3,964	11.2%
Southern Tier	646,210	41,160	4,360	10.6%
Western New York	1,386,153	44,228	5,124	11.6%
<b>Totals</b>	19,541,453	42,651	5,071	11.9%

Sources: NYS Department of Labor, ES-202; U.S. Census

## 1. Hospital Employment

Between 2004 and 2009, overall hospital employment in New York increased by more than 22,000 jobs, or nearly 6%. The Long Island region (20%) experienced the largest percentage increase in hospital employment between 2004 and 2009, followed by the Finger Lakes region (11%). The Long Island region also experienced the largest growth in the number of new hospital jobs, with slightly more than 9,600 new jobs, followed by the New York City region with an increase of more than 4,600 hospital jobs. The Western New York region experienced a slight decline in hospital jobs between 2004 and 2009 (Exhibit 20).

**Exhibit 20**  
**Change in Hospital Employment in New York, by Department of Labor Region,**  
**2004–2009**

Region	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Capital District	20,960	21,340	21,627	22,074	22,413	22,980	2,020	9.6%
Central New York	12,205	12,309	12,393	12,540	12,686	12,706	501	4.1%
Finger Lakes	25,540	25,975	26,469	27,022	27,984	28,252	2,712	10.6%
Hudson Valley	39,039	38,658	39,353	39,895	40,341	40,243	1,204	3.1%
Long Island	47,454	46,341	50,980	53,690	55,513	57,061	9,607	20.2%
Mohawk Valley	11,654	11,777	12,715	12,078	12,318	12,450	796	6.8%
New York City	202,373	203,342	203,168	204,949	206,973	206,996	4,623	2.3%
North Country	8,386	8,447	8,471	8,320	8,481	8,764	378	4.5%
Southern Tier	12,009	12,022	12,112	12,371	12,672	12,906	897	7.5%
Western New York	28,239	27,302	27,221	27,170	27,846	27,864	-375	-1.3%
<b>Totals</b>	<b>407,858</b>	<b>407,511</b>	<b>414,510</b>	<b>420,109</b>	<b>427,228</b>	<b>430,237</b>	<b>22,379</b>	<b>5.5%</b>

Sources: NYS Department of Labor, ES-202

## 2. Ambulatory Care

Employment in ambulatory care settings (excluding home health care) increased by more than 11% between 2004 and 2009, adding over 29,000 jobs. The Mohawk Valley, Western New York, and the Finger Lakes regions saw the largest percentage increases, with employment in ambulatory care in the Mohawk Valley growing by more than 23% between 2004 and 2009. The number of ambulatory care jobs in New York City increased by slightly more than 10,000 during the same period (Exhibit 21).

**Exhibit 21**  
**Change in Ambulatory Care Services Employment (Excluding Home Health Care)**  
**in New York, by Department of Labor Region, 2004–2009**

Region	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Capital District	15,433	15,935	15,961	16,512	16,676	16,908	1,475	9.6%
Central New York	13,663	14,173	14,287	14,343	14,627	15,009	1,346	9.9%
Finger Lakes	14,178	14,267	14,648	15,076	15,648	15,980	1,802	12.7%
Hudson Valley	35,712	36,648	36,984	38,332	38,933	39,453	3,741	10.5%
Long Island	55,507	56,582	57,397	58,513	59,413	59,837	4,330	7.8%
Mohawk Valley	5,257	5,361	5,430	6,380	6,546	6,476	1,219	23.2%
New York City	92,292	94,579	95,709	99,221	101,443	102,035	10,013	10.8%
North Country	4,071	4,351	4,351	4,319	4,441	4,785	714	17.5%
Southern Tier	7,121	7,198	7,069	7,463	7,592	7,550	429	6.0%
Western New York	20,111	20,971	21,241	21,698	22,411	22,724	2,613	13.0%
<b>Totals</b>	<b>262,595</b>	<b>268,956</b>	<b>272,144</b>	<b>280,999</b>	<b>286,870</b>	<b>291,956</b>	<b>29,361</b>	<b>11.2%</b>

Sources: NYS Department of Labor, ES-202

### 3. Nursing and Personal Care Facility Employment

Employment in nursing and personal care facilities<sup>8</sup> in New York decreased by slightly more than 1,400 jobs between 2004 and 2009, with half of the regions in New York experiencing declines in the number of jobs and the remaining half experiencing increases in the number of jobs. The Long Island region added over 1,800 jobs while New York City saw a decline of more than 1,800 jobs. Both the Capital District and Western New York regions experienced significant declines of more than 1,000 jobs in nursing and personal care settings (Exhibit 22).

**Exhibit 22**  
**Change in Nursing and Personal Care Facility Employment**  
**in New York by Department of Labor Region, 2004–2009**

Region	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Capital District	12,524	12,275	11,030	10,925	11,188	11,191	-1,333	-10.6%
Central New York	8,735	8,856	9,186	9,368	9,281	9,347	612	7.0%
Finger Lakes	12,336	12,386	12,180	12,181	12,183	12,519	183	1.5%
Hudson Valley	19,815	19,641	19,893	20,016	20,111	20,083	268	1.4%
Long Island	22,430	23,520	24,350	23,697	23,918	24,238	1,808	8.1%
Mohawk Valley	6,037	6,293	6,311	6,359	6,365	6,618	581	9.6%
New York City	57,012	55,586	54,722	54,891	55,120	55,205	-1,807	-3.2%
North Country	3,257	3,183	3,063	2,946	2,936	2,911	-346	-10.6%
Southern Tier	6,675	6,556	6,376	6,306	6,595	6,637	-38	-0.1%
Western New York	16,823	16,993	16,702	16,387	15,427	15,655	-1,168	-6.9%
<b>Totals</b>	<b>165,858</b>	<b>165,384</b>	<b>164,260</b>	<b>163,549</b>	<b>163,175</b>	<b>164,421</b>	<b>-1,437</b>	<b>-1.0%</b>

Sources: NYS Department of Labor, ES-202

<sup>8</sup> Includes nursing care facilities and community care facilities for the elderly and excludes residential mental retardation, mental health, and substance abuse facilities and other residential care facilities.

#### 4. Home Health Care

Between 2004 and 2009, employment in home health care in New York grew by nearly 29,000 jobs, with the New York City region accounting for the vast majority of the increase, a 38% jump in home health care jobs.

Outside of New York City, the Hudson Valley region experienced the next largest increase in home health care employment, growing by more than 1,700 jobs between 2004 and 2009, or 40%. The Finger Lakes region saw the largest decrease, losing over 800 jobs during the same period (18%) (Exhibit 23).

**Exhibit 23**  
**Change in Home Health Care Services Employment in New York.**  
**by Department of Labor Region, 2004-2009**

Region	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Capital District	2,715	2,726	2,797	2,906	2,988	3,060	345	12.7%
Central New York	1,246	1,375	1,306	1,224	1,273	1,377	131	10.5%
Finger Lakes	4,269	3,558	3,465	3,522	3,422	3,441	-828	-17.9%
Hudson Valley	6,416	6,968	7,146	7,588	8,096	9,003	2,587	40.3%
Long Island	10,966	10,875	9,811	10,762	11,970	12,696	1,730	15.8%
Mohawk Valley	1,172	1,331	1,398	1,404	1,410	1,398	226	19.3%
New York City	42,413	46,057	54,825	59,392	60,969	66,668	24,255	57.2%
North Country	585	606	632	627	588	549	-36	-6.2%
Southern Tier	1,076	1,122	1,114	1,032	1,013	1,079	3	0.3%
Western New York	4,563	4,616	4,552	4,549	4,591	4,790	227	5.0%
<b>Totals</b>	<b>75,421</b>	<b>79,234</b>	<b>87,046</b>	<b>93,006</b>	<b>96,320</b>	<b>104,061</b>	<b>28,640</b>	<b>38.0%</b>

Sources: NYS Department of Labor, ES-202

#### E. By Occupation

##### 1. Current Employment Data

Changes in the number of health care jobs in New York between 2005 and 2009 varied by occupation. While these data represented positions and not individuals or full-time equivalents, they may be useful in identifying trends in occupations or job titles.

- The number of home health aide jobs grew by more than 14,500, or 13%;
- The number of social worker jobs increased by 8,500, or 17%;
- The number of medical and health services manager jobs increased by nearly 3,400, or 14%;
- The number of pharmacist jobs increased by nearly 2,900, or 22%;

- The number of LPN jobs decreased by more than 4,900, or 10%;
- The number of medical and clinical laboratory technician jobs declined by nearly 2,500, or 25%; and
- The number of medical secretary jobs declined by 1,600, or 14% (Exhibit 24).

**Exhibit 24**  
**Change in the Number of Jobs in Selected Health Occupations for New York,**  
**2005 – 2009**

Occupation	2005	2006	2007	2008	2009	Change between 2005 to 2009	
						Number	Percent
Speech-Language Pathologists	7,700	7,920	9,300	10,080	10,370	2,670	34.7%
Physician Assistant	6,460	6,590	7,400	7,890	8,570	2,110	32.7%
Radiologic Technologists and Technicians	10,570	10,870	12,050	12,880	13,360	2,790	26.4%
Pharmacy Technicians	11,260	11,960	12,790	13,470	14,010	2,750	24.4%
Nuclear Medicine Technologists	1,100	1,260	1,300	1,450	1,340	240	21.8%
Pharmacists	13,400	13,970	15,310	16,020	16,290	2,890	21.6%
Occupational Therapy Assistants/Aides	2,080	2,260	2,510	2,600	2,480	400	19.2%
Medical Records and Health Information Techs	7,740	8,190	8,630	9,200	9,140	1,400	18.1%
Dental Hygienists	9,180	9,270	9,960	10,670	10,760	1,580	17.2%
Social Workers	50,150	53,960	55,740	59,890	58,650	8,500	16.9%
Medical and Health Services Managers	23,320	25,460	24,090	25,150	26,680	3,360	14.4%
Medical and Clinical Laboratory Technologists	8,980	9,760	9,690	10,230	10,250	1,270	14.1%
Home Health Aides	114,690	130,960	145,490	131,700	129,200	14,510	12.7%
Respiratory Therapists	4,780	5,210	5,310	5,530	5,380	600	12.6%
Dietitians and Nutritionists	3,970	4,240	4,190	4,380	4,400	430	10.8%
Surgical Technologists	4,730	5,040	5,320	5,150	5,170	440	9.3%
Medical Assistants	18,220	17,800	17,750	19,000	19,710	1,490	8.2%
Physical Therapists	12,390	11,810	11,710	12,780	13,320	930	7.5%
Occupational Therapists	6,930	7,590	7,700	7,520	7,180	250	3.6%
Registered Nurses	164,370	164,970	166,990	168,850	165,730	1,360	0.8%
Nursing Aides, Orderlies, and Attendants	100,660	99,660	98,540	100,340	100,410	-250	-0.2%
Physical Therapy Assistants/Aides	6,520	5,920	6,120	6,580	6,380	140	-2.1%
Dental Assistants	17,010	17,270	16,590	16,210	16,160	-850	-5.0%
Licensed Practical & Licensed Voc. Nurses	50,060	48,230	47,120	46,160	45,130	-4,930	-9.8%
Medical Secretaries	11,160	11,140	10,470	10,860	9,560	-1,600	-14.3%
Cardiovascular Technologists and Technicians	3,520	3,320	3,640	3,300	2,940	-580	-16.5%
Medical and Clinical Laboratory Technicians	10,080	9,650	7,590	7,180	7,610	-2,470	-24.5%
Dietetic Technicians	1,650	1,540	1,310	1,030	1,120	-530	-32.1%

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

## 2. Licensure Data for Selected Health Professions in New York

The number of licensed RNs increased by more than 10,500 between 2007 and 2009, or by 4%. Clinical lab technicians and technologists had the largest percentage increases during the same period, though licensure for them began in 2007. PAs and speech-language pathologists also saw double-digit increases in the number licensed between 2007 and 2009 (Exhibit 25).

**Exhibit 25**  
**Changes in the Number of Licensed Individuals in Selected Health Service Occupations for New York,<sup>9</sup> 2007–2009**

Profession	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Lab Technician	1,384	1,886	2,386	1,002	72.4%
Clinical Lab Technologist	10,377	13,217	15,016	4,639	44.7%
Physician Assistants	8,660	9,157	9,685	1,025	11.8%
Speech-Language Pathologists	12,400	13,066	13,689	1,289	10.4%
Nurse Practitioners	13,534	14,139	14,862	1,328	9.8%
Respiratory Therapists	4,732	4,971	5,114	382	8.1%
Occupational Therapists	9,615	9,889	10,226	611	6.4%
Physical Therapy Assistants	4,579	4,662	4,838	259	5.7%
Physical Therapists	18,420	18,752	19,427	1,007	5.5%
Pharmacists	20,405	20,467	21,269	864	4.2%
Registered Nurses	255,382	259,694	265,964	10,582	4.1%
Dental Hygienists	9,672	9,870	10,052	380	3.9%
Occupational Therapy Assistants	3,657	3,713	3,777	120	3.3%
Licensed Practical Nurses	69,342	71,381	71,477	2,135	3.1%
Dietitians/Nutritionists	4,800	4,736	4,832	32	0.7%
Social Workers	50,055	49,469	49,147	-908	-1.8%

Source: NYS Education Department, Office of Professions

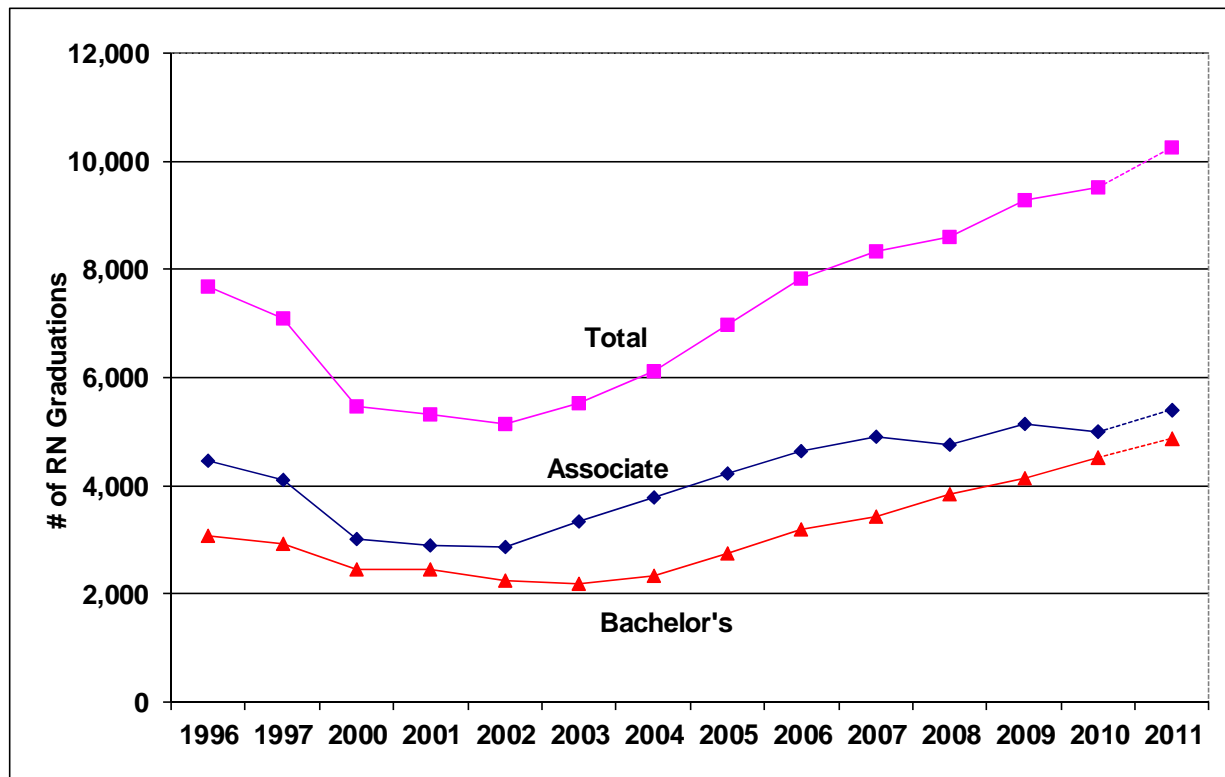
<sup>9</sup>Note: This total includes all New York licensed individuals regardless of whether the address given in the licensure file was a New York address, while tables of licensees by region include only those individuals with an address in the region.

## F. Trends in New York Registered Nursing Education, 1996 – 2011

The Center surveys registered nursing education programs in New York annually to better understand trends in the supply of RNs in the state. The brief survey included questions about applications, acceptances, and graduations for the current year as well as projected graduations through 2010. Of the 119 nursing programs in New York, 107 returned the surveys for a 90% response rate in 2010. Data for the 12 non-respondents were imputed from previous surveys; consequently, the following data reflect enrollment and graduations for all registered nursing programs in the state. (See the Appendix for the full report *Trends in New York Registered Nursing Graduations, 1996 – 2011*.)

For the eighth consecutive year, the number of RN graduates in New York in 2010 increased over the number of RN graduations in the previous year. It is estimated that more than 9,500 individuals graduated from RN education programs in New York in 2010, a 3% increase. The number of RN graduates is projected to grow in 2011 as well, increasing by nearly 8% between 2010 and 2011. All of the growth in RN graduations between 2009 and 2010 can be attributed, however, to RNs with existing licenses completing their bachelor's degree in nursing. Between 2009 and 2010, BSN completers accounted for 99% of the increase in graduations (Exhibit 26).

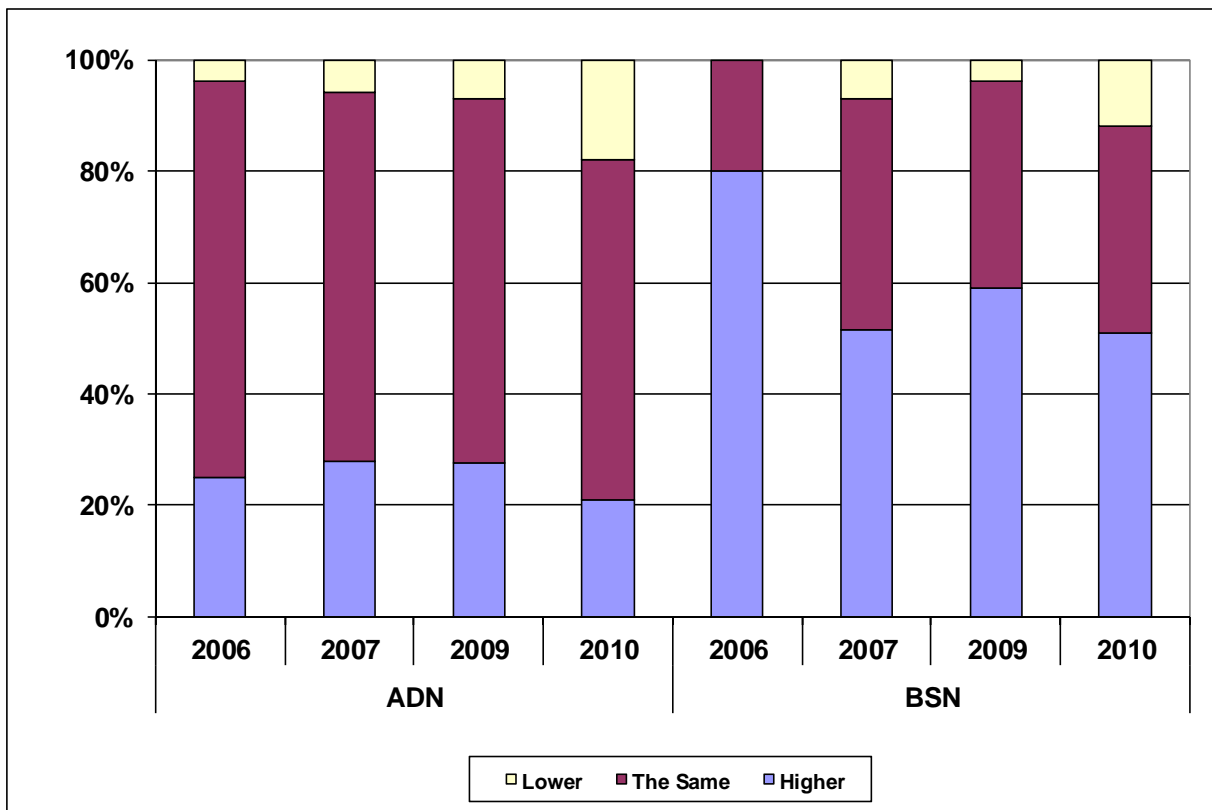
**Exhibit 26**  
**New York RN Graduations by Degree Type, 1996-2011**





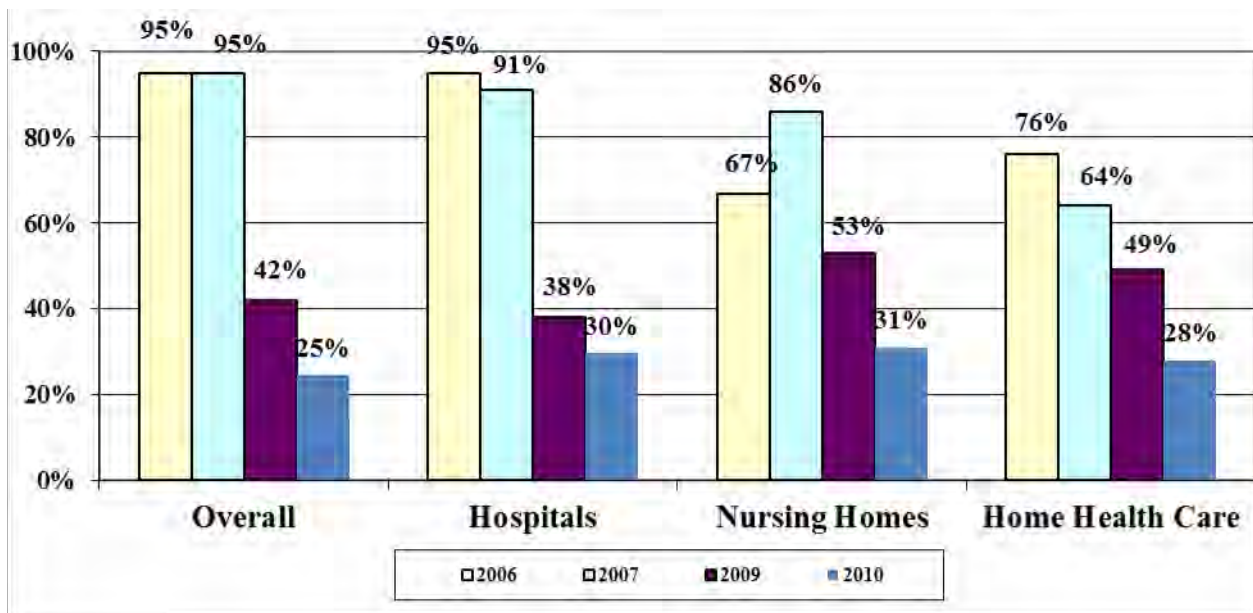
The percentage of ADN program directors that reported an increase in the number of acceptances to their programs declined by 4% between 2006 and 2010. The percentage of BSN program directors that reported an increase in the number of acceptances declined by 29% during the same time period. Overall, only one-third of program deans and directors reported an increase in the number of acceptances to their programs in 2010, while 15% reported fewer acceptances to their programs (Exhibit 27).

**Exhibit 27**  
**Percent Change in Number of Acceptances by Program Type, 2006–2010**



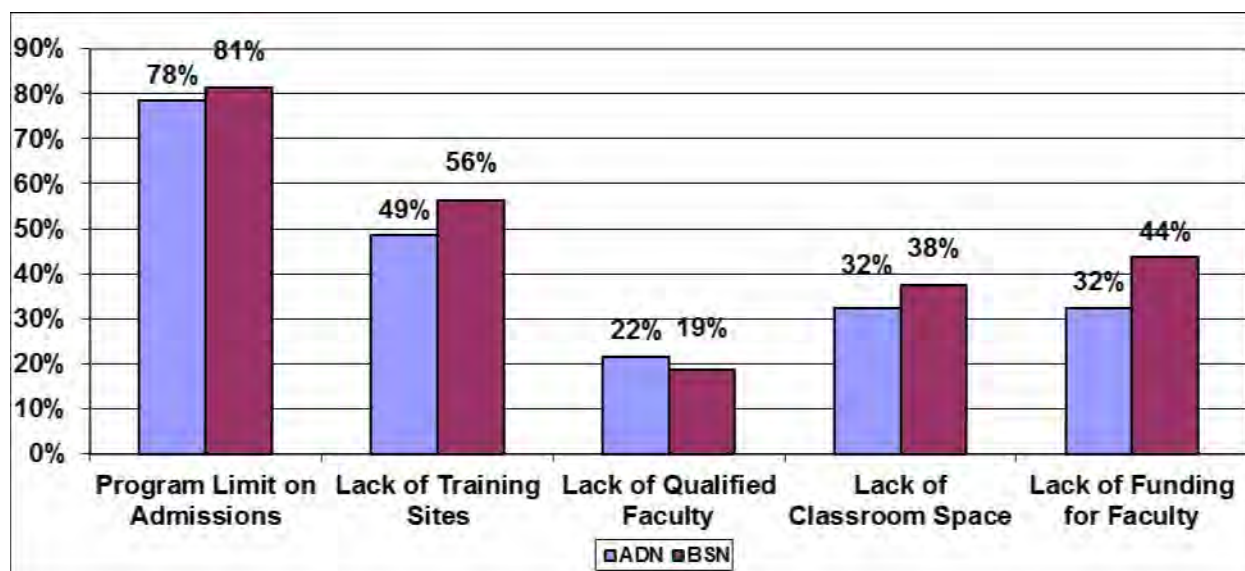
The vast majority of the state’s RN program deans and directors consistently reported a strong job market for their graduates in the 2004-2007 surveys. However, starting with the 2009 survey, the percentage of RN program deans and directors reporting “many jobs” for their graduates dropped by more than 50%, and this trend continued in 2010, with only one-quarter of the program directors reporting “many jobs” for their new graduates. There was slight variation by DOL region, with more than 50% of respondents from the North Country and Southern Tier regions reporting many job openings for newly trained RNs (Exhibit 28).

**Exhibit 28**  
**Percent of RN Program Directors Reporting a Strong Job Market, 2006–2010**



The majority of ADN and BSN program directors reported that the primary reason for turning away qualified applicants from their programs was the limits on program admissions. Other reasons cited by nursing education program directors included a lack of clinical training sites and lack of funding for faculty (Exhibit 29).

**Exhibit 29**  
**Reasons for Turning Away Qualified Applicants by Sponsorship and by Degree Type**



## G. Demand for Workers

The Center conducts annual surveys of human resources directors from nursing homes, home health agencies, and federally qualified health centers (FQHCs) and FQHC look-alikes across New York. The surveys ask about the professions and occupations that pose the greatest recruitment and retention problems.

The Center partnered with the Healthcare Association of New York State and the six regional associations to survey hospitals. The Center conducted these surveys in the spring of 2011 and used data from the surveys for this report.<sup>9</sup> The Center worked with a number of provider organizations to both promote the surveys and develop appropriate questions, including: Continuing Care Leadership Coalition at the Greater New York Hospital Association, the New York Association of Homes and Services for the Aging, the New York State Health Facilities Association, the Community Health Center Association of New York State, and the Home Care Association of New York State, Inc.

<sup>9</sup> Recruitment and retention for each of the four health sectors were assessed on 1 to 5 scale. The scale for hospitals was 1 being the most difficult and 5 being the easiest, and for the other three surveys, 1 was the easiest and 5 was the most difficult. For purposes of this report,

## 1. Hospitals

Across the state, 105 hospitals, or approximately 58%, responded to the survey. New York hospitals reported the most difficulty recruiting and retaining clinical lab technologists, with shortage of and competition for these professionals cited most often as the reason. Hospitals also noted a problem recruiting and retaining medical coders, with nearly two-thirds of the responding hospitals indicating a shortage of these workers. Health information technology (HIT) analysts and program managers were also difficult for hospitals to recruit, with shortages of and competition for these workers cited as reasons (Exhibit 30).

**Exhibit 30**  
**Hospital Recruitment and Retention Difficulties for Selected Occupations**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Clinical Lab Technicians	3.2	2.6	45%	25%	28%	3%
Clinical Lab Technologists	4.3	3.0	82%	53%	37%	8%
Dietitians/Nutritionists	2.7	2.1	24%	28%	16%	2%
HIT Analysts	3.7	2.3	59%	54%	38%	4%
HIT Program Managers	3.6	2.2	55%	57%	49%	4%
HIT Tech Support	2.9	2.2	26%	19%	22%	3%
Licensed Practical Nurses	1.6	1.7	7%	12%	8%	12%
Mammographers	2.4	2.0	21%	24%	14%	2%
Medical Coders	3.7	2.6	66%	41%	39%	2%
Nuclear Medicine Technologists	2.7	2.1	24%	14%	27%	1%
Nurse Practitioners	3.2	2.4	29%	39%	46%	23%
Patient Care Technicians/ Certified Nursing Aides	1.9	2.6	20%	31%	11%	14%
Pharmacists	3.4	2.4	43%	50%	44%	10%
Physical Therapists	3.2	2.5	41%	59%	45%	7%
Physician Assistants	2.9	2.2	33%	37%	48%	11%
Registered Nurses						
-Experienced	3.5	2.4	43%	76%	30%	12%
-Newly-trained	1.7	2.5	3%	36%	16%	14%
Respiratory Therapists	2.7	2.3	28%	32%	25%	3%
Social Workers						
-Licensed Clinical Social Workers	2.4	2.0	17%	21%	21%	6%
-Licensed Masters Social Workers	2.4	2.1	13%	18%	21%	6%
Sonographers	2.5	2.1	28%	19%	28%	1%
X-ray Technicians	1.7	1.5	11%	11%	11%	4%
X-ray Technologists	1.9	1.9	9%	13%	24%	3%

According to the hospitals statewide:

- Forty percent indicated they expected to add staff, while another 11% expected staff reductions. The remaining facilities indicated no change in the size of their staff.
- For those planning to add staff, nearly half of respondents expected to increase the number of RNs (47%), PAs (34%), and NPs (31%).
- One-quarter expected to reduce the number of LPNs on staff.

## 2. Nursing Homes

Eighty-four nursing homes in New York responded to the survey for a response rate of 13%. Nursing homes across New York reported the most difficulty recruiting and retaining experienced RNs, with slightly more than half of nursing home human resource directors citing the competition for experienced RNs as the main reason. Survey respondents also noted difficulty recruiting directors of nursing. While newly-trained RNs were easier to recruit, human resource directors noted more difficulty retaining them. Nursing home human resource directors also noted difficulty retaining certified nursing aides (CNAs) and health aides (Exhibit 31).

**Exhibit 31**  
**Nursing Home Recruitment and Retention Difficulties for Selected Occupations**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	2.5	3.2	30%	43%	26%	7%
Clerical	1.7	1.9	4%	16%	20%	1%
Dietitians/Nutritionists	3.3	2.4	29%	24%	21%	1%
Health Aides	3.0	3.0	36%	21%	21%	21%
Licensed Practical Nurses	3.1	2.9	27%	40%	33%	6%
Medical Billers	2.7	2.2	11%	31%	24%	0%
Occupational Therapists	3.8	2.8	40%	40%	32%	3%
Occupational Therapy Assts/Aides	3.3	2.6	24%	29%	21%	2%
Physical Therapists	3.6	2.8	43%	40%	35%	3%
Physical Therapy Assts/Aides	2.9	2.5	22%	33%	20%	2%
Registered Nurses						
-Experienced	3.9	3.3	40%	52%	45%	5%
-Newly-trained	2.7	3.2	27%	44%	41%	4%
-Directors of Nursing	3.8	3.0	40%	37%	28%	12%
-Nursing Managers	3.6	3.1	37%	45%	41%	7%
Respiratory Therapists	3.5	2.7	25%	35%	20%	5%
Social Workers						
-LCSWs	3.1	2.4	20%	24%	29%	2%
-LMSWs	3.2	2.5	25%	30%	28%	2%
Speech Pathologists	3.4	2.7	31%	31%	20%	0%

Other information reported by nursing homes in New York included:

- Slightly less than 30% had difficulty hiring part-time workers.
- Just less than one-quarter had difficulty hiring bilingual workers. The languages most needed were Spanish and Chinese.
- More than half had difficulty hiring RNs (54%) and LPNs (51%) for evening shifts. Forty-three percent indicated they had difficulty hiring CNAs for evening shifts.
- Nearly two-thirds had difficulty hiring RNs for night shifts (65%), followed by difficulty hiring LPNs (52%) and CNAs (39%) for night shifts.
- Just over 25% indicated that the number of CNA training classes in their area was inadequate.
- Fifty-six percent indicated they were not sure of the impact on Medicaid redesign on their facility, while another 28% indicated that staff reductions would result.

Nearly 25% of nursing home respondents statewide reported that the recent economic downturn resulted in worker layoffs, including support staff, physical therapists, CNAs, and maintenance workers.

### *3. Home Health Agencies*

Forty-nine home health agencies in New York responded to the survey for a response rate of about 16%.<sup>10</sup> Home health agencies reported the most difficulties recruiting respiratory therapists, occupational therapists, speech pathologists, and experienced RNs, citing worker shortages as the primary reason for recruiting difficulties for each. They also indicated that competition for workers and low salary levels contributed to difficulty recruiting experienced RNs. While newly-trained RNs were easier to recruit, human resource directors noted more difficulty retaining them. Survey respondents all reported difficulty retaining RNs and speech pathologists (Exhibit 32).

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<sup>10</sup> For purposes of this report, home health agencies include certified home health agencies, long-term home health care programs, and hospices.

**Exhibit 32**  
**Home Health Agency Recruitment and Retention Difficulties for Selected Occupations**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	3.4	2.4	32%	21%	26%	6%
Home Health Aides	3.1	2.9	38%	26%	44%	26%
Licensed Practical Nurses	2.3	2.4	14%	17%	31%	10%
Occupational Therapists	4.1	3.1	58%	45%	35%	5%
Personal Care Aides/Homemakers	2.8	2.9	39%	28%	22%	11%
Physical Therapists	3.9	3.1	44%	44%	40%	7%
Registered Nurses						
-Experienced	4.0	3.3	45%	55%	59%	18%
-Newly-trained	2.8	3.4	16%	28%	40%	12%
Respiratory Therapists	4.4	2.8	59%	18%	18%	0%
Social Workers						
-LMSWs	3.4	2.8	38%	34%	22%	3%
-LCSWs	3.4	2.7	31%	33%	11%	8%
Speech Pathologists	4.1	3.3	46%	41%	33%	5%

Other information reported by home health agencies statewide included:

- 39% reported difficulty hiring off-shift workers.
- 38% indicated difficulty hiring part-time workers.
- 55% reported difficulty hiring bilingual workers. More than 80% of them indicated Spanish was the language most needed.
- Slightly more than half indicated they anticipated overall staff reductions as a result of Medicaid redesign.

#### 4. Community Health Centers

FQHCs and FQHC look-alikes responded to the survey for a 63% response rate. Respondents reported the most difficulty recruiting geriatric NPs, psychiatric NPs, and dentists, and reported the most difficulty retaining LPNs (Exhibit 33).

**Exhibit 33**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	2.0
CNAs	1.3	1.8
Community Health Workers	2.2	2.0
Dental Assistants	1.9	1.7
Dental Hygienists	2.4	1.6
Dentists	3.0	2.1
Health Educator	2.2	1.9
HIV Counselors	2.0	2.0
Licensed Practical Nurses	2.3	2.4
Medical Assistants	1.3	2.3
Midwives	2.6	2.0
Nurse Practitioners		
-Adult NPs	2.5	2.1
-Family NPs	2.7	2.1
-Geriatric NPs	3.4	1.9
-Pediatric NPs	2.7	2.0
-Psychiatric NPs	3.2	2.2
Nutrition Educators	2.7	1.7
Patient Health Navigators	2.2	1.8
Physician Assistants	2.2	1.9
Psychologists	2.8	2.1
Registered Nurses	2.7	2.2
Social Workers	2.8	2.0
Substance Abuse Counselors	2.3	2.0

More than three-fourths of the respondents indicated they needed Spanish-speaking staff. Other languages cited as needed included Creole and Mandarin.



## H. Projected Job Growth

Between 2008 and 2018, the NYSDOL projects the number of home health aide jobs in the state will increase by over 48,000 with more than 6,100 average annual job openings. The number of RN jobs is projected to increase by more than 21,000 during the same period with nearly 5,000 average annual job openings (Exhibit 34).

**Exhibit 34**  
**Employment Projections for Health Care Occupations<sup>11</sup>**  
**in New York, including New York City, 2008–2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Home Health Aides	129,870	178,190	48,320	37.2%	6,120
Registered Nurses	162,860	184,120	21,260	13.1%	4,980
Nursing Aides, Orderlies, and Attendants	100,580	114,270	13,690	13.6%	2,370
Licensed Practical Nurse	45,510	52,210	6,700	14.7%	2,090
Social Workers	61,360	66,230	4,870	7.9%	2,040
Pharmacy Technicians	13,990	17,850	3,860	27.6%	740
Dental Assistants	16,100	19,920	3,820	23.7%	680
Medical Assistants	19,370	23,850	4,480	23.1%	670
Medical and Health Services Managers	27,280	28,660	1,380	5.1%	660
Pharmacists	16,290	18,470	2,180	13.4%	580
Clinical, Counseling, and School Psychologists	14,690	15,410	720	4.9%	490
Physical Therapists	13,770	16,900	3,310	22.7%	480
Dental Hygienists	10,730	13,360	2,630	24.5%	480
Speech Language Pathologists and Audiologists	11,310	12,760	1,450	12.8%	360
Emergency Medical Technicians and Paramedics	13,820	14,550	730	5.3%	350
Physician Assistants	8,420	10,360	1,940	23.0%	340
Radiologic Technologists and Technicians	13,130	14,360	1,230	9.4%	310
Medical Records and Health Information Technicians	8,980	9,960	980	10.9%	280
Occupational Therapists	7,570	8,770	1,200	15.9%	260
Medical and Clinical Laboratory Technicians	10,010	10,650	640	6.4%	250
Surgical Technologists	5,050	5,670	620	12.3%	190
Medical and Clinical Laboratory Technologists	7,620	7,980	360	4.7%	190
Respiratory Therapists	5,210	5,920	710	13.6%	170
Dietitians and Nutritionists	4,660	4,770	110	2.4%	170
Diagnostic Medical Sonographers	3,680	4,080	400	10.9%	90
Cardiovascular Technicians and Technologists	2,880	3,320	440	15.3%	80
Psychiatric Aides	6,950	7,090	140	2.0%	80

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 – 2018

<sup>11</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.



## V. REGIONAL PROFILES

### A. New York City

The New York City Department of Labor region includes the five counties in New York City: Bronx, Kings (Brooklyn), New York (Manhattan), Queens, and Richmond (Staten Island).

#### *Population*

New York City's population was younger and had a higher percentage of females of child bearing age (age 15 to 44) than New York State as a whole. New York City's population was also more racially and ethnically diverse than the state as a whole, with more than half of its population people of color (Exhibit 35).

**Exhibit 35**  
**Selected Population Characteristics for New York City Region for 2009**

	Region		Statewide Percentage
	Number	Percentage of Regional Population	
Total Population*	8,310,025	N/A	N/A
Population Under 100% FPL Level**	1,771,589	21.3%	14.6%
Population Under 200% FPL Level**	3,305,488	39.8%	30.5%
Population Ages Birth - 17*	1,901,830	22.9%	22.7%
Population 65 and older*	1,037,345	12.5%	13.5%
Population Female 15 – 44*	1,850,778	22.2%	20.8%
Black/African American, non-Hispanic*	1,905,878	22.9%	14.5%
Hispanic/Latino*	2,280,856	27.4%	16.5%
Asian/Pacific Islander, non-Hispanic*	471,135	5.7%	3.3%
American Indian/Native Alaskan, non-Hispanic*	15,911	0.2%	0.3%
Two or More/Other*	323,387	3.9%	2.7%
Less than High School Education***	1,462,106	32.7%	25.2%
High School Education***	1,288,338	28.8%	33.3%
College Degree or Higher***	1,722,049	38.5%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

#### *Health Status*

Corresponding to the younger population, New York City had a lower number of deaths per capita and a higher birth rate than New York State as a whole. However, New York City had

significantly higher rates of asthma (both adult and pediatric) and diabetes hospitalizations than the state as a whole (Exhibit 36).

**Exhibit 36**  
**Selected Health Indicators for New York City Region**

	Region		Statewide Number per 100,000 <sup>12</sup>
	Number	Number per 100,000 <sup>12</sup>	
Total deaths*	51,450	619.1	749.8
Deaths due to all cancers*	12,279	147.8	180.2
Deaths due to diabetes*	1,653	19.9	19.1
Deaths due to heart disease*	19,715	237.2	239.7
Total births*	121,745	65.8	61.4
Teen births*	7,596	28.8	24.3
Low-birth weight births*	10,586	8.7	8.2
Late/no prenatal care*	8,284	6.8	5.5
Infant deaths*	591	4.9	5.3
Adult asthma hospitalizations**	16,267	259.1	165.3
COPD hospitalizations**	8,618	104.8	125.1
Coronary heart failure hospitalizations**	23,957	291.3	280.1
Diabetes hospitalizations**	21,427	260.5	184.1
Pediatric asthma hospitalizations**	9,323	479.2	296.6
PQI hospitalizations**	111,779	1,359.1	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

### *Primary Care Capacity*

#### Primary Care Physicians

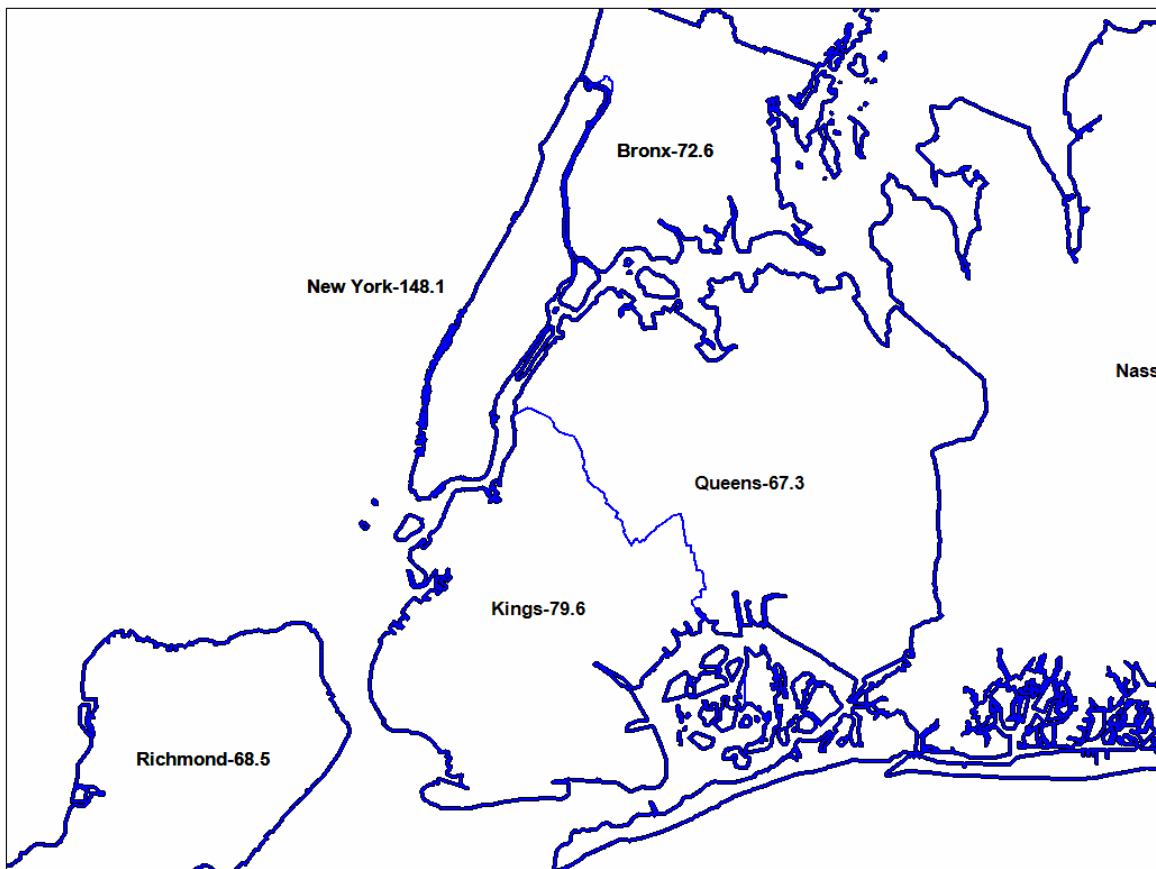
There were nearly 7,300 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the New York City region. Slightly less than half of them practiced general internal medicine and nearly 22% practiced general pediatrics. There were more specialists in all the primary care categories in New York City than statewide except for ob/gyns, which had slightly fewer practitioners. There were 87.8 community-based primary care physicians in New York City per 100,000 population, higher than the statewide rate of 82 per 100,000. The county of New York had the most community-based primary care physicians at nearly 150 and Queens had the least at 67.3 (Exhibits 37 and 38).

<sup>12</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 37**  
**Community-Based, Primary Care Physicians by Specialty**  
**in the New York City Region, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>13</sup>	
		Region	State
Family/General Practice	1,122.4	13.5	18.1
Internal Medicine (General)	3,580.2	43.1	35.2
Geriatrics	89.2	1.1	0.8
Obstetrics/Gynecology	912.0	49.3	49.8
Pediatrics (General)	1,592.6	83.7	77.5
Total	7,296.3	87.8	82.0

**Exhibit 38**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the New York City Region, 2009**

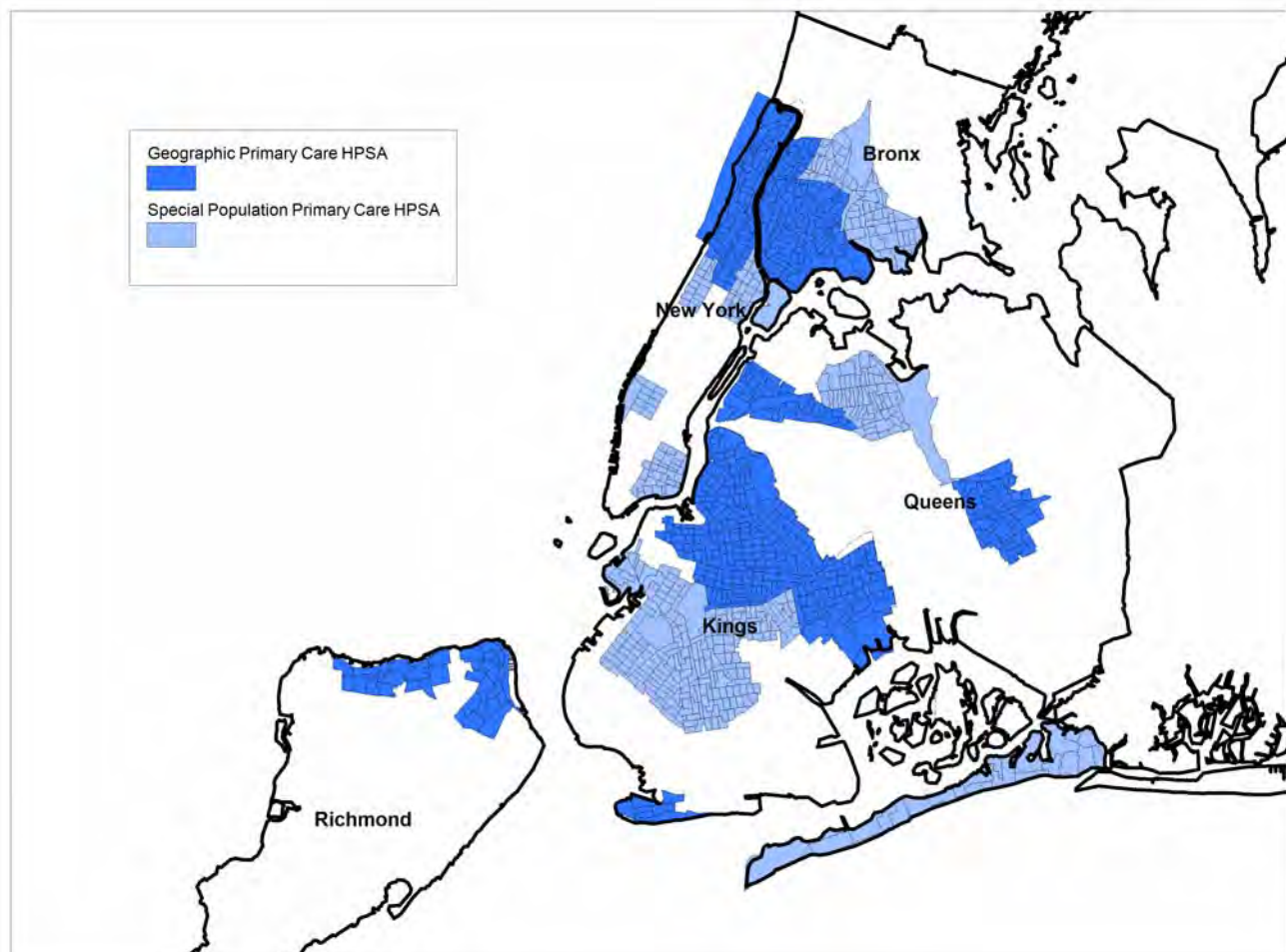


<sup>13</sup> Obstetricians/gynecologists per capita is per 100,000 women, age 15 to 44 and pediatricians per capita is per 100,000 children, birth to age 17. Total physicians per 100,000 is based on total population.

## Health Professional Shortage Area Designations

All five boroughs of New York City have either geographic or special population primary care HPSAs. All of the South Bronx and all of North Manhattan have primary care HPSA designations, as well as major sections of Brooklyn. There were also three primary care HPSAs in Queens and two on Staten Island. Over 4.1 million residents of New York City reside in either geographic or special population HPSAs (Exhibit 39).

### **Exhibit 39 Current Geographic and Special Population Primary Care HPSAs in New York City**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration

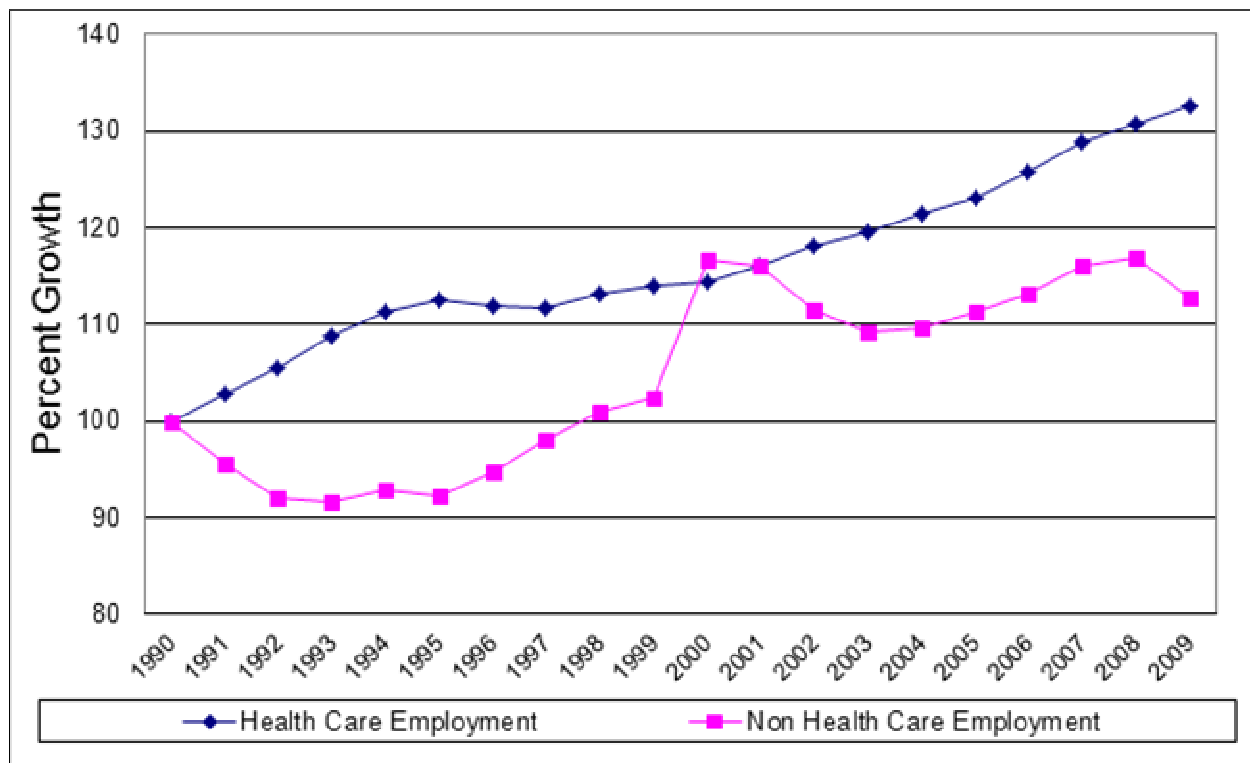
## Employment

### Total Employment

Between 1990 and 2009, employment in the health sector in New York City grew steadily with the largest increase occurring between 1990 and 1995. Employment in all other sectors saw more sporadic growth with declines between 1990 and 1995, but substantial growth between 1995 and 2000 and between 2004 and 2008. Between 2008 and 2009, employment in sectors outside of health care declined by nearly 4% while employment in health care increased by slightly more than 1%.

Between 1990 and 2009, employment in the health sector in New York City rose by nearly 33%, while employment in all other sectors grew by almost 13% during the same period (Exhibit 40).

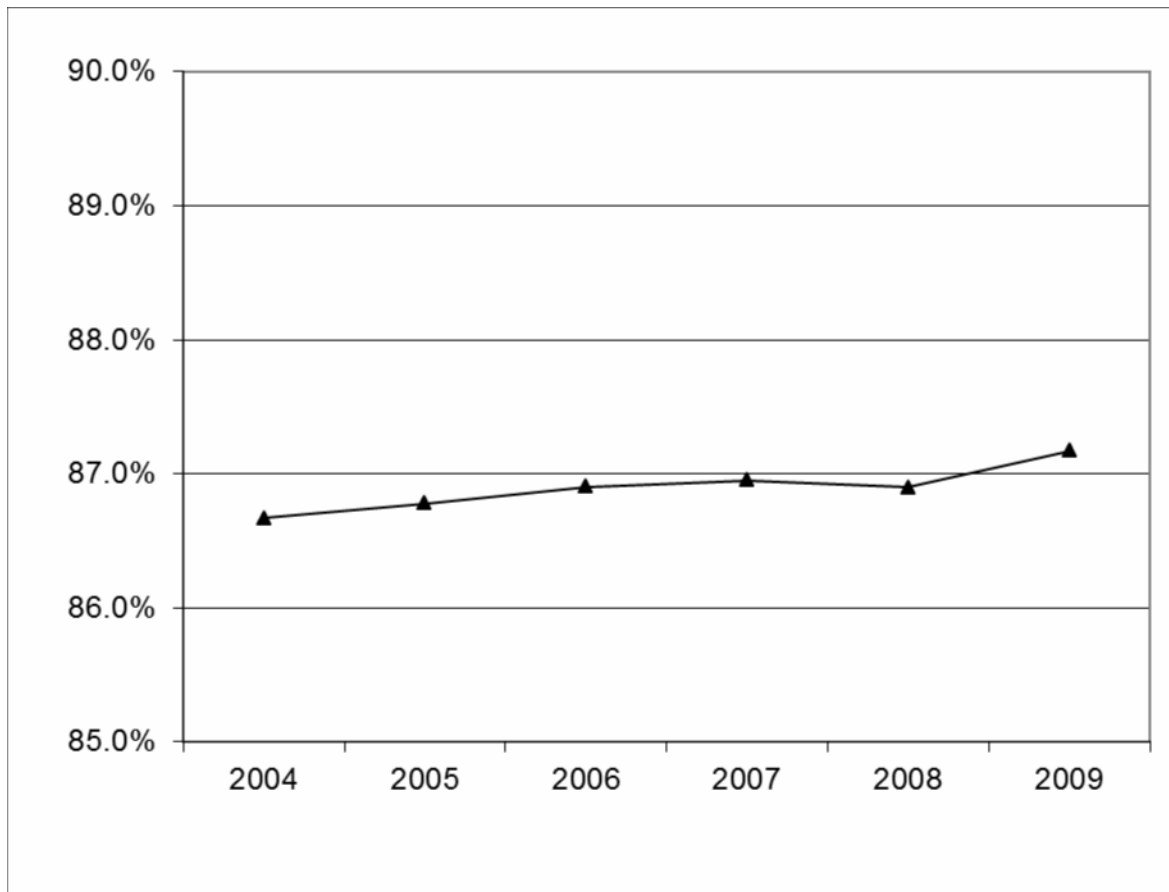
**Exhibit 40**  
**New York City Employment Growth between 1990 and 2009, Standardized to 1990**



Source: NYS Department of Labor, ES-202

Between 2004 and 2009, total health sector employment increased by 9% in New York City. Private health sector employment increased by 10% during this time period, while public health sector jobs increased by 5%. The percentage of private sector health care jobs to total health care jobs increased to slightly over 87% during the same period (Exhibit 41).

**Exhibit 41**  
**Percentage of Health Care Employment in Privately Sponsored Employment**  
**for New York City, 2004–2009**



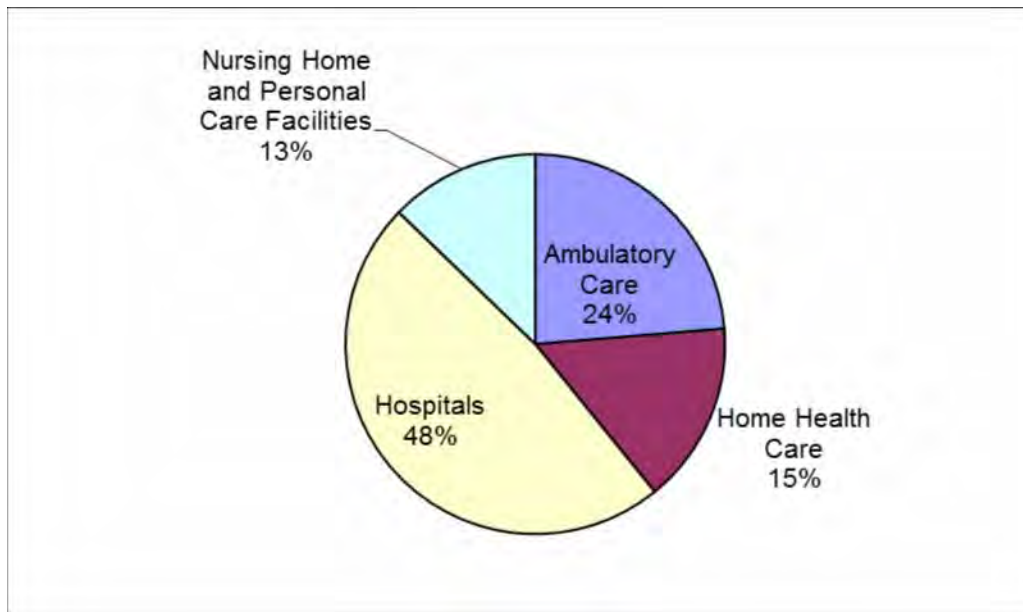
Source: NYS Department of Labor, ES-202



### Employment by Setting

Hospitals continued to be the largest employer of New York City health workers in 2009, accounting for nearly one-half of all health care jobs. Ambulatory care settings and home health agencies followed, at 24% and 15%, respectively (Exhibit 42).

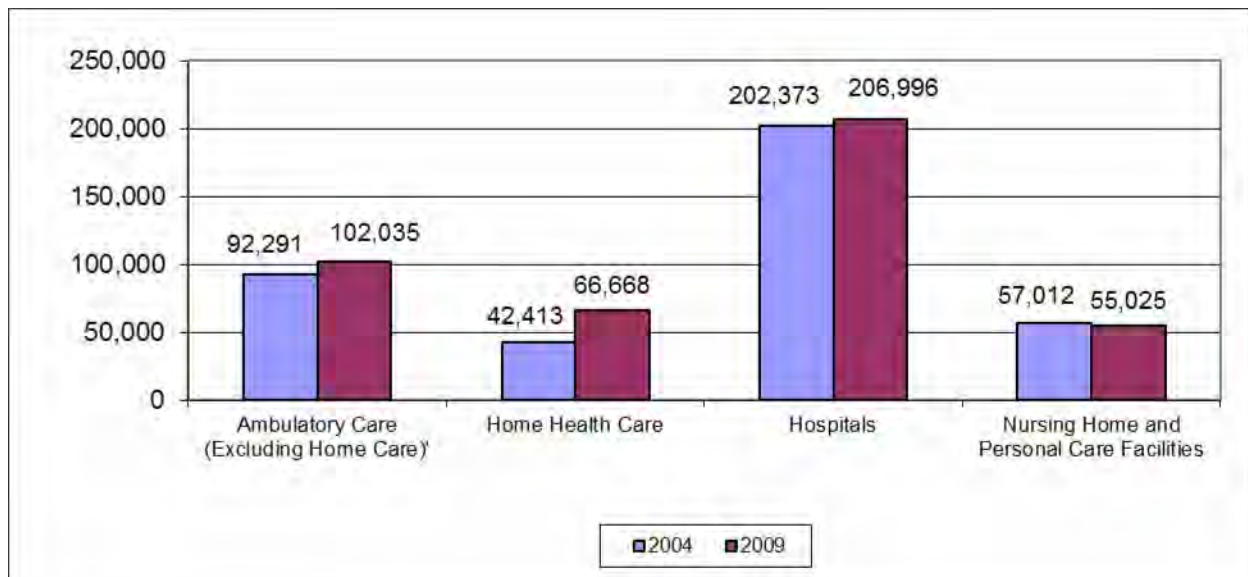
**Exhibit 42**  
**Health Sector Employment by Setting for New York City, 2009**



Source: NYS Department of Labor, ES-202

Between 2004 and 2009, health sector employment increased in New York City in the health settings of ambulatory care, home health care, and hospitals. Nursing home and personal care facilities were the only settings to lose jobs during this time period. Home health care jobs grew by more than 57% between 2004 and 2009. Ambulatory care settings experienced the next largest job growth (11%), while the number of jobs in nursing homes and personal care facilities declined by over 3% (Exhibit 43).

**Exhibit 43**  
**Number of Jobs by Health Care Setting in New York City, 2004 and 2009**

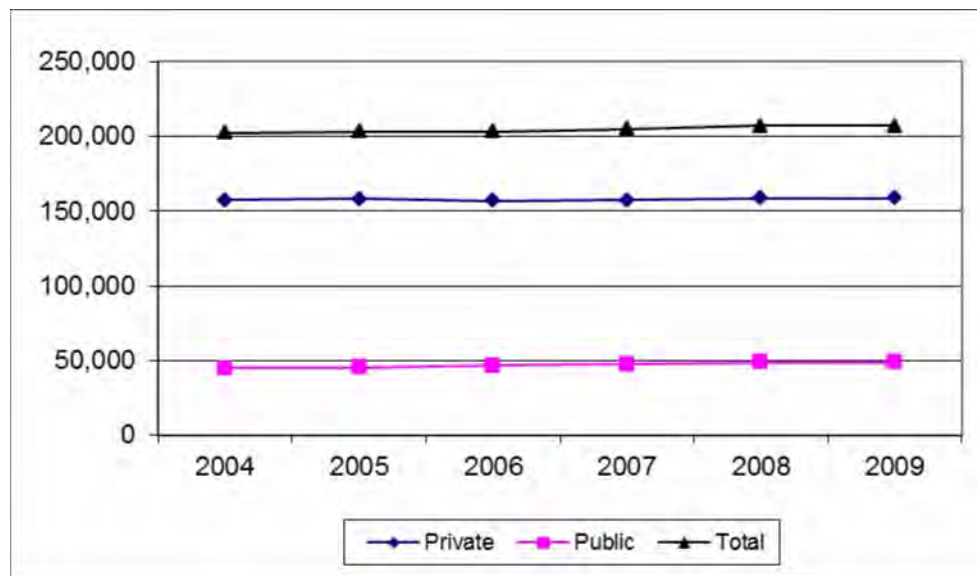


Source: NYS Department of Labor, ES-202

### Hospital Employment Trends

Between 2004 and 2009 total hospital employment in New York City increased by approximately 2.3%. The number of public sector hospital jobs increased by 8% during this period, but the number of private sector hospital jobs remained relatively stable (Exhibit 44).

**Exhibit 44**  
**Trends in Hospital Employment for New York City, 2004 – 2009**

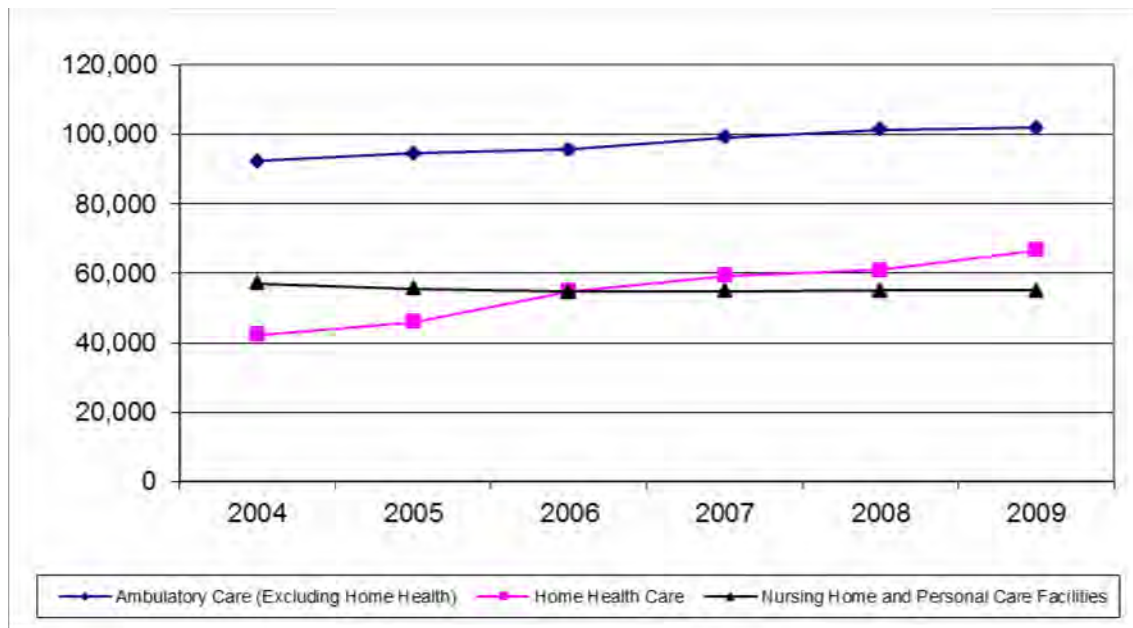


Source: NYS Department of Labor, ES-202

### Non-Hospital Employment Trends

Between 2004 and 2009, the most significant health sector employment trends outside of hospitals were a large increase in home health care employment, a steady increase in ambulatory care (excluding home health care), and a slight decline in nursing home and personal care facility employment. As shown in Exhibit 45, after 2006, employment in home health care services in New York City surpassed employment in nursing homes and personal care facilities.

**Exhibit 45**  
**Non-Hospital Health Care Employment Trends for New York City, 2004–2009**



Source: NYS Department of Labor, ES-202

### Employment by Occupation

Between 2005 and 2009, changes in the number of health care jobs in the New York City primary metropolitan statistical area (PMSA)<sup>14</sup> varied widely by occupation. While these data represent positions and not individuals or full-time equivalents, they were useful in identifying trends in occupations or job titles. A number of occupations or professions experienced substantial increases in the number of jobs between 2005 and 2009, including:

- Social worker jobs, which increased by nearly 3,400, or 11%;
- Medical and health service manager jobs, which grew by 3,100, or 22%;
- Home health aide jobs, which increased by more than 2,400, or 3%; and
- Speech-language pathologist jobs, which grew by nearly 2,400, or 78%.

More 36% of the health occupations or professions job in the New York City PMSA declined between 2005 and 2009, including:

- LPN jobs, which declined by over 5,400, or 24%;
- Medical secretary jobs, which declined by nearly 3,600, or 33%;
- RN jobs, which declined by more than 2,700, or 3%; and
- Medical and clinical laboratory technician jobs, which declined by over 2,300, or 35%.

<sup>14</sup> Bronx, Kings, New York, Queens, Richmond, Westchester, Putnam, and Rockland counties in New York and three counties in Northern New Jersey. This definition of the New York City PMSA was first used in 2005. Data from all other years cited in this report are for New York counties only.

**Exhibit 46**  
**Number of Jobs in Selected Health Occupations for the New York City**  
**Primary Metropolitan Statistical Area, 2005-2009**

Occupation	2005	2006	2007	2008	2009	Change between 2005 to 2009	
						Number	Percent
Speech-Language Pathologists	3,020	3,040	4,710	4,980	5,380	2,360	78.1%
Physician Assistants	3,140	3,310	3,540	3,910	4,250	1,110	35.4%
Dental Hygienists	3,900	4,050	4,220	5,020	5,120	1,220	31.3%
Radiologic Technologists and Technicians	5,540	5,680	6,700	7,070	7,000	1,460	26.4%
Medical and Health Services Managers	13,970	15,550	14,500	15,540	17,070	3,100	22.2%
Pharmacists	7,630	7,850	8,410	8,700	9,220	1,590	20.8%
Occupational Therapy Assistants/Aides	870	1,010	1,160	1,120	1,010	140	16.1%
Nuclear Medicine Technologists	660	730	660	770	760	100	15.2%
Medical Assistants	11,270	10,900	12,010	12,080	12,700	1,430	12.7%
Social Workers	32,110	33,140	33,480	35,890	35,490	3,380	10.5%
Occupational Therapists	3,520	4,170	4,150	3,860	3,870	350	9.9%
Physical Therapists	6,940	6,550	6,600	7,130	7,410	470	6.8%
Medical Records and Health Information Techs	3,930	3,840	3,870	4,280	4,120	190	4.8%
Medical and Clinical Laboratory Technologists	6,510	6,940	6,670	6,920	6,790	280	4.3%
Dietitians and Nutritionists	2,350	2,510	2,380	2,500	2,430	80	3.4%
Home Health Aides	80,280	95,560	104,690	86,460	82,710	2,430	3.0%
Physical Therapy Assistants/Aides	3,160	2,980	3,040	3,300	3,240	80	2.5%
Nursing Aides, Orderlies, and Attendants	58,130	55,940	54,630	58,280	58,930	800	1.4%
Dental Assistants	9,330	9,550	9,550	9,510	9,310	-20	-0.2%
Pharmacy Technicians	6,850	7,370	7,230	6,860	6,770	-80	-1.2%
Respiratory Therapists	2,980	3,350	3,100	3,100	2,930	-50	-1.7%
Registered Nurses	99,010	96,720	96,560	97,790	96,270	-2,740	-2.8%
Surgical Technologists	3,190	3,220	3,090	3,070	3,070	-120	-3.8%
Licensed Practical Nurses	22,860	20,630	19,430	18,090	17,440	-5,420	-23.7%
Cardiovascular Technologists and Technicians	1,960	1,880	1,840	1,740	1,430	-530	-27.0%
Medical Secretaries	10,850	9,700	9,670	8,590	7,270	-3,580	-33.0%
Medical and Clinical Laboratory Technicians	6,770	6,550	5,170	4,810	4,420	-2,350	-34.7%
Dietetic Technicians	640	540	420	390	410	-230	-35.9%

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

## Licensed Health Care Professionals

Between 2007 and 2009, the number of licensed RNs in New York City grew by more than 2,500, a nearly 5% increase. The number of licensed clinical laboratory technologists increased by nearly 1,200 during the same time period, a rise of 35%. Other professions that experienced a double-digit increase in licenses included clinical laboratory technicians, NPs, speech-language pathologists, PAs, and occupational therapists. The number of social workers declined by slightly more than 1% during the same time period (Exhibit 47).

**Exhibit 47**  
**Changes in the Number of Licensed Individuals**  
**in Selected Health Service Professions for New York City, 2007–2009**

Profession	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	424	532	678	254	59.9%
Clinical Laboratory Technologists	3,366	3,984	4,545	1,179	35.0%
Nurse Practitioners	2,644	2,821	3,068	424	16.0%
Speech-Language Pathologists	3,138	3,356	3,572	434	13.8%
Physician Assistants	2,465	2,579	2,734	269	10.9%
Occupational Therapists	2,431	2,554	2,695	264	10.9%
Dental Hygienists	1,531	1,573	1,638	107	7.0%
Respiratory Therapists	1,162	1,227	1,243	81	7.0%
Pharmacists	4,965	5,006	5,281	316	6.4%
Physical Therapy Assistants	1,009	1,005	1,061	52	5.2%
Registered Nurses	54,733	55,300	57,283	2,550	4.7%
Physical Therapists	4,309	4,328	4,508	199	4.6%
Occupational Therapy Assistants	865	870	898	33	3.8%
Dietitians/Nutritionists	1,441	1,407	1,444	3	0.2%
Licensed Practical Nurses	14,502	14,785	14,488	-14	-0.1%
Social Workers	18,146	17,745	17,917	-229	-1.2%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the New York City reported the most difficulty recruiting clinical laboratory technologists, HIT program managers, HIT analysts, and medical coders, with the primary reason cited for these difficulties being the shortage of workers in these occupations. Physical therapists were the most difficult to retain, followed by HIT analysts, HIT program managers, and medical coders (Exhibit 48).

**Exhibit 48**  
**Recruitment and Retention Difficulties for Hospitals for Selected Occupations**  
**in New York City**

<b>Occupation</b>	<b>Average Assessment of Difficulty</b>		<b>Percent of Respondents Indicating Reason for Difficulty</b>			
	<b>Recruitment</b>	<b>Retention</b>	<b>Shortage of Workers</b>	<b>Competition for Workers</b>	<b>Salary Levels</b>	<b>Other</b>
Clinical Laboratory Technicians	3.3	2.3	60%	20%	67%	0%
Clinical Laboratory Technologists	4.2	2.5	81%	43%	52%	5%
Dietitians/Nutritionists	3.0	2.7	39%	35%	26%	0%
HIT Analysts	3.7	3.2	62%	31%	54%	7%
HIT Program Managers	3.8	3.2	57%	50%	50%	7%
HIT Tech Support	3.1	2.8	40%	7%	47%	13%
License Practical Nurses	1.4	2.1	0%	5%	16%	16%
Licensed Clinical Social Workers	2.6	2.3	20%	40%	45%	0%
Licensed Masters Social Workers	2.5	2.3	14%	33%	43%	5%
Mammographers	2.2	1.9	15%	10%	20%	0%
Medical Coders	3.7	3.0	80%	50%	50%	0%
Nuclear Medicine Technologists	2.3	2.1	21%	5%	16%	0%
Nurse Practitioners	3.4	2.7	13%	43%	52%	13%
Patient Care Technicians/ Certified Nursing Aides	1.4	2.0	0%	4%	0%	17%
Pharmacists	2.9	2.2	36%	45%	18%	5%
Physical Therapists	3.1	3.4	32%	32%	36%	9%
Physician Assistants	2.8	2.3	29%	43%	43%	14%
Registered Nurses						
-Experienced	3.3	2.0	32%	60%	20%	16%
-Newly-trained	1.5	2.5	0%	17%	13%	17%
Respiratory Therapists	3.0	2.4	20%	15%	20%	0%
Sonographers	2.3	2.2	16%	11%	21%	0%
X-ray Technicians	1.8	1.8	12%	6%	12%	0%
X-ray Technologists	2.0	1.9	14%	10%	14%	0%

According to the responding hospitals in the New York City region:

- Forty-six percent indicated they expected staff growth and another 42% expected no changes in staffing. The remaining facilities indicated they expected a reduction in staff.
- Forty-six percent indicated they expected an increase in the number of RNs, followed by CNAs (33%), and pharmacists (25%).
- Nearly 30% indicated they expected a reduction in the number of LPNs.

### Nursing Homes

Nursing homes in New York City reported that occupational therapists were the most difficult to recruit followed by social workers, speech pathologists, dietitians/nutritionists, and experienced RNs. Experienced RNs, newly-trained RNs, and nurse managers were the most difficult to retain (Exhibit 49).

**Exhibit 49**  
**Recruitment and Retention Difficulties for Nursing Homes for Selected Occupations in New York City**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	1.7	2.6	10%	10%	30%	10%
Clerical	2.1	2.1	0%	13%	13%	0%
Dietitians/Nutritionists	3.6	2.8	10%	10%	40%	0%
Licensed Practical Nurses	2.7	2.7	20%	10%	20%	10%
Medical Billers	3.3	2.3	0%	50%	0%	0%
Occupational Therapists	3.7	2.7	29%	0%	14%	0%
Occupational Therapy Assts/Aides	3.0	2.9	13%	13%	13%	0%
Physical Therapists	3.4	2.7	38%	13%	25%	0%
Physical Therapy Assts/Aides	2.4	2.7	11%	0%	11%	0%
Registered Nurses						
-Experienced	3.6	3.3	20%	40%	30%	10%
-Newly-trained	2.0	3.0	11%	33%	22%	11%
-Directors of Nursing	3.5	2.6	33%	50%	17%	0%
-Nurse Managers	3.4	3.0	29%	57%	14%	14%
Social Workers						
-LCSWs	3.6	2.3	22%	44%	22%	0%
-LMSWs	3.6	2.4	14%	43%	29%	0%
Speech-Language Pathologists	3.6	2.2	20%	20%	0%	0%

Other information reported by nursing homes in the New York City region included:

- Twenty percent of responding nursing homes reported difficulties hiring part-time workers.
- Slightly less than one-third indicated difficulties hiring bilingual workers. The language cited as most needed was Chinese.



- Forty percent indicated difficulties hiring LPNs and CNAs for the evening shift, and 50% indicated difficulties hiring RNs for the night shift.
- None of the nursing homes in New York City that responded to the survey indicated that there were an inadequate number of classes in their area to train CNAs.
- Half of the nursing homes in New York City indicated that they were unsure of the impact of Medicaid redesign on their facility, and another 40% indicated staffing would be affected, either through reductions in staffing or substitution of lower cost staff for higher cost staff.

### Home Health Agencies

Home health agencies in New York City reported the most difficulty recruiting occupational therapists, followed by speech-language pathologists. Physical therapists and experienced RNs were also difficult to recruit for. Newly-trained RNs were the most difficult to retain, followed by LPNs and experienced RNs. Salary levels were cited as the main reason for these difficulties followed by the competition for workers ( Exhibit 50).

**Exhibit 50**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in New York City**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	3.3	3.0	0%	0%	33%	0%
Home Health Aides	2.3	3.0	0%	14%	43%	14%
Licensed Practical Nurses	3.2	3.5	20%	40%	80%	0%
Occupational Therapists	4.2	3.2	67%	50%	67%	0%
Personal Care Aides	3.0	3.0	0%	0%	0%	0%
Physical Therapists	3.8	3.2	40%	60%	80%	0%
Registered Nurses						
- <i>Experienced</i>	3.7	3.5	57%	86%	57%	29%
- <i>Newly-trained</i>	2.8	3.7	25%	75%	25%	0%
Social Workers						
- <i>LMSWs</i>	3.2	3.2	20%	60%	0%	0%
- <i>LCSWs</i>	3.2	3.2	33%	50%	50%	17%
Speech-Language Pathologists	4.0	3.4	33%	67%	17%	0%

Other information reported by home health agencies in the New York City region included:

- Less than 20% of the responding home health agencies in New York City reported difficulties hiring part-time workers.
- More than 80% reported difficulties hiring bilingual workers. Spanish and Chinese (or dialects of Chinese) were the most needed languages.
- Two-thirds reported an anticipated impact of Medicaid redesign, with most home health agencies anticipating overall staff reductions.

## Community Health Centers

Community health centers in New York City reported the most difficulty recruiting psychiatric NPs, followed by psychologists, and geriatric NPs. Community health centers in New York City reported the most difficulty retaining geriatric NPs, followed by psychiatric NPs.

**Exhibit 51**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for New York City**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.1	2.2
CNAs	1.6	1.7
Community Health Workers	2.2	2.4
Dental Assistants	1.6	1.7
Dental Hygienists	2.8	1.8
Dentists	2.9	2.3
Health Educator	2.1	2.3
HIV Counselors	1.9	2.3
Licensed Practical Nurses	2.4	2.4
Medical Assistants	1.4	2.2
Midwives	2.6	2.4
Nurse Practitioners		
-Adult NPs	2.3	2.1
-Family NPs	2.5	2.4
-Geriatric NPs	3.2	2.8
-Pediatric NPs	2.6	2.2
-Psychiatric NPs	3.5	2.6
Nutrition Educators	2.8	1.8
Patient Health Navigators	2.2	2.3
Physician Assistants	2.0	1.9
Psychologists	3.3	2.4
Registered Nurses	2.3	2.2
Social Workers	2.7	2.1
Substance Abuse Counselors	2.4	2.0

## Employment Projections by Health Occupation

The number of personal and home care aides is projected to increase by more than 40% between 2008 and 2018, with more than 4,300 annual openings, and the number of home health aides is anticipated to grow by nearly 40% during the same period. The number of RN job openings is projected to be almost 2,000 per year between 2008 and 2018. Pharmacy technicians (30%), dental hygienists (22%), medical assistants (21%), dental assistants (21%), and PAs (20%) were projected to grow by more than 20% between 2008 and 2018 (Exhibit 52).

**Exhibit 52**  
**Employment Projections for Selected Health Care Occupations<sup>15</sup>**  
**for New York City, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Personal and Home Care Aides	81,880	115,120	33,240	40.6%	4,340
Home Health Aides	66,370	92,690	26,320	39.7%	3,290
Registered Nurses	65,670	73,620	7,950	12.1%	1,950
Social Workers	29,390	31,590	2,200	7.5%	980
Nursing Aides, Orderlies, and Attendants	44,440	46,130	4,690	11.3%	880
Licensed Practical Nurse	12,160	13,690	1,530	12.6%	530
Medical and Health Services Managers	13,150	13,740	590	4.5%	310
Pharmacy Technicians	4,850	6,320	1,470	30.3%	270
Medical Assistants	8,430	10,170	1,740	20.6%	260
Pharmacists	6,880	7,980	1,100	16.0%	260
Dental Assistants	5,820	7,020	1,200	20.6%	230
Clinical, Counseling, and School Psychologists	6,320	6,650	330	5.2%	210
Physical Therapists	4,920	5,860	940	19.1%	150
Physician Assistants	3,720	4,470	750	20.2%	150
Dental Hygienists	3,120	3,800	680	21.8%	130
Speech-Language Pathologists	4,560	5,010	450	9.9%	130
Emergency Medical Technicians and Paramedics	6,360	6,390	30	0.5%	130
Medical and Clinical Laboratory Technologists	4,530	4,810	280	6.2%	120
Radiologic Technologists and Technicians	4,260	4,620	360	8.5%	100
Occupational Therapists	2,820	3,190	370	13.1%	90
Surgical Technologists	2,450	2,750	300	12.2%	90
Medical Records and Health Information Technicians	3,070	3,280	210	6.8%	80
Respiratory Therapists	1,930	2,220	270	14.0%	70
Medical and Clinical Laboratory Technicians	3,070	3,180	110	3.6%	70
Dietitians and Nutritionists	1,820	1,820	0	0.0%	60
Diagnostic Medical Sonographers	1,210	1,320	110	9.1%	30
Psychiatric Aides	2,140	2,200	60	2.8%	30
Cardiovascular Technicians and Technologists	940	1,080	140	14.9%	20

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 - 2018

<sup>15</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.



## B. Capital District

The Capital District region includes the counties of Albany, Columbia, Greene, Rensselaer, Schenectady, Warren, and Washington

### *Population*

The Capital District region population had a slightly higher percentage of individuals age 65 and older but a slightly lower percentage of individuals ages birth to 17 than New York State as a whole. The Capital District also had a lower percentage of females of child bearing age (age 15 to 44) (Exhibit 53).

**Exhibit 53**  
**Selected Population Characteristics for the Capital District Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	1,064,123	N/A	N/A
Population Under 100% FPL Level**	98,983	9.3%	14.6%
Population Under 200% FPL Level**	257,510	24.2%	30.5%
Population Ages Birth - 17*	225,586	21.2%	22.7%
Population 65 and older*	152,841	14.4%	13.5%
Population Female 15 – 44*	216,552	20.4%	20.8%
Black/African American, non-Hispanic*	68,256	6.4%	14.5%
Hispanic/Latino*	34,654	3.3%	16.5%
Asian/Pacific Islander, non-Hispanic*	12,245	1.2%	3.3%
American Indian/Native Alaskan, non-Hispanic*	2,251	0.2%	0.3%
Two or More/Other*	17,236	1.6%	2.7%
Less than High School Education***	103,354	18.1%	25.2%
High School Education***	212,481	37.3%	33.3%
College Degree or Higher***	254,362	44.6%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The Capital District region had a higher rate of deaths per capita than the state as a whole, including a substantially higher rate of deaths from all types of cancer. The Capital District also had a lower birth rate than the state as a whole.

**Exhibit 54**  
**Selected Health Indicators for the Capital District Region**

	Region		Statewide
	Number	Number per 100,000 <sup>16</sup>	Number per 100,000 <sup>16</sup>
Total deaths*	9,554	897.8	749.8
Deaths due to all cancers*	2,331	219.1	180.2
Deaths due to diabetes*	195	15.5	19.1
Deaths due to heart disease*	2,606	244.9	239.7
Total births*	11,241	51.9	61.4
Teen births*	824	21.9	24.3
Low-birth weight births*	902	8.0	8.2
Late/no prenatal care*	568	5.1	5.5
Infant deaths*	71	6.3	5.3
Adult asthma hospitalizations**	777	93.4	165.3
COPD Hospitalizations**	1,832	172.2	125.1
Coronary heart failure hospitalizations**	2,843	267.3	280.1
Diabetes hospitalizations**	1,274	119.8	184.1
Pediatric asthma hospitalizations**	358	154.2	296.6
PQI hospitalizations**	1,176	1,105.6	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

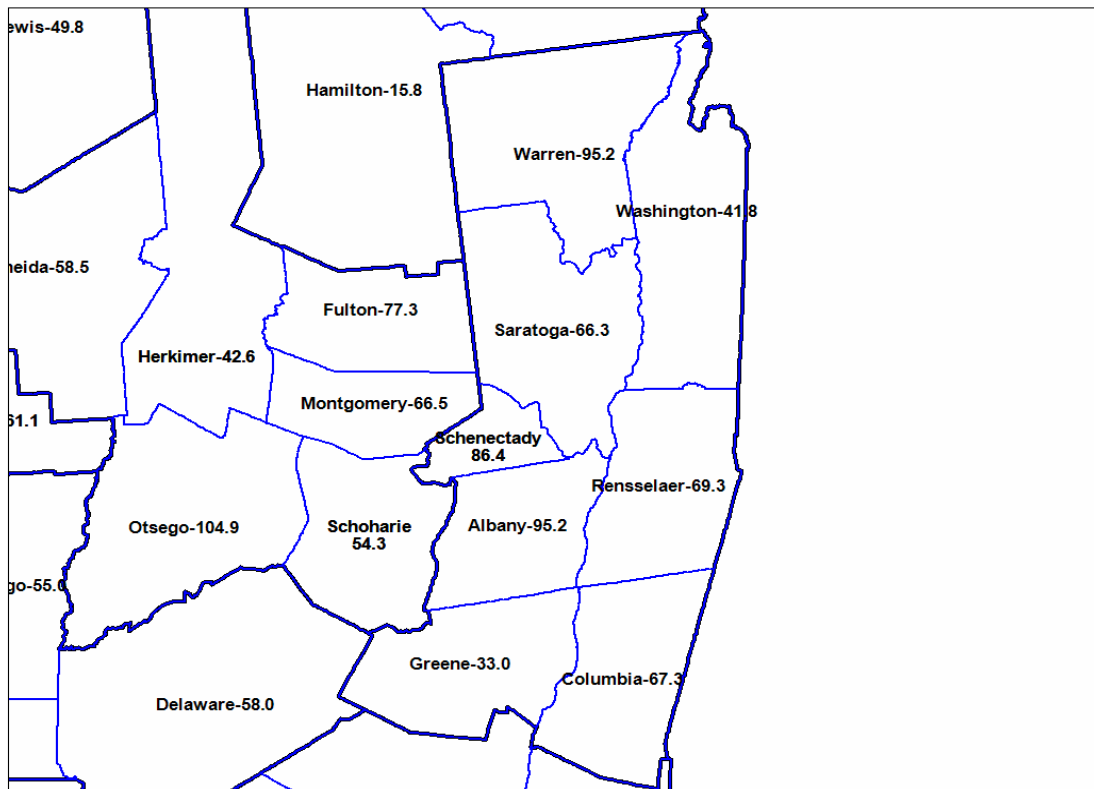
There were more than 800 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Capital District region. More than 37% were in family or general practice and another 30% were in general internal medicine. There were 76.5 community-based primary care physicians in the Capital District region per 100,000 population, lower than the statewide rate of 82. Albany and Warren counties had the most at 95.2 per 100,000, while Greene County had the least at 33 per 100,000. There were more family and general practice physicians in the Capital District per 100,000 than statewide, but fewer general internal medicine physicians. There were also slightly more ob/gyns in the Capital District per 100,000 women ages 15 to 44 than statewide, but fewer general pediatricians per 100,000 children ages 0 to 17 (Exhibits 55 and 56).

<sup>16</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 55**  
**Community-Based, Primary Care Physicians by Specialty**  
**in the Capital District Region, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>17</sup>	
		Region	State
Family/General Practice	305.0	28.7	18.1
Internal Medicine (General)	244.7	23.0	35.2
Geriatrics	4.3	0.4	0.8
Obstetrics/Gynecology	109.8	50.7	49.8
Pediatrics (General)	150.6	66.8	77.5
Total	814.3	76.5	82.0

**Exhibit 56**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the Capital District Region, 2009**

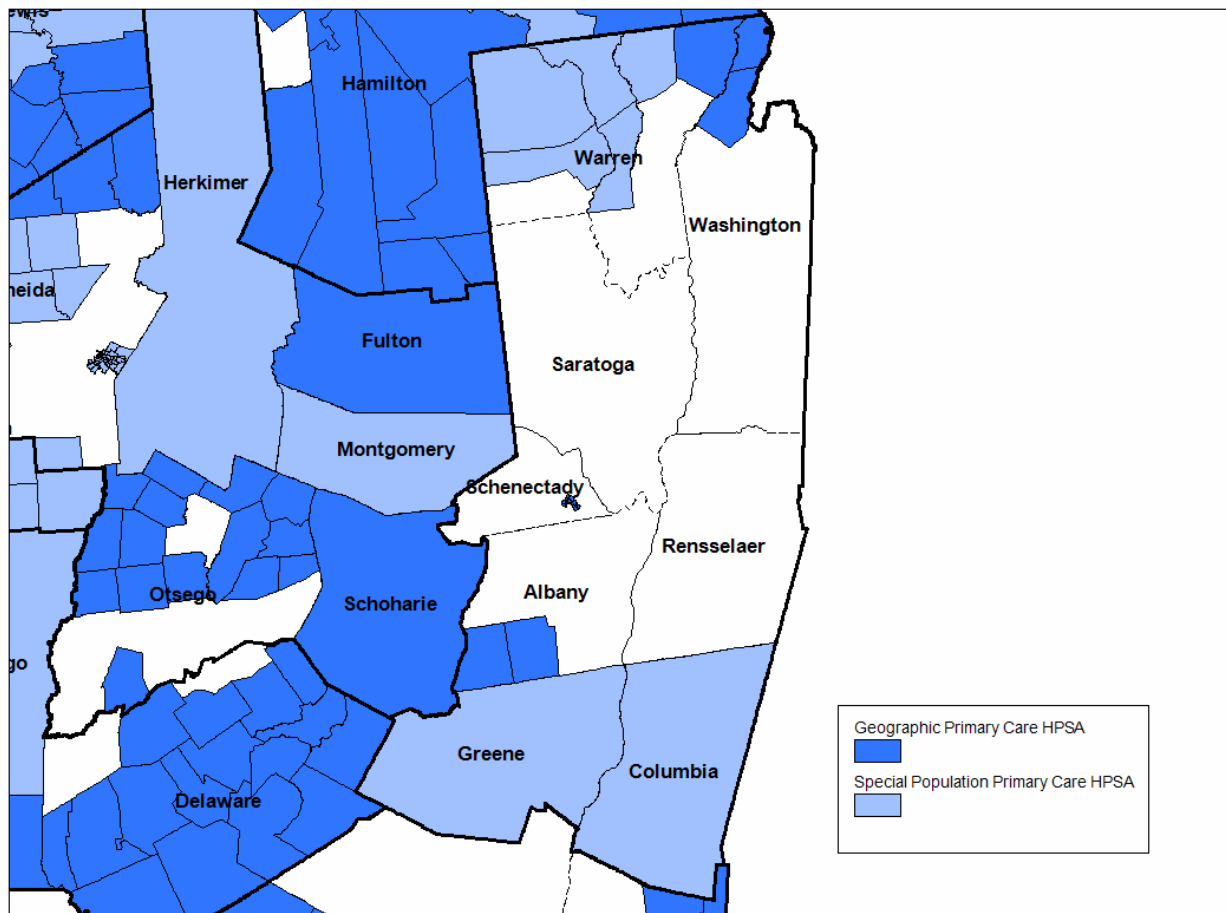


<sup>17</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 to 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

## Health Professional Shortage Area Designations

There were six HPSAs in the Capital District, including two single county HPSAs (Columbia and Greene). The city of Schenectady had a special population designation, the northern parts of Warren and Washington counties and two townships in southern Albany County had HSPA designations. There were slightly more than 54,000 residents in the six HPSAs in the Capital District (Exhibit 57).

**Exhibit 57**  
**Current Geographic and Special Primary Care HPSAs in the Capital District Region**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration



## *Employment*

### Total Employment

Between 2004 and 2009, health care employment in the Capital District region grew by more than 2,500 jobs, or nearly 5%. Jobs in home care increased by almost 13% between 2004 and 2009, while jobs in hospitals and ambulatory care (excluding home health care) both increased by nearly 10% during the same period. Employment in nursing home and personal care facilities decreased by almost 11% between 2004 and 2009 (Exhibit 58).

**Exhibit 58**  
**Number of Workers by Health Care Setting in the Capital District Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	20,960	21,340	21,627	22,074	22,413	22,980	2,020	9.6%
Ambulatory Care (Excluding Home Health)	15,433	15,935	15,961	16,512	16,676	16,908	1,475	9.6%
Nursing Home and Personal Care Facilities	12,524	12,275	11,030	10,925	11,188	11,191	-1,333	-10.6%
Home Health Care Services	2,715	2,726	2,797	2,906	2,988	3,060	345	12.7%
<b>Totals</b>	<b>51,632</b>	<b>52,276</b>	<b>51,415</b>	<b>52,417</b>	<b>53,265</b>	<b>54,139</b>	<b>2,507</b>	<b>4.9%</b>

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

Between 2007 and 2009, the number of licensed RNs increased by nearly 300 and the number of clinical laboratory technologists grew by more than 160. Small decreases in the number of licensed social workers and physical therapy assistants also occurred in the region during that period (Exhibit 59).

**Exhibit 59**  
**Change in the Number of Selected Licensed Health Care Occupations**  
**in the Capital District Region, 2007 – 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	97	121	135	38	39.2%
Clinical Laboratory Technologists	783	879	949	166	21.2%
Respiratory Therapists	309	320	344	35	11.3%
Physician Assistants	523	552	575	52	9.9%
Nurse Practitioners	636	656	685	49	7.7%
Speech-Language Pathologists	835	868	892	57	6.8%
Occupational Therapists	506	516	540	34	6.7%
Pharmacists	1,324	1,342	1,392	68	5.1%
Dietitians/Nutritionists	284	291	297	13	4.6%
Licensed Practical Nurses	4,971	5,117	5,087	116	2.3%
Physical Therapists	971	966	992	21	2.2%
Registered Nurses	15,134	15,196	15,420	286	1.9%
Dental Hygienists	793	807	806	13	1.6%
Occupational Therapy Assistants	292	298	295	3	1.0%
Social Workers	2,330	2,247	2,268	-62	-2.7%
Physical Therapy Assistants	366	347	355	-11	-3.0%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the Capital District region reported the most difficulty recruiting clinical laboratory technologists and technicians, followed by experienced RNs, physical therapists, and respiratory therapists. Clinical lab technologists were also the most difficult to retain, followed by clinical lab technicians and patient care technicians/CNAs (Exhibit 60).

**Exhibit 60**  
**Recruitment and Retention Difficulties for Hospitals in the Capital District**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Clinical Laboratory Technicians	3.8	3.2	67%	50%	50%	0%
Clinical Laboratory Technologists	4.5	4.6	75%	75%	25%	0%
Dietitians/Nutritionists	2.6	2.0	20%	80%	60%	0%
HIT Analysts	2.5	3.0	50%	100%	100%	0%
HIT Program Managers	2.5	3.0	50%	100%	100%	0%
HIT Tech Support	2.0	2.0	0%	0%	0%	0%
License Practical Nurses	1.8	1.6	40%	20%	20%	0%
Licensed Clinical Social Workers	2.3	2.0	33%	33%	33%	0%
Licensed Masters Social Workers	3.0	2.0	75%	50%	25%	0%
Mammographers	2.0	1.3	67%	33%	33%	0%
Medical Coders	3.0	1.8	33%	33%	17%	0%
Nuclear Medicine Technologists	3.0	2.4	100%	60%	60%	0%
Nurse Practitioners	2.5	2.6	29%	29%	14%	0%
Patient Care Technicians/ Certified Nursing Aides	1.8	3.2	0%	0%	33%	17%
Pharmacists	3.0	1.4	80%	80%	40%	0%
Physical Therapists	3.6	2.4	43%	43%	29%	0%
Physician Assistants	2.8	2.8	33%	33%	17%	0%
Registered Nurses						
-Experienced	3.7	2.7	57%	57%	14%	0%
-Newly-trained	2.0	3.0	17%	67%	17%	17%
Respiratory Therapists	3.5	2.0	50%	67%	67%	0%
Sonographers	3.0	1.8	10)%	75%	25%	0%
X-ray Technicians	1.5	1.0	50%	50%	50%	0%
X-ray Technologists	1.8	1.5	50%	50%	25%	0%

According to the hospitals in the Capital District region:

- Forty-two percent indicated they anticipated a reduction in staffing at the facility within the coming months, 29% indicated growth in staffing, and the remainder indicated no change in staffing.
- The majority of hospitals indicated growth for RN and clinical lab staffing at their facility. Nearly 50% indicated a reduction in LPN staffing at their facility.

### Nursing Homes

Experienced RNs were the most difficult to recruit and one of the most difficult to retain according to nursing home human resource directors. The main reason cited was competition for experienced RNs, followed by a shortage of them and salary levels. Dietitians/nutritionists and physical therapists were also difficult to recruit. Newly-trained RNs were the most difficult to retain, followed by experienced RNs and CNAs (Exhibit 61).

**Exhibit 61**  
**Recruitment and Retention Difficulties for Nursing Homes in the Capital District Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	2.8	3.1	38%	63%	50%	13%
Clerical	1.7	1.9	14%	29%	29%	0%
Dietitians/Nutritionists	4.0	2.0	50%	25%	50%	0%
Licensed Practical Nurses	3.0	2.9	25%	50%	25%	13%
Medical Billers	2.4	2.0	20%	60%	40%	0%
Occupational Therapists	3.5	2.3	50%	50%	17%	0%
Occupational Therapy Assts/Aides	3.0	2.0	33%	33%	33%	0%
Physical Therapists	3.7	2.3	50%	50%	17%	0%
Physical Therapy Assts/Aides	3.2	1.8	33%	33%	17%	0%
Registered Nurses						
-Experienced	4.0	3.3	71%	100%	71%	0%
-Newly-trained	3.4	3.4	60%	80%	60%	0%
-Directors of Nursing	3.4	2.5	33%	33%	33%	0%
-Nurse Managers	3.4	2.9	43%	43%	43%	0%
Social Workers						
-LCSWs	2.3	2.3	0%	0%	25%	0%
-LMSWs	3.0	2.0	40%	40%	40%	0%
Speech-Language Pathologists	2.8	2.0	50%	50%	25%	0%

Other information reported by nursing homes in Capital District region included:

- Slightly over 10% of nursing homes in the Capital District reported difficulty hiring part-time workers.
- More than half reported difficulties hiring RNs, LPNs, and CNAs for the evening shift.

- Three-fourths reported difficulty hiring RNs for the night shift and half reported difficulty hiring CNAs for the night shift. Less than 40% reported difficulty hiring LPNs for the night shift.
- Fifty percent reported an adequate number of CNA training sites.

### Home Health Agencies

The response rates for home health agencies in the Capital District and Mohawk Valley regions were too low to analyze separately, and so the responses for them were combined. Occupational therapists were the most difficult to recruit and one of the most difficult to retain, with home health agency directors indicating shortages of and competition for them as the main reasons for these difficulties. Experienced RNs and dietitians/nutritionists were also difficult to recruit. Both experienced RNs and newly-trained RNs were difficult to retain, with salary levels the biggest reason for the difficulties (Exhibit 62).

**Exhibit 62**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Capital District and Mohawk Valley Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	4.0	2.0	25%	50%	25%	0%
Home Health Aides	2.4	2.0	20%	20%	40%	60%
Licensed Practical Nurses	3.0	2.0	0%	0%	0%	0%
Occupational Therapists	4.2	2.8	60%	60%	40%	20%
Personal Care Aides	2.7	2.5	33%	33%	67%	33%
Physical Therapists	3.5	2.4	33%	50%	50%	17%
Registered Nurses						
- <i>Experienced</i>	4.2	3.5	33%	50%	67%	50%
- <i>Newly-trained</i>	3.7	3.5	0%	0%	33%	33%
Social Workers						
- <i>LMSWs</i>	2.5	2.0	0%	50%	50%	0%
- <i>LCSWs</i>	3.4	1.7	20%	40%	60%	20%
Speech-Language Pathologists	3.5	2.0	50%	25%	50%	0%

Other information reported by home health agencies in the Capital District and Mohawk Valley regions included:

- Forty percent of home health agencies in the two regions reported difficulty hiring part-time workers.
- One-fourth of the home health agencies reported difficulty hiring bilingual workers with Spanish the language they most needed.
- More than 80% of home health agencies in Capital District and Mohawk Valley regions reported an anticipated impact of Medicaid redesign, with most anticipating overall staff reductions

### Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for these areas were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs, and the most difficulty retaining LPNs (Exhibit 63).

### Exhibit 63 FQHC and FQCH Look-alikes Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>18</sup>

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
-Adult NPs	2.8	2.1
-Family NPs	3.3	1.9
-Geriatric NPs	3.5	1.4
-Pediatric NPs	2.7	1.7
-Psychiatric NPs	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

<sup>18</sup> All areas outside of New York City

## Employment Projections by Health Occupation

The NYSDOL projects that between 2008 and 2018 the largest number of average annual job openings in the Capital District region will be for RNs (350), home health aides (250), and LPNs (210) (Exhibit 64).

### **Exhibit 64 Employment Projections for Selected Health Care Occupations<sup>19</sup> for the Capital District, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Registered Nurses	10,580	12,130	1,550	14.7%	350
Home Health Aides	5,730	7,600	1,870	32.6%	250
Personal and Home Care Aides	3,340	5,030	1,690	50.6%	210
Licensed Practical Nurse	3,370	3,900	530	15.7%	160
Nursing Aides, Orderlies, and Attendants	6,050	6,730	680	11.2%	130
Social Workers	3,780	4,100	320	8.5%	130
Pharmacy Technicians	1,000	1,260	260	26.0%	60
Dental Assistants	860	1,090	230	26.7%	40
Medical and Health Services Managers	1,790	1,860	70	3.9%	40
Clinical, Counseling, and School Psychologists	870	910	40	4.6%	40
Medical Assistants	930	1,170	240	25.8%	30
Physical Therapists	860	1,080	220	25.6%	30
Physician Assistants	650	850	200	30.8%	30
Dental Hygienists	710	900	190	26.8%	30
Pharmacists	1,050	1,170	120	11.4%	30
Radiologic Technologists and Technicians	880	980	100	11.4%	20
Medical Records and Health Information Technicians	570	660	90	15.8%	20
Occupational Therapists	430	500	70	16.3%	20
Speech-Language Pathologists	500	560	60	12.0%	20
Medical and Clinical Laboratory Technologists	680	740	60	8.8%	20
Respiratory Therapists	360	410	50	13.9%	20
Emergency Medical Technicians and Paramedics	940	970	30	3.2%	20
Surgical Technologists	210	240	30	14.3%	10
Dietitians and Nutritionists	350	370	20	5.7%	10
Medical and Clinical Laboratory Technicians	390	400	10	2.6%	10
Diagnostic Medical Sonographers	220	250	30	13.6%	0
Cardiovascular Technicians and Technologists	130	150	20	15.4%	0
Psychiatric Aides	280	290	10	3.6%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 – 2018

<sup>19</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.





## C. Central New York

The Central New York region includes the counties of Cayuga, Cortland, Madison, Onondaga, and Oswego.

### *Population*

The distribution of the population in the Central New York region by age roughly paralleled the state's distribution, including the percentage of females of child bearing age (15 to 44). The Central New York region, however, was significantly less racially and ethnically diverse than the state as a whole (Exhibit 65).

**Exhibit 65**  
**Selected Population Characteristics for the Central New York region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	772,069	N/A	N/A
Population Under 100% FPL Level**	94,927	12.3%	14.6%
Population Under 200% FPL Level**	225,886	29.3%	30.5%
Population Ages Birth - 17*	172,555	22.3%	22.7%
Population 65 and older*	105,635	13.7%	13.5%
Population Female 15 – 44*	161,682	20.9%	20.8%
Black/African American, non-Hispanic*	50,308	6.5%	14.5%
Hispanic/Latino*	18,867	2.4%	16.5%
Asian/Pacific Islander, non-Hispanic*	5,667	0.7%	3.3%
American Indian/Native Alaskan, non-Hispanic*	5,375	0.6%	0.3%
Two or More/Other*	12,692	1.6%	2.7%
Less than High School Education***	81,375	19.7%	25.2%
High School Education***	162,842	39.4%	33.3%
College Degree or Higher***	168,609	40.8%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The Central New York region had more deaths per capita than the state as a whole, including all deaths due to cancer, but a slightly lower birth rate. While the overall birth rate was lower in Central New York than in the state, the teen birth rate was higher (Exhibit 66).

**Exhibit 66**  
**Selected Health Indicators for the Central New York Region**

	Region		Statewide
	Number	Number per 100,000 <sup>20</sup>	Number per 100,000 <sup>20</sup>
Total deaths*	6,539	846.9	749.8
Deaths due to all cancers*	1,620	209.8	180.2
Deaths due to diabetes*	146	18.9	19.1
Deaths due to heart disease*	1,524	197.4	239.7
Total births*	8,936	57.2	61.4
Teen births*	866	28.1	24.3
Low-birth weight births*	658	7.4	8.2
Late/no prenatal care*	339	4.1	5.5
Infant deaths*	68	7.6	5.3
Adult asthma hospitalizations**	360	60.2	165.3
COPD Hospitalizations**	1,085	138.8	125.1
Coronary heart failure hospitalizations**	1,769	226.3	280.1
Diabetes hospitalizations**	821	105.1	184.1
Pediatric asthma hospitalizations**	204	111.3	296.6
PQI hospitalizations**	8,041	1,028.6	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

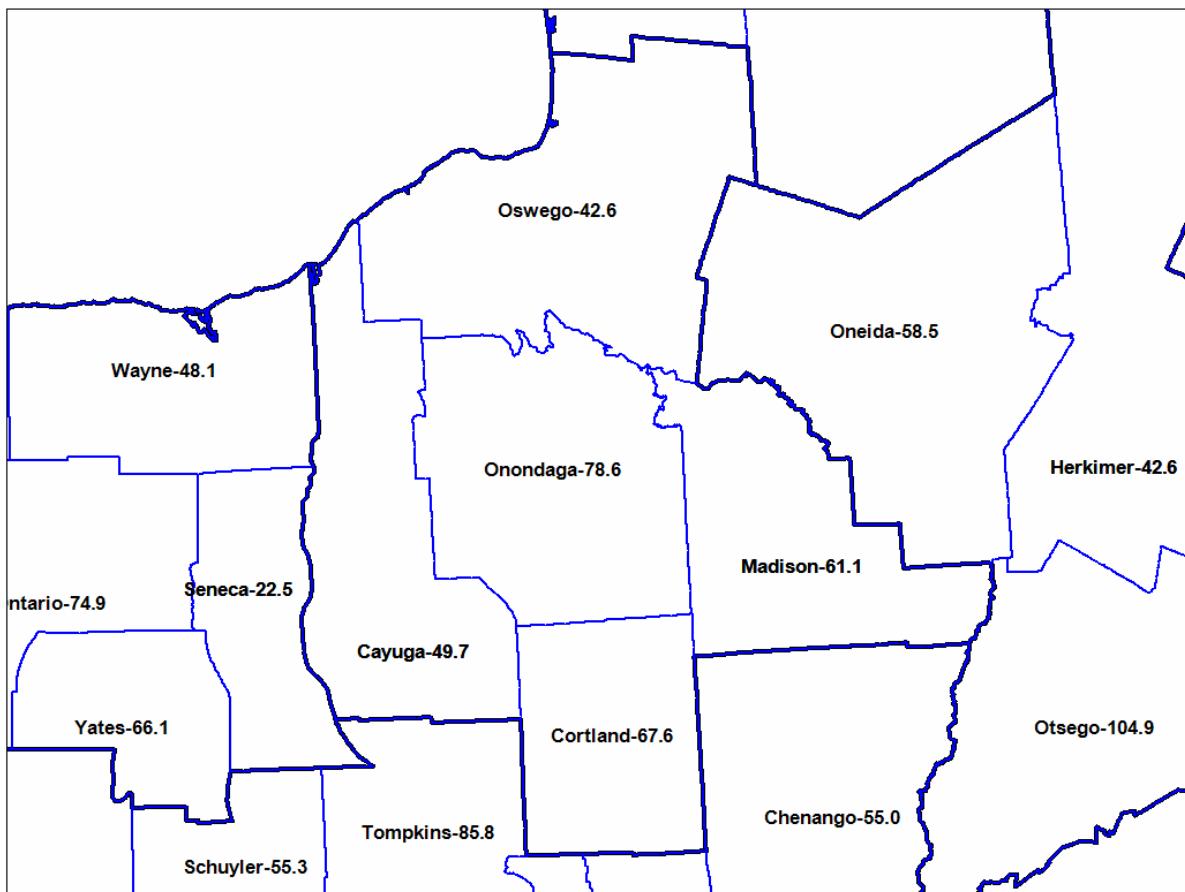
There were more than 520 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Central New York region. More than 42% were in family or general practice, 25% were in general internal medicine, and another 21% were in general pediatrics. There were 67.7 community-based primary care physicians in the Central New York region per 100,000 population, well below the statewide rate of 82. Onondaga County had the most at 78.6 per 100,000, while Oswego County had the least at 42.6 per 100,000. There were more family and general practice physicians in the Central New York region than statewide, but substantially fewer general internal medicine practitioners and ob/gyns than statewide (Exhibits 67 and 68).

<sup>20</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 67**  
**Community-Based, Primary Care Physicians by Specialty**  
**in the Central New York Region, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>21</sup>	
		Region	State
Family/General Practice	219.6	28.4	18.1
Internal Medicine (General)	128.9	16.7	35.2
Geriatrics	3.6	0.5	0.8
Obstetrics/Gynecology	63.1	39.0	49.8
Pediatrics (General)	107.1	62.1	77.5
Total	522.3	67.7	82.0

**Exhibit 68**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the Central New York Region, 2009**

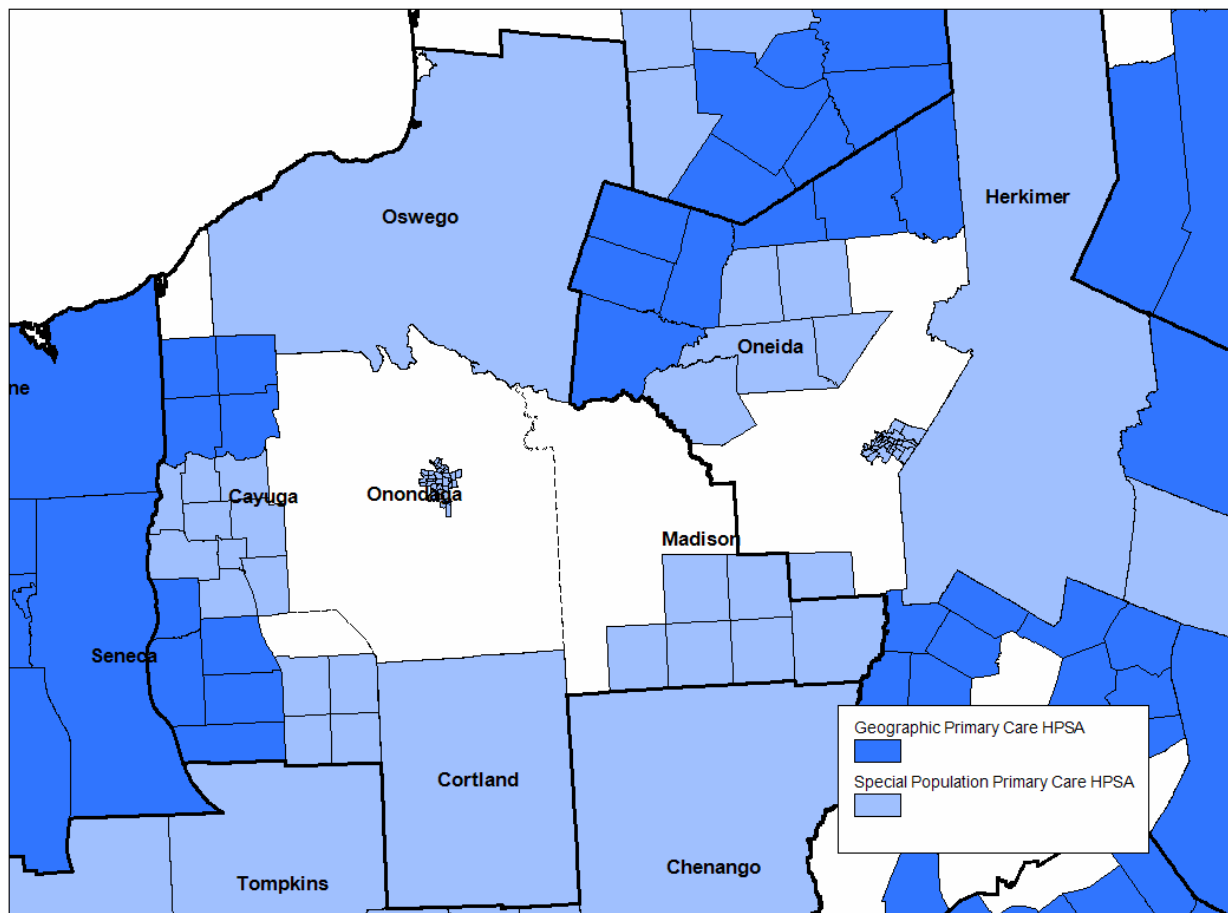


<sup>21</sup> Obstetricians/gynecologists is per 100,000 women ages 15 to 44 and pediatricians is per 100,000 children ages 0 to 17. Total per 100,000 is based on total population.

## Health Professional Shortage Area Designations

There were eight geographic or special population primary care HPSAs in the Central New York region, including two whole county special population HPSAs. Additionally, the majority of Cayuga County was covered by five different HPSAs, and the majority of the city of Syracuse was covered by a special population primary care HPSA. There were nearly 144,000 residents in the Central New York HPSAs, or nearly 19% of the total residential population (Exhibit 69).

**Exhibit 69**  
**Current Geographic and Special Primary Care HPSAs in the Central New York Region**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration

## *Employment*

### Total Employment

Between 2004 and 2009, health sector employment throughout the Central New York region grew by more than 2,400 jobs, or slightly more than 7%. Employment in ambulatory, excluding home health care, grew by more than 1,300 jobs or 10%. Employment in nursing home and personal care facilities added over 600 jobs during the same period (Exhibit 70).

**Exhibit 70**  
**Number of Workers by Health Care Setting in the Central New York Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	12,205	12,309	12,393	12,540	12,686	12,706	501	4.1%
Ambulatory Care (Excluding Home Health)	13,663	14,173	14,287	14,343	14,627	15,009	1,346	9.9%
Nursing Home and Personal Care Facilities	8,735	8,856	9,186	9,368	9,281	9,347	612	7.0%
Home Health Care Services	1,246	1,375	1,306	1,224	1,273	1,377	131	10.5%
<b>Totals</b>	34,604	35,338	35,886	36,251	36,594	37,062	2,459	7.1%

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

Between 2007 and 2009, the number of licensed RNs grew by over 400, increasing during that time by slightly more than 4%. During the same period, LPNs increased by over 200, a rise of 4%; and clinical laboratory technologists grew by nearly 150, an increase of 35%. Between 2007 and 2009, there were slight decreases in the number of licenses for dental hygienists, dietitians/nutritionists, and occupational therapy assistants (Exhibit 71).

**Exhibit 71**  
**Change in the Number of Licensed Individuals in Selected Health Occupations**  
**in the Central New York Region, 2007 – 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	64	81	123	59	92.2%
Clinical Laboratory Technologists	418	506	563	145	34.7%
Physician Assistants	302	326	339	37	12.3%
Speech-Language Pathologists	424	445	467	43	10.1%
Physical Therapy Assistants	209	221	227	18	8.6%
Licensed Practical Nurses	4,823	4,985	5,036	213	4.4%
Registered Nurses	10,120	10,336	10,538	418	4.1%
Pharmacists	658	659	685	27	4.1%
Occupational Therapists	287	295	294	7	2.4%
Nurse Practitioners	923	931	941	18	2.0%
Physical Therapists	686	678	699	13	1.9%
Respiratory Therapists	342	350	348	6	1.8%
Social Workers	1,164	1,144	1,182	18	1.5%
Dental Hygienists	549	538	544	-5	-0.9%
Dietitians/Nutritionists	196	187	185	-11	-5.6%
Occupational Therapy Assistants	100	97	93	-7	-7.0%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

The response rates for hospitals in the Central New York and Southern Tier regions were too low to analyze separately, so responses were aggregated for those two regions. Hospitals in the Central New York and Southern Tier regions reported the most difficulty recruiting clinical lab technologists and physical therapists, followed by NPs, experienced RNs, PAs, HIT program managers, and pharmacists. Hospitals in these two regions indicated they had the most difficulty retaining PAs, followed by NPs, newly-trained RNs, clinical lab technologists, physical therapists, and experienced RNs (Exhibit 72).

**Exhibit 72**  
**Recruitment and Retention Difficulties for Hospitals**  
**in the Central New York and Southern Tier Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Clinical Laboratory Technicians	2.8	2.5	0%	20%	0%	0%
Clinical Laboratory Technologists	4.2	3.0	67%	33%	0%	0%
Dietitians/Nutritionists	3.0	1.8	20%	20%	0%	0%
HIT Analysts	3.0	2.5	50%	50%	50%	0%
HIT Program Managers	3.5	2.5	50%	50%	50%	0%
HIT Tech Support	3.0	2.0	0%	0%	0%	0%
License Practical Nurses	1.6	2.0	0%	20%	0%	0%
Licensed Clinical Social Workers	2.8	1.5	0%	20%	0%	0%
Licensed Masters Social Workers	2.8	1.7	0%	0%	25%	0%
Mammographers	2.3	1.8	17%	0%	17%	0%
Medical Coders	2.8	2.8	33%	33%	0%	0%
Nuclear Medicine Technologists	2.7	1.6	17%	17%	0%	0%
Nurse Practitioners	3.8	3.2	40%	40%	40%	0%
Patient Care Technicians/ Certified Nursing Aides	3.0	2.8	33%	50%	33%	17%
Pharmacists	3.5	2.2	33%	50%	33%	50%
Physical Therapists	4.2	3.0	67%	100%	33%	0%
Physician Assistants	3.7	3.5	50%	50%	33%	0%
Registered Nurses						
-Experienced	3.8	3.0	60%	80%	20%	20%
-Newly-trained	2.8	3.2	0%	100%	0%	20%
Respiratory Therapists	3.5	2.2	50%	33%	0%	0%
Sonographers	2.8	1.6	17%	33%	17%	0%
X-ray Technicians	1.5	1.0	0%	0%	0%	0%
X-ray Technologists	2.0	1.6	0%	17%	17%	0%

According to the hospitals in the Central New York and Southern Tier regions:

- Half of the hospitals indicated they anticipated growth in staffing at their facilities within the coming months, while the remainder indicated no change in staffing.
- All the hospitals that anticipated growth at their facilities noted growth in positions for RNs, CNAs, NPs, and PAs.

## Nursing Homes

The response rates for nursing homes in the Central New York were too low to analyze separately, so it was combined with the Southern Tier region for the analysis. Experienced RNs and directors of nursing were the most difficult to recruit for, followed by newly-trained RNs, occupational therapists, and LPNs. Nurse managers were the most difficult to retain, followed by newly-trained RNs, and LPNs. Nursing home human resource directors also noted that experienced RNs and CNAs were also difficult to retain (Exhibit 73).

**Exhibit 73**  
**Recruitment and Retention Difficulties for Nursing Homes**  
**in the Central New York and Southern Tier Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	3.2	3.3	44%	56%	11%	0%
Clerical	1.6	1.9	0%	33%	33%	11%
Dietitians/Nutritionists	3.0	2.1	55%	0%	11%	0%
Licensed Practical Nurses	3.6	3.9	44%	55%	44%	0%
Medical Billers	1.5	1.5	0%	50%	0%	0%
Occupational Therapists	3.7	1.8	33%	17%	33%	0%
Occupational Therapy Assts/Aides	3.2	2.2	17%	33%	33%	0%
Physical Therapists	3.0	1.8	50%	33%	33%	0%
Physical Therapy Assts/Aides	2.7	1.6	17%	33%	17%	0%
Registered Nurses						
-Experienced	4.3	3.4	67%	33%	44%	0%
-Newly-trained	3.8	3.9	50%	25%	38%	0%
-Directors of Nursing	4.0	3.1	56%	22%	44%	22%
-Nurse Managers	3.6	4.3	56%	22%	44%	0%
Social Workers						
-LCSWs	3.2	2.0	50%	50%	17%	0%
-LMSWs	2.9	1.9	43%	43%	14%	0%
Speech-Language Pathologists	3.0	2.8	50%	25%	0%	0%

Other information reported by nursing homes in Central New York and Southern Tier regions included:

- Slightly over 20% of the nursing homes reported difficulties hiring part-time workers.
- Two-thirds reported difficulties hiring bilingual workers. Respondents did not indicate what languages were most needed.
- Three-fourths of the nursing homes reported difficulty hiring LPNs for the evening shift, and two-thirds of respondents reported difficulty hiring RNs for the evening shift. Slightly more than half reported difficulty hiring CNAs for the evening shift.
- Nearly 90% of the nursing homes reported difficulties hiring either RNs or LPNs for the night shift. Only half reported difficulties hiring CNAs for the night shift.



- Slightly less than 50% reported an inadequate number of CNA training sites.
- One-third anticipated needing to substitute lower cost staff for higher cost staff due to the Medicaid redesign. Another 44% indicated they were unsure and the remaining respondents indicated no change.

### Home Health Agencies

Occupational therapists and speech-language pathologists were the most difficult to recruit and among the most difficult to retain, with home health agency directors indicating shortages of and competition for these workers as the main reasons for these difficulties. Experienced RNs and dietitians/nutritionists were also difficult to recruit. Both experienced RNs and newly-trained RNs were difficult to retain, with salary levels cited as the biggest reason for the difficulties (Exhibit 74).

**Exhibit 74**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Central New York Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	4.3	3.5	50%	25%	50%	0%
Home Health Aides	2.0	1.0	0%	0%	50%	0%
Licensed Practical Nurses	1.0	1.5	0%	0%	0%	0%
Occupational Therapists	4.7	3.3	100%	33%	33%	0%
Physical Therapists	3.3	3.0	100%	33%	33%	0%
Registered Nurses						
- <i>Experienced</i>	4.0	2.5	50%	50%	50%	0%
- <i>Newly-trained</i>	3.0	3.0	33%	33%	67%	0%
Social Workers						
- <i>LMSWs</i>	4.0	3.3	75%	25%	50%	0%
- <i>LCSWs</i>	4.0	3.7	67%	33%	67%	0%
Speech-Language Pathologists	4.7	3.7	100%	0%	67%	0%

Half of the home health agencies in the Central New York region reported they anticipated needing to substitute lower cost staff to replace higher cost staff due to Medicaid redesign.

### Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for them were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 75).

**Exhibit 75**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>22</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
-Adult NPs	2.8	2.1
-Family NPs	3.3	1.9
-Geriatric NPs	3.5	1.4
-Pediatric NPs	2.7	1.7
-Psychiatric NPs	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

Employment Projections by Health Occupation

The NYSDOL estimated that between 2008 and 2018, the number of RN jobs in the Central New York region will increase by more than 1,000 jobs, with an average of 240 job openings per year. During the same period, there will be an average of 160 job openings for both personal and home care aides and home health aides during the same period. There will also be 150 annual openings for LPNs between 2008 and 2018 (Exhibit 76).

<sup>22</sup> All areas outside of New York City

**Exhibit 76**  
**Employment Projections for Selected Health Care Occupations<sup>23</sup>**  
**for the Central New York Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Registered Nurses	7,330	8,410	1,080	14.7%	240
Personal and Home Care Aides	2,690	3,950	1,260	46.8%	160
Home Health Aides	3,810	4,990	1,180	31.0%	160
Licensed Practical Nurse	3,160	3,700	540	17.1%	150
Nursing Aides, Orderlies, and Attendants	4,170	4,940	770	18.5%	120
Social Workers	2,530	2,790	260	10.3%	80
Pharmacy Technicians	600	790	190	31.7%	40
Medical Assistants	800	1,020	220	27.5%	30
Dental Assistants	680	880	200	29.4%	30
Dental Hygienists	530	680	150	28.3%	30
Medical Records and Health Information Technicians	720	830	110	15.3%	30
Pharmacists	740	840	100	13.5%	30
Medical and Health Services Managers	980	1,060	80	8.2%	30
Clinical, Counseling, and School Psychologists	570	620	50	8.8%	30
Physical Therapists	560	700	140	25.0%	20
Physician Assistants	360	480	120	33.3%	20
Radiologic Technologists and Technicians	690	800	110	15.9%	20
Occupational Therapists	300	360	60	20.0%	20
Speech-Language Pathologists	340	390	50	14.7%	20
Medical and Clinical Laboratory Technicians	430	470	40	9.3%	10
Surgical Technologists	190	220	30	15.8%	10
Respiratory Therapists	270	300	30	11.1%	10
Medical and Clinical Laboratory Technologists	300	330	30	10.0%	10
Emergency Medical Technicians and Paramedics	580	610	30	5.2%	10
Dietitians and Nutritionists	240	250	10	4.2%	10
Cardiovascular Technicians and Technologists	120	140	20	16.7%	0
Diagnostic Medical Sonographers	140	160	20	14.3%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 – 2018

<sup>23</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.

## D. Finger Lakes

The Finger Lakes region includes the counties of Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates.

### *Population*

The Finger Lakes region population had a slightly higher percentage of individuals age 65 and older but a slightly lower percentage of young individuals, age birth to 17, than did the state of New York as a whole. The Finger Lakes region also had a lower percentage of females of child bearing age (15 to 44) (Exhibit 77).

**Exhibit 77**  
**Selected Population Characteristics for the Finger Lake Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	1,187,334	N/A	N/A
Population Under 100% FPL Level**	121,389	10.2%	14.6%
Population Under 200% FPL Level**	299,577	25.2%	30.5%
Population Ages Birth - 17*	264,174	22.2%	22.7%
Population 65 and older*	266,952	14.1%	13.5%
Population Female 15 – 44*	238,228	20.1%	20.8%
Black/African American, non-Hispanic*	116,289	9.8%	14.5%
Hispanic/Latino*	55,852	4.7%	16.5%
Asian/Pacific Islander, non-Hispanic*	10,032	0.8%	3.3%
American Indian/Native Alaskan, non-Hispanic*	3,306	0.3%	0.3%
Two or More/Other*	19,692	1.7%	2.7%
Less than High School Education***	127,330	19.8%	25.2%
High School Education***	234,548	36.4%	33.3%
College Degree or Higher***	282,264	43.8%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The Finger Lakes region had more deaths per capita than the state as a whole, including all deaths due to cancer, but a slightly lower birth rate. While the overall birth rate was lower in the Finger Lakes region than in the state, the teen birth rate was slightly higher (Exhibit 78).

**Exhibit 78**  
**Selected Health Indicators for the Finger Lake Region**

	Region		Statewide
	Number	Number per 100,000 <sup>24</sup>	Number per 100,000 <sup>24</sup>
Total deaths*	10,301	867.6	749.8
Deaths due to all cancers*	2,502	210.7	180.2
Deaths due to diabetes*	207	17.4	19.1
Deaths due to heart disease*	2,474	208.4	239.7
Total births*	13,511	56.7	61.4
Teen births*	1,176	25.9	24.3
Low-birth weight births*	1,044	7.7	8.2
Late/no prenatal care*	458	3.4	5.5
Infant deaths*	97	7.2	5.3
Adult asthma hospitalizations**	837	90.8	165.3
COPD Hospitalizations**	1,557	129.7	125.1
Coronary heart failure hospitalizations**	3,345	278.6	280.1
Diabetes hospitalizations**	1,430	119.2	184.1
Pediatric asthma hospitalizations**	301	108.1	296.6
PQI hospitalizations**	12,658	1,054.5	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

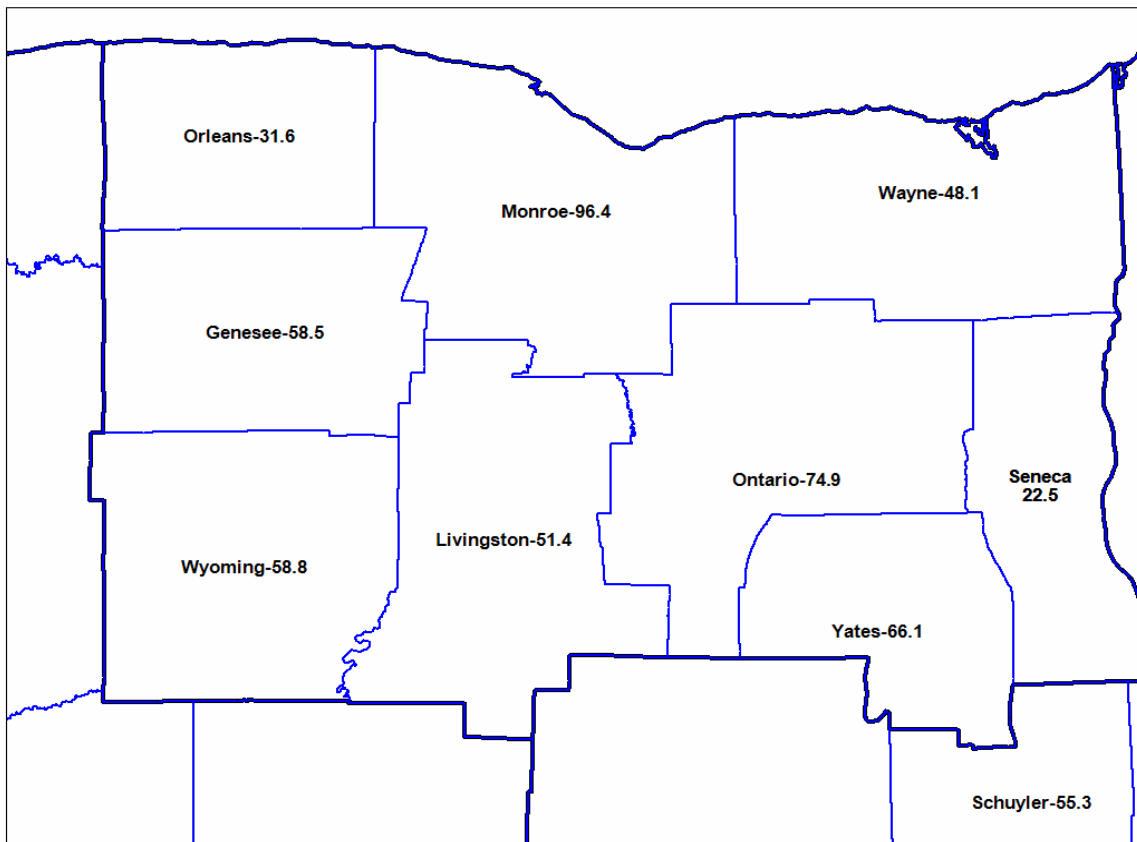
There were over 950 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Finger Lakes region. Nearly 42% were in general internal medicine, 24% were in family or general practice, and another 21% were in general pediatrics. There were 80.3 community-based primary care physicians in the Finger Lakes region per 100,000 population, slightly below the statewide rate of 82. Monroe County had the most at 96.4 per 100,000, while Seneca County had the least at 22.5 per 100,000. Orleans also had a low rate of community-based, primary care physicians at 31.6 per 100,000 population. The Finger Lakes region had slightly more general and family practitioners per 100,000 than statewide but slightly fewer general internal medicine, ob/gyns, and pediatric practitioners than statewide (Exhibits 79 and 80).

<sup>24</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 79**  
**Community-Based, Primary Care Physicians by Specialty in the Finger Lakes Region, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>25</sup>	
		Region	State
Family/General Practice	228.2	19.2	18.1
Internal Medicine (General)	399.5	33.6	35.2
Geriatrics	10.2	0.9	0.8
Obstetrics/Gynecology	112.3	47.1	49.8
Pediatrics (General)	203.0	76.8	77.5
Total	953.2	80.3	82.0

**Exhibit 80**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the Finger Lakes Region, 2009**

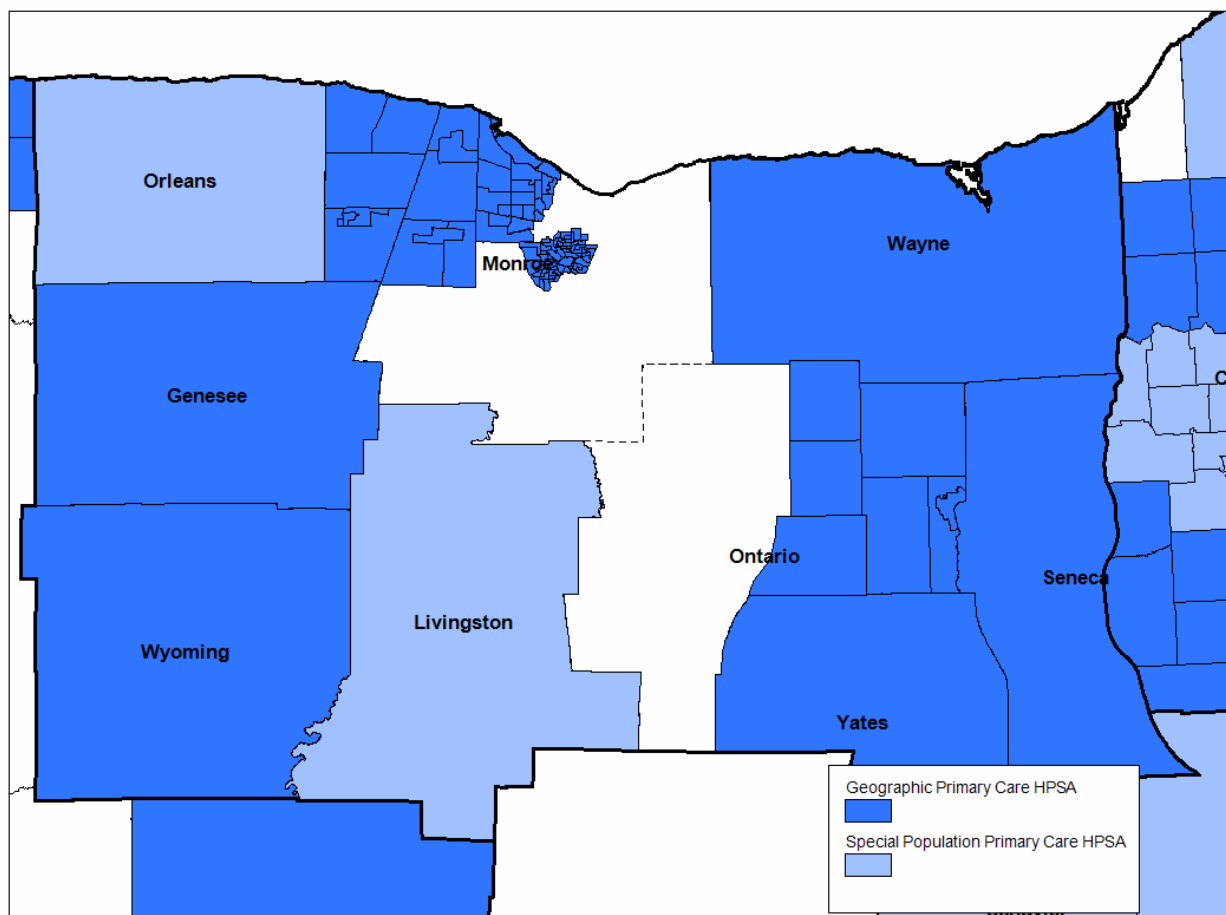


<sup>25</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 to 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

## Health Professional Shortage Area Designations

There were 10 geographic or special population HPSAs in the Finger Lakes region. Of the nine counties in the Finger Lakes region, seven of them were designated as either a geographic or special population HPSA. The southern section of Rochester was covered by two geographic primary care HPSAs. Nearly 570,000 residents of the Finger Lakes region resided in these HPSAs, constituting nearly half of the total residential population in the region (Exhibit 81).

**Exhibit 81**  
**Current Geographic and Special Primary Care HPSAs in the Finger Lakes Region**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration

## *Employment*

### Total Employment

Between 2004 and 2009, health sector employment throughout the Finger Lakes region grew by more than 2,400 jobs. Employment in hospitals increased by over 2,700 jobs, or 11%, and employment in ambulatory care settings, excluding home health care, grew by more than 1,800 jobs, or 13% between 2004 and 2009. In contrast, jobs in home health care declined by more than 800 jobs during the same period (Exhibit 82).

**Exhibit 82**  
**Number of Workers by Health Care Setting in the Finger Lakes Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	25,540	25,975	26,469	27,022	27,984	28,252	2,712	10.6%
Ambulatory Care (Excluding Home Health)	14,178	14,267	14,648	15,076	15,648	15,980	1,802	12.7%
Nursing Home and Personal Care Facilities	12,336	12,386	12,180	12,181	12,183	12,519	183	1.5%
Home Health Care Services	4,269	3,558	3,465	3,522	3,422	3,441	-828	-17.9%
<b>Totals</b>	56,323	56,186	56,762	57,801	59,237	60,192	2,459	7.1%

Source: NYS Department of Labor, ES-202



## Licensed Health Professionals

Between 2007 and 2009, licensed RNs increased by nearly 600 jobs, or 4%, while the number of clinical laboratory technologists increased by over 250 jobs, or 25%. The number of LPN licenses grew by more than 200, or nearly 4% during the same time period. The number of licensed dietitians/nutritionists declined slightly between 2007 and 2009 (Exhibit 83).

**Exhibit 83**  
**Change in the Number of Licensed Individuals in Selected Occupations**  
**in the Finger Lakes Region, 2007 – 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	33	45	71	38	115.2%
Clinical Laboratory Technologists	721	873	975	254	35.2%
Physician Assistants	529	566	588	59	11.2%
Speech-Language Pathologists	864	907	946	82	9.5%
Occupational Therapy Assistants	209	213	223	14	6.7%
Nurse Practitioners	1,269	1,304	1,351	82	6.5%
Respiratory Therapists	255	271	270	15	5.9%
Physical Therapists	902	919	949	47	5.2%
Physical Therapy Assistants	254	266	267	13	5.1%
Registered Nurses	14,587	14,717	15,178	591	4.1%
Pharmacists	985	977	1,025	40	4.1%
Licensed Practical Nurses	5,913	6,132	6,129	216	3.7%
Social Workers	1,976	1,981	2,043	67	3.4%
Occupational Therapists	576	578	592	16	2.8%
Dental Hygienists	1,011	1,018	1,023	12	1.2%
Dietitians/Nutritionists	261	249	257	-4	-1.5%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the Finger Lakes region reported the most difficulty recruiting and retaining clinical lab technologists, citing the shortage of and the competition for them as the main reasons for these difficulties. Hospital human resource directors also reported difficulties in recruiting physical therapists and experienced RNs and difficulties retaining clinical lab technicians and newly-trained RNs (Exhibit 84).

**Exhibit 84**  
**Recruitment and Retention Difficulties for Hospitals**  
**in the Finger Lakes Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Clinical Laboratory Technicians	3.0	3.0	75%	0%	25%	0%
Clinical Laboratory Technologists	4.3	3.2	67%	67%	50%	0%
Dietitians/Nutritionists	2.8	2.6	0%	20%	0%	0%
HIT Analysts	3.3	2.4	40%	20%	60%	0%
HIT Program Managers	1.5	2.0	0%	33%	33%	0%
HIT Tech Support	2.3	2.4	0%	20%	20%	0%
License Practical Nurses	1.6	1.5	0%	13%	13%	13%
Licensed Clinical Social Workers	1.6	2.0	20%	0%	20%	20%
Licensed Masters Social Workers	1.5	1.8	0%	0%	0%	20%
Mammographers	2.2	1.7	33%	17%	17%	0%
Medical Coders	2.8	2.0	38%	38%	13%	0%
Nuclear Medicine Technologists	3.4	2.0	43%	14%	14%	0%
Nurse Practitioners						
Patient Care Technicians/ Certified Nursing Aides	2.7 2.0	2.6 2.5	29% 50%	29% 13%	29% 38%	14% 0%
Pharmacists	3.6	2.3	63%	63%	50%	13%
Physical Therapists	4.0	2.7	71%	86%	57%	14%
Physician Assistants	3.6	2.8	40%	40%	60%	20%
Registered Nurses						
-Experienced	3.9	2.9	56%	78%	67%	0%
-Newly-trained	2.1	3.2	0%	56%	44%	11%
Respiratory Therapists	2.9	2.4	29%	57%	14%	14%
Sonographers	3.2	1.8	33%	17%	17%	0%
X-ray Technicians	1.7	1.0	0%	33%	33%	0%
X-ray Technologists	1.7	1.7	0%	17%	17%	0%

Nearly 80% of the hospitals in the Finger Lakes region that responded to the survey indicated they anticipated no staff growth or reduction in the coming months.

### **Nursing Homes**

Nursing homes in the Finger Lakes region reported the most difficulty in recruiting speech-language pathologists, occupational therapists, physical therapists, occupational therapy assistants/aides, and directors of nursing. They also noted difficulties recruiting dietitians/nutritionists, experienced RNs, and physical therapy assistants/aides. CNAs were the most difficult to retain, followed by newly-trained RNs and experienced RNs (Exhibit 85).

**Exhibit 85**  
**Recruitment and Retention Difficulties for Nursing Homes**  
**in the Finger Lakes Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	2.7	3.5	45%	27%	18%	9%
Clerical	1.4	1.7	0%	9%	11%	0%
Dietitians/Nutritionists	3.9	2.1	38%	50%	13%	0%
Licensed Practical Nurses	3.4	3.1	36%	18%	36%	9%
Medical Billers	3.1	2.3	13%	0%	25%	0%
Occupational Therapists	4.3	2.3	57%	43%	14%	0%
Occupational Therapy Assts/Aides	4.0	2.4	20%	20%	0%	0%
Physical Therapists	4.3	2.3	43%	29%	0%	0%
Physical Therapy Assts/Aides	3.6	1.7	29%	14%	14%	0%
Registered Nurses						
-Experienced	3.7	3.4	36%	64%	55%	0%
-Newly-trained	2.9	3.5	27%	45%	36%	0%
-Directors of Nursing	4.0	3.3	50%	50%	20%	20%
-Nurse Managers	3.5	2.9	36%	36%	36%	18%
Social Workers						
-LCSWs	3.0	2.3	14%	0%	29%	0%
-LMSWs	3.2	2.3	20%	0%	20%	0%
Speech-Language Pathologists	4.6	3.2	20%	20%	20%	0%

Other information reported by nursing homes in the Finger Lakes region included:

- Fifty percent reported difficulties hiring part-time workers, and one-fourth indicated difficulties hiring bilingual workers. Spanish was the only language mentioned as being needed.
- Less than half indicated difficulties hiring either RNs or LPNs for the evening shift, but nearly two-thirds reported difficulties hiring CNAs for the evening shift.

- Eight percent of the nursing home human resource directors reported difficulties hiring RNs for the night shift and nearly 80% indicated difficulties hiring LPNs for the night shift. Less than half indicated difficulties hiring CNAs for the night shift.
- Almost three-fourths reported that there were an adequate number of CNA training classes in the region.
- Less than 20% indicated staff would be reduced due to Medicaid redesign. Another 60% were unsure and the remaining anticipated no impact.

### Home Health Agencies

The number of responses for home health agencies in the Finger Lakes region was too low to analyze separately, so it was combined with the Western New York region for analysis. Home health agencies in the two regions indicated the most difficulty recruiting physical therapists, followed by experienced RNs, occupational therapists, and speech-language pathologists. Speech-language pathologists were also the most difficult to retain, followed by home health aides and experienced RNs (Exhibit 86).

**Exhibit 86**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Finger Lakes and Western New York Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	3.3	1.7	33%	0%	33%	0%
Home Health Aides	3.4	2.7	71%	29%	43%	29%
Licensed Practical Nurses	1.8	1.8	0%	25%	25%	0%
Occupational Therapists	3.6	2.3	20%	20%	40%	0%
Physical Therapists	4.2	2.5	40%	20%	40%	0%
Registered Nurses						
- <i>Experienced</i>	3.9	2.6	57%	71%	71%	0%
- <i>Newly-trained</i>	2.0	2.3	0%	33%	33%	0%
Social Workers						
- <i>LMSWs</i>	2.7	1.5	33%	33%	0%	0%
- <i>LCSWs</i>	3.4	2.5	14%	43%	29%	0%
Speech-Language Pathologists	3.6	3.0	40%	40%	40%	0%

Other information reported by home health agencies in the Finger Lakes and Western New York regions included:

- Slightly less than 30% reported difficulty hiring bilingual workers, with Spanish being the language most needed.
- Twenty-eight percent indicated they had difficulty hiring workers for the off-shifts.

### Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for these upstate areas were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 87).

**Exhibit 87**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>26</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
-Adult NPs	2.8	2.1
-Family NPs	3.3	1.9
-Geriatric NPs	3.5	1.4
-Pediatric NPs	2.7	1.7
-Psychiatric NPs	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

Employment Projections by Health Occupation

The NYSDOL estimated that between 2008 and 2018, the number of home health aide jobs in the Finger Lakes region will increase by nearly 2,700, with 350 annual openings and the number of RN jobs will grow by 1,500, with 340 annual openings. LPNs (190); social workers (170); nursing aides, orderlies, and attendants (160); and personal and home care aides (150) will all have annual job openings of 150 or more during the same time period (Exhibit 88).

<sup>26</sup> All areas outside of New York City

**Exhibit 88**  
**Employment Projections for Selected Health Care Occupations<sup>27</sup>**  
**for the Finger Lakes Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Home Health Aides	8,470	11,150	2,680	31.6%	350
Registered Nurses	10,910	12,410	1,500	13.7%	340
Licensed Practical Nurse	4,240	4,870	630	14.9%	190
Social Workers	3,870	4,330	460	11.9%	170
Nursing Aides, Orderlies, and Attendants	6,600	7,520	920	13.9%	160
Personal and Home Care Aides	2,470	3,690	1,220	49.4%	150
Dental Hygienists	1,040	1,310	270	26.0%	50
Dental Assistants	1,040	1,300	260	25.0%	50
Pharmacy Technicians	1,130	1,290	160	14.2%	50
Medical and Health Services Managers	1,360	1,440	80	5.9%	40
Medical Assistants	630	780	150	23.8%	30
Physician Assistants	670	820	150	22.4%	30
Speech-Language Pathologists	810	950	140	17.3%	30
Medical Records and Health Information Technicians	720	800	80	11.1%	30
Medical and Clinical Laboratory Technologists	950	1,020	70	7.4%	30
Physical Therapists	690	830	140	20.3%	20
Occupational Therapists	500	600	100	20.0%	20
Radiologic Technologists and Technicians	850	950	100	11.8%	20
Clinical, Counseling, and School Psychologists	810	850	40	4.9%	20
Pharmacists	860	900	40	4.7%	20
Emergency Medical Technicians and Paramedics	1,010	1,030	20	2.0%	20
Medical and Clinical Laboratory Technicians	780	790	10	1.3%	20
Surgical Technologists	270	300	30	11.1%	10
Respiratory Therapists	280	310	30	10.7%	10
Dietitians and Nutritionists	280	290	10	3.6%	10
Diagnostic Medical Sonographers	250	280	30	12.0%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 - 2018

<sup>27</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.

## E. Hudson Valley

The Hudson Valley region includes the counties of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester.

### *Population*

The Hudson Valley region had a higher percentage of individuals ages birth to 17 and a slightly lower percentage of individuals age 65 and older than the state overall. The Hudson Valley region also had a lower percentage of females of child bearing age (15 to 44) (Exhibit 89).

**Exhibit 89**  
**Selected Population Characteristics for the Hudson Valley Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	2,286,281	N/A	N/A
Population Under 100% FPL Level**	211,601	9.3%	14.6%
Population Under 200% FPL Level**	472,363	20.7%	30.5%
Population Ages Birth - 17*	555,803	24.3%	22.7%
Population 65 and older*	304,399	13.3%	13.5%
Population Female 15 – 44*	444,280	19.4%	20.8%
Black/African American, non-Hispanic*	239,109	10.5%	14.5%
Hispanic/Latino*	349,472	15.2%	16.5%
Asian/Pacific Islander, non-Hispanic*	46,945	2.1%	3.3%
American Indian/Native Alaskan, non-Hispanic*	3,898	0.1%	0.3%
Two or More/Other*	51,068	2.2%	2.7%
Less than High School Education***	238,835	20.0%	25.2%
High School Education***	368,734	30.9%	33.3%
College Degree or Higher***	586,085	49.1%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The number of per capita total deaths in the Hudson Valley region was lower than the state as a whole. The birth rates for females age 15 to 44 and for teenage females were also lower than the state as a whole (Exhibit 90).

**Exhibit 90**  
**Selected Health Indicators for the Hudson Valley Region**

	Region		Statewide
	Number	Number per 100,000 <sup>28</sup>	Number per 100,000 <sup>28</sup>
Total deaths*	16,267	711.5	749.8
Deaths due to all cancers*	4,121	180.2	180.2
Deaths due to diabetes*	316	13.8	19.1
Deaths due to heart disease*	4,714	206.2	239.7
Total births*	27,143	61.1	61.4
Teen births*	1,408	17.0	24.3
Low-birth weight births*	2,037	7.5	8.2
Late/no prenatal care*	1,215	4.5	5.5
Infant deaths*	138	5.1	5.3
Adult asthma hospitalizations**	1,802	104.8	165.3
COPD Hospitalizations**	2,588	113.7	125.1
Coronary heart failure hospitalizations**	5,207	228.8	280.1
Diabetes hospitalizations**	2,689	118.1	184.1
Pediatric asthma hospitalizations**	918	165.2	296.6
PQI hospitalizations**	21,924	963.3	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

There were almost 1,990 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Hudson Valley region. More than 43% were in general internal medicine, 24% were in general pediatrics, and another 20% were in general or family practice. There were 82.5 community-based, primary care physicians in the Hudson Valley region per 100,000 population, almost the same as the statewide rate of 82. Westchester County had the most at nearly 1,000 per 100,000, while Ulster County had the least at 63.0 per 100,000. The number of ob/gyn practitioners in the Hudson Valley per 100,000 women ages 15 to 44 was higher than the statewide rate. The Hudson Valley region also had slightly more general internal medicine and pediatric practitioners per 100,000 than the state overall (Exhibits 91 and 92).

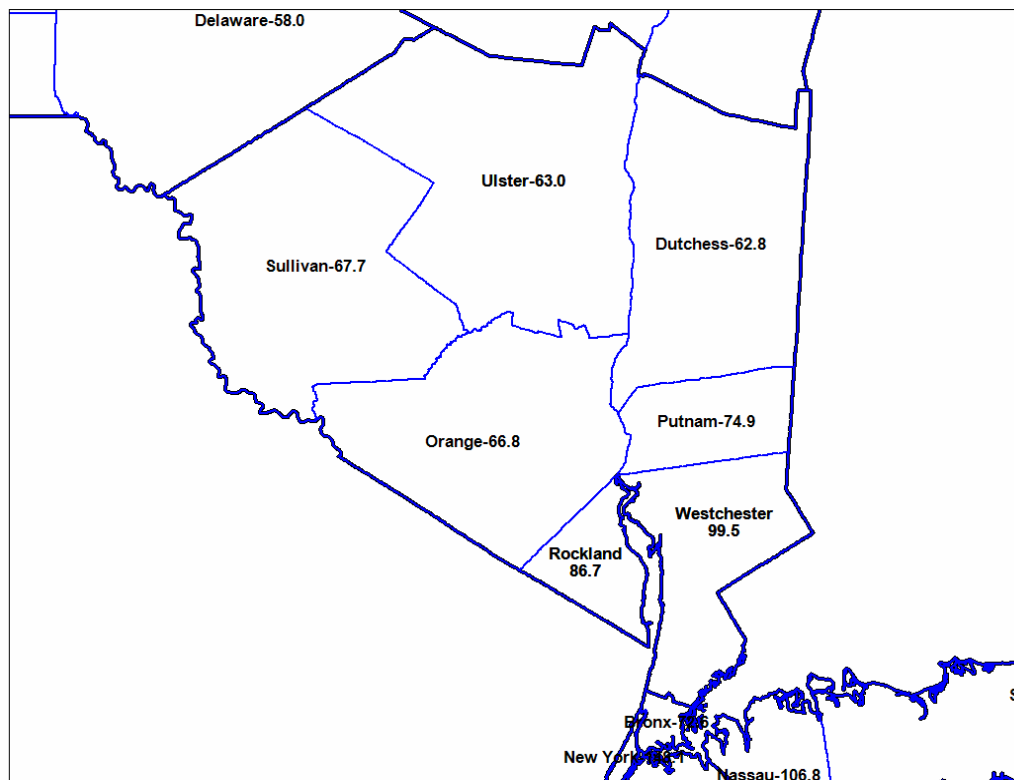
<sup>28</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.



**Exhibit 91**  
**Community-Based, Primary Care Physicians by Specialty**  
**in the Hudson Valley Region, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>29</sup>	
		Region	State
Family/General Practice	376.2	16.5	18.1
Internal Medicine (General)	814.3	35.6	35.2
Geriatrics	12.7	0.6	0.8
Obstetrics/Gynecology	240.0	54.0	49.8
Pediatrics (General)	443.9	79.9	77.5
Total	1,887.1	82.5	82.0

**Exhibit 92**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the Hudson Valley Region, 2009**

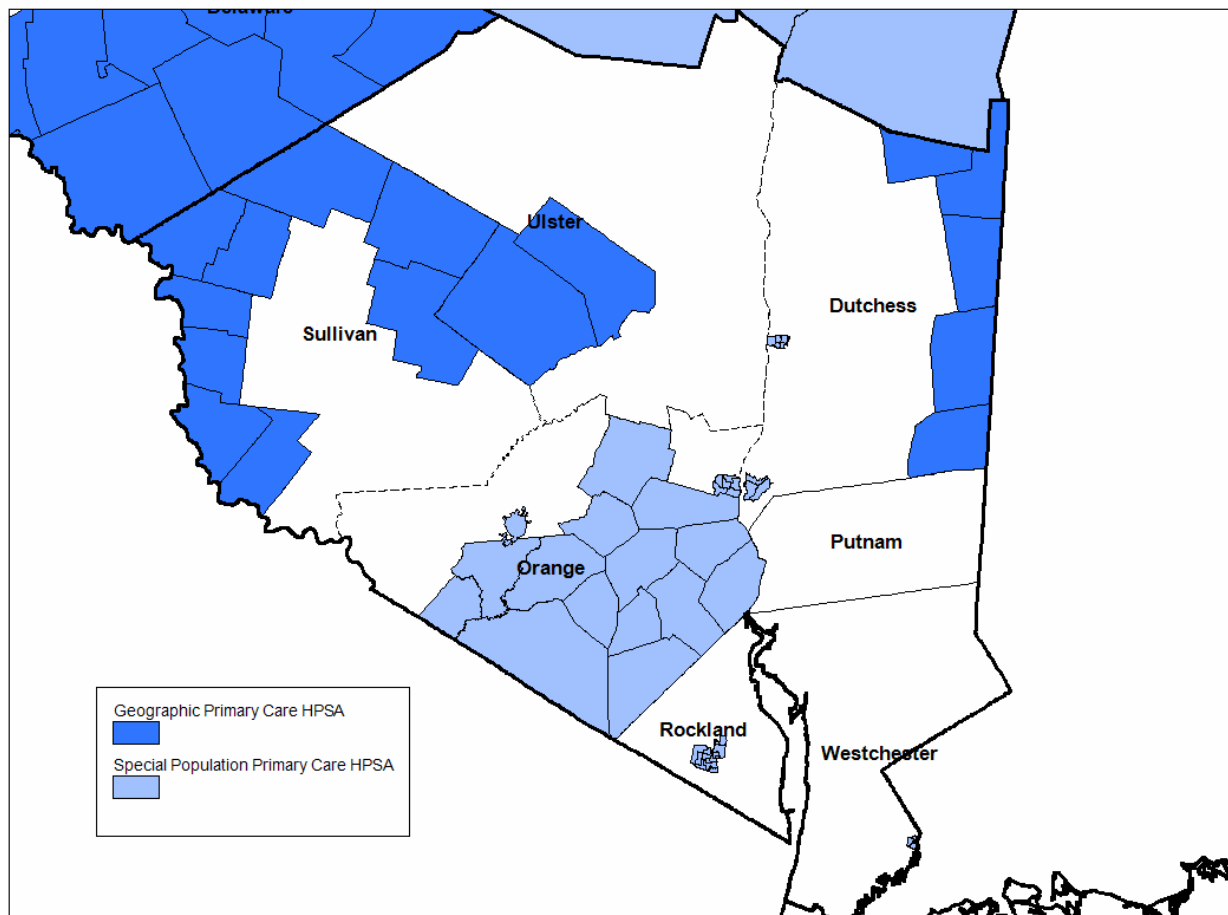


<sup>29</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 to 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

### Health Professional Shortage Area Designations

There were eleven geographic or special population primary care HPSAs in the Hudson Valley region. Most of the designations were in rural areas of Medicaid-eligible populations and in several urban areas, including Beacon and Middletown. The residential population residing in these HPSAs was slightly more than 450,000, or just under 20% of the total residential population (Exhibit 93).

**Exhibit 93**  
**Current Geographic and Special Primary Care HPSAs in the Hudson Valley Region**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration

## *Employment*

### Total Employment

Health sector employment in the Hudson Valley region increased by nearly 8% between 2004 and 2009. All settings in the health sector experienced job growth between 2004 and 2009, with home health care having the largest percentage increase (40%) followed by ambulatory care (11%) (Exhibit 94).

**Exhibit 94**  
**Number of Workers by Health Care Setting in the Hudson Valley Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	39,039	38,658	39,353	39,895	40,341	40,243	1,204	3.1%
Ambulatory Care (Excluding Home Health)	35,712	36,648	36,984	38,332	38,933	39,453	3,741	10.5%
Nursing Home and Personal Care Facilities	19,815	19,641	19,893	20,016	20,111	20,083	268	1.4%
Home Health Care Services	6,416	6,968	7,146	7,588	8,096	9,003	2,587	40.3%
<b>Totals</b>	100,982	101,915	103,376	105,831	107,481	108,782	7,800	7.7%

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

The number of RNs licensed in the Hudson Valley region increased by nearly 650 between 2007 and 2009, or by 2%, and the number of licensed clinical laboratory technologists grew by more than 300, or by 29%. The number of LPNs (200), speech-language pathologists (161), and NPs (156) also significantly increased during that time period. The number of licensed social workers declined and the number of dietitians/nutritionists both declined by about 3% between 2007 and 2009 (Exhibit 95).

**Exhibit 95**  
**Change in the Number of Licensed Individuals in Selected Health Occupations**  
**in the Hudson Valley Region, 2007 – 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	163	196	248	85	52.1%
Clinical Laboratory Technologists	1,108	1,291	1,434	326	29.4%
Speech-Language Pathologists	1,656	1,720	1,817	161	9.7%
Nurse Practitioners	1,603	1,674	1,759	156	9.7%
Physician Assistants	723	747	787	64	8.9%
Occupational Therapy Assistants	634	654	680	46	7.3%
Occupational Therapists	1,245	1,285	1,324	79	6.3%
Respiratory Therapists	585	610	610	25	4.3%
Physical Therapy Assistants	465	461	483	18	3.9%
Dental Hygienists	1,069	1,087	1,101	32	3.0%
Licensed Practical Nurses	7,474	7,716	7,674	200	2.7%
Registered Nurses	30,658	30,769	31,300	642	2.1%
Pharmacists	1,958	1,949	1,998	40	2.0%
Physical Therapists	2,194	2,201	2,234	40	1.8%
Dietitians/Nutritionists	708	671	689	-19	-2.7%
Social Workers	7,309	7,043	7,072	-237	-3.2%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the Hudson Valley region reported the most difficulty recruiting pharmacists and physical therapists, followed by clinical laboratory technologists, medical coders, NPs, and experienced RNs. NPs were the most difficult to retain, followed by clinical laboratory technologists and patient care technicians/CNAs (Exhibit 96).

**Exhibit 96**  
**Recruitment and Retention Difficulties for Hospitals in the Hudson Valley Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Clinical Laboratory Technicians	3.2	2.4	40%	40%	0%	0%
Clinical Laboratory Technologists	3.8	3.3	75%	100%	50%	0%
Dietitians/Nutritionists	2.7	1.9	27%	27%	27%	9%
HIT Analysts	3.3	2.3	50%	83%	93%	0%
HIT Program Managers	3.0	1.8	43%	43%	43%	0%
HIT Tech Support	3.0	1.8	60%	60%	60%	0%
License Practical Nurses	1.4	1.0	0%	0%	0%	0%
Licensed Clinical Social Workers	2.6	2.2	0%	0%	60%	0%
Licensed Masters Social Workers	2.5	2.0	0%	0%	50%	0%
Mammographers	2.5	2.0	50%	0%	30%	10%
Medical Coders	3.8	2.4	69%	46%	31%	8%
Nuclear Medicine Technologists	3.0	2.0	9%	9%	27%	0%
Nurse Practitioners	3.7	3.5	67%	100%	0%	0%
Patient Care Technicians/ Certified Nursing Aides	2.8	3.3	46%	46%	8%	0%
Pharmacists	4.0	2.6	55%	82%	55%	27%
Physical Therapists	4.0	2.3	58%	67%	50%	17%
Physician Assistants	3.4	2.0	60%	20%	80%	0%
Registered Nurses						
-Experienced	3.7	2.3	46%	77%	46%	15%
-Newly-trained	1.3	2.3	0%	17%	42%	6%
Respiratory Therapists	3.1	2.3	33%	42%	33%	0%
Sonographers	2.5	1.8	20%	10%	30%	0%
X-ray Technicians	2.0	1.8	0%	0%	0%	0%
X-ray Technologists	2.2	1.9	0%	6%	33%	0%

Slightly over 60% of human resource directors at hospitals in the Hudson Valley region indicated that they did not anticipate any growth or reduction of staff at their facilities in the coming months and one-fourth stated they anticipated growth at their facilities.

## Nursing Homes

Directors of nursing were the most difficult to recruit for nursing homes in the Hudson Valley region, followed by dietitians/nutritionists, experienced RNs, occupational therapists, and physical therapists. Occupational therapists were the most difficult to retain, followed by occupational therapy assistants/aides and physical therapists (Exhibit 97).

**Exhibit 97**  
**Recruitment and Retention Difficulties for Nursing Homes in the Hudson Valley Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	2.3	3.1	38%	13%	13%	13%
Clerical	1.8	1.5	13%	25%	0%	0%
Dietitians/Nutritionists	4.2	2.4	60%	20%	0%	0%
Licensed Practical Nurses	2.9	2.3	13%	38%	25%	0%
Medical Billers	2.6	2.2	0%	20%	20%	0%
Occupational Therapists	3.8	3.4	67%	50%	17%	0%
Occupational Therapy Assts/Aides	3.4	3.3	20%	60%	0%	0%
Physical Therapists	3.6	3.2	71%	43%	29%	0%
Physical Therapy Assts/Aides	3.0	3.0	17%	50%	0%	0%
Registered Nurses						
-Experienced	4.0	3.0	50%	38%	0%	13%
-Newly-trained	2.4	2.9	14%	29%	14%	0%
-Directors of Nursing	4.3	3.0	57%	29%	0%	0%
-Nurse Managers	3.4	3.0	43%	29%	14%	14%
Social Workers						
-LCSWs	3.2	2.5	17%	17%	17%	0%
-LMSWs	3.4	2.4	14%	14%	14%	14%
Speech-Language Pathologists	3.5	2.5	50%	50%	25%	0%

Other information reported by nursing homes in the Hudson Valley region included:

- Slightly less than 40% reported difficulties hiring part-time workers, and only 13% indicated difficulties hiring bilingual workers. Spanish was the only language mentioned as being needed.
- Less than half of nursing homes indicated difficulties hiring either RNs, LPNs, or CNAs for the evening shift.
- Slightly less than 60% indicated difficulty hiring either RNs or CNAs for the night shift. Less than half indicated problems hiring LPNs for the night shift.
- Three-fourths reported that there were an adequate number of CNA training classes in the region.
- One-quarter of the nursing homes indicated either overall staffing reductions or the substitution of lower cost staff for higher cost staff due to a Medicaid redesign. The remainder of the respondents was unsure of the impact of a redesign.

### Home Health Agencies

Home health agencies in the Hudson Valley region reported the most difficulty recruiting occupational therapists, followed by experienced RNs and physical therapists. Home health aides and occupational therapists were the most difficult to retain, followed by LPNs and physical therapists (Exhibit 98).

**Exhibit 98**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Hudson Valley Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	3.5	1.0	17%	17%	17%	0%
Home Health Aides	2.3	4.0	33%	33%	33%	33%
Licensed Practical Nurses	2.3	3.5	67%	33%	33%	33%
Occupational Therapists	4.2	4.0	50%	67%	33%	17%
Physical Therapists	3.7	3.5	43%	57%	29%	14%
Registered Nurses						
- <i>Experienced</i>	3.9	3.3	38%	63%	75%	25%
- <i>Newly-trained</i>	N/A	N/A	N/A	N/A	N/A	N/A
Social Workers						
- <i>LMSWs</i>	3.2	3.0	20%	40%	40%	20%
- <i>LCSWs</i>	3.3	3.0	25%	25%	25%	25%
Speech-Language Pathologists	4.2	3.0	33%	50%	33%	17%

Other information reported by home health agencies in the Hudson Valley region included:

- One-third indicated difficulties hiring part-time workers, but nearly 60% reported difficulties hiring bilingual workers, with the vast majority indicating Spanish was the needed language. Slightly less than 30% reported difficulties hiring for off-shifts.
- Slightly less than 30% indicated that Medicaid redesign would impact of them. The remainder indicated no impact from a redesign.

### Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for these areas were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 99).

**Exhibit 99**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>30</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
- <i>Adult NPs</i>	2.8	2.1
- <i>Family NPs</i>	3.3	1.9
- <i>Geriatric NPs</i>	3.5	1.4
- <i>Pediatric NPs</i>	2.7	1.7
- <i>Psychiatric NPs</i>	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

<sup>30</sup> All areas outside of New York City



## Employment Projections by Health Occupation

The NYSDOL estimated that between 2008 and 2018, there will be nearly 3,000 new jobs in the Hudson Valley region for RNs, with 630 average annual job openings. During the same period, home health aides were projected to have 620 average annual job openings; personal and home care aides 340 average annual openings; nursing aides, orderlies, and attendants 300 average annual openings; and LPNs projected to have 290 average annual job openings (Exhibit 100).

### **Exhibit 100** **Employment Projections for Selected Health Care Occupations<sup>31</sup>** **for the Hudson Valley Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Registered Nurses	18,890	21,870	2,980	15.8%	630
Home Health Aides	13,640	18,430	4,790	35.1%	620
Personal and Home Care Aides	7,410	9,950	2,540	34.3%	340
Nursing Aides, Orderlies, and Attendants	11,140	13,080	1,940	17.4%	300
Licensed Practical Nurse	5,850	6,980	1,130	19.3%	290
Social Workers	6,000	6,510	510	8.5%	200
Dental Assistants	1,890	2,370	480	25.4%	90
Physical Therapists	2,030	2,550	520	25.6%	80
Medical and Health Services Managers	2,930	3,130	200	6.8%	80
Medical Assistants	1,800	2,260	460	25.6%	70
Dental Hygienists	1,530	1,940	410	26.8%	70
Pharmacy Technicians	1,210	1,590	380	31.4%	70
Clinical, Counseling, and School Psychologists	2,120	2,250	130	6.1%	70
Radiologic Technologists and Technicians	2,030	2,270	240	11.8%	50
Pharmacists	1,480	1,700	220	14.9%	50
Speech-Language Pathologists	1,450	1,650	200	13.8%	50
Occupational Therapists	1,190	1,430	240	20.2%	40
Emergency Medical Technicians and Paramedics	1,770	1,810	40	2.3%	40
Physician Assistants	540	700	160	29.6%	30
Medical Records and Health Information Technicians	950	1,090	140	14.7%	30
Medical and Clinical Laboratory Technologists	900	990	90	10.0%	30
Respiratory Therapists	630	720	90	14.3%	20
Medical and Clinical Laboratory Technicians	760	840	80	10.5%	20
Surgical Technologists	320	380	60	18.8%	20
Dietitians and Nutritionists	510	540	30	5.9%	20
Diagnostic Medical Sonographers	380	420	40	10.5%	10

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 - 2018

<sup>31</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.



## F. Long Island

The Long Island region includes the counties of Nassau and Suffolk.

### *Population*

The Long Island region had a higher percentage of individuals ages birth to 17 and of individuals age 65 and older than the state as a whole. The region had a lower percentage of females of child bearing years (age 15 to 44) (Exhibit 101).

**Exhibit 101**  
**Selected Population Characteristics for the Long Island Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	2,755,367	N/A	N/A
Population Under 100% FPL Level**	154,920	5.6%	14.6%
Population Under 200% FPL Level**	411,862	14.9%	30.5%
Population Ages Birth - 17*	653,198	23.7%	22.7%
Population 65 and older*	394,087	14.3%	13.5%
Population Female 15 – 44*	514,905	18.7%	20.8%
Black/African American, non-Hispanic*	237,760	8.6%	14.5%
Hispanic/Latino*	365,379	13.3%	16.5%
Asian/Pacific Islander, non-Hispanic*	65,734	2.3%	3.3%
American Indian/Native Alaskan, non-Hispanic*	5,132	0.1%	0.3%
Two or More/Other*	53,787	2.05	2.7%
Less than High School Education***	251,496	16.6%	25.2%
High School Education***	539,404	35.7%	33.3%
College Degree or Higher***	720,061	47.7%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The Long Island region had slightly more total deaths per capita and deaths due to all cancers and to heart disease than the state as a whole. While the overall birth rate was similar for the Long Island region and the state, the Long Island region had a significantly lower teen birth rate than the state as a whole (Exhibit 102).

**Exhibit 102**  
**Selected Health Indicators in the Long Island Region**

	Region		Statewide
	Number	Number per 100,000 <sup>32</sup>	Number per 100,000 <sup>32</sup>
Total deaths*	21,573	782.9	749.8
Deaths due to all cancers*	5,354	194.3	180.2
Deaths due to diabetes*	376	13.6	19.1
Deaths due to heart disease*	7,263	263.6	239.7
Total births*	31,866	61.9	61.4
Teen births*	1,356	13.8	24.3
Low-birth weight births*	2,568	8.1	8.2
Late/no prenatal care*	1,345	4.2	5.5
Infant deaths*	125	3.9	5.3
Adult asthma hospitalizations**	2,541	118.3	165.3
COPD Hospitalizations**	3,813	135.2	125.1
Coronary heart failure hospitalizations**	8,226	291.7	280.1
Diabetes hospitalizations**	4,234	150.2	184.1
Pediatric asthma hospitalizations**	1,233	183.3	296.6
PQI hospitalizations**	33,363	1,183.1	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

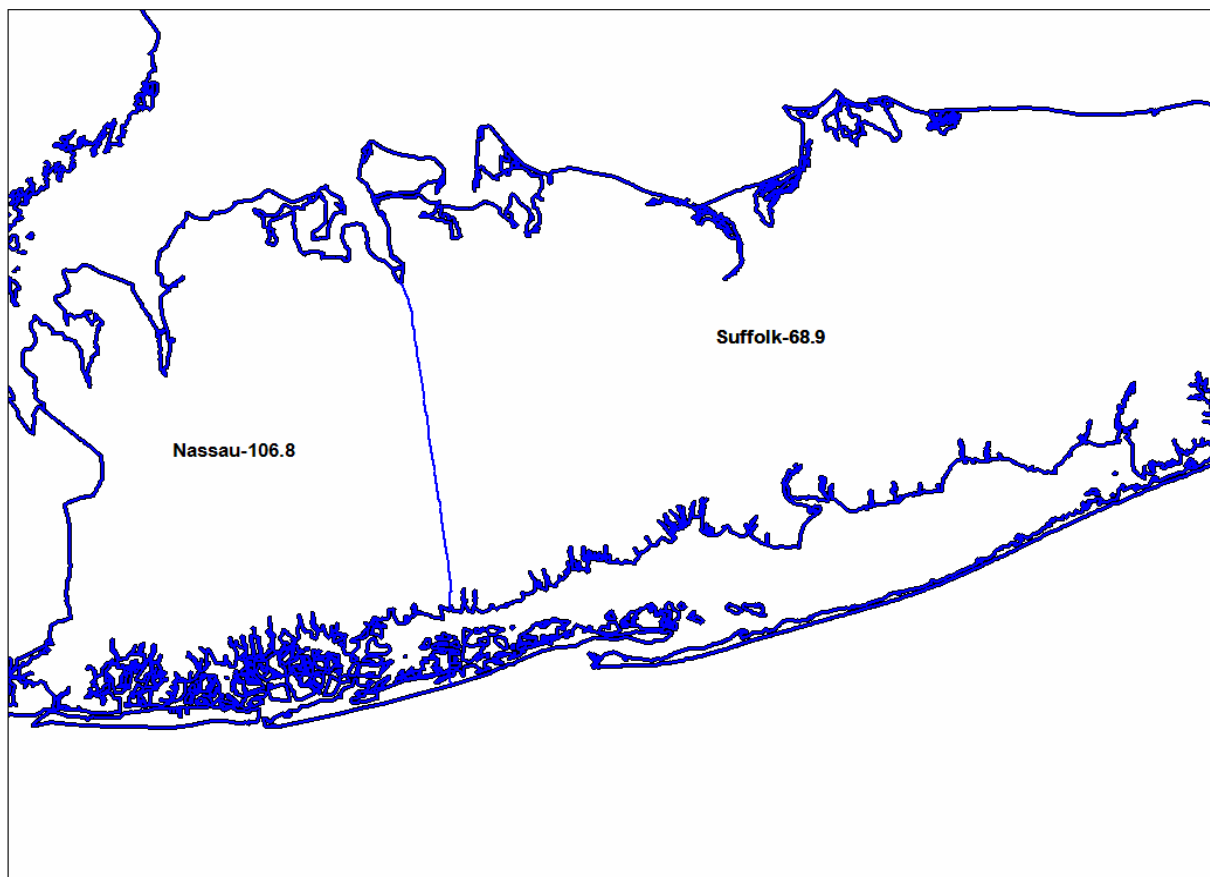
There were nearly 2,400 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Long Island region. Slightly less than 40% were in general internal medicine, one-quarter were in general pediatrics, and another 22% were in general or family practice. There were 86.7 community-based primary care physicians in the Long Island region per 100,000 population, above the statewide rate of 82. Nassau County had nearly 107 community-based, primary care physicians per 100,000 population, but Suffolk County only had 69. There were substantially more ob/gyn and pediatric practitioners per 100,000 in the Long Island region than in the state overall (Exhibits 103 and 104).

<sup>32</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 103**  
**Community-Based, Primary Care Physicians by Specialty**  
**in the Long Island Region, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>33</sup>	
		Region	State
Family/General Practice	518.4	18.8	18.1
Internal Medicine (General)	952.2	34.6	35.2
Geriatrics	19.4	0.7	0.8
Obstetrics/Gynecology	310.8	60.4	49.8
Pediatrics (General)	588.6	90.1	77.5
Total	2,389.4	86.7	82.0

**Exhibit 104**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the Long Island Region, 2009**



<sup>33</sup> Obstetricians/Gynecologists per capita is per 100,000 women ages 15 - 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

## Health Professional Shortage Area Designations

The Long Island region did not have any geographic or special population HPSAs.

### *Employment*

#### Total Employment

Health sector employment in the Long Island region grew by almost 13% between 2004 and 2009, adding nearly 17,500 jobs. Employment in hospitals grew the fastest, increasing by more than 20%. There was also growth in home health care services (16%), ambulatory care (9%), and nursing homes and personal care facilities (8%) (Exhibit 105).

**Exhibit 105**  
**Number of Workers by Health Care Setting in the Long Island Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	47,454	46,341	50,980	53,690	55,513	57,061	9,607	20.2%
Ambulatory Care (Excluding Home Health)	55,507	56,582	57,397	58,513	59,413	59,837	4,330	8.7%
Nursing Home and Personal Care Facilities	22,430	23,520	24,350	23,697	23,918	24,238	1,808	8.1%
Home Health Care Services	10,966	10,875	9,811	10,762	11,970	12,696	1,730	15.8%
<b>Totals</b>	136,357	137,318	142,538	146,662	150,814	153,832	17,475	12.8%

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

Between 2007 and 2009, the number of licensed RNs on Long Island increased by nearly 1,200, or by 3%. During the same period, the number of clinical laboratory technologists grew by more than 500 (28%), and the PAs increased by almost 200, or by 12%. Between 2007 and 2007, the number of social workers decreased by nearly 200, or by 2% (Exhibit 106).

**Exhibit 106**  
**Change in the Number of Licensed Individuals in Selected Health Occupations**  
**in the Long Island Region, 2007 - 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	222	283	371	149	67.2%
Clinical Laboratory Technologists	1,869	2,186	2,389	520	27.8%
Physician Assistants	1,698	1,803	1,896	198	11.7%
Occupational Therapy Assistants	341	355	377	36	10.6%
Speech-Language Pathologists	2,832	2,950	3,096	264	9.3%
Respiratory Therapists	830	861	898	68	8.2%
Nurse Practitioners	2,462	2,546	2,645	183	7.4%
Physical Therapists	3,115	3,154	3,273	158	5.1%
Occupational Therapists	1,730	1,761	1,818	88	5.1%
Physical Therapy Assistants	928	933	968	40	4.3%
Pharmacists	3,517	3,543	3,642	125	3.6%
Registered Nurses	38,194	38,496	39,390	1,196	3.1%
Dental Hygienists	1,659	1,670	1,680	21	1.3%
Dietitians/Nutritionists	930	914	932	2	0.2%
Licensed Practical Nurses	8,816	8,943	8,814	-2	0.0%
Social Workers	8,470	8,220	8,280	-190	-2.2%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the Long Island region reported the most difficulty recruiting clinical laboratory technologists and HIT analysts, followed by HIT program managers and medical coders, with the shortage of workers being cited as one of the main reasons for these difficulties. Medical coders were the most difficult to retain, followed by clinical laboratory technicians and clinical laboratory technologists (Exhibit 107).

**Exhibit 107**  
**Recruitment and Retention Difficulties for Hospitals in the Long Island Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Clinical Laboratory Technicians	2.8	2.9	21%	16%	21%	0%
Clinical Laboratory Technologists	4.6	2.9	70%	30%	40%	0%
Dietitians/Nutritionists	2.1	1.5	0%	4%	40%	0%
HIT Analysts	4.6	1.6	88%	94%	13%	0%
HIT Program Managers	4.5	1.6	82%	82%	71%	0%
HIT Tech Support	3.1	1.6	17%	17%	5%	0%
License Practical Nurses	1.1	1.3	0%	0%	0%	14%
Licensed Clinical Social Workers	2.2	1.6	10%	5%	0%	15%
Licensed Masters Social Workers	2.1	1.9	0%	4%	9%	4%
Mammographers	2.6	2.5	0%	52%	0%	5%
Medical Coders	4.4	3.0	75%	17%	54%	0%
Nuclear Medicine Technologists	2.7	2.4	5%	5%	50%	5%
Nurse Practitioners	2.8	2.1	5%	14%	62%	52%
Patient Care Technicians/ Certified Nursing Aides	1.1	2.7	0%	52%	4%	9%
Pharmacists	3.3	2.7	13%	21%	58%	0%
Physical Therapists	2.6	2.1	17%	63%	63%	4%
Physician Assistants	2.2	1.6	0%	18%	55%	0%
Registered Nurses						
<i>-Experienced</i>	3.3	2.0	21%	83%	17%	8%
<i>-Newly-trained</i>	1.4	1.7	4%	17%	0%	13%
Respiratory Therapists	1.9	2.2	17%	21%	25%	8%
Sonographers	2.3	2.5	4%	4%	52%	4%
X-ray Technicians	1.7	2.0	0%	0%	17%	17%
X-ray Technologists	1.8	2.3	4%	4%	52%	4%

More than three-fourths of the hospitals in the Long Island region indicated that they anticipated growth of staff. The remaining respondents indicated they were unsure about growth or reduction of staff. Hospitals indicated anticipated growth in positions for RNs, NPs, PAs, medical coders, clinical laboratory technicians and technologists, physical therapists, and HIT staff. A small number of hospitals indicated anticipated reduction in LPN staff.



## Nursing Homes

Nursing homes in the Long Island region reported the most difficulty recruiting directors of nursing, followed by occupational therapists and physical therapists. They indicated that experienced RNs and nurse managers were the most difficult to retain, followed by licensed, master's degree social workers (Exhibit 108).

**Exhibit 108**  
**Recruitment and Retention Difficulties for Nursing Homes in the Long Island Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	2.0	2.6	14%	43%	7%	7%
Clerical	2.1	1.9	8%	8%	17%	0%
Dietitians/Nutritionists	3.0	2.1	18%	18%	18%	9%
Licensed Practical Nurses	3.0	2.3	23%	31%	31%	7%
Medical Billers	2.9	1.8	20%	30%	30%	0%
Occupational Therapists	3.4	2.4	30%	30%	30%	0%
Occupational Therapy Assts/Aides	2.9	2.4	30%	20%	10%	0%
Physical Therapists	3.4	2.6	30%	40%	40%	0%
Physical Therapy Assts/Aides	2.5	2.1	18%	18%	18%	0%
Registered Nurses						
-Experienced	3.3	2.8	14%	21%	29%	0%
-Newly-trained	1.4	2.3	0%	25%	33%	0%
-Directors of Nursing	3.9	2.4	22%	22%	22%	11%
-Nurse Managers	3.3	2.8	16%	33%	16%	0%
Social Workers						
-LCSWs	3.1	2.3	15%	15%	23%	7%
-LMSWs	3.1	2.7	17%	8%	33%	8%
Speech-Language Pathologists	3.3	2.5	0%	11%	22%	0%

Other information reported by nursing homes in the Long Island region included:

- Twenty-one percent indicated they had difficulties hiring part-time workers, and 23% reported difficulties hiring bilingual workers. Spanish was the language cited the most often as being needed.
- Less than 30% indicated difficulties hiring RNs (28%), CNAs (23%), or LPNs (21%) for the evening shift.
- Slightly less than half reported difficulty hiring RNs (46%) for the night shift, followed by difficulties hiring LPNs (31%) and CNAs (25%) for the night shift.
- Slightly more than three-fourths reported there were an adequate number of CNA training classes in the region.
- Nearly two-thirds indicated that Medicaid redesign would impact their staffing, with the vast majority indicating staff reductions would result.

### Home Health Agencies

Home health agencies in the Long Island region reported the most difficulty recruiting and retaining experienced RNs, citing shortages of RNs and salary levels as the main reasons. Home health agencies also indicated that speech-language pathologists, occupational therapists, physical therapists, and home health aides were difficult to recruit (Exhibit 109).

**Exhibit 109**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Long Island Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	2.8	2.4	40%	0%	0%	20%
Home Health Aides	4.0	3.0	40%	0%	20%	0%
Licensed Practical Nurses	2.3	2.3	25%	0%	25%	0%
Occupational Therapists	4.2	3.4	33%	17%	50%	0%
Physical Therapists	4.2	3.0	33%	17%	50%	0%
Registered Nurses						
- <i>Experienced</i>	4.7	3.6	50%	33%	50%	0%
- <i>Newly-trained</i>	2.7	3.0	0%	25%	50%	0%
Social Workers						
- <i>LMSWs</i>	3.8	3.0	50%	33%	33%	0%
- <i>LCSWs</i>	3.7	2.8	43%	14%	14%	0%
Speech-Language Pathologists	4.3	3.0	43%	43%	29%	0%

Other information reported by home health agencies in the Long Island region included:

- Half of the home health agencies in Long Island indicated difficulty hiring part-time workers, and nearly three-fourths reported difficulty hiring bilingual workers. Spanish and Chinese were reported as the languages needed.
- One-third reported difficulty hiring for off-shifts.
- Nearly 60% indicated that Medicaid redesign would result in staffing reductions. The remaining respondents reported no anticipated impact of the Medicaid redesign.

### Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for them were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 110).

**Exhibit 110**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>34</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
- <i>Adult NPs</i>	2.8	2.1
- <i>Family NPs</i>	3.3	1.9
- <i>Geriatric NPs</i>	3.5	1.4
- <i>Pediatric NPs</i>	2.7	1.7
- <i>Psychiatric NPs</i>	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

<sup>34</sup> All areas outside of New York City

## Employment Projections by Health Occupation

The NYSDOL estimated that between 2008 and 2018, there will be over 6,400 new home health aide jobs in the Long Island region, with 800 average annual openings. There will also be 770 average annual openings for RNs during that same period; and 480 for personal and home care aides; 350 for nursing aides, orderlies, and attendants; 280 for LPNs; and 200 for social workers (Exhibit 111).

### **Exhibit 111** **Employment Projections for Selected Health Care Occupations<sup>35</sup>** **for the Long Island Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Home Health Aides	15,890	22,320	6,430	40.5%	800
Registered Nurses	23,800	27,260	3,460	14.5%	770
Personal and Home Care Aides	8,530	12,240	3,710	43.55	480
Nursing Aides, Orderlies, and Attendants	13,800	15,890	2,090	15.1%	350
Licensed Practical Nurse	5,860	6,890	1,030	17.6%	280
Social Workers	6,040	6,650	610	10.1%	220
Medical Assistants	4,360	5,410	1,050	24.1%	160
Dental Assistants	3,240	4,020	780	24.1%	140
Pharmacy Technicians	2,460	3,150	690	28.0%	130
Physical Therapists	2,820	3,590	770	23.7%	110
Pharmacists	2,530	2,890	360	14.2%	100
Medical and Health Services Managers	3,430	3,640	210	6.1%	90
Dental Hygienists	1,740	2,160	420	24.1%	80
Speech-Language Pathologists	1,910	2,190	280	14.7%	70
Clinical, Counseling, and School Psychologists	2,000	2,120	120	6.0%	70
Physician Assistants	1,360	1,640	280	20.6%	60
Radiologic Technologists and Technicians	2,280	2,560	280	12.3%	60
Medical and Clinical Laboratory Technicians	1,530	1,730	200	13.1%	50
Medical Records and Health Information Technicians	1,430	1,600	170	11.9%	50
Occupational Therapists	960	1,120	160	16.7%	40
Respiratory Therapists	900	1,050	150	16.7%	40
Medical and Clinical Laboratory Technologists	1,100	1,230	130	11.8%	30
Surgical Technologists	700	790	90	12.9%	30
Emergency Medical Technicians and Paramedics	1,380	1,410	30	2.2%	30
Diagnostic Medical Sonographers	870	1,010	140	16.1%	20
Dietitians and Nutritionists	650	670	20	3.1%	20

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 - 2018

<sup>35</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.

## G. Mohawk Valley

The Mohawk Valley region includes the counties of Fulton, Herkimer, Montgomery, Oneida, Otsego, and Schoharie.

### *Population*

The Mohawk Valley region population had a much higher percentage of individuals age 65 and older and a lower percentage of individuals ages birth to 17 than New York as a whole. The Mohawk Valley region also had a lower percentage of females of child bearing age (15 to 44) and was significantly less racially and ethnically diverse than the state as a whole (Exhibit 112).

**Exhibit 112**  
**Selected Population Characteristics for the Mohawk Valley Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	486,417	N/A	N/A
Population Under 100% FPL Level**	62,841	12.9%	14.6%
Population Under 200% FPL Level**	159,861	32.9%	30.5%
Population Ages Birth - 17*	101,686	20.9%	22.7%
Population 65 and older*	79,016	16.2%	13.5%
Population Female 15 – 44*	95,709	19.7%	20.8%
Black/African American, non-Hispanic*	17,374	3.6%	14.5%
Hispanic/Latino*	17,699	3.6%	16.5%
Asian/Pacific Islander, non-Hispanic*	2,085	0.4%	3.3%
American Indian/Native Alaskan, non-Hispanic*	1,179	0.2%	0.3%
Two or More/Other*	6,688	1.4%	2.7%
Less than High School Education***	67,695	25.0%	25.2%
High School Education***	114,512	42.3%	33.3%
College Degree or Higher***	88,366	32.7%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The Mohawk Valley region had significantly more total deaths, deaths due to cancer, and deaths due to heart disease per capita than the state as a whole. Despite having a lower birth rate than the state as a whole, the Mohawk Valley had a higher teen birth rate (Exhibit 113).

**Exhibit 113**  
**Selected Health Indicators for the Mohawk Valley Region**

	Region		Statewide
	Number	Number per 100,000 <sup>36</sup>	Number per 100,000 <sup>36</sup>
Total deaths*	5,063	1,040.9	749.8
Deaths due to all cancers*	1,112	228.6	180.2
Deaths due to diabetes*	125	25.7	19.1
Deaths due to heart disease*	1,547	318.0	239.7
Total births*	5,234	54.7	61.4
Teen births*	499	28.0	24.3
Low-birth weight births*	379	7.2	8.2
Late/no prenatal care*	268	5.1	5.5
Infant deaths*	28	5.3	5.3
Adult asthma hospitalizations**	369	95.5	165.3
COPD Hospitalizations**	797	161.6	125.1
Coronary heart failure hospitalizations**	1,598	324.2	280.1
Diabetes hospitalizations**	529	107.2	184.1
Pediatric asthma hospitalizations**	157	147.4	296.6
PQI hospitalizations**	5,881	1,193.0	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

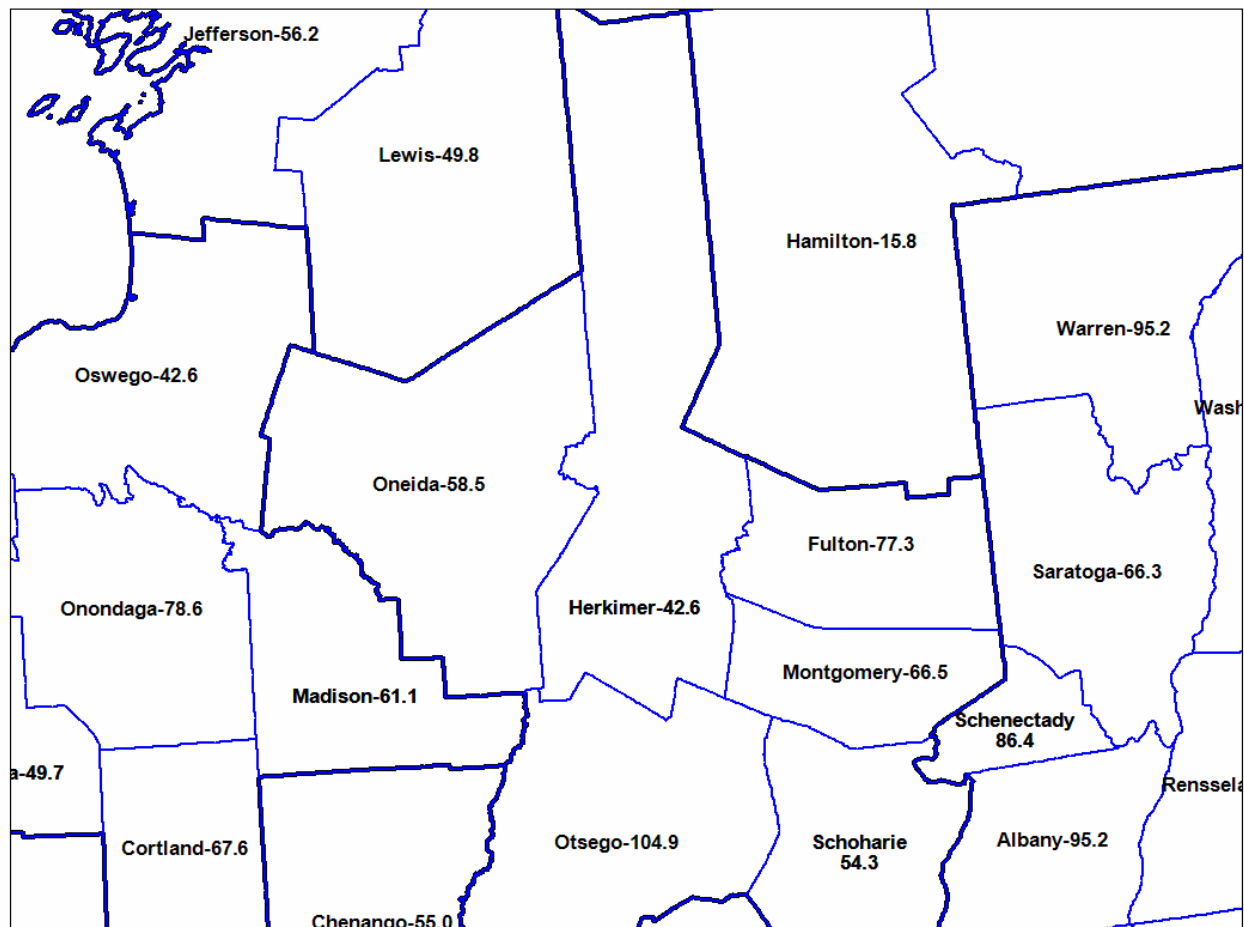
There were more than 300 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Mohawk Valley region. Slightly less than 40% were in family or general practice and one-third were in general internal medicine. There were 65.4 community-based primary care physicians in the Mohawk Valley region per 100,000 population, well below the statewide rate of 82. Otsego County had the highest number at nearly 105 community-based, primary care physicians per 100,000 population and Herkimer County had the lowest at 43. While there were more family and general practitioners per 100,000 in the Mohawk Valley than statewide, there were substantially fewer ob/gyn and pediatric practitioners per 100,000 than statewide (Exhibits 114 and 115).

<sup>36</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 114**  
**Community-Based, Primary Care Physicians by Specialty in the Mohawk Valley Region**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>37</sup>	
		Region	State
Family/General Practice	124.3	25.6	18.1
Internal Medicine (General)	105.9	21.8	35.2
Geriatrics	4.0	0.8	0.8
Obstetrics/Gynecology	35.5	37.1	49.8
Pediatrics (General)	48.4	47.6	77.5
Total	318.1	65.4	82.0

**Exhibit 115**  
**The Number of Community-Based, Primary Care Physicians Per 100,000 Population in the Mohawk Valley Region**

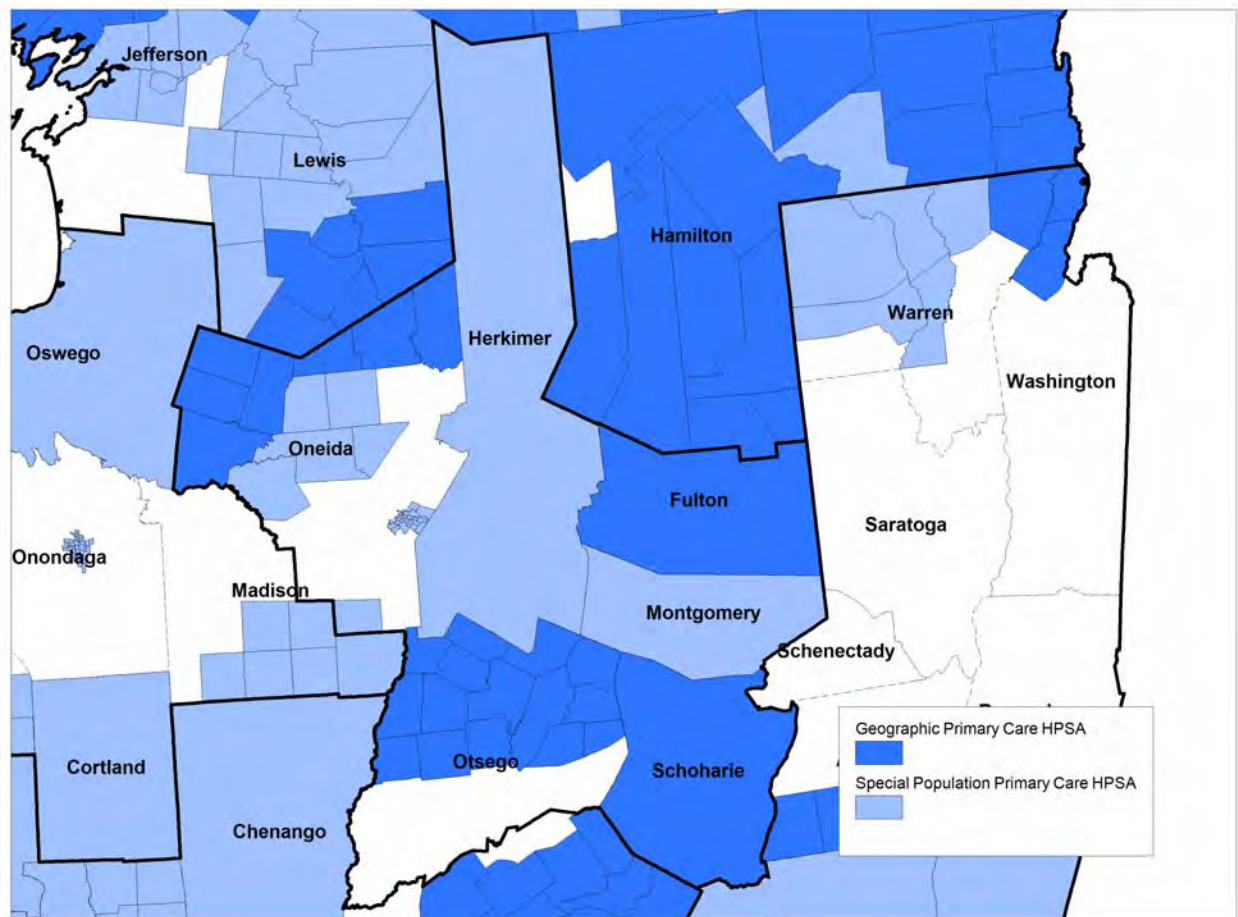


<sup>37</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 to 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

### Health Professional Shortage Area Designations

There were 10 geographic or special population primary care HPSAs in the Mohawk Valley region, four of which were whole county designations. Nearly 230,000 residents of the Mohawk Valley region lived in these HPSAs, accounting for 47% of the total residential population of the region.

**Exhibit 116**  
**Mohawk Valley**  
**Geographic and Special Primary Care HPSAs**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration



## *Employment*

### Total Employment

Health sector employment in the Mohawk Valley region increased by nearly 12% between 2004 and 2009, adding slightly more than 2,800 jobs. Employment in all health care settings rose, with jobs in ambulatory care increasing by more than 23% and jobs in home health care settings growing by almost 20% between 2004 and 2009 (Exhibit 117).

**Exhibit 117**  
**Number of Workers by Health Care Setting in the Mohawk Valley Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2003 and 2008	
							Number	Percent
Hospitals	11,654	11,777	12,715	12,078	12,318	12,450	796	6.8%
Ambulatory Care (Excluding Home Health)	5,257	5,361	5,430	6,380	6,546	6,476	1,219	23.2%
Nursing Home and Personal Care Facilities	6,037	6,293	6,311	6,359	6,365	6,618	581	9.6%
Home Health Care Services	1,172	1,331	1,398	1,404	1,410	1,398	226	19.3%
<b>Totals</b>	24,120	24,762	25,854	26,221	26,639	26,942	2,822	11.7%

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

Between 2007 and 2009, the number of licensed clinical laboratory technologists increased by 75, or by 28%. The number of licensed RNs grew by nearly 200 during the same period, or by 3%. The number of LPNs increased by 33, or by slightly less than 1% between 2007 and 2009 and the number of pharmacists grew by 31, or by 7% (Exhibit 118).

**Exhibit 118**  
**Change in the Number of Licensed Individuals in Selected Health Occupations**  
**in the Mohawk Valley Region, 2007 - 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technologists	273	317	348	75	27.5%
Clinical Laboratory Technicians	81	89	99	18	22.2%
Respiratory Therapists	156	170	183	27	17.3%
Physician Assistants	151	155	174	23	15.2%
Speech-Language Pathologists	188	201	210	22	11.7%
Pharmacists	428	436	459	31	7.2%
Physical Therapy Assistants	195	205	209	14	7.2%
Social Workers	601	610	625	24	4.0%
Physical Therapists	314	316	326	12	3.8%
Registered Nurses	6,460	6,469	6,653	193	3.0%
Dental Hygienists	250	249	257	7	2.8%
Licensed Practical Nurses	3,504	3,592	3,537	33	0.9%
Occupational Therapists	306	295	305	-1	-0.3%
Nurse Practitioners	379	379	377	-2	-0.5%
Occupational Therapy Assistants	159	164	158	-1	-0.6%
Dietitians/Nutritionists	88	87	83	-5	-5.7%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the Mohawk Valley region reported that clinical laboratory technologists were the most difficult to recruit for and one of the most difficult to retain, with the shortage of them cited as the main reason. Human resource directors at hospitals in the Mohawk Valley region also noted that clinical laboratory technicians, HIT analysts, and physical therapists were difficult to recruit for. Newly-trained RNs were the most difficult to retain (Exhibit 119).

**Exhibit 119**  
**Recruitment and Retention Difficulties for Hospitals in the Mohawk Valley Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Clinical Laboratory Technicians	3.5	2.2	67%	50%	25%	25%
Clinical Laboratory Technologists	4.4	3.0	60%	33%	33%	33%
Dietitians/Nutritionists	2.8	1.6	20%	60%	20%	0%
HIT Analysts	3.4	2.3	20%	20%	20%	0%
HIT Program Managers	1.5	1.5	0%	0%	0%	0%
HIT Tech Support	3.0	2.5	20%	20%	20%	0%
License Practical Nurses	1.8	1.6	0%	22%	0%	22%
Licensed Clinical Social Workers	2.7	2.2	0%	33%	0%	0%
Licensed Masters Social Workers	2.3	1.9	0%	25%	0%	0%
Mammographers	2.1	1.9	22%	33%	22%	0%
Medical Coders	3.3	1.7	40%	50%	40%	0%
Nuclear Medicine Technologists	2.1	1.8	33%	22%	22%	0%
Nurse Practitioners	3.3	1.4	63%	50%	38%	0%
Patient Care Technicians/ Certified Nursing Aides	1.6	2.7	33%	33%	0%	11%
Pharmacists	3.3	1.5	30%	30%	30%	10%
Physical Therapists	3.4	2.3	0%	40%	20%	0%
Physician Assistants	2.9	1.6	57%	43%	43%	0%
Registered Nurses						
<i>-Experienced</i>	3.1	2.4	30%	70%	30%	10%
<i>-Newly-trained</i>	1.8	3.1	0%	67%	22%	00%
Respiratory Therapists	2.4	1.6	11%	33%	11%	0%
Sonographers	2.1	1.9	33%	22%	22%	0%
X-ray Technicians	1.6	1.3	0%	0%	0%	0%
X-ray Technologists	1.7	1.3	0%	20%	0%	0%

Eighty percent of the hospitals in the Mohawk Valley region indicated that they did not anticipate either growth or reduction of staff in the coming months.

## Nursing Homes

Nursing homes in the Mohawk Valley region reported the most difficulties recruiting occupational therapists and physical therapists, followed by experienced RNs, speech-language pathologists, directors of nursing, and social workers. Licensed, master's degree social workers were the most difficult to retain, followed by occupational therapists, physical therapists, and directors of nursing (Exhibit 120).

**Exhibit 120**  
**Recruitment and Retention Difficulties for Nursing Homes in the Mohawk Valley Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	2.8	3.6	22%	33%	22%	0%
Clerical	1.9	2.2	0%	0%	22%	0%
Dietitians/Nutritionists	3.1	3.3	25%	13%	25%	0%
Licensed Practical Nurses	3.0	3.0	11%	33%	22%	0%
Medical Billers	3.1	2.4	13%	0%	13%	0%
Occupational Therapists	4.1	3.5	50%	50%	50%	13%
Occupational Therapy Assts/Aides	3.5	3.3	17%	17%	50%	0%
Physical Therapists	4.1	3.6	50%	50%	50%	13%
Physical Therapy Assts/Aides	3.5	3.3	13%	13%	38%	0%
Registered Nurses						
-Experienced	3.9	3.1	33%	44%	56%	0%
-Newly-trained	2.9	2.9	22%	44%	44%	0%
-Directors of Nursing	3.8	3.5	25%	25%	50%	0%
-Nurse Managers	3.4	3.0	29%	43%	71%	0%
Social Workers						
-LCSWs	3.6	3.6	20%	20%	60%	0%
-LMSWs	3.7	3.7	33%	0%	67%	0%
Speech-Language Pathologists	3.9	3.3	57%	29%	43%	0%

Other information reported by nursing homes in the Mohawk Valley region included:

- Twenty-two percent indicated they had difficulties hiring part-time workers, but only 17% reported difficulties hiring bilingual workers.
- Slightly more than half indicated difficulty hiring RNs for the evening shift, but reported less difficulty hiring LPNs and CNAs for the evening shift.
- More than half reported difficulties hiring RNs and LPNs for the night shift, but only one-third indicated difficulties hiring CNAs for the night shift.
- Nearly 90% reported that there were an adequate number of CNA training classes in the region.
- One-third of the nursing homes in the Mohawk Valley region anticipated staff reductions due to Medicaid redesign, 44% indicated they were unsure, and the remaining respondents indicated they anticipated no impact.

## Home Health Agencies

The response rates for home health agencies in the Mohawk Valley and Capital District regions were too low to analyze separately so the responses for the two regions were combined.

Occupational therapists were the most difficult to recruit and one of the most difficult to retain, with home health agencies indicating shortages of and competition for them as the main reasons. Experienced RNs and dietitians/nutritionists were also difficult to recruit. Both experienced RNs and newly-trained RNs were difficult to retain, with salary levels cited as the biggest reason (Exhibit 121).

**Exhibit 121**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Mohawk Valley and Capital District Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	4.0	2.0	25%	50%	25%	0%
Home Health Aides	2.4	2.0	20%	20%	40%	60%
Licensed Practical Nurses	3.0	2.0	0%	0%	0%	0%
Occupational Therapists	4.2	2.8	60%	60%	40%	20%
Personal Care Aides	2.7	2.5	33%	33%	67%	33%
Physical Therapists	3.5	2.4	33%	50%	50%	17%
Registered Nurses						
-Experienced	4.2	3.5	33%	50%	67%	50%
-Newly-trained	3.7	3.5	0%	0%	33%	33%
Social Workers						
-LMSWs	2.5	2.0	0%	50%	50%	0%
-LCSWs	3.4	1.7	20%	40%	60%	20%
Speech-Language Pathologists	3.5	2.0	50%	25%	50%	0%

Other information reported by home health agencies in the Mohawk Valley and Capital District regions included:

- Forty percent reported difficulty hiring part-time workers.
- One-fourth reported difficulty hiring bilingual workers, with Spanish the language most needed.
- More than 80% reported anticipating an impact from Medicaid redesign, with most anticipating overall staff reductions

## Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for these areas were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 122).

**Exhibit 122**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>38</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
-Adult NPs	2.8	2.1
-Family NPs	3.3	1.9
-Geriatric NPs	3.5	1.4
-Pediatric NPs	2.7	1.7
-Psychiatric NPs	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

<sup>38</sup> All areas outside of New York City

## Employment Projections by Health Occupation

The NYSDOL estimated that between 2008 and 2018 there will be nearly 1,500 new jobs for personal and home care aides in the Mohawk Valley region, with 180 average annual job openings. There will be 140 average annual job openings for RNs in the Mohawk Valley region, 120 for home health aides, and 110 for LPNs during the same period (Exhibit 123).

### **Exhibit 123 Employment Projections for Selected Health Care Occupations<sup>39</sup> for the Mohawk Valley Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Personal and Home Care Aides	2,740	4,200	1,460	53.3%	180
Registered Nurses	4,720	5,320	600	12.7%	140
Home Health Aides	3,430	4,330	900	26.2%	120
Licensed Practical Nurse	2,660	2,980	320	12.0%	110
Nursing Aides, Orderlies, and Attendants	4,030	4,520	490	12.2%	90
Social Workers	1,710	1,800	90	5.3%	50
Medical and Health Services Managers	1,080	1,130	50	4.6%	30
Dental Hygienists	240	290	50	20.8%	20
Pharmacy Technicians	380	430	50	13.2%	20
Medical Assistants	380	450	70	18.4%	10
Physician Assistants	210	270	60	28.6%	10
Physical Therapists	330	390	60	18.2%	10
Dental Assistants	250	290	40	16.0%	10
Medical Records and Health Information Technicians	360	400	40	11.1%	10
Radiologic Technologists and Technicians	390	430	40	10.3%	10
Occupational Therapists	260	290	30	11.5%	10
Clinical, Counseling, and School Psychologists	440	460	20	4.5%	10
Pharmacists	420	420	0	0%	10
Dietitians and Nutritionists	190	190	0	0%	10
Diagnostic Medical Sonographers	150	170	20	13.3%	0
Medical and Clinical Laboratory Technologists	230	250	20	8.7%	0
Medical and Clinical Laboratory Technicians	160	170	10	6.3%	0
Respiratory Therapists	200	210	10	5.0%	0
Speech-Language Pathologists	210	220	10	4.8%	0
Emergency Medical Technicians and Paramedics	540	540	0	0.0%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 - 2018

<sup>39</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.





## H. North Country

The North Country includes the counties of Clinton, Essex, Franklin, Hamilton, Lewis, and Saint Lawrence.

### *Population*

The North Country region had a lower percentage of individuals ages birth to 17 than New York as a whole. The North Country region also had a slightly lower percentage of females of child bearing age (15 to 44) and was significantly less racially and ethnically diverse than the state as a whole (Exhibit 124).

**Exhibit 124**  
**Selected Population Characteristics for the North Country Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	431,422	N/A	N/A
Population Under 100% FPL Level**	60,020	13.9%	14.6%
Population Under 200% FPL Level**	155,918	36.1%	30.5%
Population Ages Birth - 17*	90,506	21.0%	22.7%
Population 65 and older*	58,612	13.6%	13.5%
Population Female 15 – 44*	87,991	20.4%	20.8%
Black/African American, non-Hispanic*	15,191	3.5%	14.5%
Hispanic/Latino*	12,633	2.9%	16.5%
Asian/Pacific Islander, non-Hispanic*	1,132	0.2%	3.3%
American Indian/Native Alaskan, non-Hispanic*	5,468	1.2%	0.3%
Two or More/Other*	5,228	1.2%	2.7%
Less than High School Education***	58,552	25.6%	25.2%
High School Education***	101,088	44.2%	33.3%
College Degree or Higher***	69,247	30.3%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The North Country region had more total deaths and deaths due to cancer per capita than the state as a whole. Despite having a lower birth rate than the state as a whole, the North Country region had a higher teen birth rate (Exhibit 125).

**Exhibit 125**  
**Selected Health Indicators for the North Country Region**

	Region		Statewide
	Number	Number per 100,000 <sup>40</sup>	Number per 100,000 <sup>40</sup>
Total deaths*	3,705	858.8	749.8
Deaths due to all cancers*	850	197.0	180.2
Deaths due to diabetes*	97	22.5	19.1
Deaths due to heart disease*	947	219.5	239.7
Total births*	5,229	59.4	61.4
Teen births*	464	30.4	24.3
Low-birth weight births*	416	8.0	8.2
Late/no prenatal care*	211	4.0	5.5
Infant deaths*	27	5.2	5.3
Adult asthma hospitalizations**	274	80.5	165.3
COPD Hospitalizations**	979	75.0	125.1
Coronary heart failure hospitalizations**	1,086	83.2	280.1
Diabetes hospitalizations**	475	109.2	184.1
Pediatric asthma hospitalizations**	120	126.0	296.6
PQI hospitalizations**	5,160	1,185.8	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 SPARCS Data

### *Primary Care Capacity*

#### Primary Care Physicians

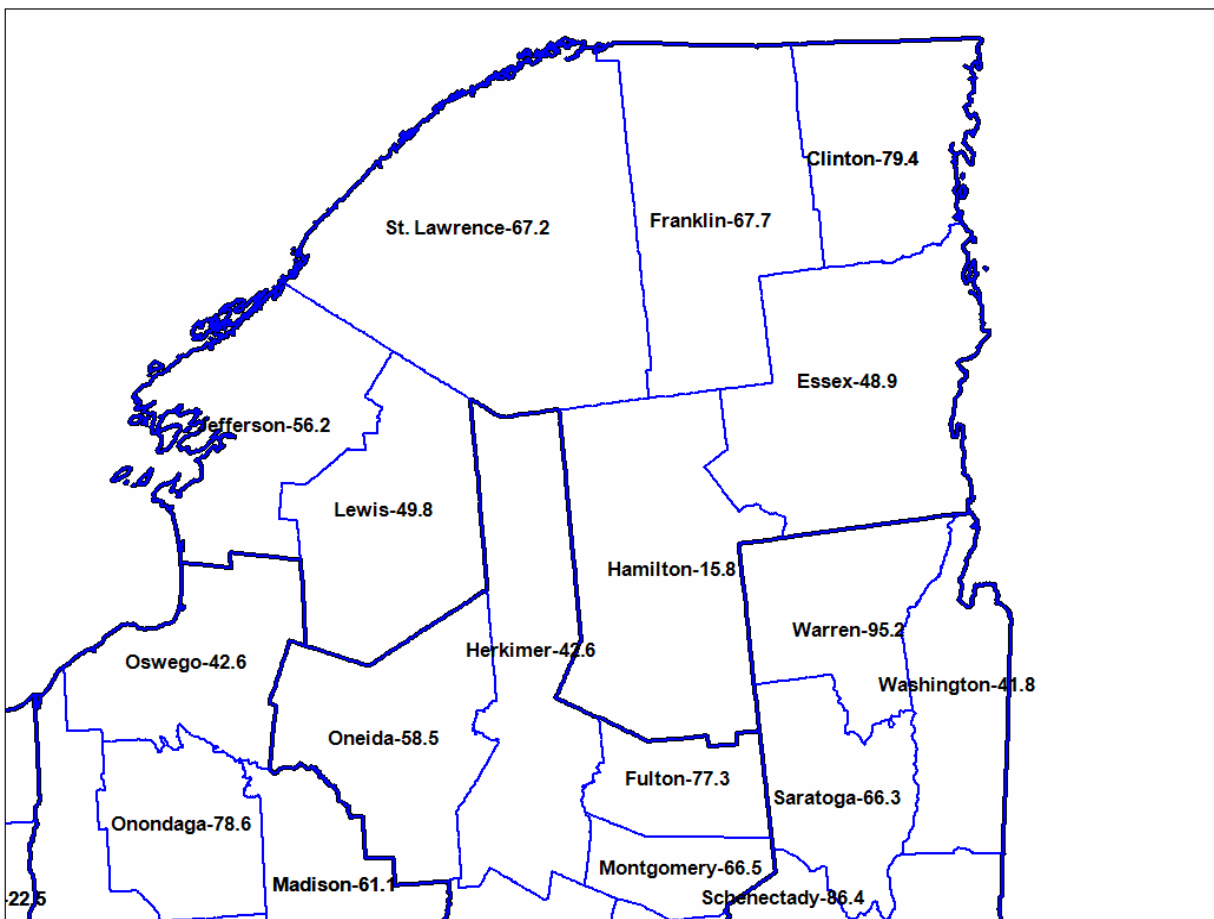
There were slightly more than 270 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the North Country region. Slightly less than 40% were in family or general practice and 28% were in general internal. There were 62.8 community-based primary care physicians in the North Country region per 100,000 population, well below the statewide rate of 82. Clinton County had the highest number at nearly 79 community-based, primary care physicians per 100,000 population and Hamilton County had the lowest at 16, which was the lowest rate in the state. There were more family and general physicians per 100,000 in the North Country region than statewide, but substantially less pediatric and general internal medicine practitioners than New York overall (Exhibits 126 and 127).

<sup>40</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 126**  
**Community-Based, Primary Care Physicians by Specialty in the North Country Region**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>41</sup>	
		Region	State
Family/General Practice	107.7	25.0	18.1
Internal Medicine (General)	76.2	17.7	35.2
Geriatrics	1.6	0.4	0.8
Obstetrics/Gynecology	40.3	45.8	49.8
Pediatrics (General)	45.1	49.8	77.5
Total	270.9	62.8	82.0

**Exhibit 127**  
**The Number of Community-Based, Primary Care Physicians Per 100,000 Population in the North Country Region, 2009**

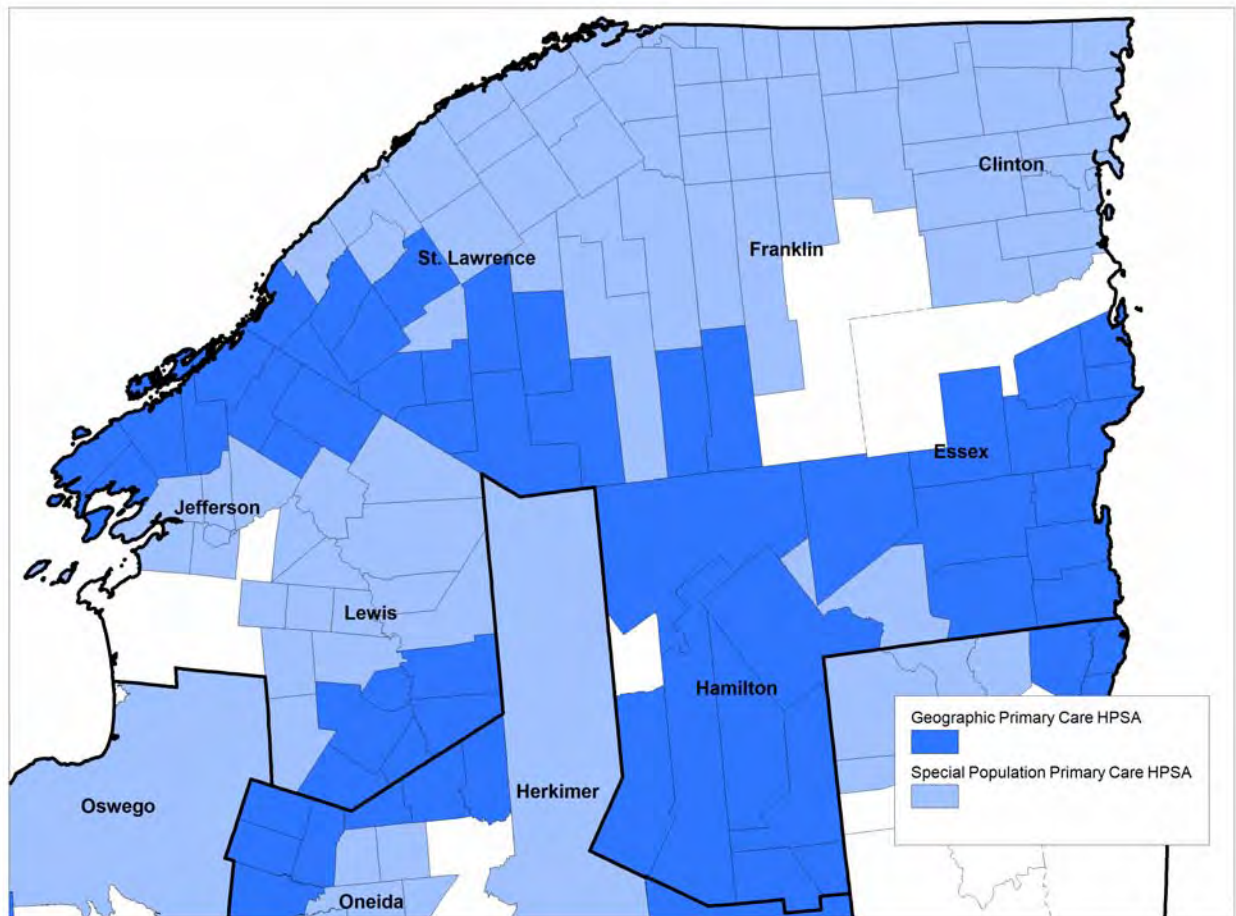


<sup>41</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 to 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

### Health Professional Shortage Area Designations

There were 21 geographic and special population primary care HPSAs in the North Country region, several of which spanned two counties. More than 80% of the residential population in the North Country region resided in these HPSAs (Exhibit 128).

**Exhibit 128**  
**Northern New York**  
**Geographic and Special Primary Care HPSAs**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration

## *Employment*

### Total Employment

Total health sector employment in the North Country region grew by slightly more than 4% between 2004 and 2009, adding over 700 jobs. Although employment in ambulatory care increased by more than 700 jobs, or by 18%, and employment in hospitals grew by nearly 400, or 5%, this was offset by jobs lost in both nursing home and personal care facilities (-346) and home health care services (-36) (Exhibit 129).

**Exhibit 129**  
**Number of Workers by Health Care Setting in the North Country Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	8,386	8,447	8,471	8,320	8,481	8,764	378	4.5%
Ambulatory Care (Excluding Home Health)	4,071	4,351	4,351	4,319	4,441	4,785	714	17.5%
Nursing Home and Personal Care Facilities	3,257	3,183	3,063	2,946	2,936	2,911	-346	-10.6%
Home Health Care Services	585	606	632	627	588	549	-36	-6.2%
<b>Totals</b>	16,299	16,587	16,517	16,212	16,446	17,009	710	4.4%

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

Between 2007 and 2009, the number of clinical laboratory technicians grew by 40% in the North Country region, while the numbers of clinical laboratory technologists increased by 20%, and NPs and speech-language pathologists each grew by 10%. In terms of absolute numbers, RNs increased by 110 (2%) and LPNs grew by 97 (4%) during the same period (Exhibit 130).

**Exhibit 130**  
**Change in the Number of Licensed Health Care Occupations**  
**in the North Country Region, 2007 - 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	55	64	77	22	40.0%
Clinical Laboratory Technologists	204	239	254	40	19.6%
Nurse Practitioners	195	203	215	20	10.3%
Speech-Language Pathologists	198	201	218	20	10.1%
Physician Assistants	174	180	191	17	9.8%
Occupational Therapists	119	123	129	10	8.4%
Physical Therapists	270	278	292	22	8.1%
Social Workers	364	342	366	2	5.5%
Dental Hygienists	195	195	205	10	5.1%
Respiratory Therapists	66	69	69	3	4.5%
Licensed Practical Nurses	2,507	2,607	2,604	97	3.9%
Dietitians/Nutritionists	75	74	77	2	2.7%
Physical Therapy Assistants	151	150	147	-4	2.6%
Registered Nurses	4,869	4,878	4,979	110	2.3%
Pharmacists	319	316	326	7	2.2%
Occupational Therapy Assistants	83	84	84	1	1.2%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the North Country had difficulty recruiting a number of health professionals, including clinical laboratory technologists, pharmacists, experienced RNs, NPs, PAs, and dietitians/nutritionists. Experienced RNs were the most difficult to retain, followed by pharmacists and respiratory therapists. The main reason cited for these difficulties was a shortage of workers in the occupations (Exhibit 131).

**Exhibit 131**  
**Recruitment and Retention Difficulties for Hospitals**  
**in the and North Country Region**

<b>Occupation</b>	<b>Average Assessment of Difficulty</b>		<b>Percent of Respondents Indicating Reason for Difficulty</b>			
	<b>Recruitment</b>	<b>Retention</b>	<b>Shortage of Workers</b>	<b>Competition for Workers</b>	<b>Salary Levels</b>	<b>Other</b>
Clinical Laboratory Technicians	3.3	2.1	57%	29%	0%	0%
Clinical Laboratory Technologists	3.9	2.7	88%	50%	0%	25%
Dietitians/Nutritionists	3.5	2.5	67%	33%	0%	0%
HIT Analysts	3.3	2.3	25%	0%	0%	25%
HIT Program Managers	3.0	2.3	33%	33%	0%	33%
HIT Tech Support	3.4	1.8	20%	20%	0%	0%
License Practical Nurses	2.3	2.1	57%	43%	14%	14%
Licensed Clinical Social Workers	2.3	2.7	100%	33%	33%	0%
Licensed Masters Social Workers	3.2	2.6	60%	20%	0%	40%
Mammographers	2.7	2.0	33%	17%	0%	0%
Medical Coders	2.9	2.1	57%	43%	14%	14%
Nuclear Medicine Technologists	3.0	2.6	40%	40%	0%	0%
Nurse Practitioners	3.6	2.5	71%	71%	57%	57%
Patient Care Technicians/ Certified Nursing Aides	2.8	2.0	33%	33%	17%	50%
Pharmacists	3.9	3.2	75%	63%	63%	63%
Physical Therapists	2.9	2.1	86%	43%	43%	14%
Physician Assistants	3.6	2.7	71%	71%	57%	57%
Registered Nurses						
<i>-Experienced</i>	3.9	3.4	63%	63%	25%	25%
<i>-Newly-trained</i>	2.2	2.6	14%	43%	0%	29%
Respiratory Therapists	3.6	3.0	60%	20%	40%	0%
Sonographers	3.2	2.0	100%	67%	17%	0%
X-ray Technicians	2.1	1.6	43%	43%	14%	14%
X-ray Technologists	2.5	2.0	33%	33%	0%	17%

Slightly more than 40% of hospitals in the North Country region anticipated reductions in staff in the coming months, and 29% anticipated growth. The majority of the hospitals in the North Country that responded to the survey anticipated growth in jobs for RNs and clinical laboratory staff and reductions in LPN jobs.

### **Nursing Homes**

Nursing homes in the North Country reported the most difficulties recruiting physical therapists, experienced RNs, and directors of nursing. Newly-trained RNs were cited as the most difficult to retain, followed by CNAs, directors of nursing, and experienced RNs. A shortage of workers in those occupations and the competition for workers were cited as the main reasons (Exhibit 132).

**Exhibit 132**  
**Recruitment and Retention Difficulties for Nursing Homes in the North Country**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	3.0	3.8	25%	75%	25%	0%
Clerical	2.0	1.8	0%	25%	0%	0%
Dietitians/Nutritionists	2.8	3.0	50%	25%	0%	0%
Licensed Clinical Social Workers	3.5	2.3	50%	25%	25%	0%
Licensed Practical Nurses	2.5	3.0	50%	75%	50%	0%
Medical Billers	2.5	1.8	25%	25%	0%	0%
Physical Therapists	4.0	2.3	67%	67%	33%	0%
Physical Therapy Assts/Aides	2.3	2.3	50%	25%	25%	0%
Registered Nurses						
-Experienced	4.0	3.3	25%	100%	75%	0%
-Newly-trained	3.5	4.3	25%	50%	75%	0%
-Directors of Nursing	4.0	3.5	50%	50%	50%	25%
-Nurse Managers	3.3	3.0	75%	75%	50%	0%
Speech-Language Pathologists	3.7	3.0	67%	67%	33%	0%

Other information reported by nursing homes in the North Country region included:

- Half of the nursing homes in the North Country region reported difficulty hiring part-time workers, and three-fourths reported difficulties hiring bilingual workers.
- All of the nursing homes that responded to the survey reported difficulties hiring RNs for the evening shift, with the majority reporting difficulties hiring CNAs and half reporting difficulties hiring LPNs for the evening shift.
- Three-fourths of the nursing homes reported difficulties hiring RNs for the night shift, and half cited difficulties hiring LPNs for the night shift.
- The majority of nursing homes in the North Country region reported an adequate number of classes available to train CNAs.
- Half of the nursing homes indicated Medicaid redesign would result in staff reductions. The remaining nursing home respondents were unsure.



### Home Health Agencies

Home health agencies in the North Country region reported difficulty recruiting and retaining occupational therapists and speech-language pathologists, followed by licensed clinical social workers and physical therapists. Physical therapists were the most difficult to retain, followed by experienced RNs. There were not enough responses for many of the occupations or professions surveyed to determine valid responses (Exhibit 133).

#### **Exhibit 133 Recruitment and Retention Difficulties for Home Health Agencies in the North Country Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	3.3	3.0	50%	25%	25%	0%
Licensed Clinical Social Workers	4.0	3.0	67%	33%	0%	0%
Occupational Therapists	4.7	3.7	67%	67%	0%	0%
Physical Therapists	3.8	4.7	50%	50%	0%	0%
Experienced Registered Nurses	3.3	4.3	50%	25%	0%	0%
Speech-Language Pathologists	4.7	3.7	33%	0%	0%	0%

Other information reported by home health agencies in the North Country region included:

- Half of the home health agencies in the region reported difficulty hiring part-time workers.
- One-third of the home health agencies reported difficulty hiring bilingual workers.
- All of the respondents indicated that Medicaid redesign would have an impact on staffing, with the majority anticipating staff reductions.

## Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for these areas were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 134).

**Exhibit 134**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>42</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
-Adult NPs	2.8	2.1
-Family NPs	3.3	1.9
-Geriatric NPs	3.5	1.4
-Pediatric NPs	2.7	1.7
-Psychiatric NPs	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

<sup>42</sup> All areas outside of New York City

## Employment Projections by Health Occupation

The NYSDOL estimated that between 2008 and 2018, the number of jobs for home health aides in the North Country will grow by nearly 30%, with 120 average annual job openings. Also, during the same period, there will be 100 average annual openings for both personal and home care aides and RNs (Exhibit 135).

**Exhibit 135**  
**Employment Projections for Selected Health Care Occupations<sup>43</sup>**  
**for the North Country Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Home Health Aides	2,880	3,730	850	29.5%	120
Personal and Home Care Aides	1,850	2,660	810	43.8%	100
Registered Nurses	3,340	3,750	410	12.3%	100
Licensed Practical Nurse	1,310	1,460	150	11.5%	60
Nursing Aides, Orderlies, and Attendants	1,790	2,010	220	12.3%	40
Social Workers	950	1,010	60	6.3%	30
Pharmacy Technicians	290	370	80	27.6%	20
Dental Assistants	390	490	100	25.6%	20
Physician Assistants	260	310	50	19.2%	20
Speech-Language Pathologists	280	330	50	17.9%	20
Medical Assistants	290	360	70	24.1%	10
Physical Therapists	280	340	60	21.4%	10
Pharmacists	340	380	40	11.8%	10
Medical and Health Services Managers	390	410	20	5.1%	10
Clinical, Counseling, and School Psychologists	290	300	10	3.4%	10
Dental Hygienists	150	190	40	26.7%	0
Medical Records and Health Information Technicians	180	210	30	16.7%	0
Occupational Therapists	160	180	20	12.5%	0
Respiratory Therapists	90	100	10	11.1%	0
Radiologic Technologists and Technicians	250	270	20	8.0%	0
Medical and Clinical Laboratory Technologists	190	200	10	5.3%	0
Medical and Clinical Laboratory Technicians	130	130	0	0.0%	0
Dietitians and Nutritionists	100	100	0	0.0%	0
Emergency Medical Technicians and Paramedics	100	100	0	0.0%	0
Diagnostic Medical Sonographers	70	70	0	0.0%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 - 2018

<sup>43</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.



## I. Southern Tier

The Southern Tier region includes the counties of Broome, Chemung, Chenango, Delaware, Schuyler, Steuben, Tioga, and Tompkins.

### *Population*

The Southern Tier region had a higher percentage of individuals who were age 65 and older and a lower percentage of individuals ages birth to 17 than New York as a whole. The Southern Tier region was also significantly less racially and ethnically diverse than the state overall (Exhibit 136).

**Exhibit 136**  
**Selected Population Characteristics for the Southern Tier Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	649,284	N/A	N/A
Population Under 100% FPL Level**	87,128	13.4%	14.6%
Population Under 200% FPL Level**	211,940	32.6%	30.5%
Population Ages Birth - 17*	130,932	20.2%	22.7%
Population 65 and older*	99,905	15.4%	13.5%
Population Female 15 – 44*	135,539	20.9%	20.8%
Black/African American, non-Hispanic*	20,575	3.2%	14.5%
Hispanic/Latino*	15,172	2.3%	16.5%
Asian/Pacific Islander, non-Hispanic*	8,530	1.3%	3.3%
American Indian/Native Alaskan, non-Hispanic*	1,707	0.3%	0.3%
Two or More/Other*	10,404	1.6%	2.7%
Less than High School Education***	69,299	19.6%	25.2%
High School Education***	146,347	41.4%	33.3%
College Degree or Higher***	138,249	39.1%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The Southern Tier region had more total deaths, deaths due to cancer, and deaths due to heart disease per capita than New York as a whole. The Southern Tier region also had a lower overall birth rate and a lower teen birth rate than the state on average (Exhibit 137).

**Exhibit 137**  
**Selected Health Indicators for the Southern Tier Region**

	Region		Statewide
	Number	Number per 100,000 <sup>44</sup>	Number per 100,000 <sup>44</sup>
Total deaths*	6,195	954.1	749.8
Deaths due to all cancers*	1,408	216.9	180.2
Deaths due to diabetes*	172	26.5	19.1
Deaths due to heart disease*	1,719	264.8	239.7
Total births*	6,644	49.0	61.4
Teen births*	579	22.6	24.3
Low-birth weight births*	490	7.4	8.2
Late/no prenatal care*	259	3.9	5.5
Infant deaths*	50	3.0	5.3
Adult asthma hospitalizations**	328	64.1	165.3
COPD Hospitalizations**	891	135.7	125.1
Coronary heart failure hospitalizations**	1,437	218.9	280.1
Diabetes hospitalizations**	652	99.4	184.1
Pediatric asthma hospitalizations**	171	117.9	296.6
PQI hospitalizations**	6,459	983.8	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

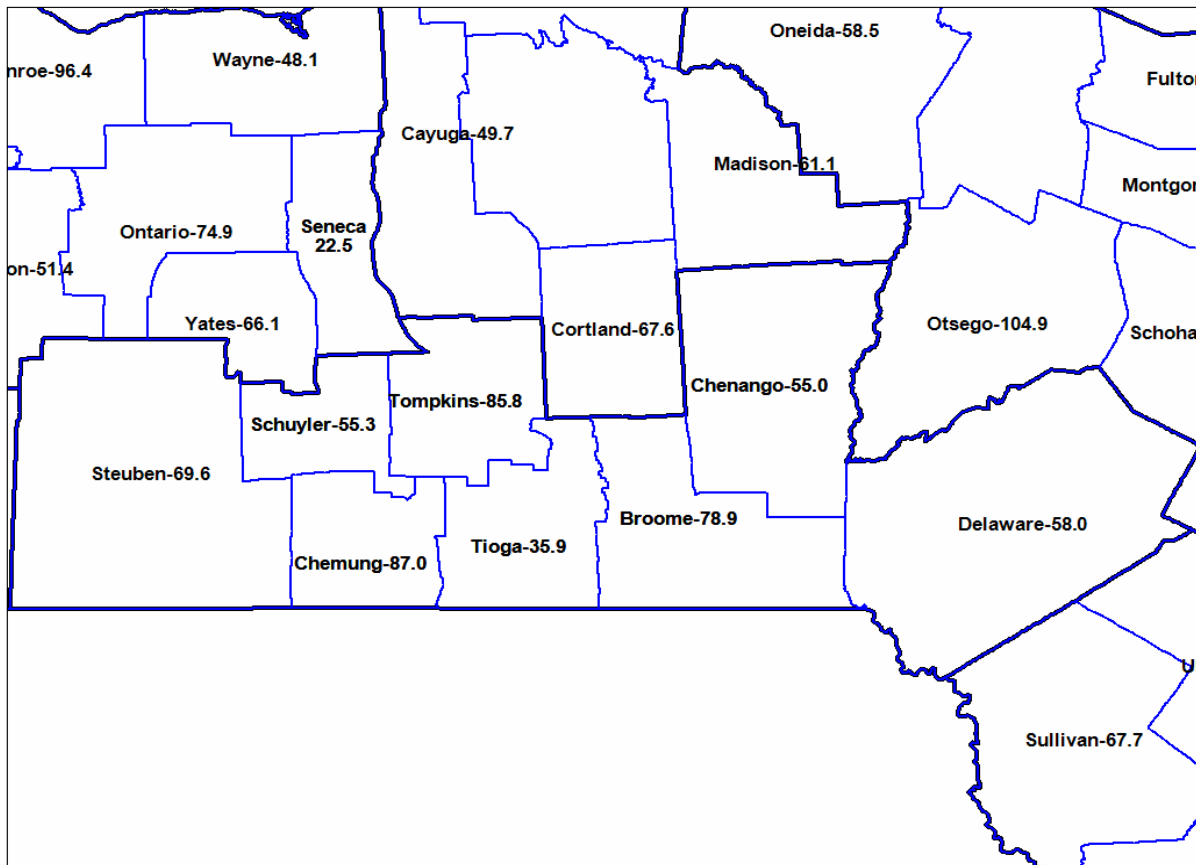
There were nearly 470 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Southern Tier region. Nearly 43% were in family or general practice and 33% were in general internal medicine. There were 72.0 community-based primary care physicians in the North Country region per 100,000 population, which was below the statewide rate of 82. Chemung County had the highest number at 87 community-based, primary care physicians per 100,000, followed by Tompkins County at nearly 86 per 100,000. Schuyler County had the lowest at 55.3 per 100,000. There were more family and general practitioners in the Southern Tier region per 100,000 than statewide, but substantially fewer pediatric practitioners and fewer internal general medicine and ob/gyn practitioners than statewide (Exhibits 138 and 139).

<sup>44</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 138**  
**Community-Based, Primary Care Physicians by Specialty**  
**in the Southern Tier Region, 2009**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>45</sup>	
		Region	State
Family/General Practice	200.1	30.8	18.1
Internal Medicine (General)	154.2	23.7	35.2
Geriatrics	2.4	0.4	0.8
Obstetrics/Gynecology	57.4	42.3	49.8
Pediatrics (General)	53.6	41.1	77.5
Total	467.6	72.0	82.0

**Exhibit 139**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the Southern Tier Region, 2009**

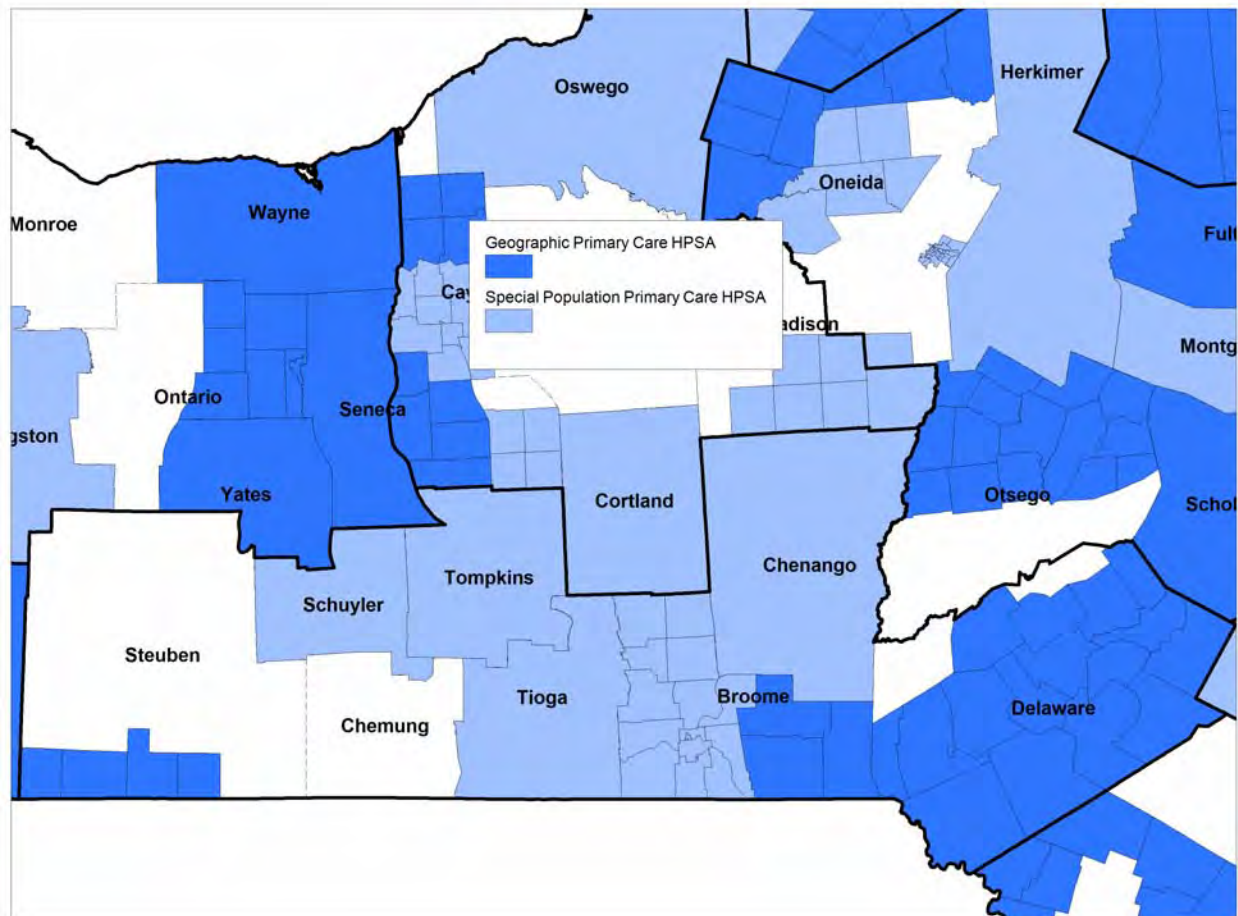


<sup>45</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 to 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

## Health Professional Shortage Area Designations

There were 12 geographic or special population primary care HPSAs in the Southern Tier region, including four whole county HPSAs. Slightly over 38% of the residential population resided in the HPSAs.

**Exhibit 140**  
**Current Geographic and Special Primary Care HPSAs in the Southern Tier Region**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration



## *Employment*

### Total Employment

Between 2004 and 2009, health sector employment throughout the Southern Tier region grew by nearly 1,300 jobs, or almost 5%. Employment in hospitals had the largest increase, growing by nearly 900 jobs, or 8%, and employment in ambulatory care (excluding home health care) increased by more than 400 jobs, or 6%. Employment in nursing home and personal care facilities slightly declined during the same period (Exhibit 141).

**Exhibit 141**  
**Number of Workers by Health Care Setting in the Southern Tier Region,**  
**2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	12,009	12,022	12,112	12,371	12,672	12,906	897	7.5%
Ambulatory Care (Excluding Home Health)	7,121	7,198	7,069	7,463	7,593	7,550	429	6.0%
Nursing Home and Personal Care Facilities	6,675	6,556	6,376	6,306	6,595	6,637	-38	-0.1%
Home Health Care Services	1,076	1,122	1,114	1,032	1,013	1,079	3	0.3%
<b>Totals</b>	26,881	26,898	26,671	27,172	27,872	28,172	1,291	4.8%

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

Between 2007 and 2009, the number of RNs increased in the Southern Tier region by over 220, or by 3%, and the number of LPNs grew by nearly 120, or by 4%. The number of clinical laboratory technologists increased by almost 100 during the same period, or 37% (Exhibit 142).

**Exhibit 142**  
**Change in the Number of Licensed Individuals in Selected Health Occupations**  
**in the Southern Tier Region, 2007-2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	80	96	118	38	47.5%
Clinical Laboratory Technologists	270	322	369	99	36.7%
Physical Therapy Assistants	188	198	214	26	13.8%
Speech-Language Pathologists	293	307	326	33	11.3%
Physician Assistants	181	194	197	16	8.8%
Occupational Therapists	266	271	280	14	5.3%
Physical Therapists	428	434	450	22	5.1%
Dental Hygienists	448	458	470	22	4.9%
Respiratory Therapists	149	154	155	6	4.0%
Licensed Practical Nurses	2,963	3,032	3,080	117	3.9%
Nurse Practitioners	488	496	507	19	3.9%
Registered Nurses	7,534	7,564	7,761	227	3.0%
Social Workers	1,214	1,206	1,243	29	2.4%
Pharmacists	445	436	454	9	2.0%
Dietitians/Nutritionists	143	138	144	1	0.7%
Occupational Therapy Assistants	54	53	53	-1	-1.9%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

The response rates for hospitals in the Southern Tier and Central New York regions were too low to analyze separately, so responses were aggregated for those two regions. Hospitals in the Southern Tier and Central New York regions reported the most difficulty recruiting clinical lab technologists and physical therapists, followed by NPs, experienced RNs, PAs, HIT program managers, and pharmacists. Hospitals in these two regions indicated they had the most difficulty retaining PAs, followed by NPs, newly-trained RNs, clinical lab technologists, physical therapists, and experienced RNs (Exhibit 143).

**Exhibit 143**  
**Recruitment and Retention Difficulties for Hospitals**  
**in the Southern Tier and Central New York Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reason for Difficulty			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Clinical Laboratory Technicians	2.8	2.5	0%	20%	0%	0%
Clinical Laboratory Technologists	4.2	3.0	67%	33%	0%	0%
Dietitians/Nutritionists	3.0	1.8	20%	20%	0%	0%
HIT Analysts	3.0	2.5	50%	50%	50%	0%
HIT Program Managers	3.5	2.5	50%	50%	50%	0%
HIT Tech Support	3.0	2.0	0%	0%	0%	0%
License Practical Nurses	1.6	2.0	0%	20%	0%	0%
Licensed Clinical Social Workers	2.8	1.5	0%	20%	0%	0%
Licensed Masters Social Workers	2.8	1.7	0%	0%	25%	0%
Mammographers	2.3	1.8	17%	0%	17%	0%
Medical Coders	2.8	2.8	33%	33%	0%	0%
Nuclear Medicine Technologists	2.7	1.6	17%	17%	0%	0%
Nurse Practitioners	3.8	3.2	40%	40%	40%	0%
Patient Care Technicians/ Certified Nursing Aides	3.0	2.8	33%	50%	33%	17%
Pharmacists	3.5	2.2	33%	50%	33%	50%
Physical Therapists	4.2	3.0	67%	100%	33%	0%
Physician Assistants	3.7	3.5	50%	50%	33%	0%
Registered Nurses						
<i>-Experienced</i>	3.8	3.0	60%	80%	20%	20%
<i>-Newly-trained</i>	2.8	3.2	0%	100%	0%	20%
Respiratory Therapists	3.5	2.2	50%	33%	0%	0%
Sonographers	2.8	1.6	17%	33%	17%	0%
X-ray Technicians	1.5	1.0	0%	0%	0%	0%
X-ray Technologists	2.0	1.6	0%	17%	17%	0%

According to the hospitals in the Southern Tier and Central New York regions:

- Half indicated they anticipated growth in staffing at their facilities within the coming months, and half indicated they anticipated no change in staffing.
- All of the hospitals that anticipated growth at their facilities noted growth in positions for RNs, CNAs, NPs, and PAs.

## Nursing Homes

The response rates for nursing homes in the Southern Tier region were too low to analyze separately, so they were combined with the Central New York region nursing homes for analysis. Experienced RNs and directors of nursing were the most difficult to recruit for, followed by newly-trained RNs, occupational therapists, and LPNs. Nurse managers were the most difficult to retain, followed by newly-trained RNs and LPNs. Nursing home human resource directors also noted that experienced RNs and CNAs were difficult to retain (Exhibit 144).

**Exhibit 144**  
**Recruitment and Retention Difficulties for Nursing Homes**  
**in the Southern Tier and Central New York Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	3.2	3.3	44%	56%	11%	0%
Clerical	1.6	1.9	0%	33%	33%	11%
Dietitians/Nutritionists	3.0	2.1	55%	0%	11%	0%
Licensed Practical Nurses	3.6	3.9	44%	55%	44%	0%
Medical Billers	1.5	1.5	0%	50%	0%	0%
Occupational Therapists	3.7	1.8	33%	17%	33%	0%
Occupational Therapy Assts/Aides	3.2	2.2	17%	33%	33%	0%
Physical Therapists	3.0	1.8	50%	33%	33%	0%
Physical Therapy Assts/Aides	2.7	1.6	17%	33%	17%	0%
Registered Nurses						
-Experienced	4.3	3.4	67%	33%	44%	0%
-Newly-trained	3.8	3.9	50%	25%	38%	0%
-Directors of Nursing	4.0	3.1	56%	22%	44%	22%
-Nurse Managers	3.6	4.3	56%	22%	44%	0%
Social Workers						
-LCSWs	3.2	2.0	50%	50%	17%	0%
-LMSWs	2.9	1.9	43%	43%	14%	0%
Speech-Language Pathologists	3.0	2.8	50%	25%	0%	0%

Other information reported by nursing homes in the Southern Tier and Central New York regions included:

- Slightly over 20% reported difficulties hiring part-time workers.
- Two-thirds reported difficulties hiring bilingual workers. Respondents did not indicate which languages were most needed.
- Three-fourths reported difficulty hiring LPNs for the evening shift, and two-thirds reported difficulty hiring RNs for the evening shift. Slightly more than half of the nursing homes reported difficulty hiring CNAs for the evening shift.
- Nearly 90% reported difficulties hiring either RNs or LPNs for the night shift. Only half of the respondents reported difficulties hiring CNAs for the night shift.

- Slightly less than 50% reported an inadequate number of CNA training sites.
- One-third anticipated substituting lower cost staff for higher cost staff due to Medicaid redesign. Another 44% indicated they were unsure of what impact redesign may have and the remaining respondents indicated no change.

### Home Health Agencies

Human resource directors from home health agencies reported recruiting difficulties for physical therapists, followed by home health aides, experienced RNs, newly-trained RNs, and speech-language pathologists. Home health agencies in the Southern Tier region reported the most difficulties retaining newly-trained RNs, speech-language pathologists, and experienced RNs (Exhibit 145).

**Exhibit 145**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Southern Tier Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	3.2	2.4	40%	20%	20%	20%
Home Health Aides	4.0	3.4	60%	60%	60%	40%
Licensed Practical Nurses	2.6	3.0	0%	20%	40%	20%
Occupational Therapists	3.8	2.8	83%	50%	17%	0%
Physical Therapists	4.2	3.4	50%	67%	50%	0%
Registered Nurses						
-Experienced	4.0	3.6	29%	57%	71%	29%
-Newly-trained	4.0	4.0	25%	50%	75%	50%
Social Workers						
-LMSWs	3.0	2.6	20%	40%	20%	0%
-LCSWs	2.8	2.2	20%	40%	20%	0%
Speech-Language Pathologists	4.0	3.7	50%	67%	33%	17%

Other information reported by home health agencies in the Southern Tier included:

- Two-thirds indicated they had difficulties hiring part-time staff.
- Half reported difficulties hiring bilingual staff.
- Nearly 60% reported possible impact of Medicaid redesign, with these respondents split evenly between the impact being overall staff reductions or substitutions of lower cost staff for higher cost staff.

### Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for these areas were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 146).

**Exhibit 146**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>46</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
-Adult NPs	2.8	2.1
-Family NPs	3.3	1.9
-Geriatric NPs	3.5	1.4
-Pediatric NPs	2.7	1.7
-Psychiatric NPs	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

### Employment Projections by Health Occupation

The NYSDOL estimated that between 2008 and 2018, the number of RN jobs in the Southern Tier region will increase by 750 jobs, with an average of 170 job openings per year. During the same period, there will also be an average of 130 annual job openings for home health aides and

<sup>46</sup> All areas outside of New York City

100 average annual job openings for personal and home care aides; nursing aides, orderlies, and attendants; and LPNs (Exhibit 147).

**Exhibit 147**  
**Employment Projections for Selected Health Care Occupations<sup>47</sup>**  
**for the Southern Tier Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Registered Nurses	5,110	5,860	750	14.7%	170
Home Health Aides	3,020	3,970	950	31.5%	130
Personal and Home Care Aides	1,690	2,480	790	46.7%	100
Nursing Aides, Orderlies, and Attendants	3,920	4,520	600	15.3%	100
Licensed Practical Nurse	2,050	2,410	360	17.6%	100
Social Workers	2,190	2,430	240	11.0%	80
Dental Assistants	490	610	120	24.5%	20
Dental Hygienists	440	550	110	25.0%	20
Medical Assistants	410	500	90	22.0%	20
Pharmacy Technicians	430	490	60	14.0%	20
Physical Therapists	290	350	60	20.7%	10
Speech-Language Pathologists	260	290	30	11.5%	10
Medical Records and Health Information Technicians	270	300	30	11.1%	10
Radiologic Technologists and Technicians	380	410	30	7.9%	10
Clinical, Counseling, and School Psychologists	500	530	30	6.0%	10
Pharmacists	500	530	30	6.0%	10
Medical and Health Services Managers	630	660	30	4.8%	10
Dietitians and Nutritionists	180	190	10	5.6%	10
Medical and Clinical Laboratory Technologists	280	290	10	3.6%	10
Emergency Medical Technicians and Paramedics	510	520	10	2.0%	10
Physician Assistants	180	220	40	22.2%	0
Respiratory Therapists	110	130	20	18.2%	0
Occupational Therapists	170	190	20	11.8%	0
Diagnostic Medical Sonographers	90	100	10	11.1%	0
Medical and Clinical Laboratory Technicians	200	210	10	5.0%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 – 2018

<sup>47</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.





## J. Western New York

The Western New York region includes the counties of Allegany, Cattaraugus, Chautauqua, Erie, and, Niagara.

### *Population*

The Western New York region had a higher percentage of individuals age 65 and older and a lower percentage of individuals ages birth to 17 than New York as a whole. The Western New York region also had a lower percentage of females of child bearing age (15 to 44) (Exhibit 148).

**Exhibit 148**  
**Selected Population Characteristics for the Western New York Region for 2009**

	Region		Percentage of Statewide Population
	Number	Percentage of Regional Population	
Total Population*	1,379,702	N/A	N/A
Population Under 100% FPL Level**	166,774	12.1%	14.6%
Population Under 200% FPL Level**	398,977	28.9%	30.5%
Population Ages Birth - 17*	297,130	21.5%	22.7%
Population 65 and older*	218,186	15.8%	13.5%
Population Female 15 – 44*	271,585	19.7%	20.8%
Black/African American, non-Hispanic*	137,292	10.0%	14.5%
Hispanic/Latino*	45,802	3.3%	16.5%
Asian/Pacific Islander, non-Hispanic*	8,651	0.6%	3.3%
American Indian/Native Alaskan, non-Hispanic*	10,650	0.8%	0.3%
Two or More/Other*	18,310	1.3%	2.7%
Less than High School Education***	166,101	21.3%	25.2%
High School Education***	312,101	40.0%	33.3%
College Degree or Higher***	302,583	38.8%	41.5%

\*2009 Claritas Estimates

\*\*Estimated based on 2000 Census

\*\*\* Based on 2000 Census for those 25 and older

### *Health Status*

The Western New York region had more total deaths, deaths due to all cancers, and deaths due to heart disease per capita than the state as a whole. While the overall birth rate was lower in the Western New York region than in the state overall, the teen birth rate was higher (Exhibit 149).

**Exhibit 149**  
**Selected Health Indicators for the Western New York Region**

	Region		Statewide
	Number	Number per 100,000 <sup>48</sup>	Number per 100,000 <sup>48</sup>
Total deaths*	14,227	1031.2	749.8
Deaths due to all cancers*	3,245	235.2	180.2
Deaths due to diabetes*	397	28.8	19.1
Deaths due to heart disease*	3,803	275.6	239.7
Total births*	15,043	55.4	61.4
Teen births*	1,480	29.6	24.3
Low-birth weight births*	1,184	7.9	8.2
Late/no prenatal care*	717	4.8	5.5
Infant deaths*	103	6.8	5.3
Adult asthma hospitalizations**	961	87.9	165.3
COPD Hospitalizations**	2,057	146.0	125.1
Coronary heart failure hospitalizations**	4,750	337.1	280.1
Diabetes hospitalizations**	2,115	150.2	184.1
Pediatric asthma hospitalizations**	650	206.3	296.6
PQI hospitalizations**	16,506	1,171.6	1,206.3

\*New York State Vital Records, 2009 Tables (rates are unadjusted).

\*\*2006-2008 Annual Average, SPARCS Data

*Primary Care Capacity*

Primary Care Physicians

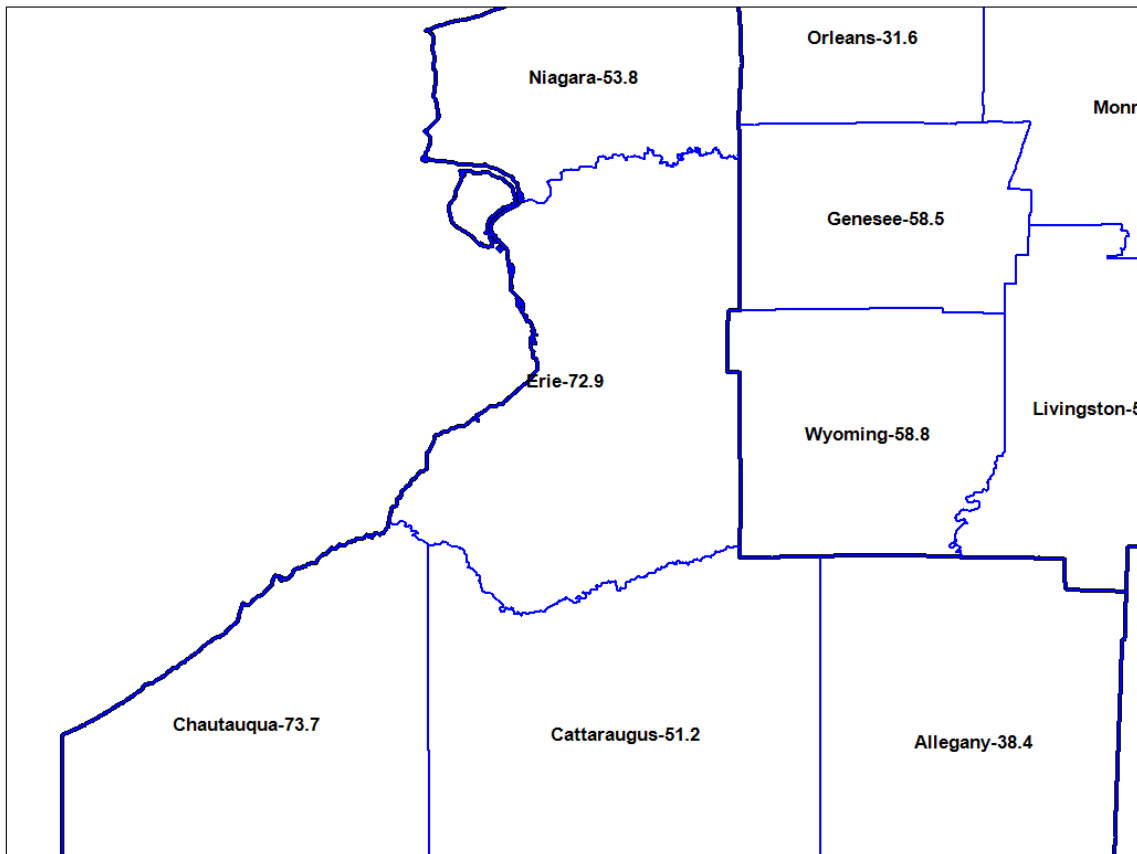
There were over 930 community-based, primary care full-time equivalent (FTEs) primary care physicians practicing in the Western New York region. Slightly more than 36% were in general internal medicine and another 32% were in family or general practice. There were 67.5 community-based primary care physicians in the Western New York region per 100,000 population, below the statewide rate of 82. Chautauqua County had the highest number at 73.7 community-based, primary care physicians per 100,000, followed by Erie County at nearly 73 per 100,000. Allegany County had the lowest at 38.4 per 100,000. There were substantially fewer pediatric practitioners in the Western New York region per 100,000 children ages 0 – 17 than statewide. There were also more family and general practitioners in the Western New York region per 100,000 than statewide but fewer general internal medicine and ob/gyn practitioners statewide (Exhibits 150 and 151).

<sup>48</sup> Infant mortality rate is reported per 1,000 live births, total birth rate is reported per 1,000 females, ages 15 – 44; teen birth rate is reported per 1,000 females, ages 15 – 19; and low-birth weight rate and percent of late/no prenatal care is reported per 100 live births. Rates per 100,000 for adult asthma hospital admissions based on 2007 population, age 18 and older. Rates per 100,000 for pediatric asthma hospital admissions based on 2007 population, birth to age 17. All other rates per 100,000 for hospitalizations based on total 2007 population.

**Exhibit 150**  
**Community-Based, Primary Care Physicians by Specialty**  
**in the Western New York Region**

Specialty	Community-Based Primary Care FTEs	Per 100,000 <sup>49</sup>	
		Region	State
Family/General Practice	296.5	21.5	18.1
Internal Medicine (General)	337.4	24.5	35.2
Geriatrics	5.8	0.4	0.8
Obstetrics/Gynecology	117.4	43.2	49.8
Pediatrics (General)	173.8	58.5	77.5
Total	930.9	67.5	82.0

**Exhibit 151**  
**The Number of Community-Based, Primary Care Physicians**  
**Per 100,000 Population in the Western New York Region, 2009**

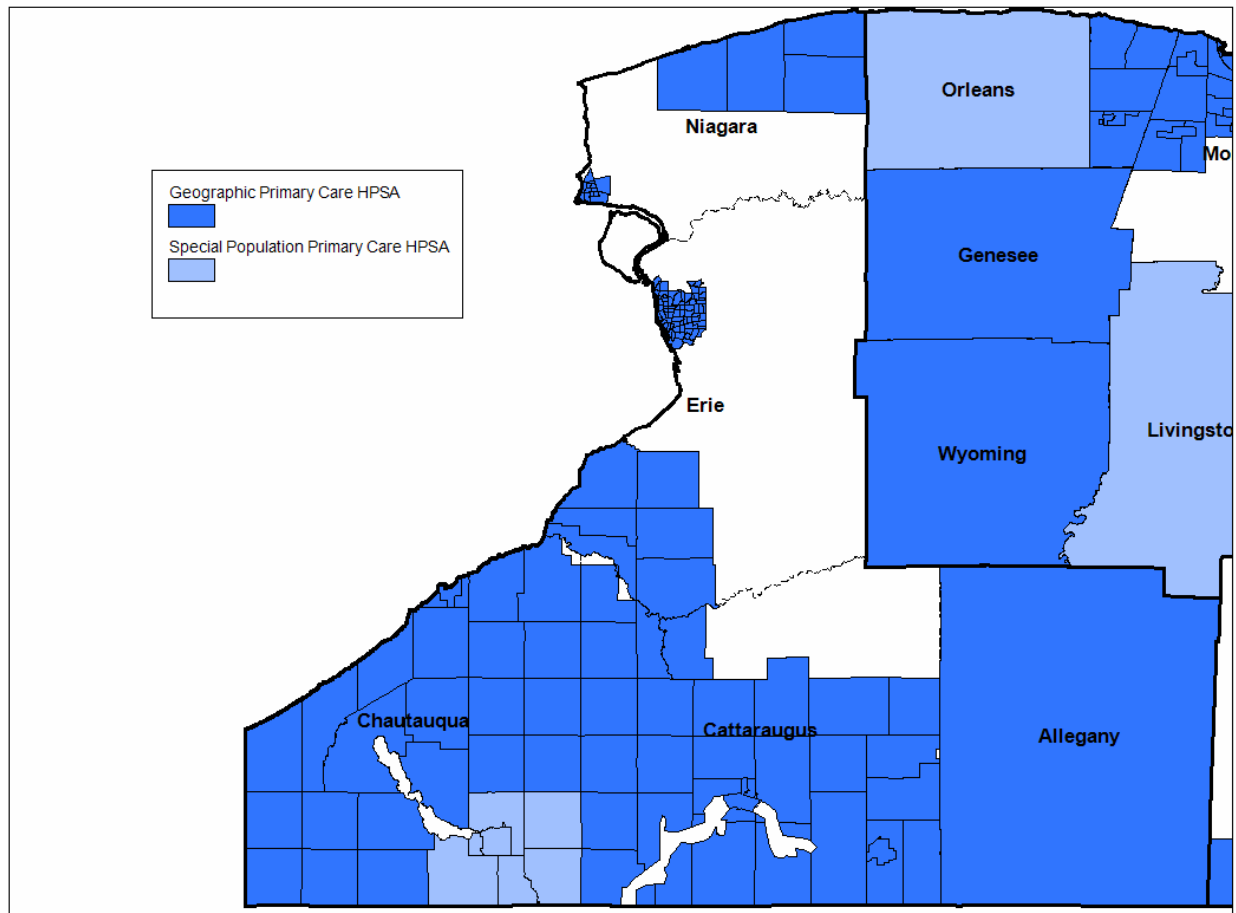


<sup>49</sup> Obstetricians/gynecologists per capita is per 100,000 women ages 15 to 44 and pediatricians per capita is per 100,000 children ages birth to 17. Total physicians per 100,000 is based on total population.

## Health Professional Shortage Area Designations

There were eight geographic and special population primary care HPSAs in the Western New York region, including one whole county HPSA. Thirty-eight percent of the residential population in the region resided in these eight HPSAs.

**Exhibit 152**  
**Current Geographic and Special Primary Care HPSAs for the Western New York Region**



Source: U.S. Department of Health and Human Services, Health Resources and Services Administration

## *Employment*

### Total Employment

Between 2004 and 2009, health sector employment throughout the Western New York region grew by nearly 1,300 jobs, or by 23%. Ambulatory care increased by over 2,600 jobs, or 13%. Home health care services increased by 5%. Employment in nursing home and personal care facilities and in hospitals declined during the same period (Exhibit 153).

**Exhibit 153**  
**Number of Workers by Health Care Setting in Western New York Region**  
**Between 2004 and 2009**

Setting	2004	2005	2006	2007	2008	2009	Change between 2004 and 2009	
							Number	Percent
Hospitals	28,239	27,302	27,221	27,170	27,846	27,864	-375	-1.3%
Ambulatory Care (Excluding Home Health)	20,111	20,971	21,241	21,698	22,411	22,724	2,613	13.0%
Nursing Home and Personal Care Facilities	16,823	16,993	16,702	16,387	15,427	15,655	-1,168	-6.9%
Home Health Care Services	4,563	4,616	4,552	4,549	4,591	4,790	227	5.0%
<b>Totals</b>	69,736	69,882	69,716	69,804	70,275	71,033	1,297	1.9%

Source: NYS Department of Labor, ES-202

## Licensed Health Professionals

Between 2007 and 2009, the number of RNs increased by nearly 370, or 2%, and the number of clinical laboratory technologists grew by more than 210, or 28%. The number of LPNs increased by more than 100, or 2%, during the same time period. The number of occupational therapy assistants slightly decreased between 2007 and 2009 (Exhibit 154).

**Exhibit 154**  
**Change in the Number of Licensed Individuals in Selected Health Occupations**  
**in Western New York, 2007 - 2009**

Occupation	2007	2008	2009	Change between 2007 and 2009	
				Number	Percent
Clinical Laboratory Technicians	145	169	196	51	35.2%
Clinical Laboratory Technologists	755	888	969	214	28.3%
Physician Assistants	495	532	585	90	18.2%
Physical Therapy Assistants	267	279	300	33	12.4%
Nurse Practitioners	1,045	1,079	1,139	94	9.0%
Speech-Language Pathologists	1,009	1,017	1,079	70	6.9%
Respiratory Therapists	415	428	441	26	5.9%
Dental Hygienists	1,028	1,045	1,071	43	4.2%
Pharmacists	1,530	1,545	1,584	54	3.5%
Occupational Therapists	748	760	765	17	2.3%
Registered Nurses	18,040	18,011	18,408	368	2.0%
Physical Therapists	1,232	1,235	1,255	23	1.9%
Social Workers	1,798	1,786	1,829	31	1.7%
Licensed Practical Nurses	6,926	7,085	7,033	107	1.5%
Dietitians/Nutritionists	312	306	312	0	0.0%
Occupational Therapy Assistants	607	613	603	-4	-0.7%

Source: NYS Education Department, Office of Professions

## Demand for Health Workers

### **Hospitals**

Hospitals in the Western New York region reported the most difficulty recruiting clinical laboratory technologists and pharmacists, followed by HIT analysts, CNAs, and sonographers. Human resource directors at hospitals in Western New York indicated the most difficulty retaining CNAs and clinical laboratory technologists (Exhibit 155).

**Exhibit 155**

<b>Occupation</b>	<b>Average Assessment of Difficulty</b>		<b>Percent of Respondents Indicating Reason for Difficulty</b>			
	<b>Recruitment</b>	<b>Retention</b>	<b>Shortage of Workers</b>	<b>Competition for Workers</b>	<b>Salary Levels</b>	<b>Other</b>
Clinical Laboratory Technologists	3.8	3.3	75%	75%	25%	25%
Dietitians/Nutritionists	2.8	1.8	25%	25%	0%	0%
HIT Analysts	3.7	2.0	67%	33%	0%	0%
HIT Tech Support	2.3	2.0	33%	33%	0%	0%
License Practical Nurses	2.8	2.0	0%	25%	25%	0%
Licensed Clinical Social Workers	2.3	2.0	33%	33%	0%	0%
Mammographers	2.7	1.7	33%	0%	0%	0%
Medical Coders	2.3	2.3	50%	50%	25%	0%
Nuclear Medicine Technologists	2.7	1.7	33%	0%	0%	0%
Nurse Practitioners	3.0	2.3	50%	25%	25%	0%
Patient Care Technicians/ Certified Nursing Aides	3.7	3.4	50%	33%	17%	33%
Pharmacists	3.8	2.3	75%	75%	25%	0%
Physical Therapists	1.8	2.3	50%	50%	0%	0%
Physician Assistants	2.8	1.8	50%	25%	25%	25%
Registered Nurses						
-Experienced	3.2	2.8	80%	80%	40%	0%
-Newly-trained	2.4	2.4	0%	60%	20%	20%
Respiratory Therapists	2.4	2.0	40%	40%	20%	0%
Sonographers	3.3	3.0	75%	25%	0%	0%
X-ray Technicians	1.0	1.0	0%	0%	0%	0%
X-ray Technologists	1.3	1.0	0%	0%	0%	0%

The vast majority of human resource directors at hospitals in Western New York indicated that they did not anticipate either a reduction or increase in staffing at their facilities.

## Nursing Homes

Nursing homes in the Western New York region reported the most difficulty recruiting experienced RNs, followed nurse managers, and occupational therapists. Experienced RNs were also the most difficult to retain, followed by CNAs and newly-trained RNs. The reason cited most often for these difficulties was the competition for workers (Exhibit 156).

**Exhibit 156**  
**Recruitment and Retention Difficulties for Nursing Homes**  
**in the Western New York Region**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Certified Nursing Aides	2.9	3.8	36%	82%	55%	9%
Clerical	1.5	1.9	0%	11%	33%	0%
Dietitians/Nutritionists	2.7	2.2	0%	50%	20%	0%
Licensed Practical Nurses	3.5	3.4	27%	73%	45%	9%
Medical Billers	2.4	3.0	0%	71%	57%	0%
Occupational Therapists	3.9	3.0	10%	70%	60%	10%
Occupational Therapy Assts/Aides	3.5	2.4	20%	50%	30%	10%
Physical Therapists	3.4	3.5	11%	44%	67%	11%
Physical Therapy Assts/Aides	3.3	3.2	22%	100%	33%	11%
Registered Nurses						
-Experienced	4.4	3.9	60%	80%	70%	10%
-Newly-trained	3.3	3.5	57%	86%	71%	14%
-Directors of Nursing	2.8	3.2	17%	50%	33%	17%
-Nurse Managers	4.0	3.4	22%	78%	78%	11%
Social Workers						
-LCSWs	2.6	2.8	0%	40%	60%	0%
-LMSWs	3.1	3.0	25%	75%	25%	0%
Speech-Language Pathologists	2.8	2.3	13%	38%	13%	0%

Other information reported by nursing homes in the Western New York region included:

- Forty percent of the nursing homes reported difficulties hiring part-time workers.
- Fourteen percent indicated difficulties hiring bilingual workers.
- The vast majority reported difficulties hiring for the evening shift for LPNs (91%), RNs (82%), and CNAs (64%).
- Slightly less than three-fourths indicated difficulties hiring RNs for the night shift, with 60% reporting difficulties hiring either LPNs or CNAs for the night shift.
- Two-thirds reported an inadequate number of CNA training sites.
- Twenty-seven percent indicated Medicaid redesign would result in overall staff reductions. The remaining respondents were unsure of the redesign impact.



### Home Health Agencies

The number of responses for nursing homes in the Western New York region was too low to analyze separately so it was combined with the Finger Lakes region for analysis. Home health agencies in the two regions indicated the most difficulties recruiting physical therapists, followed by experienced RNs, occupational therapists, and speech-language pathologists. Speech-language pathologists were also cited as the most difficult to retain, followed by home health aides and experienced RNs (Exhibit 157).

**Exhibit 157**  
**Recruitment and Retention Difficulties for Home Health Agencies**  
**in the Western New York and Finger Lakes Regions**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Working Conditions
Dietitians/Nutritionists	3.3	1.7	33%	0%	33%	0%
Home Health Aides	3.4	2.7	71%	29%	43%	29%
Licensed Practical Nurses	1.8	1.8	0%	25%	25%	0%
Occupational Therapists	3.6	2.3	20%	20%	40%	0%
Physical Therapists	4.2	2.5	40%	20%	40%	0%
Registered Nurses						
- <i>Experienced</i>	3.9	2.6	57%	71%	71%	0%
- <i>Newly-trained</i>	2.0	2.3	0%	33%	33%	0%
Social Workers						
- <i>LMSWs</i>	2.7	1.5	33%	33%	0%	0%
- <i>LCSWs</i>	3.4	2.5	14%	43%	29%	0%
Speech-Language Pathologists	3.6	3.0	40%	40%	40%	0%

Other information reported by home health agencies in the Western New York and Finger Lakes regions included:

- Slightly less than 30% of the home health agencies in the two regions reported difficulty hiring bilingual workers, with Spanish being the language most needed.
- Twenty-eight percent indicated they had difficulty hiring workers for the off-shifts.

### Community Health Centers

The response rates for community health centers in areas outside of New York City were too low to analyze separately so the responses for these areas were combined. Community health centers reported the most difficulty recruiting geriatric NPs and family NPs and the most difficulty retaining LPNs (Exhibit 158).

**Exhibit 158**  
**FQHC and FQCH Look-alikes**  
**Recruitment and Retention Difficulties for Selected Occupations for Upstate New York<sup>50</sup>**

Occupation	Average Assessment of Difficulty	
	Recruitment	Retention
Case Managers	2.0	1.7
CNAs	1.0	1.9
Community Health Workers	2.2	1.3
Dental Assistants	2.2	1.8
Dental Hygienists	2.8	1.8
Dentists	3.1	1.9
Health Educator	2.2	1.2
HIV Counselors	2.1	1.6
Licensed Practical Nurses	2.2	2.5
Medical Assistants	1.3	2.4
Midwives	2.4	1.5
Nurse Practitioners		
-Adult NPs	2.8	2.1
-Family NPs	3.3	1.9
-Geriatric NPs	3.5	1.4
-Pediatric NPs	2.7	1.7
-Psychiatric NPs	2.8	1.8
Nutrition Educators	2.6	1.4
Patient Health Navigators	2.3	1.0
Physician Assistants	2.3	1.9
Psychologists	1.8	1.8
Registered Nurses	3.1	2.1
Social Workers	3.0	1.9
Substance Abuse Counselors	2.1	2.0

**Employment Projections by Health Occupation**

The NYSDOL estimated that between 2008 and 2018, the number of RN jobs will grow in the Western New York region by more than 1,700, with 380 average annual openings, and the number of home health aide jobs will increase by nearly 2,800, with 360 annual openings. LPN jobs (240); personal and home care aide jobs (210); nursing aides, orderlies, and attendant jobs (160); and social workers (16) will all have annual job openings of 150 or more during the same time period (Exhibit 159).

<sup>50</sup> All areas outside of New York City

**Exhibit 159**  
**Employment Projections for Selected Health Care Occupations<sup>51</sup>**  
**for the Western New York Region, 2008 – 2018**

	2008	2018	Growth Between 2008 and 2018		Avg. Annual Openings
			Number	Percent	
Registered Nurses	12,220	13,940	1,720	14.1%	380
Home Health Aides	8,340	11,110	2,770	33.2%	360
Licensed Practical Nurse	5,020	5,860	840	16.7%	240
Personal and Home Care Aides	3,430	5,160	1,730	50.4%	210
Nursing Aides, Orderlies, and Attendants	7,850	9,070	1,220	15.5%	200
Social Workers	4,110	4,570	460	11.2%	160
Pharmacy Technicians	1,510	1,860	350	23.2%	80
Medical Assistants	1,310	1,630	320	24.4%	50
Dental Hygienists	1,090	1,380	290	26.6%	50
Dental Assistants	1,150	1,440	290	25.2%	50
Physical Therapists	1,190	1,460	270	22.7%	40
Speech-Language Pathologists	1,120	1,330	210	18.8%	40
Occupational Therapists	890	1,090	200	22.5%	40
Pharmacists	1,440	1,580	140	9.7%	40
Medical and Health Services Managers	1,410	1,480	70	5.0%	40
Physician Assistants	440	590	150	34.1%	30
Radiologic Technologists and Technicians	1,070	1,170	100	9.3%	30
Clinical, Counseling, and School Psychologists	800	850	50	6.3%	30
Medical Records and Health Information Technicians	660	750	90	13.6%	20
Respiratory Therapists	440	500	60	13.6%	20
Surgical Technologists	290	330	40	13.8%	10
Medical and Clinical Laboratory Technicians	540	580	40	7.4%	10
Medical and Clinical Laboratory Technologists	360	380	20	5.6%	10
Emergency Medical Technicians and Paramedics	530	550	20	3.8%	10
Dietitians and Nutritionists	360	370	10	2.8%	10
Diagnostic Medical Sonographers	270	310	40	14.8%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2008 - 2018

<sup>51</sup> Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2008 and the projected number of jobs in those categories in 2018. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.



## **VI. APPENDIX A: Trends in New York Registered Nursing Graduations, 1996 – 2011**



# **Trends in New York Registered Nursing Graduations, 1996 – 2011**

**July 2011**

## **The Center for Health Workforce Studies**

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*Better Information for Better Outcomes*

*The Center for Health Workforce Studies is a not-for-profit research organization whose mission is to provide timely, accurate data and conduct policy-relevant research about the health workforce. The Center's work assists health, professional, and education organizations; policy makers and planners; and other stakeholders to understand issues related to the supply, demand, distribution, and use of health workers.*





## **PREFACE**

This report summarizes the results of the 2010 survey of New York registered nursing education programs conducted by the New York Center for Health Workforce Studies (the Center). Deans and directors of nursing education programs are surveyed annually and asked questions about applications, admissions, and registered nursing (RN) graduations from their programs, as well as barriers to expanding student capacity and their assessment of the local job market for newly-trained RNs. The primary goal of the survey is to document trends in nursing graduations statewide and regionally in New York and understand how these trends affect the supply of RNs in the state. This is the Center's 10th annual survey of nursing education programs in New York and was conducted from the fall of 2010 through spring of 2011.

This report was prepared by Robert Martiniano, Maria MacPherson, and Jean Moore from the Center. The Center is a not-for-profit research center at the School of Public Health, University at Albany, State University of New York. The Center's mission is to provide timely accurate data and conduct policy-relevant research about the health workforce. The ideas expressed in this report are those of the Center for Health Workforce Studies and do not necessarily represent views or positions of the School of Public Health, the University at Albany, or the State University of New York.



## **BACKGROUND**

The Center for Health Workforce Studies (the Center) surveys program directors of registered nursing education programs in New York annually to better understand trends affecting the production of registered nurses (RNs) in the state. The most recent survey was conducted from the fall of 2010 through spring of 2011. The survey included questions about applications, acceptances, and graduations for 2010, as well as projected graduations through 2011. The survey also asked about barriers to admitting more students and perceptions about the local job market for new RNs. This report summarizes the findings from the survey.

In 2010, there were 119 nursing programs in New York. Since 2002, 15 new nursing programs have been approved by the New York State Education Department, though not all have graduated students yet, and one program has closed. Of the 119 nursing programs, 107 responded to the survey for a 90% response rate. Data for the 12 nonrespondents were imputed from responses to previous surveys; consequently, the following data reflect estimated enrollments and graduations for all registered nursing programs in the state. Data for City University of New York (CUNY) schools were also updated using CUNY's annual data report on nursing degree programs.

RN graduates include both new RN graduates and graduates from bachelor of science in nursing (BSN) completion programs, i.e., diploma or associate degree RNs who continue their education to complete a bachelor's degree in nursing. The Center estimates that approximately 34% of the 2010 total BSN graduates were already licensed RNs. Consequently, approximately 16% of all 2010 RN graduates in the state were already licensed RNs.

Not every RN educated in New York practices in the state, and some RNs practicing in New York were educated outside the state. RNs educated in New York, however, represent the single largest source of RNs practicing in the state. An analysis of the New York RN re-registration survey data indicates that 77% of RNs actively practicing in New York received their initial nursing degree in New York.

## **FINDINGS**

### **Summary of Findings**

RN graduations in New York increased slightly between 2009 and 2010, by about 250, or 3%, and it was the eighth consecutive annual increase. Further, RN graduations are projected to increase by 8% between 2010 and 2011. The vast majority (99%) of the additional graduations between 2009 and 2010 were from BSN completion programs. While graduations continued to rise, the job market remains extremely competitive for newly-trained RNs. In stark contrast to previous years, substantially fewer program directors reported “many” job opportunities in their area for newly-trained RNs.

### **Key Findings**

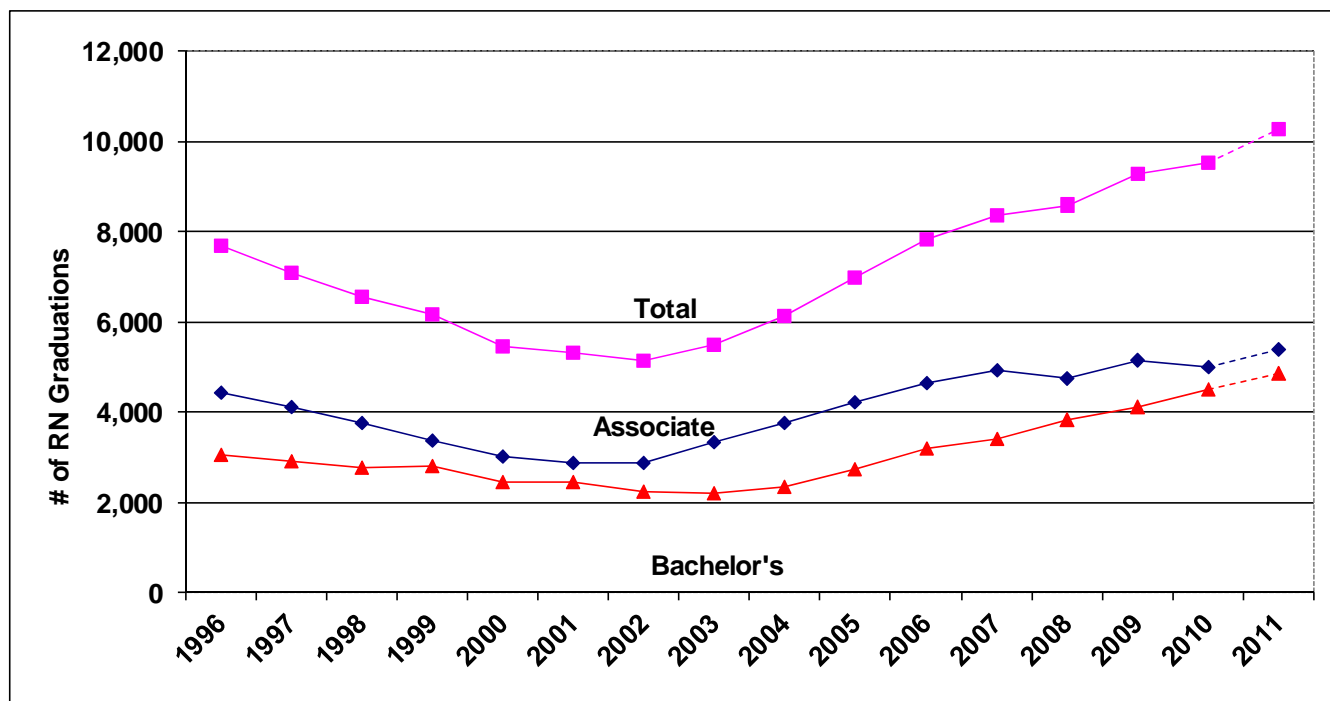
- 1. For the eighth consecutive year, the number of RN graduates in New York in 2010 increased over the number of RN graduations in the previous year. The vast majority of additional RN graduates between 2009 and 2010, however, were existing RNs completing BSN degrees.**

It is estimated that in 2010 there were more than 9,500 graduates from RN education programs in New York. This was the eighth successive year that RN graduations have increased. The total graduations in 2010 represented an 86% increase in RN graduations since 2002, when RN graduations first started rising, following six consecutive years of declines in RN graduations (Figure 1). Almost 99% of the increase in RN graduations in 2010 compared to 2009 were existing RNs completing BSNs.

- 2. RN graduations in New York are projected to continue to rise in 2011.**

The number of RN graduations in New York in 2011 is expected to be grow by more than 700, or by 8%, between 2010 and 2011, to nearly 10,300, almost double the number of RN graduations in 2002 (Figure 1).

**Figure 1**  
**New York RN Graduations by Degree Type, 1996 to 2011**



**3. Graduations from both ADN and BSN programs increased between 2002 and 2010.**

Between 2002 and 2010, total BSN graduations increased by 101%. During the same time period, ADN graduations increased by 74%, though that included slight declines in ADN graduations between 2007 and 2008 and between 2009 and 2010. ADN and total BSN graduations are also projected to increase again in 2011 (Table 1 and Figure 2).

**4. The number of graduates from BSN completion programs has steadily risen since 2007.**

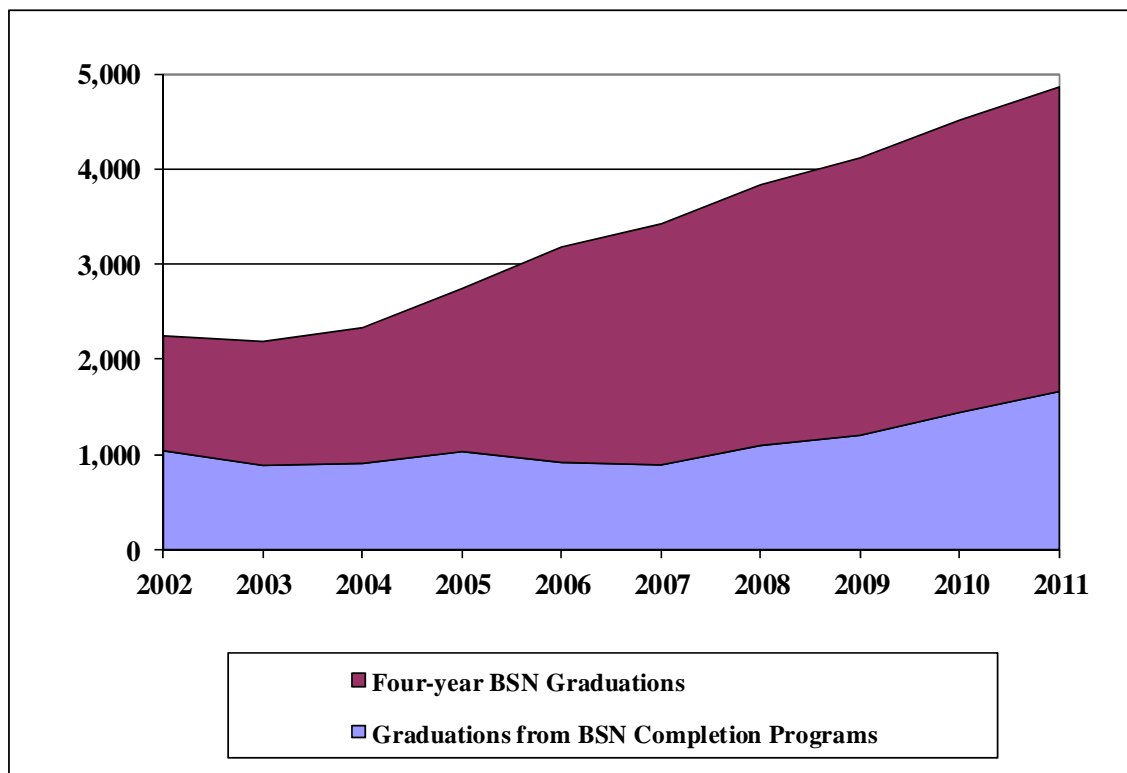
Since 2007, there has been steady growth in the number of RN graduations from BSN completion programs, accounting for an increasing percentage of total BSN graduations. Of the 15 new nursing programs added since 2002, nine were BSN completion programs and nearly 40% of graduations from these new programs were BSN completers. In 2010, BSN completer graduations accounted for 32% of total BSN graduations and 15% of overall RN graduations, up from 25% and 10%, respectively, in 2007. It is projected that in 2011, BSN completer

graduations will account for 34% of total BSN graduations and 16% of overall RN graduations (Table 1 and Figure 2).

**Table 1**  
**Graduations from New York RN Education Programs by Degree Type, 1996 to 2011**

School Year		Degree Type					Totals
		ADN	BSN			Diploma	
			Total	4-Year	Completer		
Actual Graduations	1996	4,447	3,062	N/A	N/A	176	7,685
	1997	4,102	2,911	N/A	N/A	94	7,107
	1998	3,763	2,780	N/A	N/A	13	6,556
	1999	3,381	2,792	N/A	N/A	4	6,177
	2000	3,015	2,437	N/A	N/A	4	5,456
	2001	2,885	2,437	N/A	N/A	12	5,334
	2002	2,877	2,248	1,208	1,040	3	5,128
	2003	3,323	2,189	1,303	886	3	5,515
	2004	3,780	2,334	1,427	907	11	6,125
	2005	4,211	2,745	1,714	1,031	14	6,970
	2006	4,640	3,183	2,266	917	8	7,831
	2007	4,918	3,426	2,535	891	9	8,353
	2008	4,750	3,837	2,742	1,095	6	8,593
	2009	5,156	4,121	2,919	1,202	9	9,286
	2010	4,999	4,517	3,074	1,443	14	9,530
Projected Graduations	2011	5,395	4,866	3,203	1,663	9	10,270

**Figure 2**  
**Graduations from BSN Four-Year and BSN Completion Programs, 2002 – 2011**

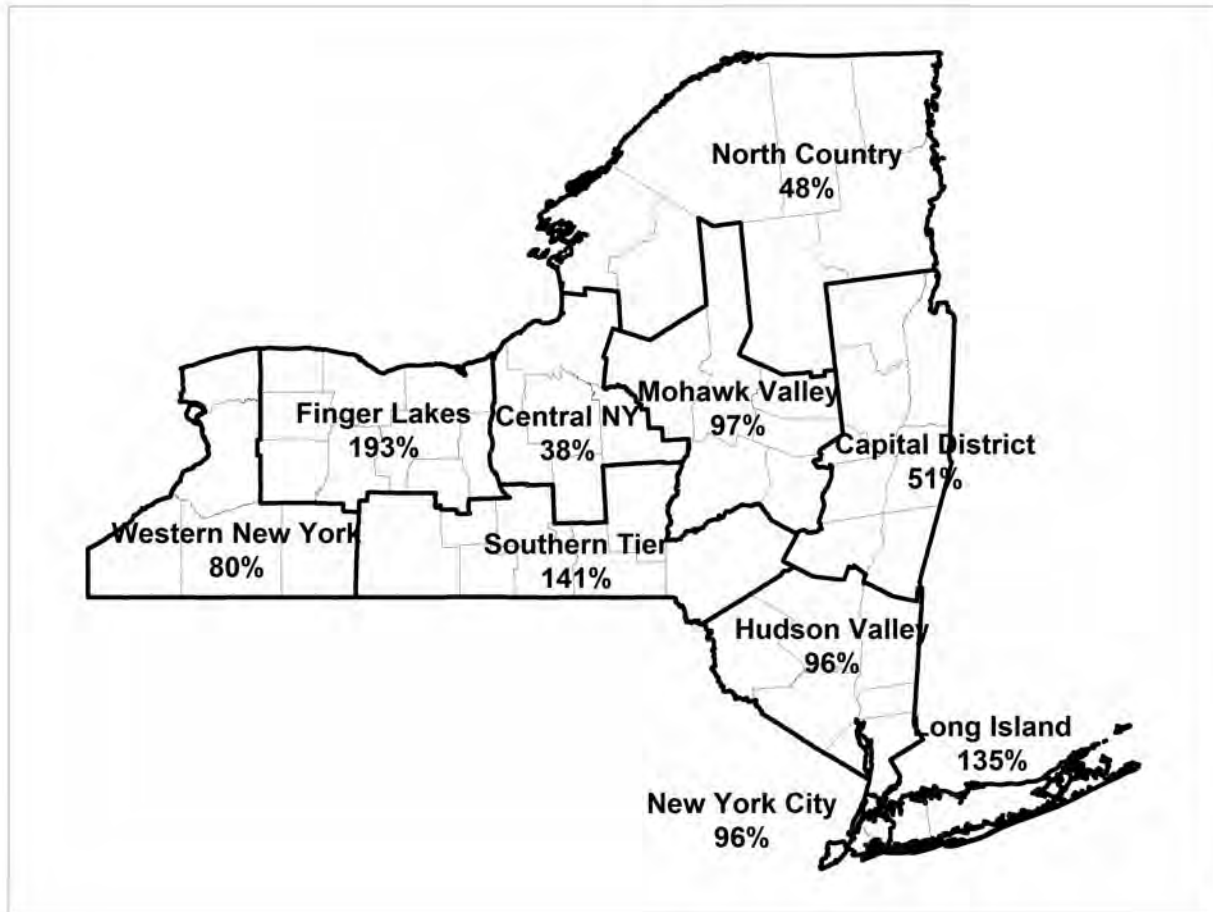


**5. Between 2002 and 2011, RN graduations are projected to increase in all regions of New York.**

All regions<sup>1</sup> in New York are projected to experience substantial increases in RN graduations in 2011, compared to 2002, with the greatest increases in the Finger Lakes (193%), Southern Tier (141%), and Long Island (135%) regions. The smallest increases are expected in Central New York (38%), North Country (48%), and Capital District (51%) regions (Figure 3 and Table 2).

<sup>1</sup> This report uses New York State Department of Labor regions as outlined on the map on page 9.

**Figure 3**  
**Projected Percentage Increase in RN Graduations, 2002 – 2011, by Region**



**Table 2**  
**Total Number of RN Graduations by Region**

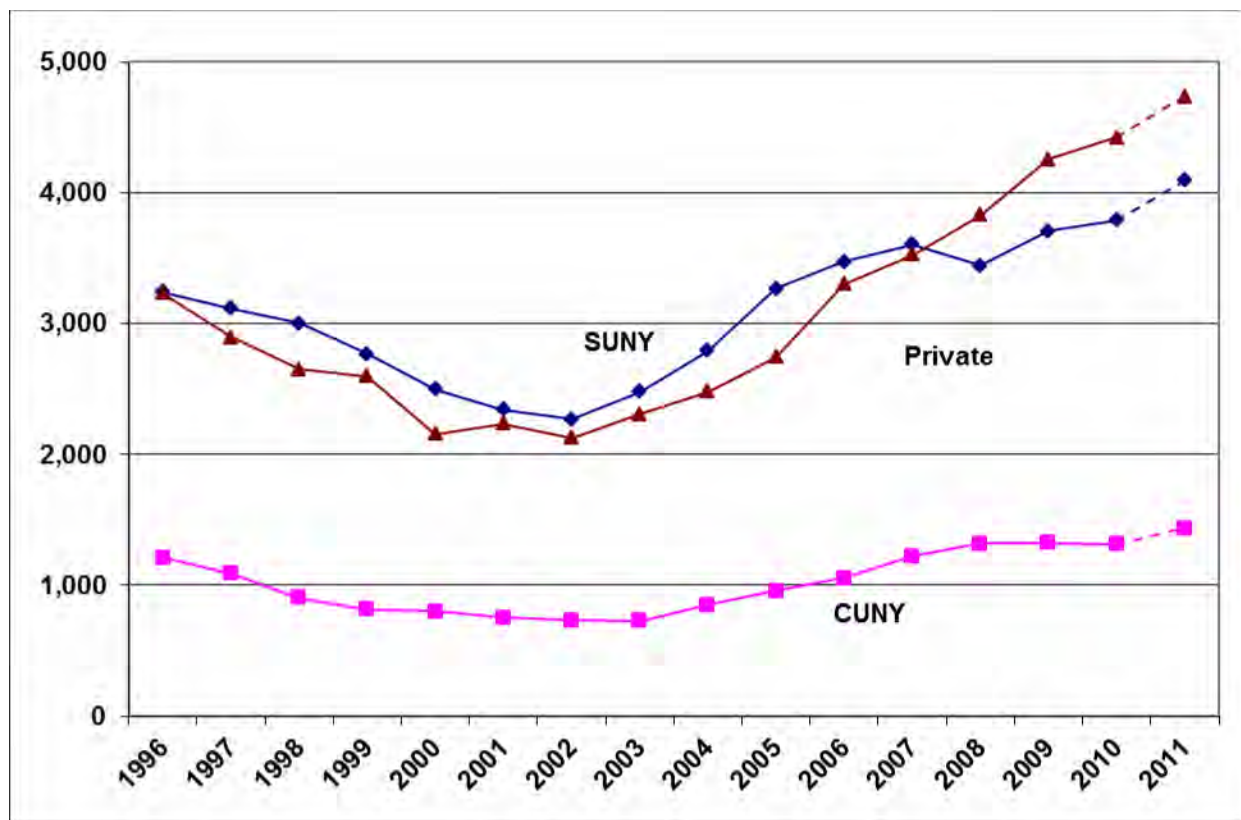
Region	2002	2003	2006	2007	2008	2009	2010	2011 Projected	
								Number	% Increase over 2002
Capital District	358	395	458	456	449	458	499	539	51%
Central New York	325	331	398	388	387	394	455	449	38%
Finger Lakes	385	431	657	698	790	878	935	1,126	193%
Hudson Valley	616	689	1,045	1,005	1,081	1,169	1,199	1,208	96%
Long Island	677	795	1,302	1,606	1,467	1,546	1,550	1,593	135%
Mohawk Valley	210	226	305	284	332	329	354	413	97%
New York City	1,544	1,607	2,274	2,461	2,641	2,794	2,826	3,028	96%
North Country	170	166	227	208	178	205	194	251	48%
Southern Tier	236	335	462	490	469	501	506	568	141%
Western New York	535	473	644	679	713	919	887	961	80%



6. Between 2002 and 2011, RN graduations from privately sponsored nursing education programs are projected to grow faster than RN graduations from either SUNY or CUNY schools.

Between 2002 and 2011, RN graduations from privately sponsored programs, including those based in hospitals, are projected to more than double, increasing by 123%. During the same period, RN graduations from State University of New York (SUNY) and CUNY programs are projected to increase by more than 80% and 97%, respectively. In 2010, 46% of all RN graduations were from privately sponsored nursing education programs, 40% from SUNY, and 14% from CUNY (Figure 4).

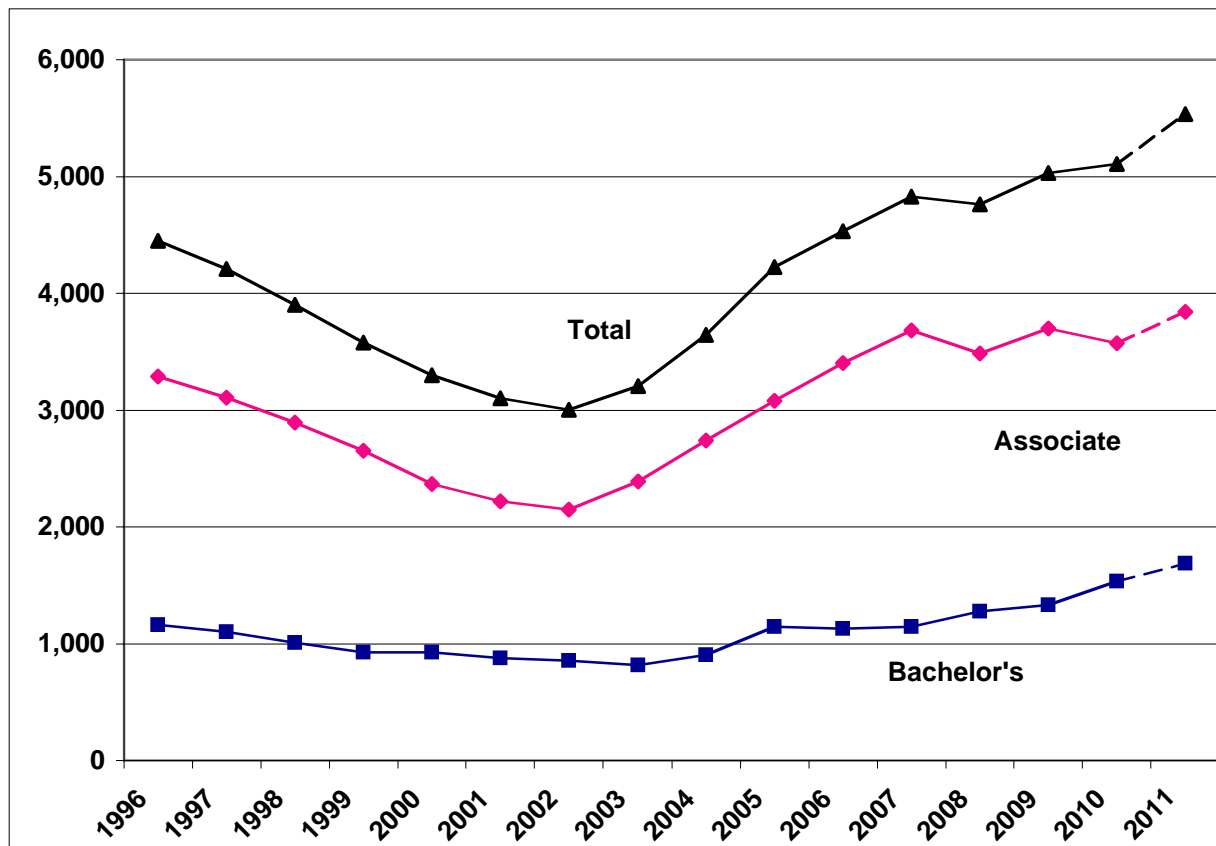
**Figure 4**  
**Graduations from New York RN Education Programs by Sponsor, 1996 to 2011**



**7. Graduations from publicly sponsored ADN programs are projected to increase by nearly 1,700 between 2002 and 2011.**

Graduations from publicly sponsored (SUNY and CUNY) ADN programs are projected to grow by almost 1,700, or 79% between 2002 and 2011, and graduations from SUNY and CUNY sponsored BSN programs are projected to increase by more than 800, or 98%, over the same period (Figure 5).

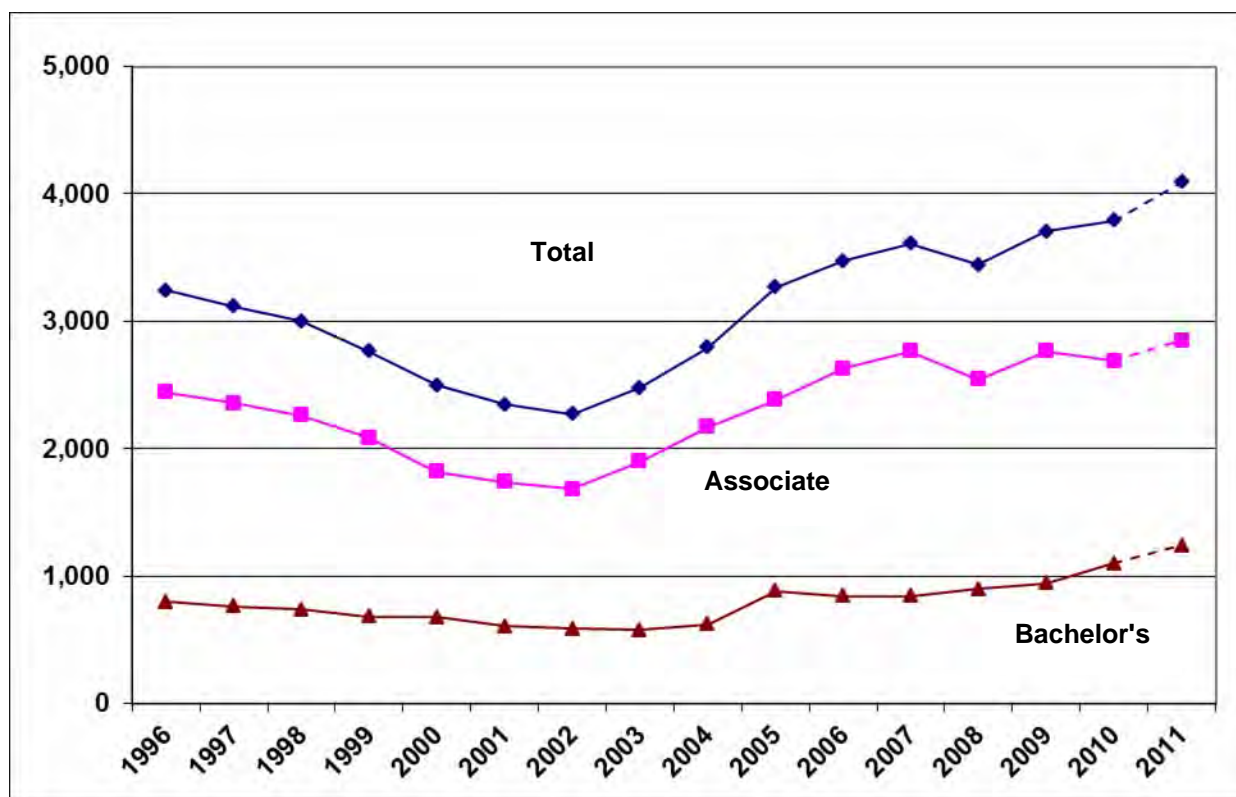
**Figure 5**  
**Publicly Sponsored RN Graduations by Degree Type, 1996 to 2011**



**8. In 2010, RN graduations from SUNY sponsored ADN programs accounted for 71% of total SUNY RN graduations.**

In 2010, there were nearly 3,800 graduations from SUNY sponsored education programs with ADN graduations representing 71% of all SUNY RN graduations. Between 2002 and 2011, it is projected that overall RN graduations from SUNY sponsored programs will grow by 80%, with total BSN graduations increasing by 111% and ADN graduations growing by 70% (Figure 6). Of the 12 new BSN programs approved since 2002, six are SUNY sponsored and five of them are BSN completion programs. Of the 1,100 BSN graduations from SUNY sponsored nursing education programs in 2010, 40% were from BSN completion programs. The percentage of BSN completer graduations as a share of total BSN graduations from SUNY sponsored programs is projected to increase to 45% in 2011.

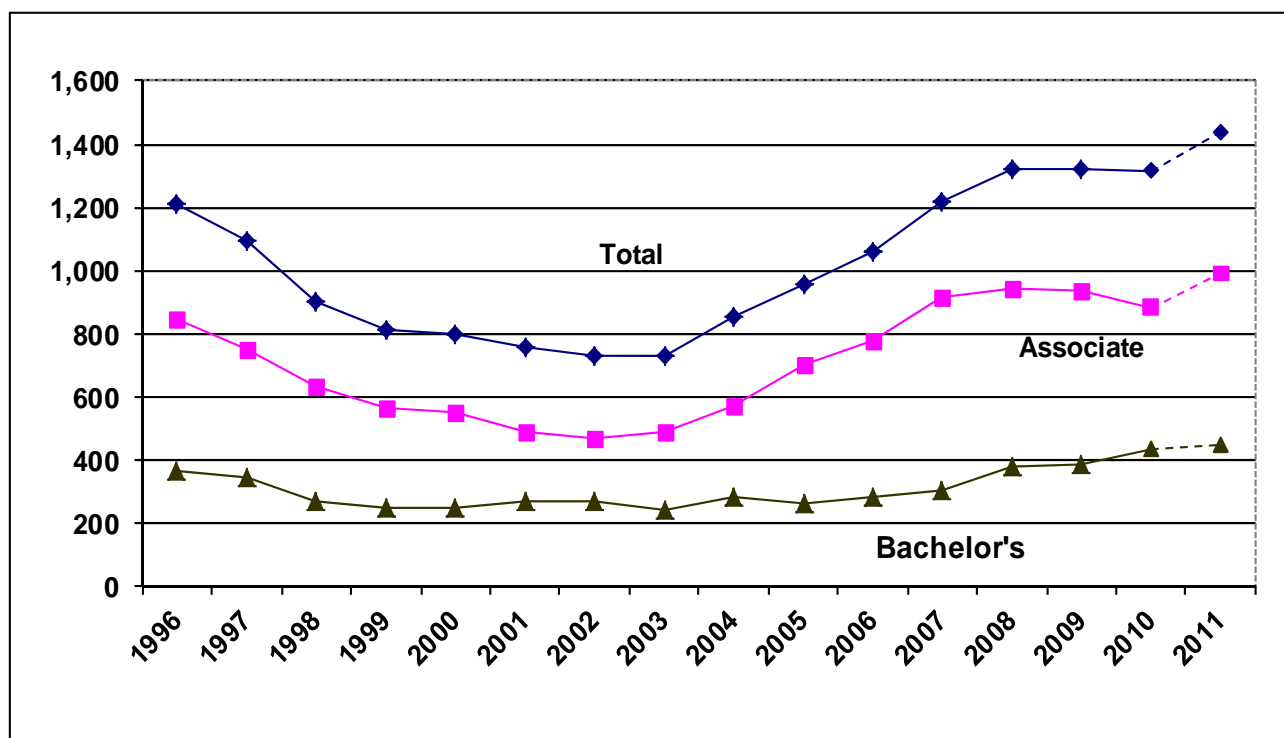
**Figure 6**  
**Graduations from SUNY RN Education Programs by Degree Type, 1996 to 2011**



**9. Between 2002 and 2011, ADN graduations from CUNY RN programs are projected to increase at a faster rate than BSN graduations from CUNY RN programs.**

Between 2002 and 2011, ADN graduations from CUNY nursing programs are expected to more than double, while total BSN graduations are projected to increase by 69%. Between 1996 and 2011, overall CUNY RN graduations are expected to grow by 19%, with ADN graduations rising 17% and BSN graduations increasing by nearly 23% (Figure 7). In 2010, 72% of all CUNY BSN graduates were from BSN completion programs.

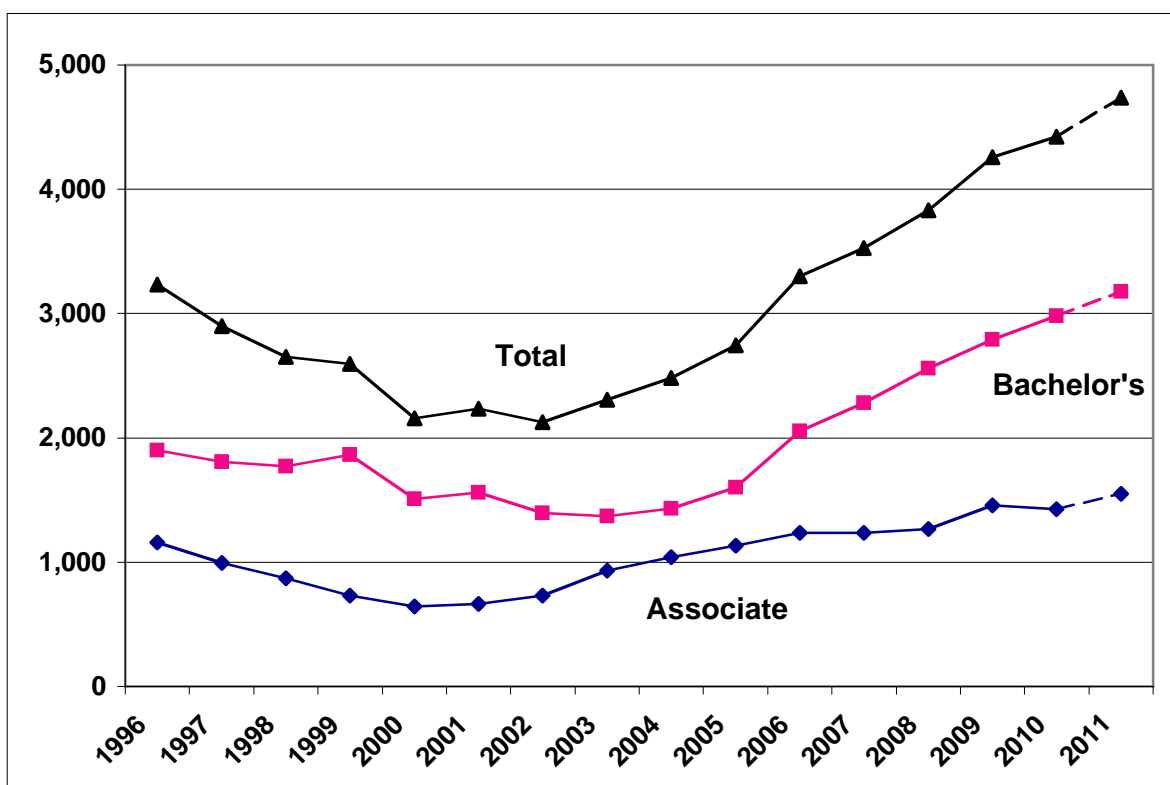
**Figure 7**  
**Graduations from CUNY RN Education Programs by Degree Type, 1996 to 2011**



**10. Graduations from privately sponsored RN education programs are projected to more than double between 2002 and 2011.**

Both BSN and ADN graduations from privately sponsored nursing programs are projected to more than double between 2002 and 2011, with BSN graduations increasing by 128% and ADN graduations growing by 113%. BSN graduations will account for two-thirds of overall graduations from privately sponsored RN education programs (Figure 8) by 2011. BSN completer graduations accounted for nearly one-fourth of total BSN graduations from privately sponsored nursing education programs in 2010 and are projected to account for 26% of total BSN graduations in 2011.

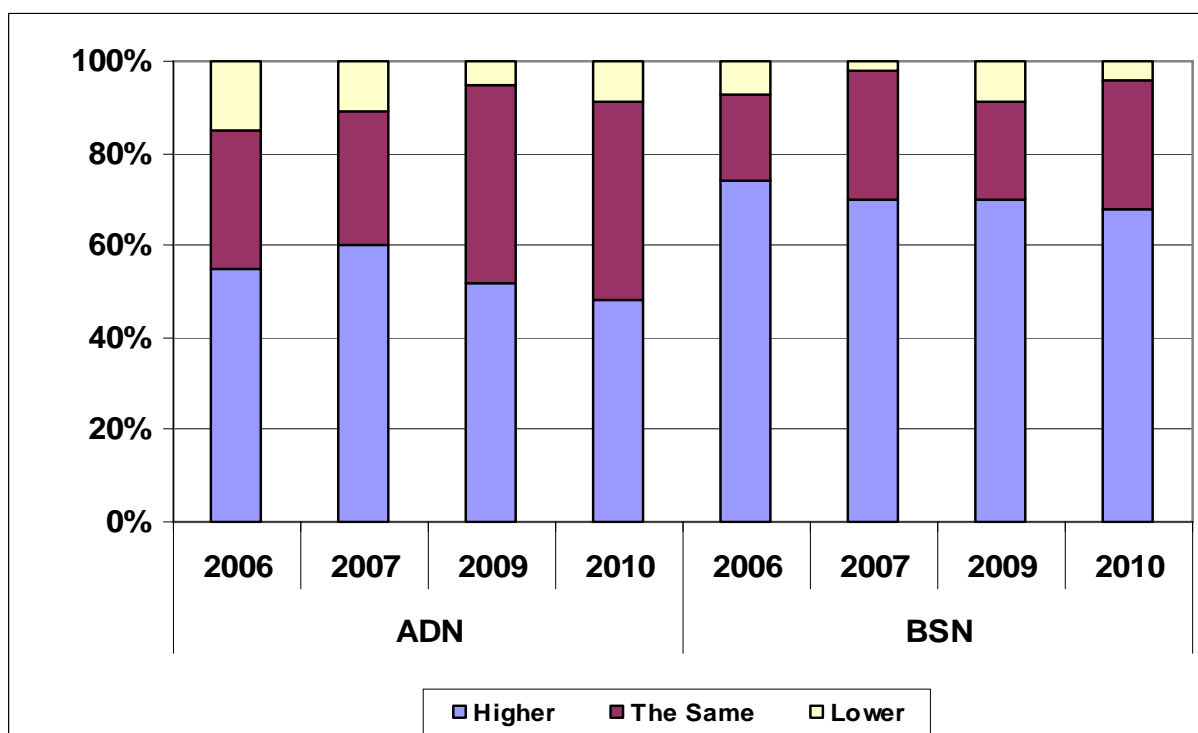
**Figure 8**  
**Graduations from Private RN Education Programs by Degree Type, 1996 to 2011**



# **11. Less than half of ADN program directors reported increases in applications to their nursing education programs in 2010 over 2009 levels.**

Forty-eight percent of ADN program directors reported an increase in applications to their nursing education programs in 2010 over 2009 levels, the first time since the survey began that less than half of ADN program directors reported increasing applications over the previous year. Although two-thirds of BSN program directors reported an increase in the number of applications to their nursing education programs in 2010, this was also down slightly from the 2009 levels. Overall, fewer nursing program directors reported increases in the number of applications between 2009 and 2010 while the percentage of program directors reporting a decrease in the number of applications remained consistent at 7% since 2007 (Figure 9).<sup>2</sup>

**Figure 9**  
**Percent Change in Number of Applications by Program Type, 2006 - 2010**

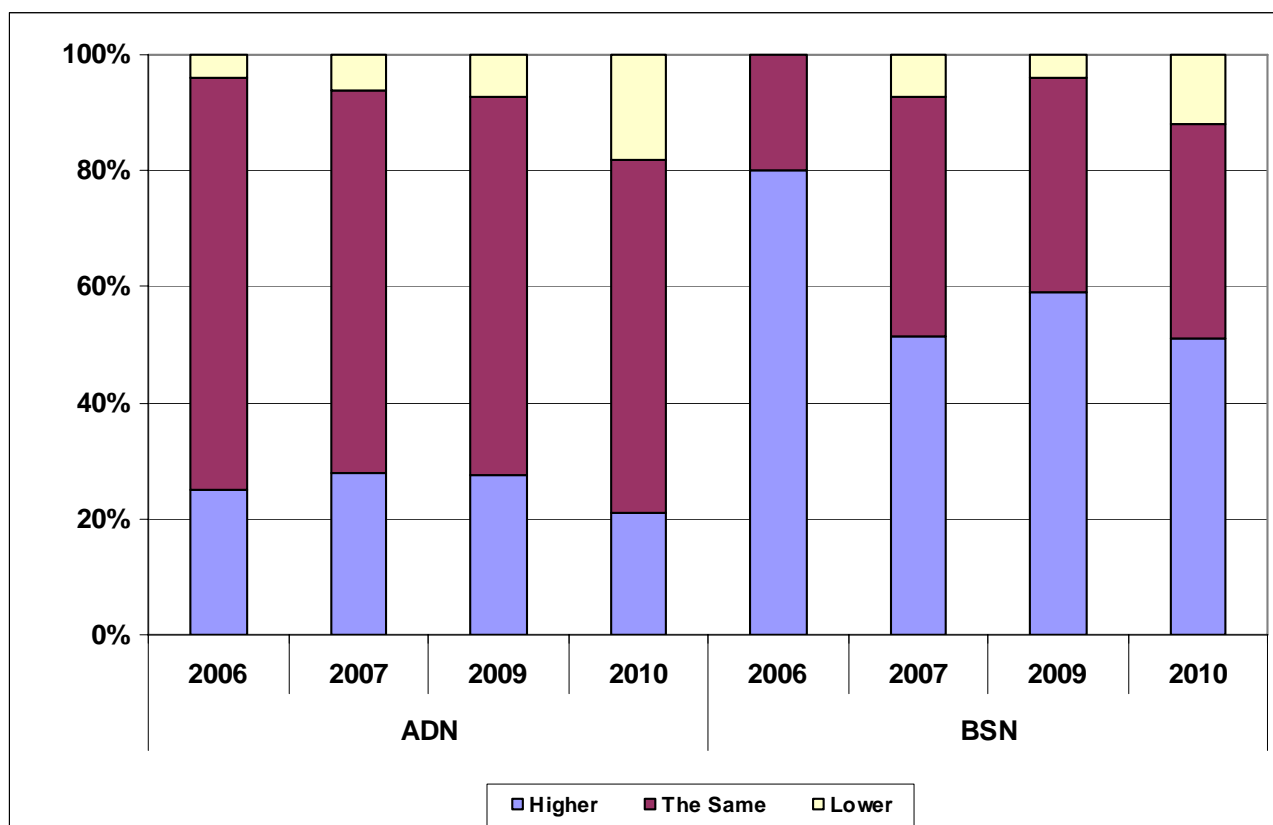


<sup>2</sup> Prior to 2008, the Center surveyed nursing programs only in the early fall. Starting in 2008, the survey starts later in the fall and extends into the spring of the following year. This caused the break in reporting years for certain survey questions, including applications, acceptances, the number of qualified applicants turned away, and perception of the job market.

**12. Twenty-one percent of ADN program directors reported a higher number of acceptances to their nursing programs and 18% reported fewer acceptances.**

The percentage of ADN program directors reporting increased acceptances to their nursing education programs was 21% in 2010, which was down from 2009 levels. At the same time, the percentage of ADN program directors that reported fewer acceptances increased from 7% in 2009 to 18% in 2010. Half of BSN program directors reported an increase in acceptances in 2010 over 2009, and 12% reported a decrease in acceptances, up from 4% in 2009. Overall, since 2006, there has been a decline in the number of nursing program directors who reported increases in the number of acceptances, and an increase in those reporting fewer acceptances (Figure 10).

**Figure 10**  
**Percent Change in Number of Acceptances by Program Type, 2006 – 2010**



**13. Nearly two-thirds of program directors either wait-listed or turned away qualified applicants.**

Overall 66% of nursing program directors indicated they either wait-listed or turned away qualified applicants, including 79% of ADN program directors and 53% of BSN program directors. Of those programs that wait-listed students, nearly 47% of the BSN program directors and 10% of ADN program directors anticipated a majority of those on the waiting list would gain admission into their nursing programs.

Forty-eight percent of nursing program directors reported turning away qualified applicants in 2010, the second consecutive year that less than half reported turning away qualified applicants. ADN programs were more likely to turn away qualified applicants than BSN programs. Slightly more than two-thirds of ADN programs and slightly more than one-third of BSN programs reported turning away qualified applicants in 2010 (Table 3).

**Table 3**  
**Percent of RN Education Program Directors Reporting**  
**Turning Away Qualified Applicants by Program Type, 2004 - 2010**

	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2009</b>	<b>2010</b>
<b>All Programs</b>	57%	67%	59%	54%	42%	48%
<b>ADN</b>	73%	80%	72%	65%	48%	68%
<b>BSN</b>	39%	50%	43%	41%	33%	34%

**14. More qualified applicants were denied admission to nursing education programs in 2010 than any year since 2005.**

Based on survey responses, it was estimated that slightly more than 2,500 qualified applicants were turned away from New York's nursing education programs in 2010, the highest number of qualified applicants turned away since 2005. The percentage of nursing programs that turned away 81 or more qualified applicants more than doubled, going from 14% in 2009 to 30% in 2010. Since applicants may apply to more than one nursing education program, these numbers do not represent an unduplicated count of qualified applicants denied admission to nursing



education programs in the state. Additionally, the estimate does not consider students who were waited-listed (Table 4).

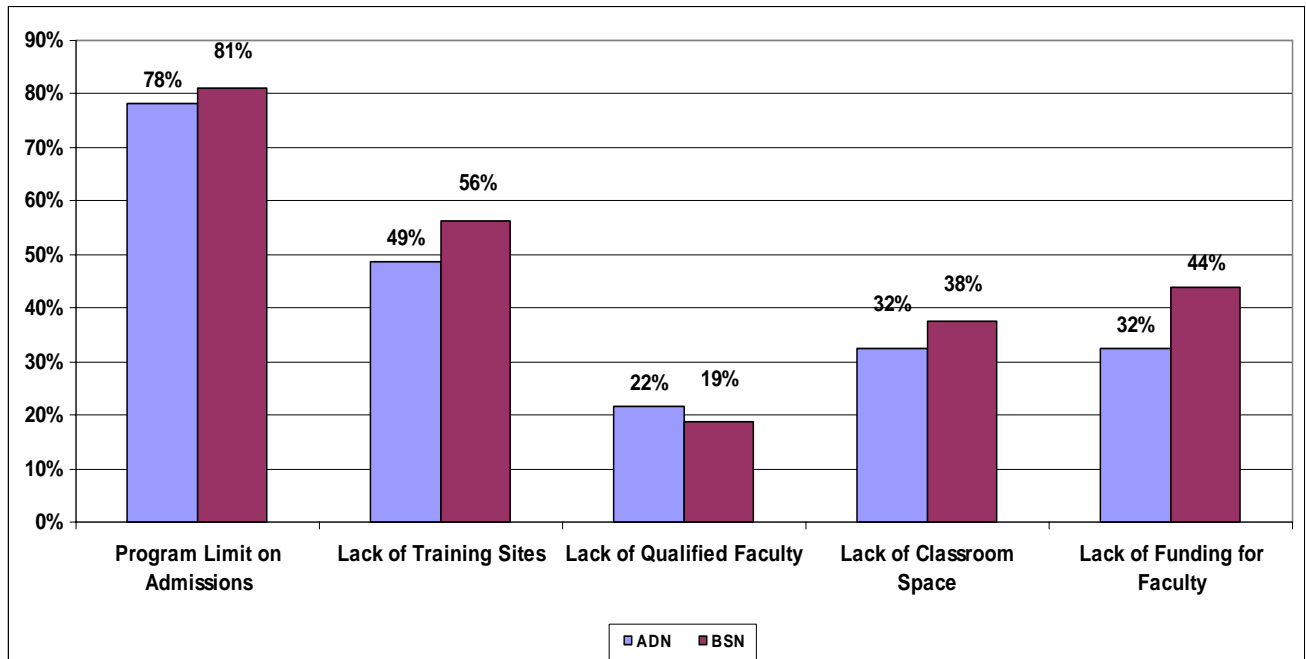
**Table 4**  
**Number of Qualified Applicants Turned Away by Program Type, 2006 - 2010**

Number of Qualified Applicants Turned Away	Type of Program											
	All Nursing Programs				ADN				BSN			
	2006	2007	2009	2010	2006	2007	2009	2010	2006	2007	2009	2010
<b>1 – 20</b>	23%	25%	15%	30%	35%	30%	19%	35%	9%	20%	10%	19%
<b>21 – 40</b>	12%	13%	10%	23%	17%	18%	12%	24%	7%	7%	8%	19%
<b>41 – 60</b>	9%	5%	2%	9%	6%	5%	3%	8%	14%	4%	0%	13%
<b>61 – 80</b>	4%	2%	0%	8%	4%	4%	0%	5%	5%	0%	0%	13%
<b>81 or More</b>	10%	10%	14%	30%	11%	9%	14%	27%	9%	11%	15%	38%

**15. Limits on program admissions and lack of training sites are the primary reasons nursing education programs turn away qualified applicants.**

The majority of ADN and BSN programs that denied admission to qualified applicants cited limits on program admissions as the primary reason for doing so. In 2010, 78% of ADN program directors turned away qualified applicants due to limits on program acceptances, an increase of 9% over 2009. For BSN programs that turned away qualified applicants in 2010, 81% were due to program limits on acceptances, an increase of 34% over 2009. Both ADN and BSN programs also indicated that a lack of clinical training sites was a factor in turning away qualified applicants (Figure 11).

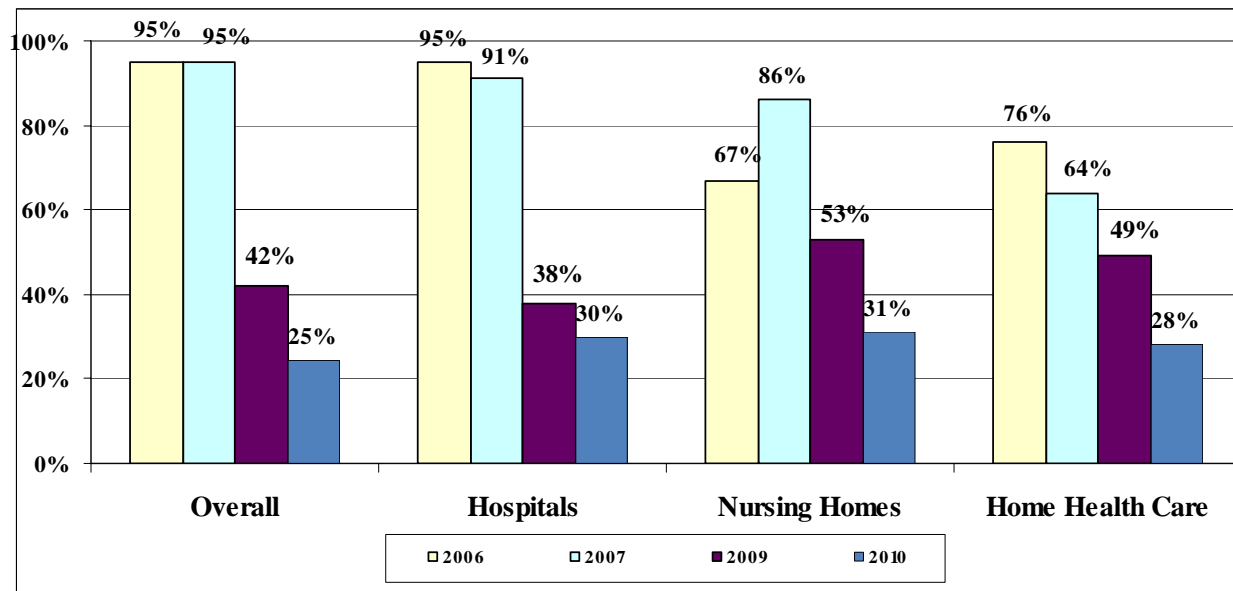
**Figure 11**  
**Reasons for Turning Away Qualified Applicants by Degree Program Type, 2010**



**16. Fewer nursing program directors reported “many jobs” for new graduates.**

The vast majority of nursing program directors consistently reported a strong job market for their graduates through the 2007 survey. However, starting in 2009 and continuing with the 2010 survey, the percentage of nursing program directors reporting “many jobs” for their graduates significantly declined. In 2010, only 25% of nursing program directors reported “many jobs” for newly-trained RNs, a sharp contrast to 2006 and 2007 when 95% of nursing program directors reported “many jobs.” This trend persisted across hospitals, nursing homes, and home health care agencies (Figure 12).

**Figure 12**  
**Percent of RN Program Directors Reporting a Strong Job Market, 2006 – 2010**



## DISCUSSION

While the number of RN graduates from New York programs has steadily grown over the past eight years, it appears that the programs are nearing their capacity to produce new RNs. Fewer nursing program directors reported more applications and acceptances and cited limits on program admissions as the primary reason for turning away qualified applicants.

The increase in the number of RN graduates between 2009 and 2010 was attributable to BSN completers, i.e., existing RNs who went on to obtain a bachelor's degree in nursing and they do not represent new RN capacity. The majority of new nursing programs begun in the state since 2002, 9 of 15, are BSN completion programs. These programs play a critical role in supporting educational attainment for RNs and can increase the number of RNs who qualify to become nurse practitioners.

Currently, health care providers in the state face fiscal uncertainty related to the recent economic downturn as well as reductions in Medicaid and Medicare reimbursement. This has resulted in a

dampening of demand for RNs in the short-term with newly trained RNs facing a highly competitive job market. A declining number of program directors reported ‘many jobs’ for their graduates. However, in the long-term, it is projected that demand for RNs will increase, fueled by an aging population and the growing prevalence of chronic diseases such as diabetes and heart disease. Further, more retirements of older RNs will also contribute to an increase in job openings for RNs.

While current levels of production are clearly sufficient to meet the existing demand for RNs, it is unclear whether it will be sufficient to meet future demand. It will be important to continue to monitor the supply and production of RNs in the state as well as demand for RNs in order to identify potential RN supply/demand imbalances. Data from this effort can inform programs and policies designed to ensure adequate RN capacity across the state.