



The Health Care Workforce in New York

Trends in the Supply and Demand for Health Workers

June 2014

Prepared by:

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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

The Center for Health Workforce Studies routinely monitors health care employment patterns in New York as well as indicators of health worker shortage. This report, based on the most recently available data, presents a trend analysis of the health workforce in New York and provides key information at state and regional levels. The objectives of this report are to describe health care employment trends in New York using data about jobs by health setting and health professionals and to identify the health professions and occupations in greatest demand currently and offer projections for future demand. The goals of this report are to assist policy makers and other stakeholders to target health workforce education and job training resources to address the most pressing needs; guide health workforce policies, including decisions about the capacity of health professions education programs; and inform current and prospective students about health care employment prospects and opportunities.

This report was prepared by Robert Martiniano, Garima Siwach, Rakkoo Chung, and Jean Moore of the Center for Health Workforce Studies. The Center is an independent, not-for-profit research group based 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. Support and funding for this report's research are from the 1199 Hospital League Health Care Industry Planning and Placement Fund, Inc. The analyses and conclusions in this report reflect the work of the Center exclusively.

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I. EXECUTIVE SUMMARY

The health care delivery system in New York is undergoing rapid transformation, driven in large part by federal and state health reform initiatives. The federal Affordable Care Act creates greater access to health insurance for New Yorkers and all Americans and is expected to drive increased demand for basic health services. New York's Medicaid waiver is designed to reduce the number of avoidable hospitalizations, and an important part of that strategy is to develop the workforce needed to achieve the goals of the initiative. Further, New York's State Health Improvement Plan aims to promote an "advanced primary care model" that increases health service integration, including the integration of primary care with behavioral health. Collectively, these programs will result in an increased demand for accessible, high quality, cost-effective primary and preventive health services. The ultimate goal of these programs is improvements in population health.

The changing focus of the health care delivery system is resulting in an increase in the number of innovative care delivery models in the state, including patient centered medical homes, accountable care organizations, and health homes. Health care reimbursement is also changing, moving away from fee-for-service approaches and toward managed care arrangements. Increasingly, health care providers are eligible for incentives aimed at keeping people healthy and face penalties for poor outcomes, such as inappropriate hospital readmissions.

Providers are under growing pressure to find the most cost-effective and efficient workforce models to serve the growing number of New Yorkers seeking health care services. The emerging models of care typically use team-based approaches to service delivery. Health care team composition and roles vary and depend in part on the most pressing needs of the population served. Team members can include physicians, nurse practitioners, physician assistants, diabetes educators, social workers,¹ and medical assistants, among others. In addition, providers report using new categories of workers, including care coordinators, patient navigators, and community health workers. Understanding these new titles is challenging. The roles associated with these titles may differ by care model, and the activities associated with them may vary based on the needs of the patient population served, the services provided, and the skills and competencies of the individuals in these titles. For example, care coordinators may be registered nurses, licensed practical nurses, bachelor's-prepared social workers, or master's-prepared social workers.²

Many of the emerging titles are not currently included in health workforce data collection efforts, and identifying current labor force participation or future need is complicated by the fact that in some instances currently licensed health professionals (e.g., registered nurses, licensed practical nurses, and social workers) are employed in the emerging titles. The need continues to track the supply of and demand for workers in emerging titles to inform stakeholders on health workforce development strategies.

¹ Social workers are mainly defined in two ways. For federal and state labor department datasets, social workers are lumped together regardless of degree. For the New York State Education Department, they are licensed as clinical social workers (LCSWs) or as master's social workers (MSWs).

² Care Coordination Case Study Preliminary Findings. Center for Health Workforce Studies, April 2014.

This report presents a wide array of available data about the health workforce in New York. It describes trends in the state's health workforce by setting, occupation, and region. 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. Over 10% of the nation's workforce is employed in the health sector and 12% of New York's workforce is employed in health settings. The health care sector continues to grow faster than most other employment sectors in the U.S. Between 2002 and 2012, employment in the health sector nationally increased by 9% while employment in all other employment sectors grew by 0.2%. It is projected that jobs in the health care sector and jobs for many health care occupations will continue to expand faster than other employment sectors and other occupations and professions.

Health care sector employment is a vital component of New York's economy, especially in upstate and rural areas of the state. Between 2008 and 2012, employment in the health care sector in New York grew by nearly 6%, including almost 9% in the Long Island region and over 6% in the North Country region. In 2012, over 14% of jobs in the Mohawk Valley region were in the health care sector, followed by the Long Island region (13.6%), Hudson Valley region (12.9%), and the North Country region (12%).

KEY FINDINGS

Health sector employment is vital to New York's economy, particularly upstate New York.³

Employment in the health sector continues to be a vital economic driver for New York, accounting for more than 12% of total employment in New York in 2012. Between 1990 and 2012, health care employment grew by over 34% statewide compared to 3% for all other employment sectors. The difference in health care sector job growth compared to other employment sectors in upstate New York was even more dramatic than statewide or New York City, with health sector jobs growing by 32% between 1990 and 2012, while jobs in all other employment sectors declined by 7%.

While hospitals continue to employ the largest share of health sector workers in New York, jobs in home health care and ambulatory care grew the most between 2008 and 2012.

In 2012, 42% of health sector jobs in the state were in hospitals. Most of the remaining health sector jobs were either in ambulatory care (30%) or nursing and personal care facilities (16%). Since 1990, however, jobs in home health care in New York have nearly tripled, adding over 80,000 jobs, and employment in ambulatory care has increased by more than 80%, adding nearly 140,000 jobs between 1990 and 2012.

Many providers across the state expect to expand ambulatory services.

The majority of hospitals, home health care agencies, and federally qualified health centers (FQHCs) reported plans to expand ambulatory services, which will increase demand for registered nurses (RNs), nurse practitioners (NPs), physician assistants (PAs), physical therapists, and occupational therapists. FQHCs also planned to expand dental services. Some

³ All areas outside of the New York City region.

hospitals anticipated growth in outpatient procedural services as well as shifting the focus of specialty inpatient services to better address community need.

Hospitals and federally qualified health centers report an ongoing need for primary care providers.

New York's physicians are not well distributed across the state. There are more physician full-time equivalents (FTEs) per 100,000 total population practicing in urban areas of the state compared to sparsely populated areas. The New York City region had the highest number of physician FTEs per 100,000, with 90.2 and the North Country region (62.0) had the lowest. Both hospitals and FQHCs reported recruitment and retention issues for primary care physicians and NPs, and hospitals also indicated recruitment and retention difficulties for PAs.

Health care providers across New York report recruitment and retention difficulties for a wide array of professions and occupations.

- Hospitals reported the most difficulty recruiting and retaining clinical laboratory technologists, with a shortage of workers cited most often as the reason. Hospitals also reported problems recruiting and retaining medical coders, retaining physician assistants, and recruiting and retaining nurse managers.
- Nursing homes reported the most difficulty recruiting experienced RNs, nurse managers, and directors of nursing. Human resource directors noted the most difficulty retaining certified nursing aides (CNAs), followed by RNs.
- New York's home health care agencies reported the most difficulties recruiting respiratory therapists, followed by licensed clinical social workers (LCSWs), home health aides, and newly licensed RNs. Home health care agencies also indicated the most difficulty retaining personal care aides and respiratory therapists
- FQHCs reported the most difficulty recruiting psychiatric NPs, geriatric NPs, and psychiatrists and reported the most difficulty retaining dental assistants/aides/techs, licensed practical nurses (LPNs), RNs, and medical assistants.

Between 2012 and 2013, there was little growth in the number of graduates from New York's RN education programs.

In 2013, there were an estimated 11,000 graduates from RN education programs in New York, an increase of about 3% over 2012. This growth was attributed to an increase in bachelor's degree (BSN) graduations, including the continued increase in BSN completer graduations.⁴ Between 2012 and 2013, associate degree RN graduations decreased by almost 1%, while BSN graduations increased by nearly 7%.during the same time period.

⁴ BSN completers are those RNs who already have either an RN associate degree or diploma and continue their educations to complete a BSN.

Compared to 2012, a slightly smaller percentage of RN education program deans and directors reported “many jobs” for new RN graduates in 2013, and this was significantly lower than the percentage reporting “many jobs” in 2007.

In 2007, the vast majority of RN education program deans and directors reported a strong job market for their graduates. However, starting in 2009 and continuing through the 2013 survey, the percentage of RN education program deans and directors reporting “many jobs” for their graduates declined significantly in all health care settings. Additionally, health care providers across all health care settings reported no difficulty recruiting newly trained RNs and only moderate difficulty in retaining newly trained RNs.

II. BACKGROUND

A. Overview

The health care delivery system in New York is undergoing rapid transformation, driven in large part by federal and state health reform initiatives. The federal Affordable Care Act creates greater access to health insurance for New Yorkers and all Americans and is expected to drive increased demand for basic health services. New York's Medicaid waiver is designed to reduce the number of avoidable hospitalizations, and an important part of that strategy is to develop the workforce needed to achieve the goals of the initiative. Further, New York's State Health Improvement Plan aims to promote an "advanced primary care model" that increases health service integration, including the integration of primary care with behavioral health. Collectively, these programs will result in an increased demand for accessible, high quality, cost-effective primary and preventive health services. The ultimate goal of these programs is improvements in population health.

The changing focus of the health care delivery system is resulting in an increase in the number of innovative care delivery models in the state, including patient centered medical homes, accountable care organizations, and health homes. Health care reimbursement is also changing, moving away from fee-for-service approaches and toward managed care arrangements. Increasingly, health care providers are eligible for incentives aimed at keeping people healthy and face penalties for poor outcomes, such as inappropriate hospital readmissions.

Providers are under growing pressure to find the most cost-effective and efficient workforce models to serve the growing number of New Yorkers seeking health care services. The emerging models of care typically use team-based approaches to service delivery. Health care team composition and roles vary and depend in part on the most pressing needs of the population served. Team members can include physicians, NPs, PAs, diabetes educators, social workers,⁵ and medical assistants, among others. In addition, providers report using new categories of workers, including care coordinators, patient navigators, and community health workers. Understanding these new titles is challenging. The roles associated with these titles may differ by care model, and the activities associated with them may vary based on the needs of the patient population served, the services provided, and the skills and competencies of the individuals in these titles. For example, care coordinators may be RNs, LPNs, bachelor's-prepared social workers, or master's-prepared social workers.⁶

Many of the emerging titles are not currently included in health workforce data collection efforts, and identifying current labor force participation or future need is complicated by the fact that in some instances currently licensed health professionals (e.g., RNs, LPNs, and social workers) are employed in the emerging titles. The need continues to track the supply of and demand for workers in emerging titles to inform stakeholders on health workforce development strategies.

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⁶ Care Coordination Case Study Preliminary Findings, Center for Health Workforce Studies, April 2014.

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Health care sector employment is a vital component of New York's economy, especially in upstate and rural areas of the state. Between 2008 and 2012, employment in the health care sector in New York grew by nearly 6%, including almost 9% in the Long Island region and over 6% in the North Country region. In 2012, over 14% of jobs in the Mohawk Valley region were in the health care sector, followed by the Long Island region (13.6%), Hudson Valley region (12.9%), and the North Country region (12%).

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 and on health professionals; and
- To identify the health professions and occupations in greatest demand currently and offer projections for future demand.

The goals of this report are:

- To assist policy makers 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 Methods

All data sources for this report are cited unless they are from primary data collection conducted by the Center for Health Workforce Studies (the Center) and collaborating partners. The following is a list of data sources used in this report. When appropriate, the methods used for calculating the rates in this report are also discussed.

Information provided in this report is statewide or by New York State Department of Labor (NYSDOL) regions. A list of counties and a map depicting the NYSDOL regions are presented on pages 12 and 13.

Data sources include:

1. Center for Health Workforce Studies

- Surveys of Human Resources Directors in Health Care, 2013-2014

The Center, in conjunction with statewide and regional provider organizations, conducts annual surveys of human resources directors from federally qualified health centers (FQHCs), home health care agencies, hospitals, and nursing homes across New York. The surveys ask about the professions and occupations that pose the greatest recruitment and retention problems. Recruitment and retention difficulty is assessed on a one (least difficult) to five (most difficult) scale. The provider organizations that the Center collaborated with on these surveys included:

- Community Health Center Association of New York State;
- Continuing Care Leadership Coalition at the Greater New York Hospital Association;
- Healthcare Association of New York State;
- Home Care Association of New York State, Inc.
- LeadingAge New York; and
- New York State Association of Healthcare Providers, Inc.

Home health care agencies serve patients in multiple counties and FQHCs also have sites in multiple counties, which may be located in different NYSDOL regions. Consequently, information on recruitment and retention for FQHCs and home health care agencies was reported in each region where services were provided or sites were located. In instances where total responses for a region, either by setting or occupation, were less than five, no information is provided or contiguous regions are combined.

- New York State RN Graduations, 1996-2014

The Center surveys RN education programs in New York annually to better understand trends in the supply of RNs in the state. The 2013 survey included questions about applications, acceptances, and graduations for that year as well as projected graduations through 2014.

- New York State Physician Licensure Re-registration Survey, 2013

With the support of the New York State Department of Health (NYSDOH) and assistance from the New York State Education Department (SED), the Center administers an ongoing survey of licensed physicians in New York. The survey is designed to collect basic information on demographic and practice characteristics of all licensed physicians in New York. These data are used to describe the supply and distribution of primary care physicians in New York. In this report, primary care physicians refer to physicians who practice in ambulatory care or outpatient settings and include the following specialties: family medicine, general practice, general internal medicine, general pediatrics, obstetrics and gynecology, and geriatrics. Primary care physicians in this report do not include

physicians practicing in inpatient hospital settings (e.g., hospitalists) or other settings where services inaccessible to the general public, such as nursing homes, prisons, or on college campuses. In this report, physicians are discussed in terms of full-time equivalents (FTEs). FTEs are calculated by dividing the number of hours a physician works a week by 40. For purposes of this report, FTEs are capped at one FTE, i.e., any physician who works more than 40 hours is reduced to 40 hours.

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

Various labor department statistics are used in this report from federal and state sources. In 2010, there were some definitional changes in occupational titles, most notably RNs, personal care aides, and home health aides, which affected their labor department statistics. Prior to 2010, RNs included advanced practice nurses (NPs, certified nurse midwives, and certified registered nurse anesthetists). Additionally, the previous definition for personal care aides included home health aides. In reviewing changes in counts among years, please be aware of these definitional changes for occupational employment statistics and projections data.

- Covered Employment and Wages Program (ES-202), 2008-2012

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 numbers are estimates not whole numbers, therefore, the columns and rows in some tables in this report may not total exactly due to rounding. At times, ES-202 survey responses were not able to be placed into regions. Consequently, summing the regions will not add up to the statewide total.

- Occupational Employment Statistics (OES), 2008-2012

These data were used to describe changes in the number of jobs by occupation in the state as a whole 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.

- Occupational Employment Statistics (OES), 2013

New York published employment data for the state's regions for 2013 based on 2009, 2010, 2011, and 2012 OES survey data. As with the national data, estimates are based on a sample of employers. This data included both jobs and wages, which were reported as an average annual salary. In this report, hourly wages are listed.

- Employment Projections, 2012-2022 (national); 2010-2010 (state, regional)

Employment projections used in this report reflect a count of the number of jobs in certain occupational categories and by health care setting. Every two years, employment projections are developed for the nation. The NYSDOL develops projections for the state and by NYSDOL region, but those projections generally lag one year behind the national projections. National projections for this report are for the period 2012-2022, while state and regional projections are for the period of 2010-2020.

Annual job 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 reflect significant annual turnover within the occupation rather than expansion of the occupation. Limitations to these projections include unanticipated external factors such as recessions, change in scopes of work or education for specific occupational titles, changes in state and/or federal reimbursement, and advancements in technology.

3. State Education Department Licensure Data, 2008 -2012

The licensure data presented in this report reflect counts of licensed health care professionals in New York in April of each reporting year. State licensure data are a source of information on the supply of health professionals. Data are available from 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 can, however, provide valuable information on major trends in the supply of health professionals in the state.

In reviewing licensure data, please be aware that:

- Social workers (SWs) are licensed as licensed clinical social workers (LCSWs) and licensed master's social workers (LMSWs). These are aggregated in this report.
- Nurse practitioners are licensed as RNs but certified in one or more NP specialty. Information presented in the report at the regional level represents a duplicated count across all specialties. The statewide count is unduplicated.
- Counts of health professionals 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.⁷

4. U.S. Census, 2008-2012

The 2008-2012 American Community Survey was used to describe selected population characteristics by NYSDOL regions. The population characteristics included total population, age structure, poverty, race/ethnicity, and education level. The education levels and rates were based on individuals age 25 years and older.

5. New York State Community Health Indicator Report, 2009-2011 (2008-2010 for cancer)

These data were used to describe the health of the population by NYSDOL regions. The health indicators include information on deaths, births, and hospitalizations. Both counts and rates are reported, with the rates being the average of three years (2009-2011) except for cancer deaths (2008-2010).

The rates reported for calculating health indicators is as follows:

- Infant death 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.
- Low-birthweight rate and percent of late/no prenatal care is reported per 100 live births. Percent of late/no prenatal care was based on those births where information was provided and not on total births.
- All deaths are reported per 100,000 total population.
- Rates per 10,000 for adult asthma hospital admissions are based on population, age 18 and older.
- Rates per 10,000 for pediatric asthma hospital admissions are based on population, age birth to 15.
- All other rates per 10,000 for hospitalizations and ED visits are based on the total population.

6. New York State Department of Health SPARCS Data, 2009-2011

Data from the Statewide Planning and Research Cooperative System (SPARCS) were used to report preventable hospitalization. The numbers represent the average of three years, from 2009 to 2011, and the rates are based on per 10,000 average total population.

D. 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:

⁷ 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.

- 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; and
- Ambulatory care settings (excluding home health care), 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 counts. Also, 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 as defined by BLS.

Occupations are usually grouped by BLS OES categories. These occupational categories also have limitations. Prior to 2010, for example, registered nursing made no distinction between NPs, nurse midwives, and RNs. The nursing aides, orderlies, and attendants occupational category also includes multiple job titles, levels of training, and certifications and were separated into separate job categories in 2010.

There are some job titles in a health setting that may not necessarily reflect 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. Additionally, throughout this report some abbreviations are used. The following is a list of the most common.

CNA	certified nursing aide
FPL	federal poverty level
FQHC	federally qualified health center
FTE	full-time equivalent
HIT	health information technology
LCSW	licensed clinical social worker
LMSC	licensed master's social worker
LPN	licensed practical nurse
MDS	minimum data set
NP	nurse practitioner
Ob/Gyn	obstetrician/gynecologist
PA	physician assistant
RN	registered nurse

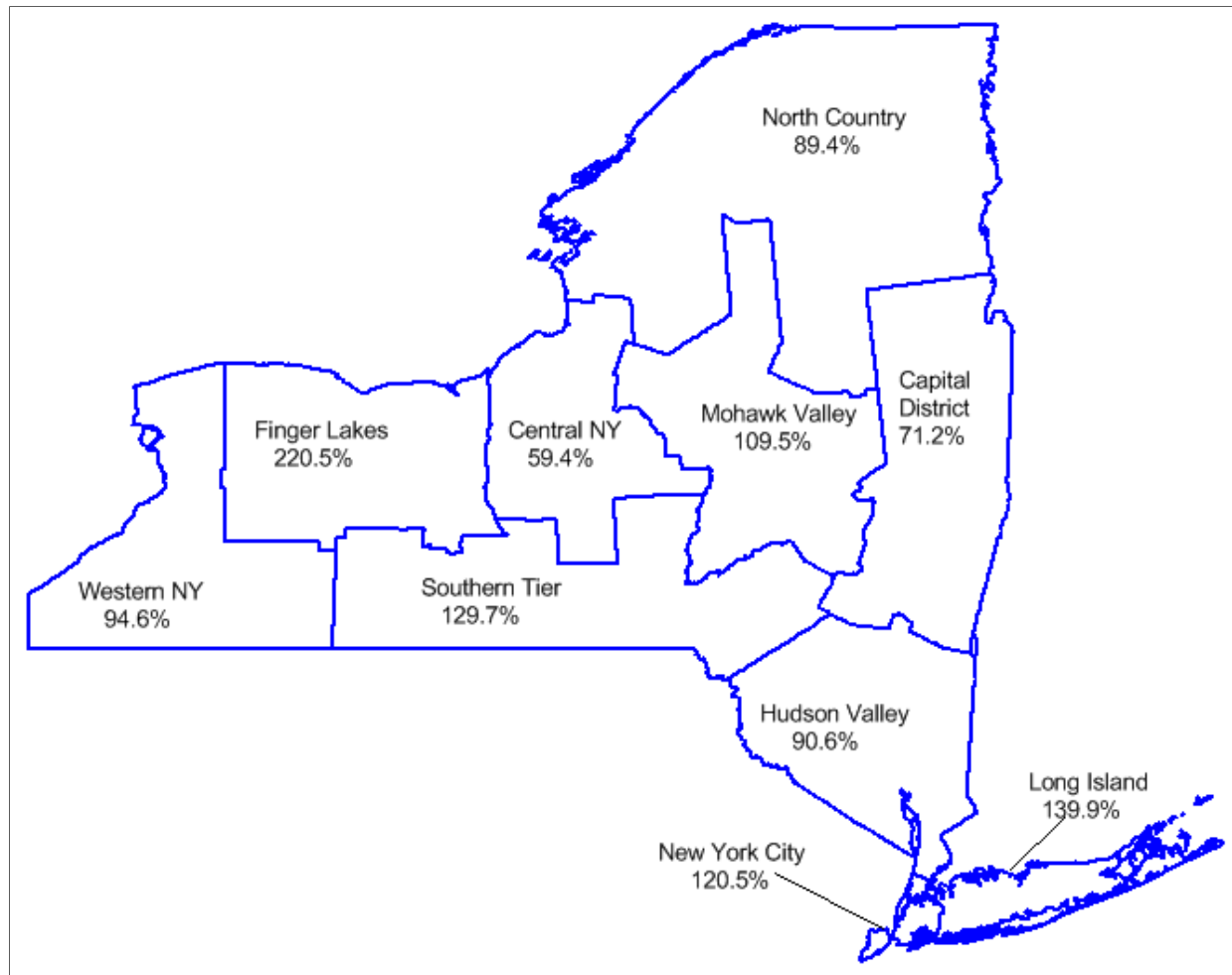
Geographic Areas

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.

For the purpose of this report, the term upstate New York is used to define all New York state regions except New York City.

Exhibit 1. New York State Department of Labor Regions



III. THE HEALTH CARE WORKFORCE IN THE UNITED STATES

A. Total Employment

In 2012, there were more than 19 million jobs either in the health sector or in health occupations employment outside of the health sector, accounting for over 13% of the total U.S. workforce. In 2012, more than 15 million of these (10% of U.S. employment) were in the health sector, including both health and non-health-related occupations. The remaining 4 million jobs (2.9% of U.S. employment) were in health occupations outside of the health sector (Exhibits 2 and 3).

Exhibit 2. The U.S. Health Workforce, 2012 (in thousands)

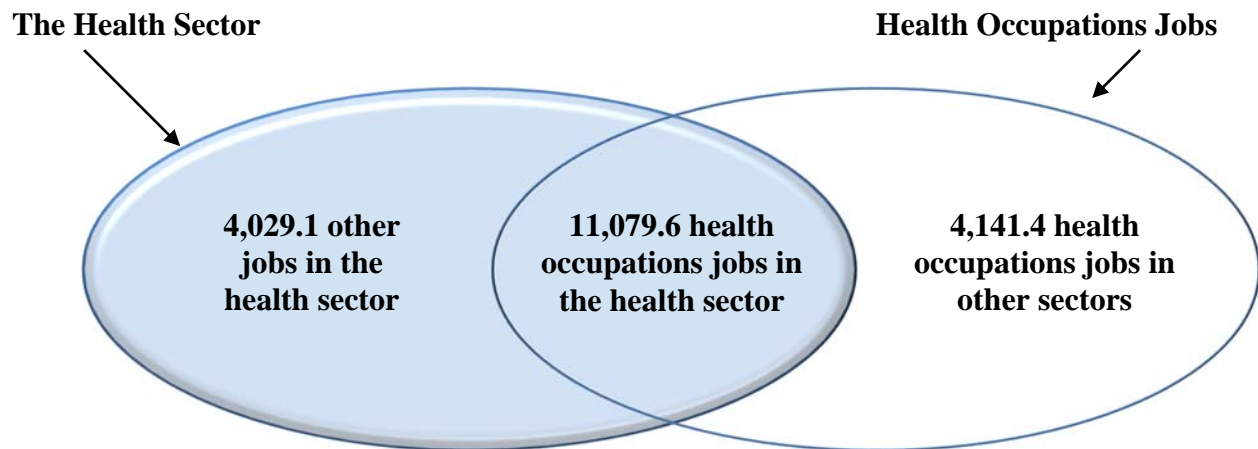


Exhibit 3. The U.S. Health Workforce, 2012 (in thousands)

Setting	Health Occupations Jobs	Other Jobs	Total
Health Care Settings	11,079.6	4,029.1	15,108.7
Other Work Settings	4,141.4	126,105.7	130,247.1
Total	15,221.0	130,134.8	145,355.8

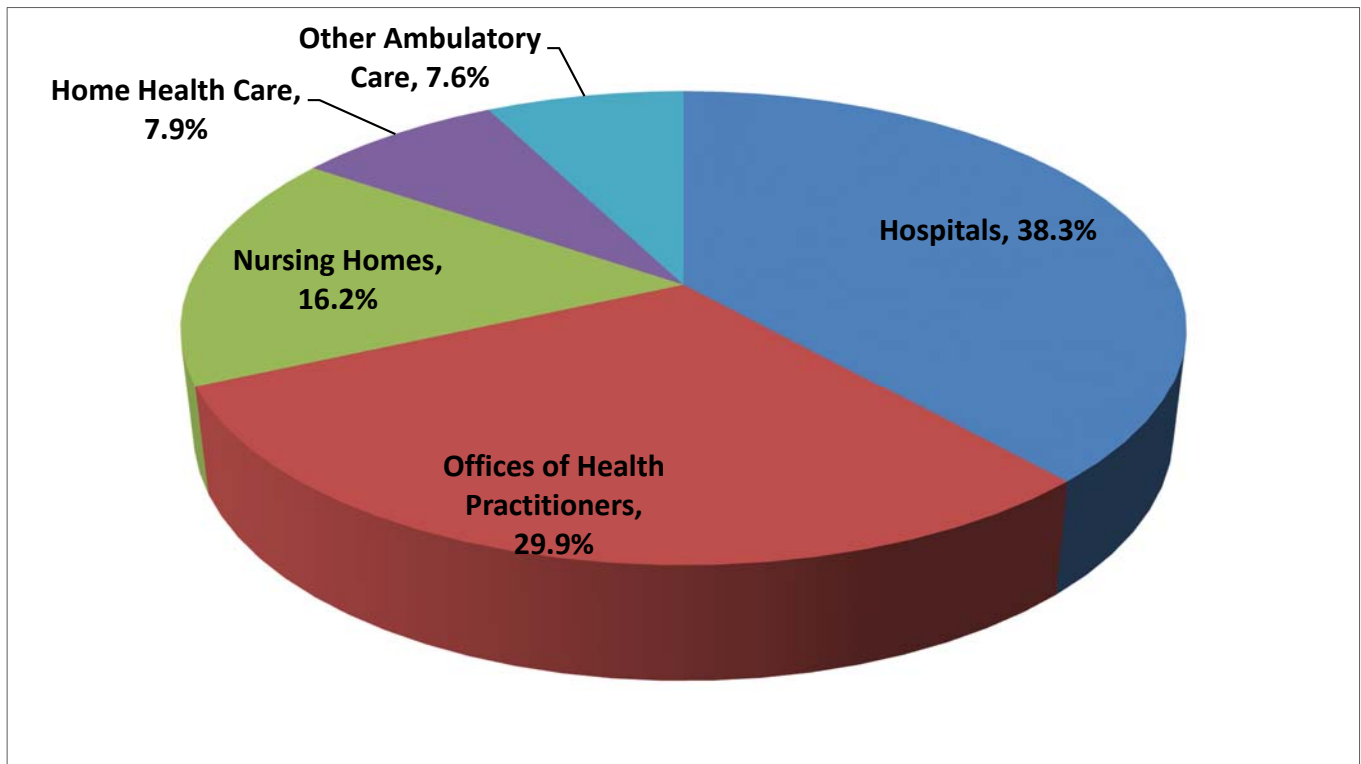
Setting	Number	Percent of the Civilian Workforce
Health Occupations Jobs in Health Care Settings	11,079.6	7.6%
Other Jobs in Health Care Settings	4,029.1	2.8%
Health Occupations Jobs in Other Settings	4,141.4	2.9%
Total	19,250.1	13.2%

Sources: U.S. Department of Labor, Bureau of Labor Statistics. Employment by industry, occupation, and percent distribution, 2012 and projected 2022, 2012-2022 Matrix Public.

B. By Setting

Hospitals continued to employ the most health workers in the U.S. (38%) followed by offices of health practitioners (30%), nursing homes (16%), and about 8% for both home health care and other ambulatory care (Exhibit 4).

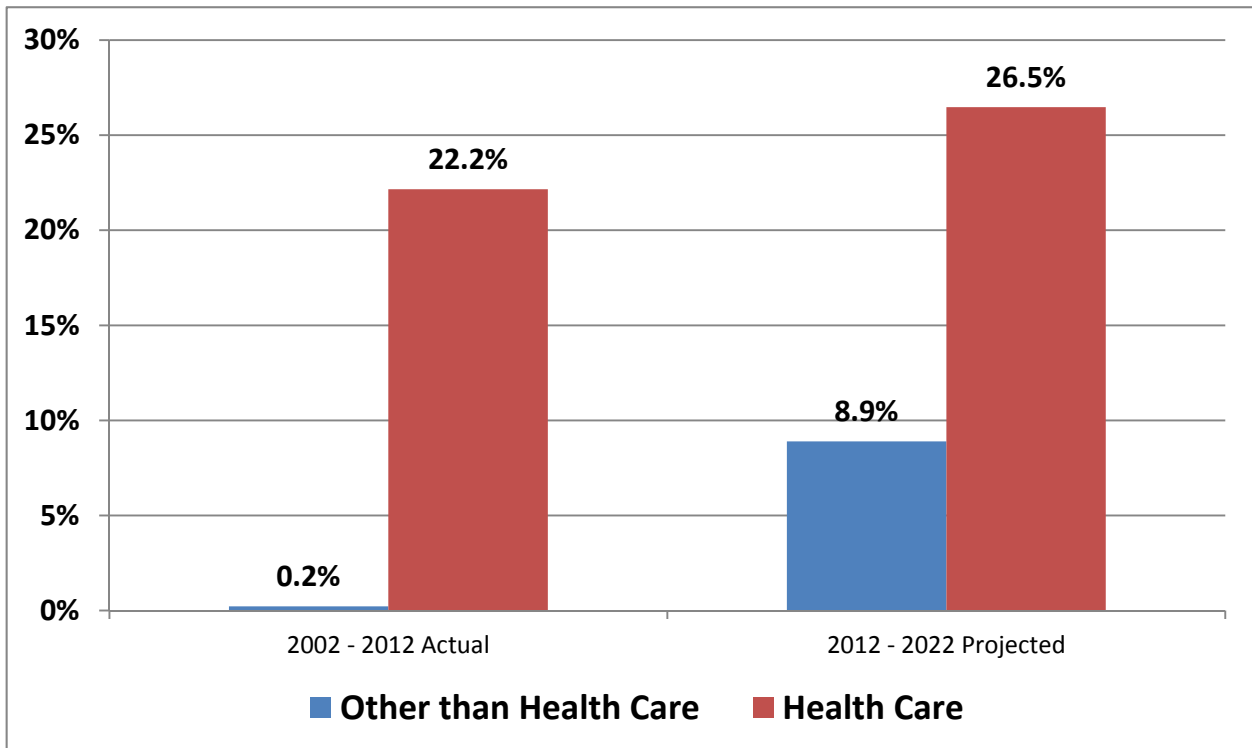
Exhibit 4. Percent Distribution of the Health Workforce in the U.S., by Setting, 2012



Sources: U.S. Department of Labor, Bureau of Labor Statistics.
Employment by industry, occupation, and percent distribution, 2012 and projected 2022, 2012-2022 Matrix Public.

Between 2002 and 2012, employment in the country's health sector grew by more than 22%, while employment in other sectors remained stable. It is projected that between 2012 and 2022, health sector employment will grow at a significantly higher rate than employment in all other sectors. Health sector employment is projected to grow from over 15 million jobs in 2012 to more than 19 million jobs in 2022, an increase of nearly 27%, compared to only 9% growth for jobs in all other employment sectors (Exhibit 5).

Exhibit 5. Job Growth in the Health Care Sector Compared to All Other Employment Sectors in the U.S., 2002–2012 and Projected 2012–2022

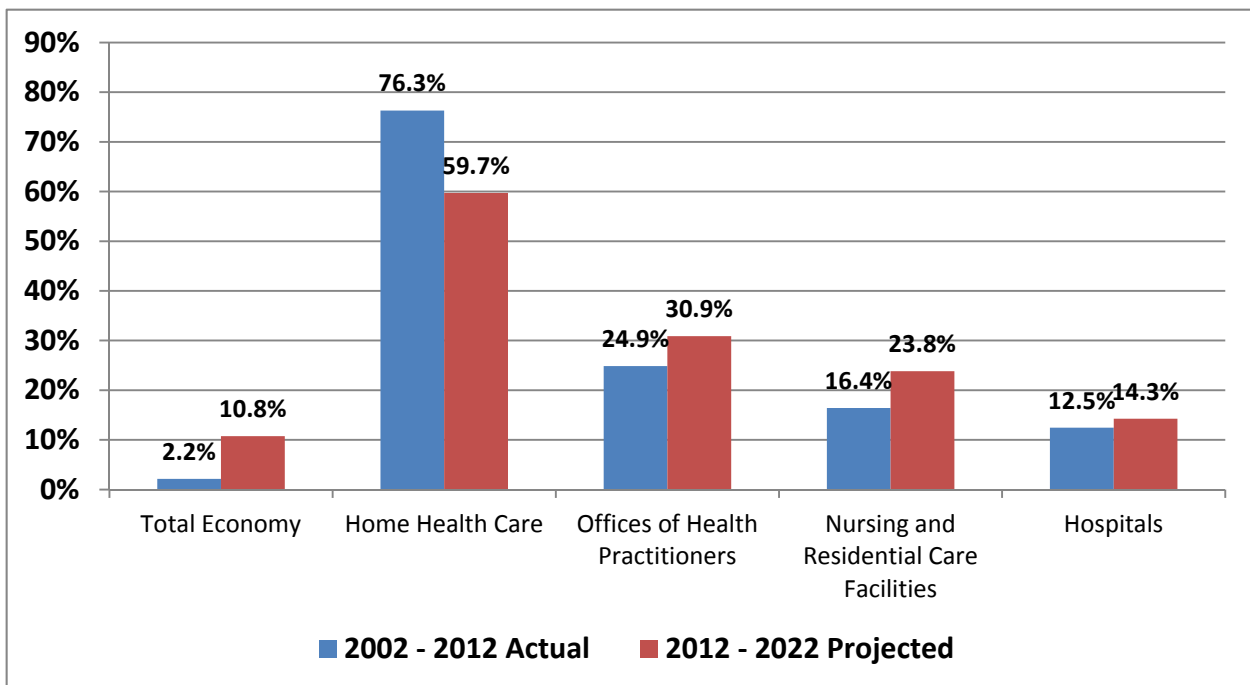


Sources: U.S. Department of Labor, Bureau of Labor Statistics.
Employment by industry, occupation, and percent distribution, 2012 and projected 2022, 2012-2022 Matrix Public

Nationwide, home health care is projected to experience the fastest job growth in the health care sector, with an overall growth of nearly 60% between 2012 and 2022, adding over 700,000 jobs during that time period. In addition, offices of health practitioners are projected to add over 1.2 million jobs during the 10-year period, with an overall growth of 31%.

Between 2012 and 2022, jobs in nursing and residential care facilities are projected to grow by 24%, adding over 760,000 jobs, and hospitals are projected to grow by 14% during the same time period, adding more than 825,000 jobs (Exhibit 6).

Exhibit 6. Actual and Projected Growth of Selected Occupational Settings in the Health Care Sector in the U.S., 2002-2012 and Projected 2012-2022

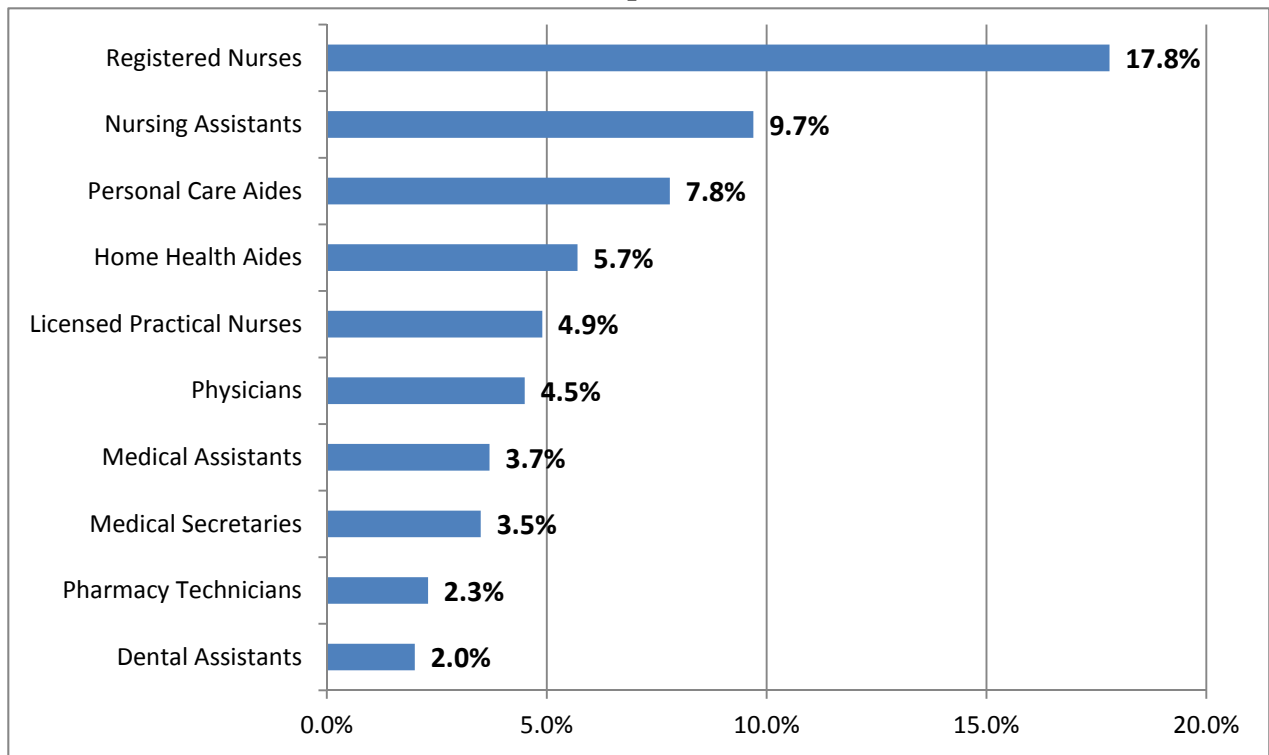


Sources: U.S. Department of Labor, Bureau of Labor Statistics.
Employment by industry, occupation, and percent distribution, 2012 and projected 2022, 2012-2022 Matrix Public

C. By Occupation

Of the total health care workforce in the U.S. in 2012, RNs (18%) were the single largest health occupation, followed by nursing assistants (10%), personal care aides (8%), and home health aides (6%) (Exhibit7).

Exhibit 7. Health Care Occupations in the U.S., 2012



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

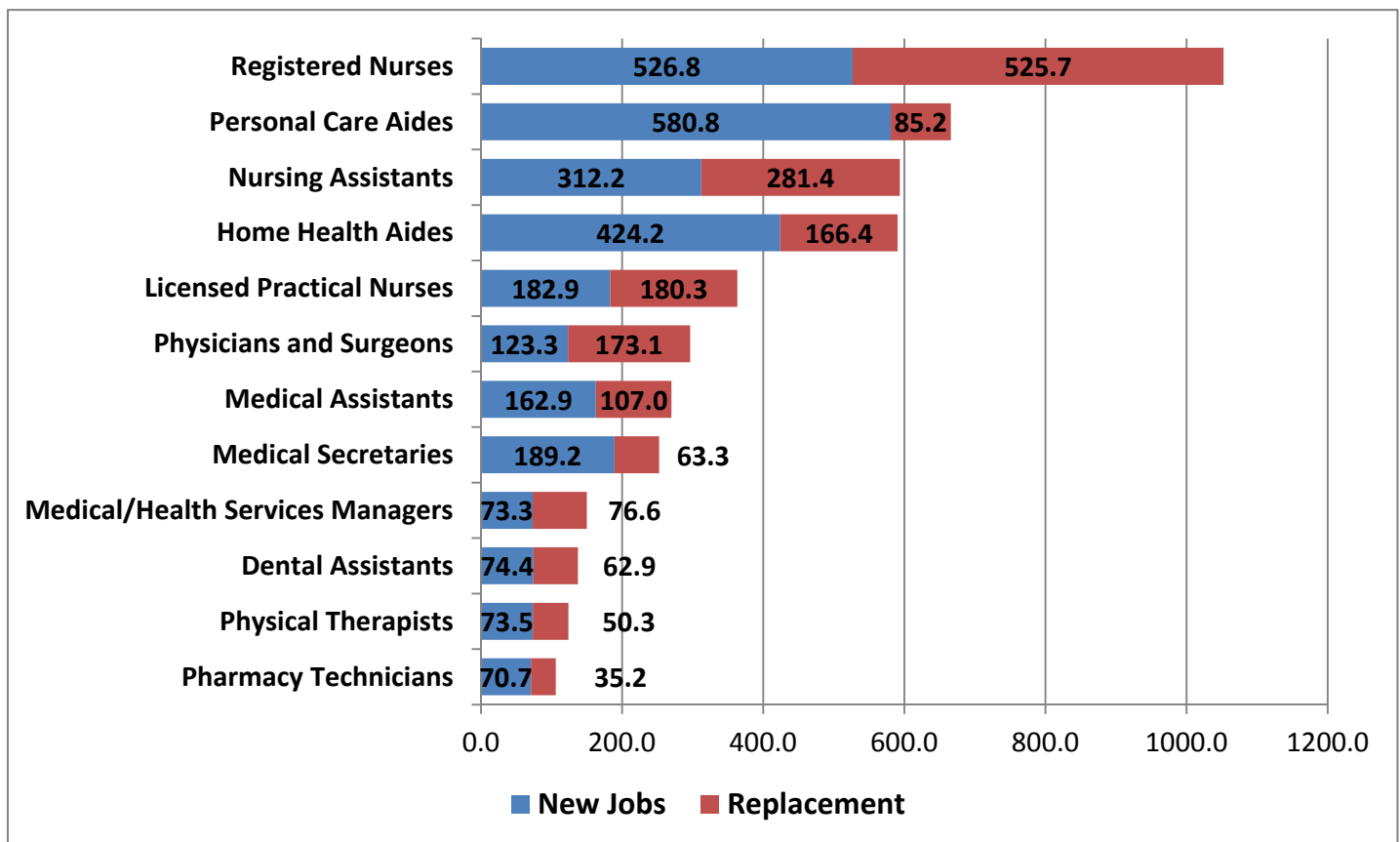
Employment by industry, occupation, and percent distribution, 2012 and projected 2022, 2012-2022 Matrix Public

Sixteen of the top 30 fastest growing occupations between 2012 and 2022 are in health care. Jobs for both personal care aides and home health aides are projected to increase substantially between 2012 and 2022, both by approximately 49%. The projected top 10 fastest growing health occupations include:

- Personal care aides (48.8%);
- Home health aides (48.5%);
- Diagnostic medical sonographers (46.0%);
- Occupational therapy assistants (42.6%);
- Physical therapy assistants (41.0%);
- Physical therapy aides (40.1%);
- Physician assistants (38.4%);
- Occupational therapy aides (36.2%);
- Medical secretaries (36.0%); and
- Physical therapists (36.0%).

The need for workers, however, includes both new job openings and replacement of existing staff due to turnover. Between 2012 and 2022, more than 1 million new RNs will be needed nationwide, including more than 525,000 to replace RNs leaving the profession. During the same period, over 660,000 personal care aides, nearly 600,000 nursing assistants, about 590,000 home health aides, and over 360,000 LPNs will be needed to fill new and existing jobs (Exhibit 8).

Exhibit 8. Selected Health Occupations with the Largest Projected Job Need in the U.S., 2012-2022 (in thousands)



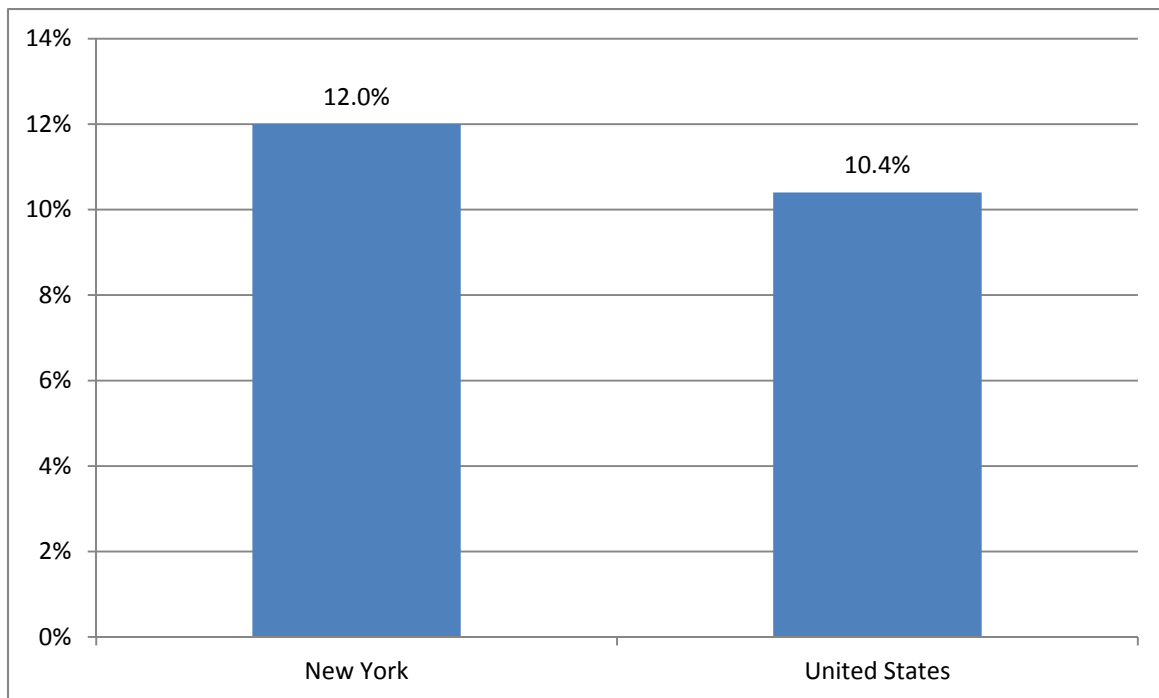
Sources: U.S. Department of Labor, Bureau of Labor Statistics.
Employment by industry, occupation, and percent distribution, 2012 and projected 2022, 2012-2022 Matrix Public

IV. NEW YORK HEALTH SECTOR EMPLOYMENT

A. Total Employment

In 2012, health sector employment accounted for 12% of total employment in New York, somewhat higher than the national level. This rate, however, did not include those health professionals working in other employment sectors outside the health sector, such as nurses working in educational settings or pharmacists working in retail settings, such as retail pharmacies or supermarkets (Exhibit 9).

Exhibit 9. Health Sector Employment as a Percentage of Total Employment, 2012

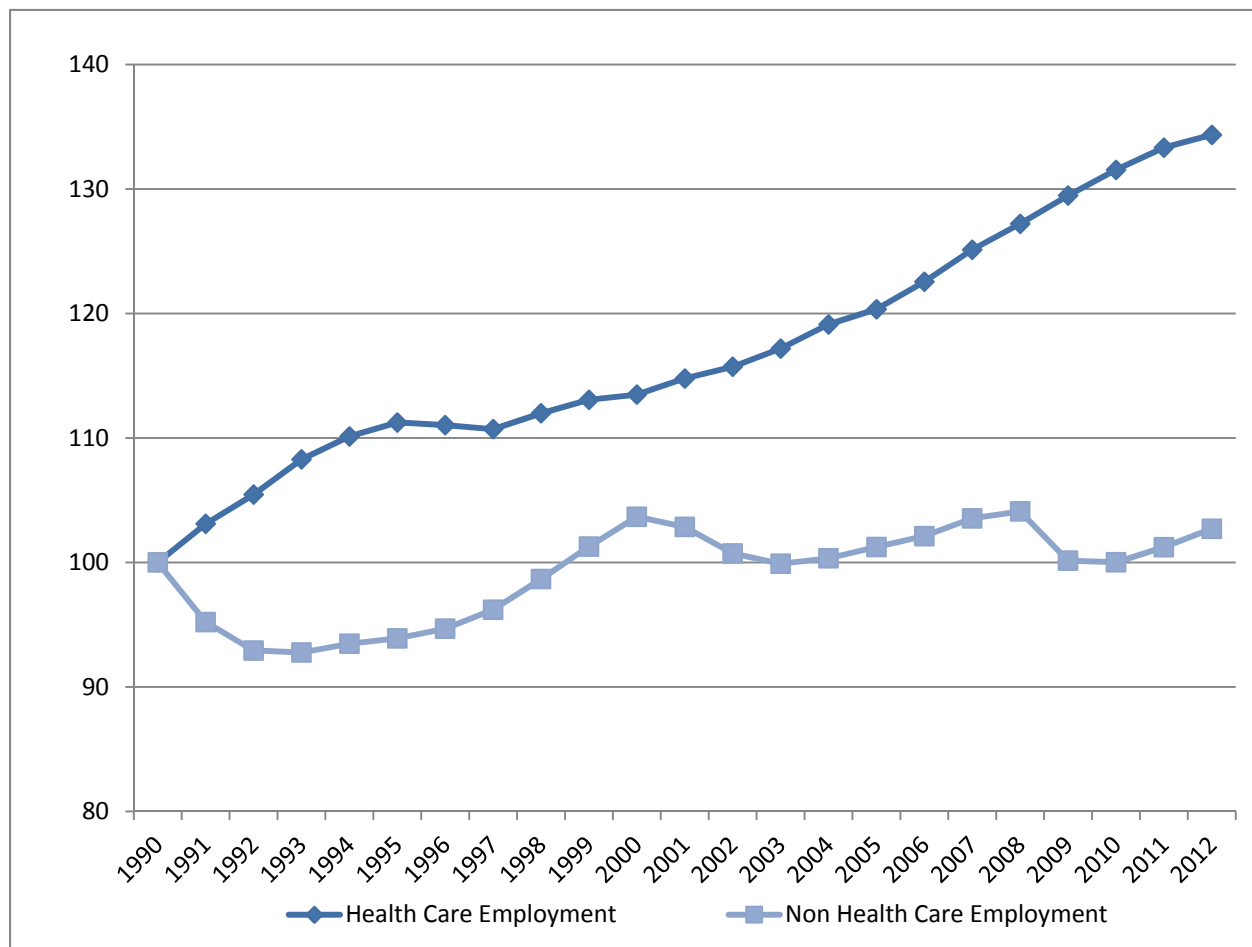


Sources: U.S. Department of Labor, Bureau of Labor Statistics.
Employment by industry, occupation, and percent distribution, 2012 and projected 2022, 2012-2022 Matrix Public;
NYS Department of Labor, ES-202.

Between 1990 and 2012, health care employment in New York grew by more than 34%, adding over 260,000 jobs, while employment in all other sectors grew by about 198,000 or slightly less than 3%. Between 2008 and 2009, employment in the health sector increased by over 17,000 jobs, or nearly 2%, while employment in all other sectors declined by nearly 300,000 jobs.

Additionally, in the 10 years between 2002 and 2012, employment in health care in New York increased by more than 16% while employment in all other sectors only grew by around 2% (Exhibit 10).

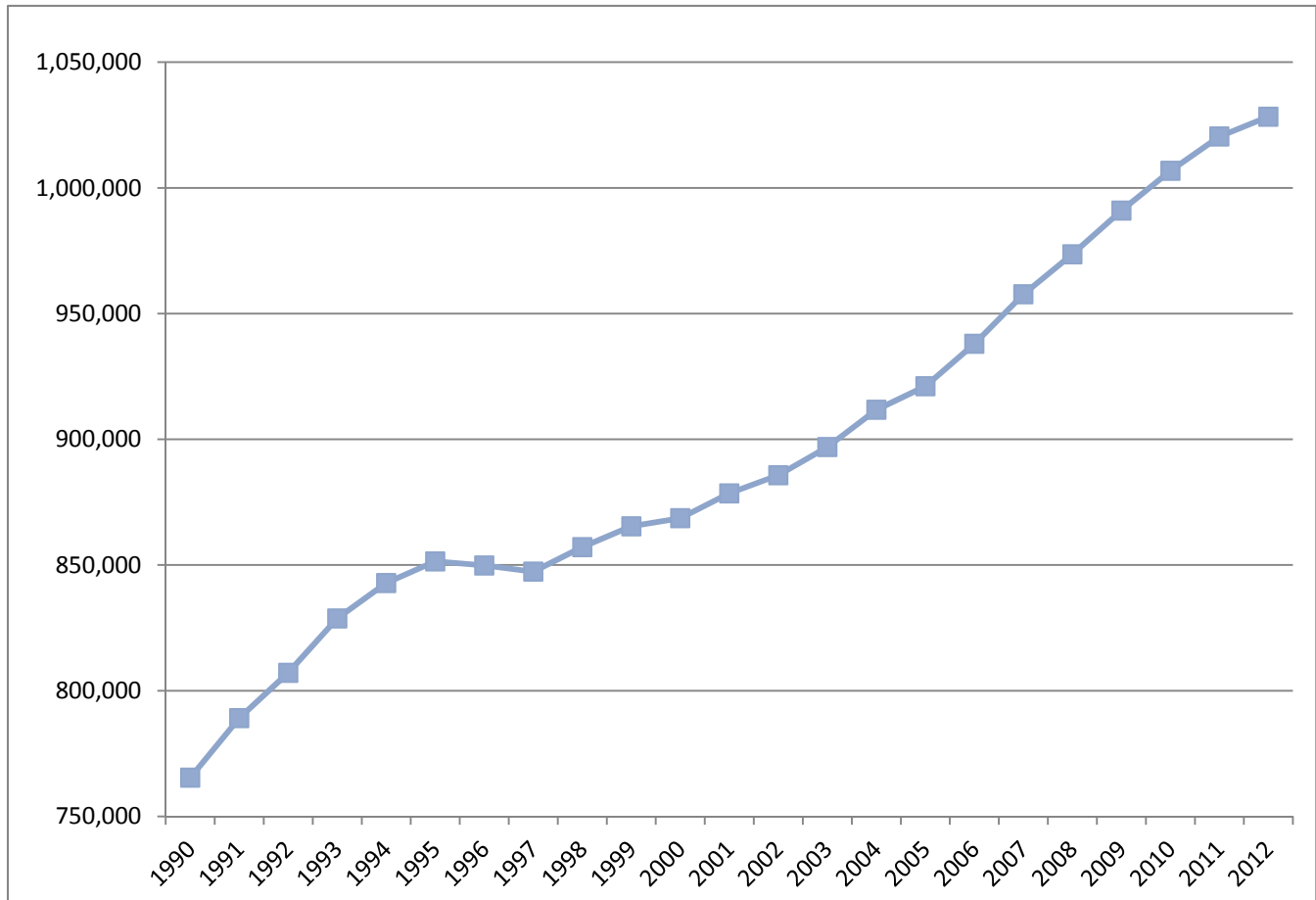
Exhibit 10. Employment Growth in New York, 1990-2012 (Standardized to 1990)



Source: NYS Department of Labor, ES-202

After leveling off between 1994 and 1996, health sector employment in New York has grown rapidly, adding more than 180,000 jobs between 1996 and 2012. The average annual growth in the health sector since 1997 has been more than 1%. The annual growth between 2011 and 2012 however, was less than 0.8% (Exhibit 11).

Exhibit 11. Trends in Total Health Sector Employment in New York, 1990-2012

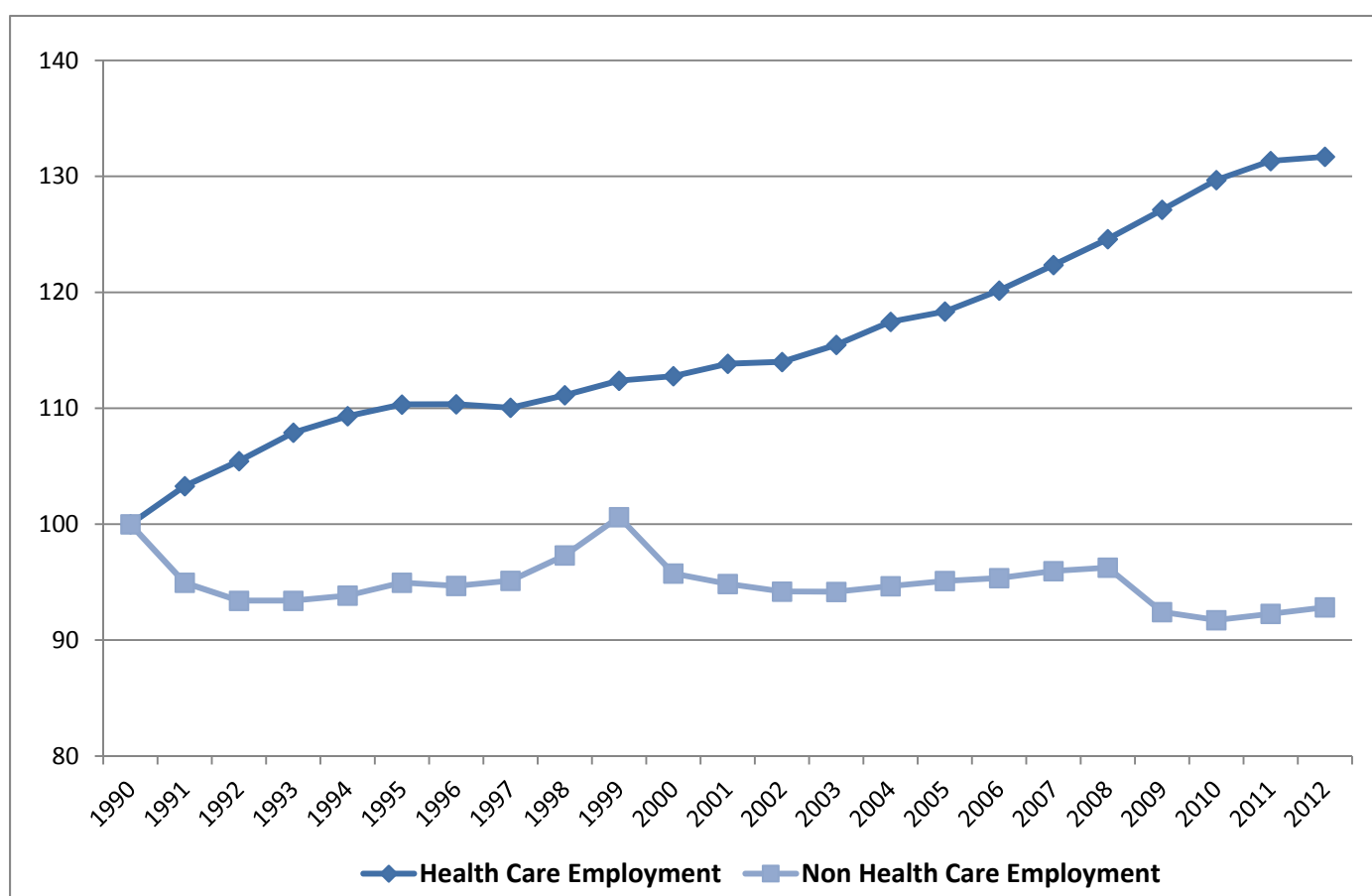


Source: NYS Department of Labor, ES-202

Employment Growth in Regions Outside of New York City⁸

The difference in the growth between health care sector and non-health care sector jobs was most pronounced in regions outside of New York City. While employment in the health care sector increased by nearly 32% between 1990 and 2012 in upstate New York, employment outside of the health care sector declined by around 7% during that same period. Between 2000 and 2008, employment outside of health care remained relatively steady, though still below the 1990 employment figures. But in 2009, employment dropped significantly in non-health care sectors in upstate New York. Between 2011 and 2012, the annual growth in health care employment was slower than in previous years (Exhibit 12).

**Exhibit 12. Employment Growth in Regions Outside of New York City, 1990-2012
(Standardized to 1990)**



Source: NYS Department of Labor, ES-202

⁸ For New York City employment growth, please see page 51, Exhibit 40.

B. Primary Care Physicians

There were over 16,000 primary care physician FTEs practicing in New York in 2013 in community settings,⁹ or 84.5 per 100,000 total population. Forty-two percent (42%) of primary care physicians practiced general internal medicine, 23% were in family and general practice, and 22% were in general pediatrics. There were nearly 47.6 obstetricians/gynecologists (ob/gyns) per 100,000 women age 15-44 and 87.2 general pediatricians per 100,000 for children age birth-17 (Exhibit 13).

Exhibit 13. Primary Care FTEs in New York, by Specialty, 2013¹⁰

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	3,725	19.2
Internal Medicine (General)	6,957	35.9
Geriatrics	124	4.7
Obstetrics/Gynecology	2,054	47.6
Pediatrics (General)	3,532	87.2
Total	16,392	84.5

Primary care FTEs were not evenly distributed among regions in the state. The New York City region had the largest share with 90.2 FTEs per 100,000 total population, followed by Long Island (88.3 per 100,000 total population) and Hudson Valley (87.5 per 100,000 total population) regions. The North Country region had the smallest share with 62.0 FTEs per 100,000 total population (Exhibit 14).

Exhibit 14. Primary Care FTEs per 100,000 Population in New York, by Region, 2013

Region	Primary Care FTEs	Per 100,000 Population
Capital District	842	78.0
Central New York	576	72.8
Finger Lakes	999	82.1
Hudson Valley	2,007	87.5
Long Island	2,500	88.3
Mohawk Valley	348	69.9
New York City	7,399	90.2
North Country	269	62.0
Southern Tier	492.8	75.0
Western New York	958.9	68.5

⁹ Included physicians practicing in outpatient or ambulatory care settings but excluding those working in inpatient settings such as hospitals, nursing homes, etc.

¹⁰ All rates are per 100,000 total population except the ob/gyn rate, which is per 100,000 women age 15-44 and the pediatrician rate, which is per 100,000 children age birth-17, and geriatrics rate, which is per 100,000 population age 65 and older.

C. By Setting

Between 1990 and 2012, employment in the health sector in New York increased by 35%. Employment in home health care (182%) almost tripled between 1990 and 2012. Employment in both ambulatory care settings and nursing home and personal care facilities significantly increased during that same period, by 81% and 49%, respectively. In contrast, employment in hospitals decreased by nearly 2% between 1990 and 2012 (Exhibit 15).

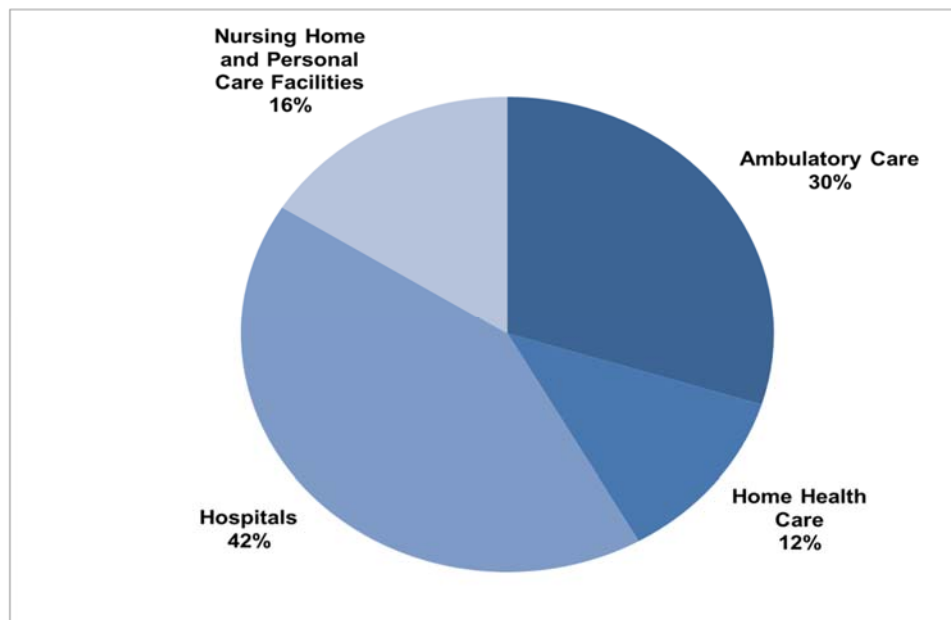
Exhibit 15. Number of Health Care Jobs in New York, by Setting, 1990, 2012

Setting	1990	2012	Number Change	Percent Change
Hospitals	439,900	432,758	-7,142	-1.6%
Ambulatory Care (Excluding Home Health)	170,000	308,334	138,334	81.4%
Nursing Home and Personal Care Facilities	107,800	160,811	53,011	49.2%
Home health Care	44,800	126,413	81,613	182.2%
Total	762,500	1,028,316	265,816	34.9%

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

Hospitals remained the largest employer in the health sector in New York in 2012 (42% of all health sector employees), followed by ambulatory care (30%), nursing and personal care facilities (16%), and home health care (12%) (Exhibit 16).

Exhibit 16. Health Sector Employment in New York, by Setting, 2012



Sources: NYS Department of Labor, ES-202

D. By Region

Health sector employment in New York grew by almost 6% between 2008 and 2012. In 2012, the New York City region had more than 447,000 health sector jobs and the Long Island region had more than 163,000 health sector jobs, reflecting increases of 5.6% and 9%, respectively, between 2008 and 2012. The North Country region had the second largest percentage increase in health sector employment, growing by slightly over 6% between 2008 and 2012. Health sector employment in both the Western New York and Mohawk Valley regions increased by less than 1% during the same time period (Exhibit 17).

Exhibit 17. Total Health Sector Employment in New York, by Department of Labor Region, 2008-2012

Region	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Capital District	53,249	54,136	54,521	55,320	56,097	2,848	5.3%
Central New York	36,578	37,061	37,093	37,367	38,500	1,922	5.3%
Finger Lakes	59,232	60,192	60,999	61,889	62,521	3,289	5.6%
Hudson Valley	107,364	108,778	110,546	111,655	111,528	4,164	3.9%
Long Island	150,712	153,830	161,395	164,628	163,830	13,118	8.7%
Mohawk Valley	26,609	26,942	27,195	27,019	26,861	252	0.9%
New York City	424,135	430,901	435,264	441,651	447,956	23,821	5.6%
North Country	16,858	17,244	17,564	17,784	17,899	1,041	6.2%
Southern Tier	27,852	28,173	28,648	28,925	29,081	1,229	4.4%
Western New York	70,241	71,034	71,456	71,384	70,649	408	0.6%
Total	975,126	990,956	1,006,782	1,020,423	1,028,317	53,191	5.5%

Sources: NYS Department of Labor, ES-202

Between 2008 and 2012, the number of health care jobs per capita statewide increased by almost 5%. The Long Island region had the highest number of health care jobs per capita in 2012 with 5,751.4 jobs per 100,000 total population, followed by the Mohawk Valley region with 5,407.5 jobs per 100,000 total population and New York City with 5,373.3 jobs per 100,000 total population.

The North Country had the lowest number of health care jobs per 100,000 total population in 2012 with 4,096.8 jobs. The Mohawk Valley had the highest percent of health care jobs to total jobs in 2012 (14%), followed by Long Island and Hudson Valley regions (Exhibit 18).

Exhibit 18. Total Employment and Health Sector Employment in New York, by Department of Labor Region, 2008, 2012

Region	2008			
	Total Population	Jobs Per 100,000		% Employment in Health Care
		Total Employment	Health Care Employment	
Capital District	1,062,218	47,999.3	5,013.0	10.4%
Central New York	772,902	45,325.2	4,732.6	10.4%
Finger Lakes	1,191,287	46,056.8	4,972.1	10.8%
Hudson Valley	2,277,383	39,211.0	4,714.4	12.0%
Long Island	2,866,586	42,681.8	5,257.5	12.3%
Mohawk Valley	490,192	40,221.8	5,428.3	13.5%
New York City	8,346,794	44,012.9	5,081.4	11.5%
North Country	427,578	36,427.7	3,942.7	10.8%
Southern Tier	645,994	42,622.5	4,311.5	10.1%
Western New York	1,386,855	45,530.8	5,064.8	11.1%
Total	19,467,789	44,157.0	5,008.9	11.3%
Region	2012			
	Total Population	Jobs Per 100,000		% Employment in Health Care
		Total Employment	Health Care Employment	
Capital District	1,082,191	46,098.3	5,183.7	11.2%
Central New York	789,960	42,798.1	4,873.7	11.4%
Finger Lakes	1,219,458	44,299.3	5,126.9	11.6%
Hudson Valley	2,309,452	37,501.6	4,829.2	12.9%
Long Island	2,848,506	42,379.9	5,751.4	13.6%
Mohawk Valley	496,738	38,038.0	5,407.5	14.2%
New York City	8,336,697	44,988.8	5,373.3	11.9%
North Country	436,906	34,190.6	4,096.8	12.0%
Southern Tier	654,789	40,199.7	4,441.3	11.0%
Western New York	1,395,564	44,253.6	5,062.4	11.4%
Total	19,570,261	43,740.5	5,254.5	12.0%

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

1. Hospital Employment

Between 2008 and 2012, overall hospital employment in New York increased by more than 5,500 jobs, or over 1%.¹¹ The Long Island region experienced the largest percentage increase in hospital employment (13%) between 2008 and 2012, followed by the North Country region (9%). The Long Island region also experienced the largest growth in the number of new hospital jobs, with slightly more than 7,000 new jobs, followed by the Finger Lakes region with an increase of more than 1,400 hospital jobs. The New York City, Hudson Valley, Mohawk Valley and Western New York regions all saw a loss of hospital jobs between 2008 and 2012 (Exhibit 19).

Exhibit 19. Hospital Employment in New York, by Department of Labor Region, 2008-2012

Region	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Capital District	22,413	22,980	23,057	23,541	23,796	1,383	6.2%
Central New York	12,686	12,706	13,133	13,202	13,781	1,095	8.6%
Finger Lakes	27,984	28,252	28,258	28,916	29,436	1,452	5.2%
Hudson Valley	40,341	40,243	39,765	39,311	38,351	-1,990	-4.9%
Long Island	55,514	57,061	62,646	64,558	62,754	7,240	13.0%
Mohawk Valley	12,318	12,450	12,501	12,359	12,153	-165	-1.3%
New York City	206,914	206,996	200,675	198,908	202,774	-4,140	-2.0%
North Country	8,481	8,764	8,991	9,190	9,251	770	9.1%
Southern Tier	12,672	12,906	12,943	13,319	13,659	987	7.8%
Western New York	27,847	27,864	27,348	27,071	26,800	-1,047	-3.8%
Total	427,188	430,237	429,323	430,380	432,758	5,570	1.3%

Source: NYS Department of Labor, ES-202

¹¹ Recent layoffs, closures, or mergers are not reflected in these numbers, either at the state or regional levels.

2. Ambulatory Care

Employment in ambulatory care settings increased by 7% between 2008 and 2012, adding slightly over 20,000 jobs. The Hudson Valley and New York City regions saw the largest percentage increases, growing by more than 8% during the same time period. The number of ambulatory care jobs in New York City increased by nearly 8,800 between 2008 and 2012, followed by the Hudson Valley and Long Island regions. Ambulatory care employment in the Southern Tier remained relatively stable (Exhibit 20).

**Exhibit 20. Ambulatory Care Services Employment (Excluding Home Health Care)
in New York, by Department of Labor Region, 2008-2012**

Region	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Capital District	16,659	16,905	17,222	17,461	17,735	1,076	6.5%
Central New York	13,338	13,632	13,414	13,644	14,125	787	5.9%
Finger Lakes	15,645	15,981	16,457	16,505	16,536	891	5.7%
Hudson Valley	38,821	39,449	40,676	41,085	42,068	3,247	8.4%
Long Island	59,293	59,836	61,385	62,110	62,528	3,235	5.5%
Mohawk Valley	6,524	6,476	6,646	6,635	6,757	233	3.6%
New York City	101,157	102,035	105,439	108,007	109,951	8,794	8.7%
North Country	4,853	5,020	5,103	5,137	5,180	327	6.7%
Southern Tier	7,572	7,550	7,703	7,740	7,586	14	0.2%
Western New York	22,370	22,725	23,372	23,640	22,958	588	2.6%
Total	288,219	291,956	299,278	304,422	308,334	20,115	7.0%

Sources: NYS Department of Labor, ES-202

3. Nursing and Personal Care Facility Employment

Employment in nursing and personal care facilities¹² in New York decreased by about 1% between 2008 and 2012, with two regions accounting for all of the overall decrease in the number of jobs. The New York City region saw a decline of more than 3,900 in nursing and personal care facilities jobs while nursing and personal care facilities in Central New York reduced jobs by over 500. There was no change in the number of nursing and personal care facility jobs in the Long Island or North Country regions, while nursing and personal care facilities in the remaining six regions added a total of 2,090 jobs between 2008 and 2012 (Exhibit 21).

¹² Includes nursing care facilities and community care facilities for the elderly but excludes residential mental retardation, mental health and substance abuse facilities, and other residential care facilities.

**Exhibit 21. Nursing and Personal Care Facility Employment in New York,
by Department of Labor Region, 2008-2012**

Region	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Capital District	11,188	11,191	11,194	11,240	11,413	225	2.0%
Central New York	9,281	9,347	9,142	8,929	8,765	-516	-5.6%
Finger Lakes	12,183	12,519	12,811	12,746	12,817	634	5.2%
Hudson Valley	20,111	20,083	20,605	20,742	20,767	656	3.3%
Long Island	23,918	24,238	24,244	24,399	23,918	0	0.0%
Mohawk Valley	6,365	6,618	6,632	6,561	6,555	190	3.0%
New York City	55,120	55,205	54,439	53,554	51,182	-3,938	-7.1%
North Country	2,936	2,911	2,937	2,920	2,937	1	0.0%
Southern Tier	6,595	6,637	6,901	6,733	6,706	111	1.7%
Western New York	15,427	15,655	15,844	15,644	15,618	191	1.2%
Total	163,175	164,421	164,753	163,521	160,811	-2,364	-1.4%

Sources: NYS Department of Labor, ES-202

4. Home Health Care

Between 2008 and 2012, employment in home health care in New York grew by more than 29,000 jobs, with the New York City region accounting for the vast majority of the increase. Jobs in home health care in New York City grew by 38%, adding over 23,000 jobs. Outside of New York City, the Long Island region experienced the next largest increase in home health care employment, growing by more than 2,600 jobs between 2008 and 2012, or 22%, followed by the Hudson Valley region, which added over 2,200 jobs or 28%. Employment in home health care agencies in the Mohawk Valley and North Country regions saw small declines, losing 6 and 57 jobs, respectively, during the same time period (Exhibit 22).

**Exhibit 22. Home Health Care Employment in New York,
by Department of Labor Region, 2008-2012**

Region	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Capital District	2,989	3,060	3,049	3,078	3,154	165	5.5%
Central New York	1,273	1,377	1,404	1,593	1,829	556	43.7%
Finger Lakes	3,420	3,441	3,473	3,722	3,732	312	9.1%
Hudson Valley	8,091	9,003	9,499	10,517	10,343	2,252	27.8%
Long Island	11,987	12,696	13,120	13,561	14,630	2,643	22.0%
Mohawk Valley	1,402	1,398	1,416	1,464	1,396	-6	-0.4%
New York City	60,944	66,665	74,711	81,182	84,049	23,105	37.9%
North Country	588	549	532	538	531	-57	-9.7%
Southern Tier	1,013	1,079	1,102	1,133	1,131	118	11.6%
Western New York	4,597	4,790	4,892	5,030	5,272	675	14.7%
Total	96,544	104,342	113,429	122,100	126,413	29,869	30.9%

Source: NYS Department of Labor, ES-202

E. By Occupation

1. Current Employment Data

Changes in the number of health care jobs in New York varied by occupation. While this represents positions and not individuals or FTEs, it is useful in identifying trends in occupations or job titles. Notably changes between 2008 and 2012 included:

- The number of personal care aides increased by almost 49,000 or by 62%;
- The number of pharmacist jobs increased by nearly 3,000, or by 18%;
- The number of pharmacy technician jobs increased by almost 2,800, or by 21%;
- The number of home health aides decreased by over 8,400 or by 6%; and
- The number of social workers decreased by more than 9,000 or by 15 (Exhibit 23).

Exhibit 23. Number of Jobs in Selected Health Occupations in New York, 2008-2012¹³

Occupation	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Personal Care Aides	78,940	97,900	101,530	115,920	127,860	48,920	62.0%
Pharmacists	16,020	16,290	16,660	17,820	18,970	2,950	18.4%
Pharmacy Technicians	13,470	14,010	14,340	15,730	16,260	2,790	20.7%
Medical Assistants	19,000	19,710	20,950	21,360	21,650	2,650	13.9%
Licensed Practical & Licensed Voc. Nurses	46,160	45,130	45,100	47,950	48,520	2,360	5.1%
Medical and Health Services Managers	25,150	26,680	27,260	27,340	26,630	1,480	5.9%
Physician Assistant	7,890	8,570	9,220	9,690	9,320	1,430	18.1%
Dental Assistants	16,210	16,160	16,730	17,760	17,420	1,210	7.5%
Physical Therapists	12,780	13,320	13,740	13,490	13,930	1,150	9.0%
Respiratory Therapists	5,530	5,380	5,810	5,900	6,080	550	9.9%
Physical Therapy Assistants/Aides	6,580	6,380	6,480	6,040	6,730	150	2.3%
Dietitians and Nutritionists	4,380	4,400	4,520	4,620	4,510	130	3.0%
Medical Secretaries	10,860	9,560	9,530	9,900	10,990	130	1.2%
Occupational Therapists	7,520	7,180	7,100	7,300	7,650	130	1.7%
Medical and Clinical Laboratory Technicians	7,180	7,610	8,240	7,920	7,260	80	1.1%
Medical Records & Health Information Techs	9,200	9,140	9,630	9,520	9,200	0	0.0%
Surgical Technologists	5,150	5,170	4,800	5,000	5,060	-90	-1.7%
Dietetic Technicians	1,030	1,120	1,190	1,060	900	-130	-12.6%
Occupational Therapy Assistants/Aides	2,600	2,480	2,320	2,370	2,350	-250	-9.6%
Medical & Clinical Laboratory Technologists	10,230	10,250	10,460	10,820	9,910	-320	-3.1%
Nuclear Medicine Technologists	1,450	1,340	1,230	1,090	1,110	-340	-23.4%
Cardiovascular Technologists and Technicians	3,300	2,940	2,760	2,960	2,880	-420	-12.7%
Speech-Language Pathologists	10,080	10,370	8,340	8,870	9,220	-860	-8.5%
Dental Hygienists	10,670	10,760	9,710	9,690	9,630	-1,040	-9.7%
Registered Nurses	168,850	165,730	169,710	176,180	166,950	-1,900	-1.1%
Home Health Aides	131,700	129,200	137,830	133,980	123,260	-8,440	-6.4%
Social Workers	59,890	58,650	55,990	51,790	50,760	-9,130	-15.2%
Certified Registered Nurse Anesthetists	NA	NA	NA	NA	1,220	NA	NA
Nurse Midwives	NA	NA	NA	NA	530	NA	NA
Nurse Practitioners	NA	NA	NA	NA	8,990	NA	NA
Nursing Assistants	NA	NA	NA	NA	98,340	NA	NA
Orderlies	NA	NA	NA	NA	3,860	NA	NA
Radiologic Technologists	NA	NA	NA	NA	12,210	NA	NA

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

¹³ Prior to 2010, RNs included advanced practice nurses (NPs, certified nurse midwives, and certified registered nurse anesthetists). Radiologic technologists were reported separately starting in 2012. Additionally, the previous definition for personal care aides included home health aides.

Average wages per hour in selected health occupations for New York are reported in Exhibit 24. These wages were based on the data for the first quarter of 2013. The wage reported for social workers includes health care social workers only. Certified registered nurse anesthetists earned the highest per hour wage in 2013 (\$80.71, followed by pharmacists and medical and health service managers (\$56.74 and \$55.64, respectively). Physical therapist aides (\$13.25), personal care aides (\$11.44), and home health aides (\$10.34) were the lowest wage earners in health care.

Exhibit 24. Average per hour Wage in Selected Health Occupations in New York, 2013

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$80.71
Pharmacists	\$56.74
Medical and Health Services Managers	\$55.64
Nurse Practitioners	\$47.63
Physician Assistants	\$46.88
Nurse Midwives	\$46.71
Physical Therapists	\$38.45
Speech-Language Pathologists	\$38.19
Nuclear Medicine Technologists	\$37.27
Occupational Therapists	\$36.28
Registered Nurses	\$36.11
Dental Hygienists	\$33.30
Respiratory Therapists	\$31.38
Radiologic Technologists and Technicians	\$31.33
Medical and Clinical Laboratory Technologists	\$30.85
Dietitians and Nutritionists	\$29.15
Healthcare Social Workers	\$27.24
Cardiovascular Technologists and Technicians	\$26.43
Mental Health and Substance Abuse Social Workers	\$25.07
Physical Therapist Assistants	\$24.50
Occupational Therapy Assistants	\$23.80
Surgical Technologists	\$22.73
Medical and Clinical Laboratory Technicians	\$22.49
Licensed Practical and Licensed Vocational Nurses	\$21.56
Medical Records and Health Information Technicians	\$19.64
Dietetic Technicians	\$18.46
Dental Assistants	\$17.29
Occupational Therapy Aides	\$17.18
Medical Assistants	\$16.19
Medical Secretaries	\$15.67
Nursing Assistants	\$15.49
Pharmacy Technicians	\$15.11
Orderlies	\$14.23
Physical Therapist Aides	\$13.25
Personal Care Aides	\$11.44
Home Health Aides	\$10.34

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

2. Licensure Data for Selected Health Professions in New York

Between 2008 and 2012, the number of licensed RNs in New York increased by more than 13,300, or by 5%. PAs had the largest percentage increases, growing by 23% during the time period. The number of licensed speech-language pathologists and NPs also grew by 20% or more between 2008 and 2012. The number of LPNs saw a slight decrease of less than 1% during the same period (Exhibit 25).

Exhibit 25. Number of Licensed Individuals in Selected Health Occupations in New York, 2008-2012¹⁴

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	259,694	265,964	269,947	270,691	273,052	13,358	5.1%
Nurse Practitioners	14,139	14,862	15,395	16,268	17,117	2,978	21.1%
Pharmacists	20,467	21,269	21,863	22,431	23,275	2,808	13.7%
Speech-Language Pathologists	13,066	13,689	14,222	14,981	15,675	2,609	20.0%
Social Workers	49,469	49,147	48,430	50,391	51,685	2,216	4.5%
Physician Assistants	9,157	9,685	10,168	10,688	11,275	2,118	23.1%
Clinical Laboratory Technologist	13,217	15,016	15,118	14,808	14,905	1,688	12.8%
Physical Therapists	18,752	19,427	19,987	19,845	20,309	1,557	8.3%
Occupational Therapists	9,889	10,226	10,320	10,650	11,066	1,177	11.9%
Dental Hygienists	9,870	10,052	10,200	10,449	10,603	733	7.4%
Respiratory Therapists	4,971	5,114	5,279	5,534	5,640	669	13.5%
Physical Therapy Assistants	4,662	4,838	4,957	4,943	5,236	574	12.3%
Dietitians/Nutritionists	4,736	4,832	4,934	4,918	5,138	402	8.5%
Occupational Therapy Assistants	3,713	3,777	3,856	3,981	4,060	347	9.3%
Clinical Laboratory Technician	1,886	2,386	2,300	2,098	2,125	239	12.7%
Licensed Practical Nurses	71,381	71,477	69,568	71,239	70,903	-478	-0.7%

Source: NYS Education Department, Office of Professions

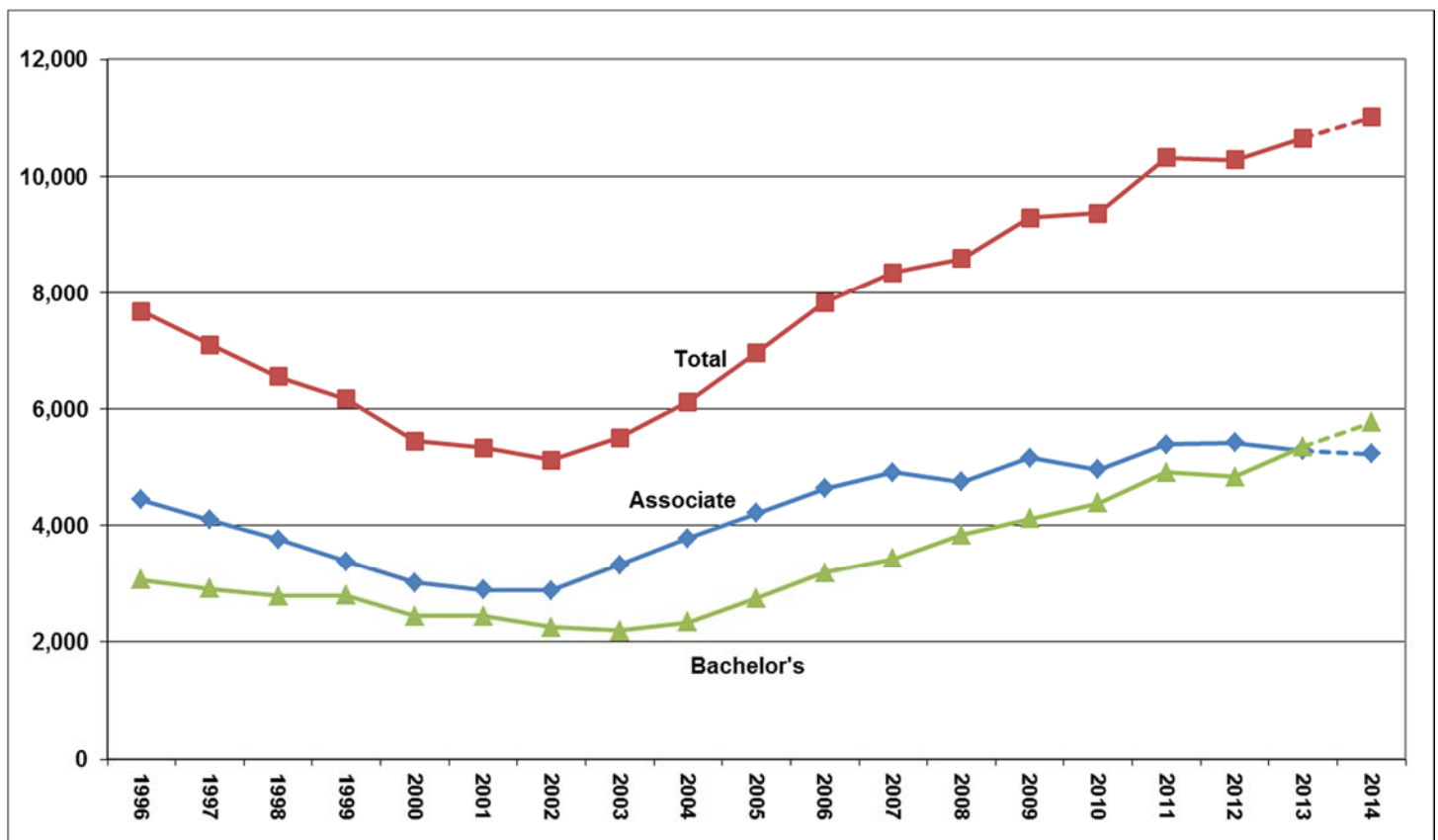
¹⁴ Note: This total includes all New York licensed individuals regardless of whether the address given in the licensure file was a New York address, while tables of licensees by region include only those individuals with an address in the region.

F. Trends in New York RN Education, 1996-2014

The Center annually surveys RN education programs in New York to better understand trends in the production of RNs in the state. The 2013 survey included questions about applications, acceptances, and graduations for that year as well as projected graduations through 2014. Of the 121 RN education programs in New York, 109 returned the surveys for a 90% response rate. Data for the non-respondents were imputed from previous surveys; consequently, the following data reflect estimates of graduations for all RN education programs in the state.

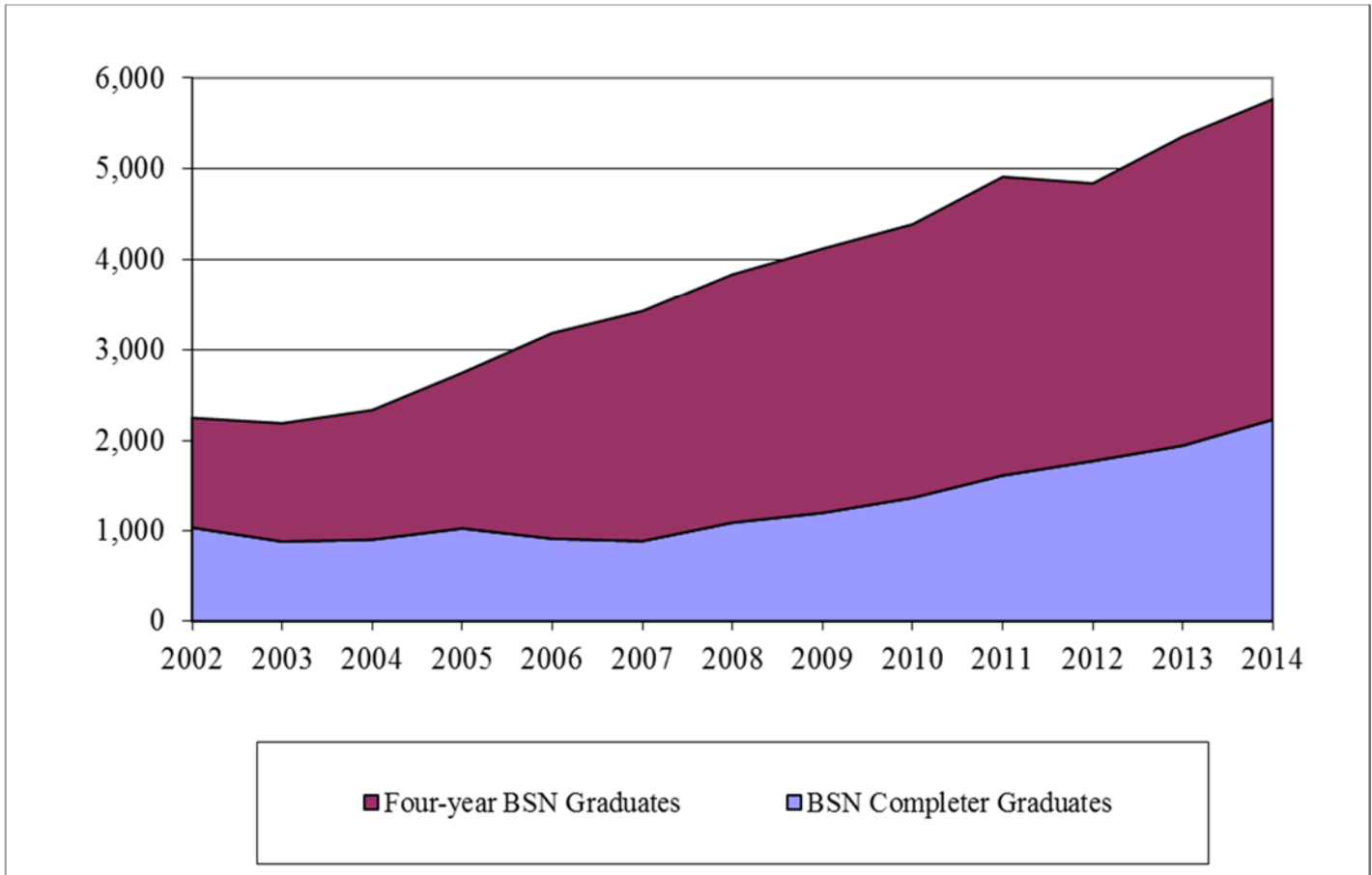
There was a small overall increase in the number of graduates from New York RN education programs between 2012 and 2013, with all of the growth attributed to increases in bachelor's degrees in nursing (BSN). There were 11,010 graduates from RN education programs in New York, an increase of 349 graduates (or more than 3%) compared to 2012. Between 2012 and 2013, there was a 1% decrease in associate degree graduates (ADNs), while the number of BSN graduates grew by more than 400 between 2012 and 2013, an increase of over 7% (Exhibit 26).

Exhibit 26. RN Graduations in New York, by Degree Type, 1996-2014



Since 2008, the proportion of graduates from BSN completer programs¹⁵ has comprised an increasing share of total RN graduates in New York. In 2013, BSN completers accounted for just over 36% of total BSN graduates and over 18% of overall RN graduates, up from 29% and 13%, respectively, in 2008. Of the 410 new BSN graduates between 2012 and 2013, 287 or 70% were BSN completers (Exhibit 27).

Exhibit 27. Graduations from BSN Four-Year and BSN Completer Programs, 2002-2014

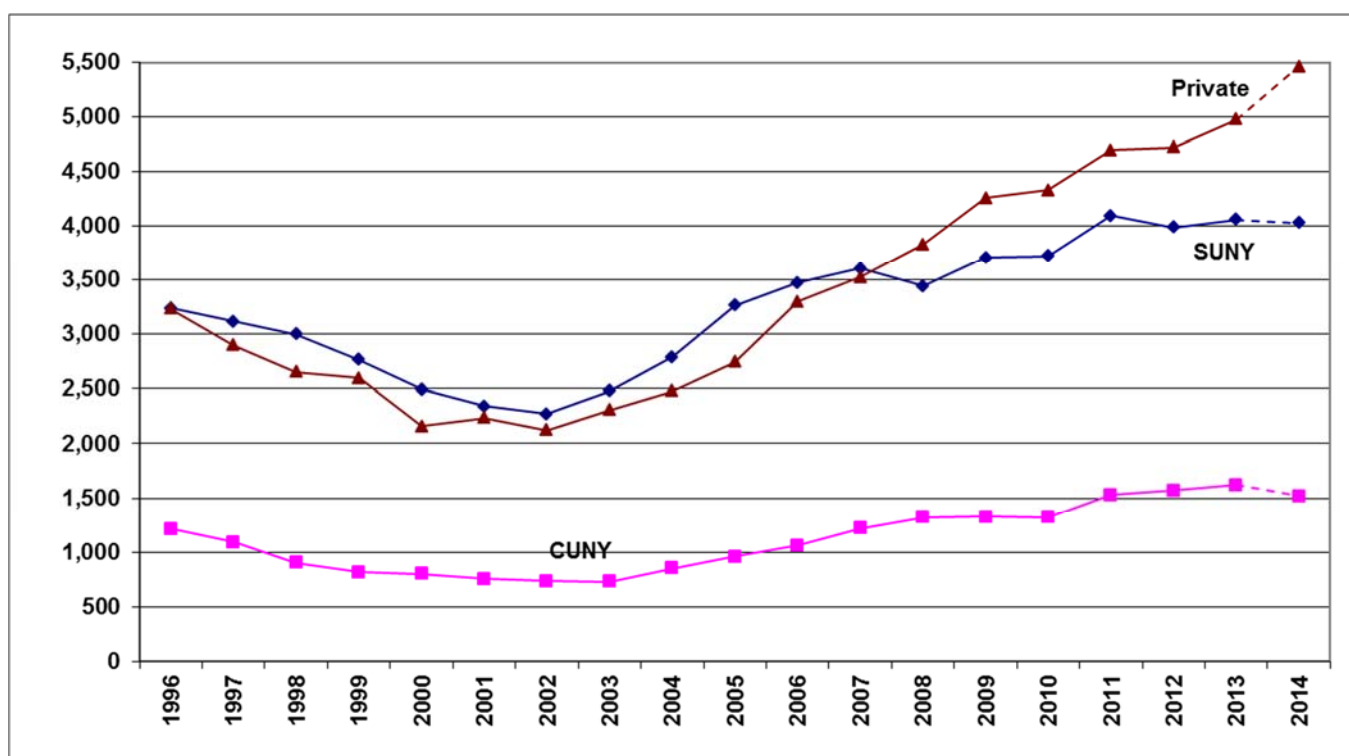


¹⁵ BSN completers are those RNs who already have either an RN associate degree or diploma and continue their educations to complete a BSN.

Between 2002 and 2013, RN graduations from privately sponsored programs, including those based in hospitals, and from City University of New York (CUNY)-sponsored programs more than doubled, increasing by 157% and 108%, respectively. During the same period, RN graduations from State University of New York (SUNY)-sponsored programs increased by 76%. In 2013, nearly 47% of all RN graduates in the state attended privately sponsored programs, 38% attended SUNY-sponsored programs, and 15% attended CUNY-sponsored programs.

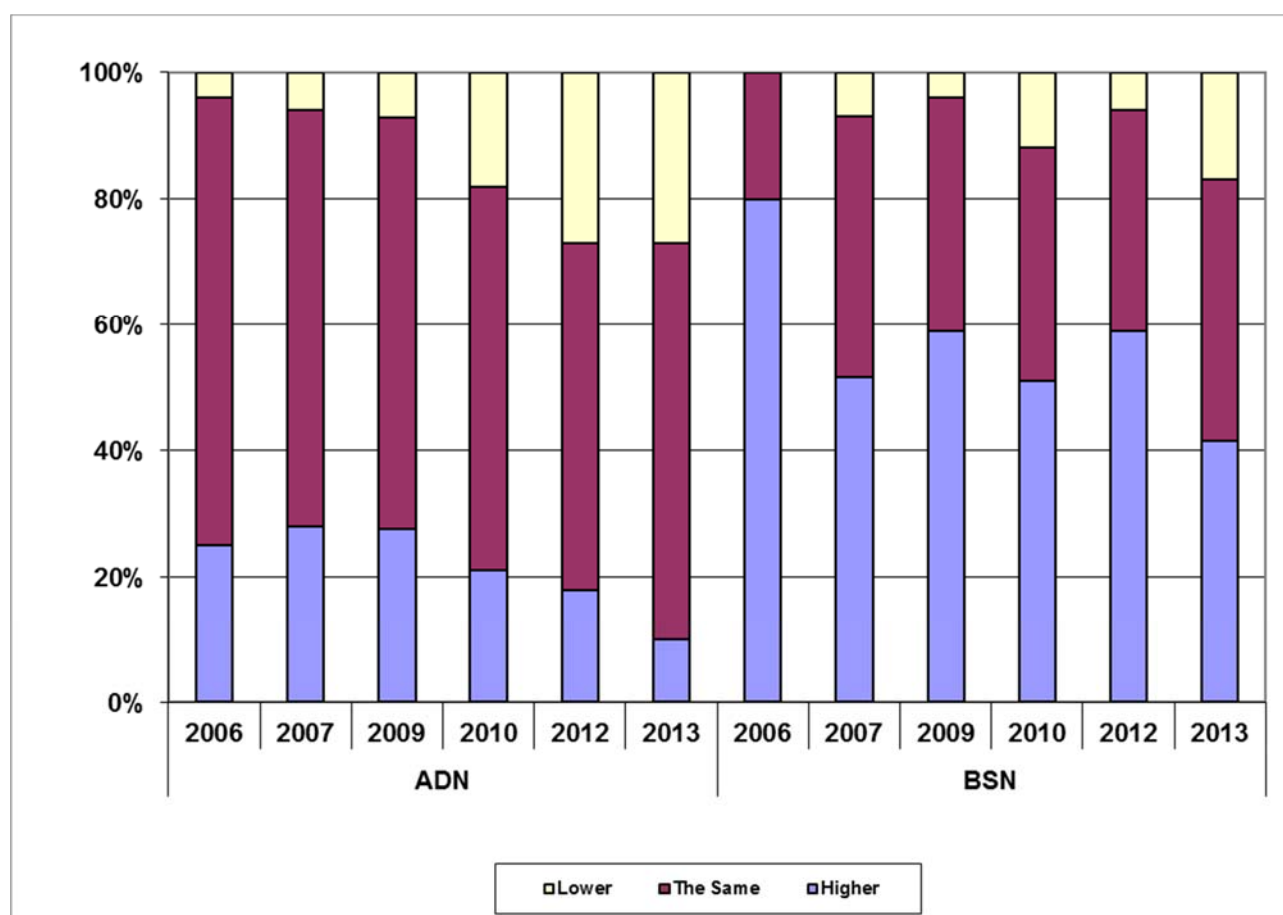
RN graduations from privately sponsored RN programs are projected to increase by more than 9% between 2013 and 2014, while graduations from SUNY RN programs are expected to fall by less than 1% during the same time period. RN graduations from CUNY programs are projected to decrease by more than 6% between 2013 and 2014 (Exhibit 28).

Exhibit 28. Graduations from New York RN Education Programs, by Sponsor, 1996-2014



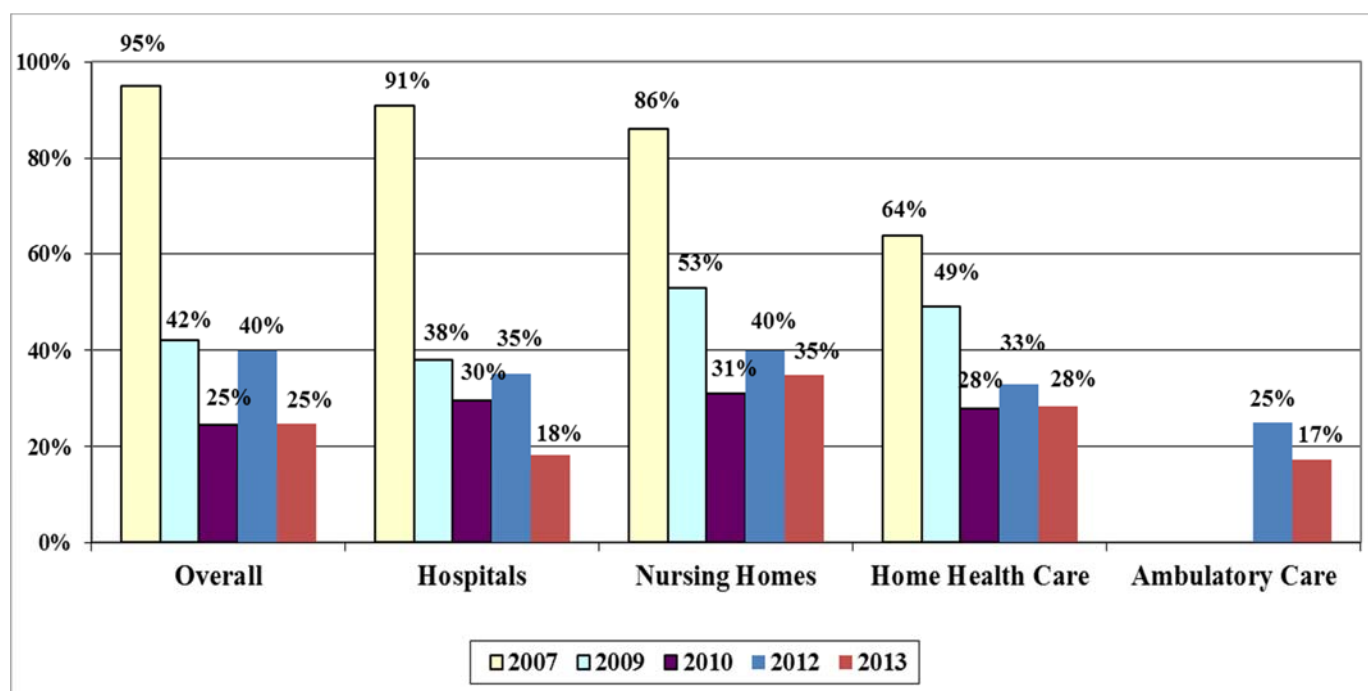
A significantly lower percentage of RN education program deans and directors reported more program acceptances in 2013 compared to 2012. Only 24% of RN education program deans and directors reported more acceptances to their programs in 2013 than in 2012. Nearly 42% of deans and directors of BSN programs (including BSN completer programs) reported more acceptances to their programs in 2013 than in 2012, compared to almost 60% of BSN program deans and directors who reported more acceptances in 2012 than in 2011. Only 10% of ADN program deans and directors reported more acceptances in 2013 than in 2012, down from 18% in 2012 (Exhibit 29).

Exhibit 29. Change in the Number of Acceptances from Previous Year in New York, by Program Type, 2006-2013



Compared to the last six years, a significantly lower percentage of RN education program deans and directors reported “many jobs” for new RN graduates in 2013, though it was the same percentage as in 2010. The majority of RN education program deans and directors in 2007 indicated a strong job market for their graduates, with more than 90% reporting “many jobs” for newly trained RNs. Starting in 2009, however, and continuing through 2013, the percentage of RN education program deans and directors who reported “many jobs” for their graduates declined dramatically. Although there was a slight increase in the percentage of program deans and directors who reported “many jobs” in 2012 compared to 2010, the numbers fell again in 2013, across all employment settings. BSN program deans and directors did report a stronger job market for their graduates than deans and directors of ADN programs, but the percentage was still lower than previous years (Exhibit 30).

Exhibit 30. Percent of RN Program Directors in New York Reporting “Many Jobs” for Newly Licensed RNs, 2007-2013



G. Demand for Workers

The Center, in conjunction with statewide and regional provider organizations, conducts annual surveys of human resources directors from FQHCs, home health care agencies, hospitals, and nursing homes across New York. The surveys ask about the professions and occupations that pose the greatest recruitment and retention challenges. The provider organizations the Center collaborated with on these surveys were:

- Community Health Center Association of New York State;
- Continuing Care Leadership Coalition at the Greater New York Hospital Association;
- Healthcare Association of New York State;
- Home Care Association of New York State, Inc.
- LeadingAge New York; and
- New York State Association of Healthcare Providers, Inc.

Findings from these surveys are reported statewide and by NYSDOL regions. 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.

1. Hospitals

In 2013, 110 hospitals statewide, or approximately 53%, responded to the survey. New York hospitals reported the most difficulty recruiting clinical laboratory technologists, followed by medical coders and nurse managers. Clinical laboratory technologists, PAs, and nurse managers were the most difficult occupations to retain (Exhibit 31). Hospitals continue to report recruitment and retention difficulties for primary care physicians, both in inpatient and outpatient settings.¹⁶

Exhibit 31. Recruitment and Retention Difficulties for Hospitals in New York, 2013

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	3.1	2.4	27%	8%	20%
Certified Nursing Aides	1.7	2.3	13%	11%	6%
Clinical Laboratory Technicians	3.1	2.5	55%	24%	17%
Clinical Laboratory Technologists	4.1	2.8	82%	28%	24%
HIT Staff	3.0	2.4	40%	22%	18%
Licensed Clinical Social Workers	2.8	2.3	20%	13%	11%
Licensed Practical Nurses	1.9	1.7	13%	10%	4%
Medical Assistants	1.8	2.0	7%	12%	0%
Medical Coders	3.7	2.5	66%	20%	15%
Nurse Practitioners	3.2	2.4	22%	23%	17%
Occupational Therapists	3.3	2.4	45%	20%	32%
Pharmacists	3.1	2.2	36%	15%	24%
Physical Therapists	3.4	2.4	43%	26%	29%
Physician Assistants	3.3	2.7	34%	25%	20%
Radiological Technicians	2.0	1.9	9%	7%	3%
Radiological Technologists	2.2	2.1	6%	8%	3%
Registered Nurses					
Newly Licensed RNs	1.7	2.3	11%	9%	16%
Experienced RNs	3.3	2.2	55%	23%	39%
Nurse Managers	3.6	2.6	57%	25%	27%
Speech-Language Pathologists	3.1	2.2	29%	17%	18%

- Many hospitals projected growth in ambulatory services, with increasing demand for PAs, NPs, RNs, and LPNs.
- Some hospitals anticipated growth in outpatient procedural services and a shift of focus on specialty inpatient services to better address community needs.

¹⁶ Doctor Shortage: Outpatient and Primary Care Needs Growing. Results of HANYS 2013 Advocacy Survey, October 2013.

2. Nursing Homes

In 2013, 181 nursing homes in New York responded to the survey for a response rate of 29%. Nursing homes across the state reported the most difficulty recruiting experienced RNs, nurse managers, and directors of nursing. Nursing homes also noted that CNAs were the most difficult to retain, followed by both experienced and newly licensed RNs, LPNs, and nurse managers (Exhibit 32).

**Exhibit 32. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in New York, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	2.7	3.3	24%	40%	19%	32%
Clerical	1.8	1.9	7%	26%	24%	44%
Dietitians/Nutritionists	2.9	2.3	46%	38%	15%	21%
Licensed Practical Nurses	2.9	2.9	34%	61%	26%	17%
Medical Billers	2.7	2.2	31%	22%	18%	41%
Occupational Therapists	3.3	2.6	51%	45%	22%	21%
Occupational Therapy Assistants	3.1	2.7	39%	51%	19%	31%
Personal Care Assistants	2.3	2.8	24%	24%	16%	60%
Physical Therapists	3.3	2.7	44%	52%	27%	20%
Physical Therapy Assistants	3.0	2.7	31%	58%	22%	31%
Registered Nurses						
Newly Licensed RNs	2.6	3.1	31%	55%	33%	27%
Experienced RNs	3.6	3.1	43%	56%	38%	15%
MDS Coordinators	3.4	2.6	51%	42%	22%	19%
Nurse Managers	3.6	2.9	40%	51%	35%	19%
Directors of Nursing	3.6	2.8	38%	54%	25%	26%
Rec. Therapists/Activities Dirs.	2.6	2.3	17%	43%	21%	36%
Respiratory Therapists	2.8	2.4	19%	24%	14%	48%
Social Workers						
Licensed Clinical SWs	3.0	2.5	23%	39%	25%	33%
Licensed Master's SWs	3.0	2.5	26%	38%	24%	35%
Speech-Language Pathologists	3.1	2.6	41%	59%	32%	23%

The survey of nursing homes also found that:

- Thirty-six percent (36%) of nursing homes statewide reported difficulty hiring part-time workers.
- Nursing homes reported difficulty hiring RNs for evening, overnight, and weekend shifts (49%, 57%, 48%, respectively) and CNAs for evening, overnight, and weekend shifts (41%, 42%, and 43%, respectively). They reported less difficulty hiring LPNs for these shifts.
- Most nursing homes (84%) were not planning to expand or reduce services next year.
- Fifty-two percent (52%) of nursing homes reported using contract agency staff and 87% reported using per diem staff, mostly for filling RNs, LPNs and CNAs positions.

3. Home Health Care Agencies

In 2013, 70 home health care agencies¹⁷ in New York responded to the survey for a response rate of about 30%. Home health care agencies reported the most difficulties recruiting occupational therapists, followed by speech-language pathologists and respiratory therapists, and cited worker shortages as the primary reason for recruiting difficulties. Survey respondents reported difficulty retaining experienced RNs, respiratory therapists, and speech-language pathologists (Exhibit 33).

Exhibit 33. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in New York, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.4	2.4	58%	39%	23%	23%
Home Health Aides	2.8	2.6	32%	52%	28%	40%
Licensed Practical Nurses	2.5	2.3	24%	41%	41%	24%
Occupational Therapists	3.9	2.8	73%	48%	18%	10%
Personal Care Aides/Homemakers	2.6	2.5	13%	38%	25%	63%
Physical Therapists	3.4	2.7	66%	51%	29%	9%
Registered Nurses						
Newly Licensed RNs	2.0	2.4	14%	43%	33%	48%
Experienced RNs	3.4	3.1	26%	65%	50%	24%
Respiratory Therapists	3.5	2.9	62%	31%	15%	23%
Social Workers						
Licensed Clinical SWs	3.1	2.6	77%	29%	29%	41%
Licensed Master's SWs	3.2	2.7	33%	43%	27%	23%
Speech-Language Pathologists	3.6	2.9	63%	42%	17%	13%

¹⁷ For purposes of this report, home health care agencies include certified home health agencies, long-term home health care programs, and hospices.

The survey of home health care agencies also found that:

- Forty percent (40%) reported difficulty hiring part-time workers.
- Forty-one percent (41%) indicated difficulty hiring workers for off-shifts (includes staff working on evening, night, or weekend shifts).
- Seventy percent (70%) of home health care agencies reported using contract agency staff and 91% reported using per diem staff.
- More than one-third (39%) indicated they anticipated plans to expand services in the next year, with plans to add more RNs, physical therapists, occupational therapists, speech-language pathologists, social workers, and home health aides.

4. Federally Qualified Health Centers

Thirty-two FQHCs in New York (49%) responded to the survey in the spring of 2014. Human resource directors from FQHCs reported the most difficulty recruiting geriatric NPs, psychiatric NPs, and psychiatrists and reported the most difficulty retaining LPNs, RNs, medical assistants, and dental assistants/aides/techs (Exhibit 34).

**Exhibit 34. Recruitment and Retention Difficulties for FQHCs
in Selected Health Occupations in New York, 2013**

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice	3.7	1.8
	Internal Medicine Physicians	3.6	1.6
	Ob/Gyn Physicians	3.7	2.1
	Pediatric Physicians	3.1	1.4
	Adult Nurse Practitioners	2.8	2.2
	Family Nurse Practitioners	3.0	2.1
	Geriatric Nurse Practitioners	4.3	2.0
	Pediatric Nurse Practitioners	2.0	1.6
	Midwives	3.0	1.9
	Physician Assistants	2.4	1.8
Nursing	Certified Nurse Aids/Assistants	1.3	2.0
	Licensed Practical Nurses	2.2	2.3
	Registered Nurses	2.7	2.3
	Medical Assistants	1.6	2.3
Behavioral Health	Psychiatrists	3.9	1.9
	Psychiatric Nurse Practitioners	4.2	1.7
	Psychologists	2.9	1.9
	Substance Abuse Counselors	3.0	2.2
	Licensed Clinical Social	3.3	2.0
	Licensed Master Social Workers	2.7	1.9
Oral Health	Dental Assistants/Aides/Techs	2.2	2.3
	Dental Hygienists	2.3	1.5
	Dentists	2.9	2.0
Ancillary	Care Coordinators	2.4	2.1
	Case Managers	2.0	2.2
	Community Health Workers	1.8	2.1
	Health Educators	2.3	1.9
	HIV Counselors	2.6	2.1
	Nutritionists/Nutrition Educators	2.7	1.8
	Patient Health Navigators	2.4	1.9

- Seventy-seven percent (77%) of FQHCs indicated plans to expand services, with the majority of them expecting increases in primary care and dental services. None of the FQHCs indicated plans to reduce services.
- Additionally, 50% of centers reported they had difficulty hiring bilingual staff, with Spanish as the language most commonly needed.

H. Projected Job Growth

Between 2010 and 2020, the NYSDOL projects almost 8,000 annual job openings (for both new jobs and replacing existing workers who leave) for home health aides in the state; more than 7,300 annual job openings for personal and home care aides; and over 5,700 annual job openings for RNs (Exhibit 35).

Exhibit 35. Employment Projections for Selected Health Occupations in New York, including New York City, 2010-2020¹⁸

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Openings
			Number	Percent	
Home Health Aides	138,790	200,650	61,860	44.6%	7,980
Personal and Home Care Aides	128,230	191,480	63,250	49.3%	7,350
Registered Nurses	178,470	203,360	24,890	13.9%	5,720
Nursing Aides, Orderlies, and Attendants	102,560	112,360	10,370	10.1%	2,360
Social Workers	56,110	63,280	7,170	12.7%	2,050
Licensed Practical Nurse	49,160	55,920	6,760	13.8%	1,990
Medical and Health Service Managers	28,250	30,470	2,220	7.9%	910
Medical Assistants	21,600	26,790	5,190	24.0%	850
Pharmacists	17,640	21,030	3,390	19.2%	790
Dental Assistants	17,540	21,150	3,610	20.6%	730
Pharmacy Technicians	15,520	19,620	4,100	26.4%	680
Emergency Medical Technicians and Paramedics	14,650	17,970	3,320	22.7%	620
Clinical, Counseling, and School Psychologists	13,920	15,600	1,680	12.1%	610
Physical Therapists	14,970	19,180	4,210	28.1%	600
Radiologic Technologists and Technicians	13,340	15,920	2,580	19.3%	470
Dental Hygienists	9,660	12,260	2,600	26.9%	450
Physician Assistants	9,850	11,550	1,700	17.3%	360
Speech-Language Pathologists	9,920	11,570	1,650	16.6%	360
Medical and Clinical Laboratory Technologists	10,890	11,850	960	8.8%	310
Occupational Therapists	8,770	10,220	1,450	16.5%	310
Medical Records and Health Information Technicians	9,650	10,760	1,110	11.5%	300
Dietitians and Nutritionists	5,360	5,970	610	11.4%	250
Psychiatric Aides	11,870	12,760	890	7.5%	240
Medical and Clinical Laboratory Technicians	8,070	8,750	680	8.4%	230
Respiratory Therapists	5,930	6,830	900	15.2%	200
Diagnostic Medical Sonographers	3,600	4,810	1,210	33.6%	180
Surgical Technologists	5,040	5,300	260	5.2%	120
Cardiovascular Technicians and Technologists	3,000	3,590	590	19.7%	110

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020.

¹⁸ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. Annual openings reflect both creation of new positions in the occupation and replacements for those retiring or leaving the profession for other reasons.

V. REGIONAL PROFILES

A. New York City

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

Population

New York City's population had a higher percentage of people under the 100% and 200% federal poverty level than New York as a whole. New York City's population was also much more racially and ethnically diverse and somewhat younger compared to the state's population. New York City also had a higher percentage of its population with less than a high school education or equivalent (Exhibit 36).

**Exhibit 36. Selected Population Characteristics in the New York City Region, 2008-2012
(5-year Average)¹⁹**

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	8,128,980	N/A	N/A
Population Under 100% FPL Level	1,575,303	19.4%	14.5%
Population Under 200% FPL Level	3,108,109	38.2%	30.2%
Population Age Birth-17	1,775,323	21.8%	22.5%
Population Age 65 and older	984,641	12.1%	13.4%
Population Female Age 15-44	1,901,788	23.4%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	5,420	2.1%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	80,597	7.8%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	28,641	4.8%	4.5%
Black/African American, non-Hispanic	1,873,853	23.1%	14.5%
Hispanic/Latino	2,310,163	28.4%	17.4%
Asian/Pacific Islander, non-Hispanic	1,027,392	12.6%	7.3%
American Indian/Native Alaskan, non-Hispanic	15,133	0.2%	0.2%
Two or More/Other	178,139	2.2%	1.9%
Less than High School Education	1,142,283	20.7%	15.4%
High School or Equivalent	2,174,158	39.5%	43.9%
Associate Degree	334,602	6.1%	8.2%
Bachelor's Degree	1,096,625	19.9%	18.5%
Master's Degree or Higher	758,212	13.8%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

¹⁹ Education levels and rates are based on individuals age 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 statewide. However, New York City had much higher rates of asthma (both adult and pediatric), diabetes, and chronic lower respiratory disease hospitalizations than the state as a whole. The preventable hospitalizations rate was also higher in the New York City region than the statewide rate. Additionally, New York City had a higher percentage of births with no or late prenatal care and a higher rate of both total hospitalizations and emergency department (ED) visits (Exhibit 37).

**Exhibit 37. Selected Health Indicators in the New York City Region, 2009-2011
(3-year Average)²⁰**

Health Indicator	Region		Statewide Rate
	Number	Rate	
Total Deaths, per 100,000	51,215	619.2	748.3
Deaths Due to Heart Disease, per 100,000	18,059	218.4	230.9
Deaths Due to All Cancers, per 100,000	12,307	151.4	181.2
Deaths Due to Diabetes, per 100,000	1,687	20.4	19.2
Total Births, per 1,000 females, age 15-44	120,156	14.5	12.5
Teen Births, per 1,000 females, age 15-19	7,015	5.8	6.2
Low-birthweight Births, as a percent of total births	10,335	8.6	8.2
Late/No Prenatal Care, as a percent of total births	8,102	7.0	5.6
Infant Deaths, per 1,000 live births	550	4.6	5.1
Total Hospitalizations, per 10,000	1,133,389	1,370.4	1,280.9
Preventable Hospitalizations, per 10,000	128,334	155.2	145.2
Adult Asthma Hospitalizations, per 10,000	16,746	25.9	17.5
Pediatric Asthma Hospitalizations, per 10,000	8,267	45.6	28.3
Diabetes Hospitalizations, ²¹ per 10,000	21,593	26.1	20.1
CLRD Hospitalizations, ²² per 10,000	36,338	43.9	39.0
Heart Disease Hospitalizations, per 10,000	96,984	117.3	120.6
Total ED Visits, per 10,000	3,624,256	4,382.1	3,954.5

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

²⁰ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

²¹ Primary diagnosis only.

²² Chronic Lower Respiratory Disease.

Primary Care Physicians

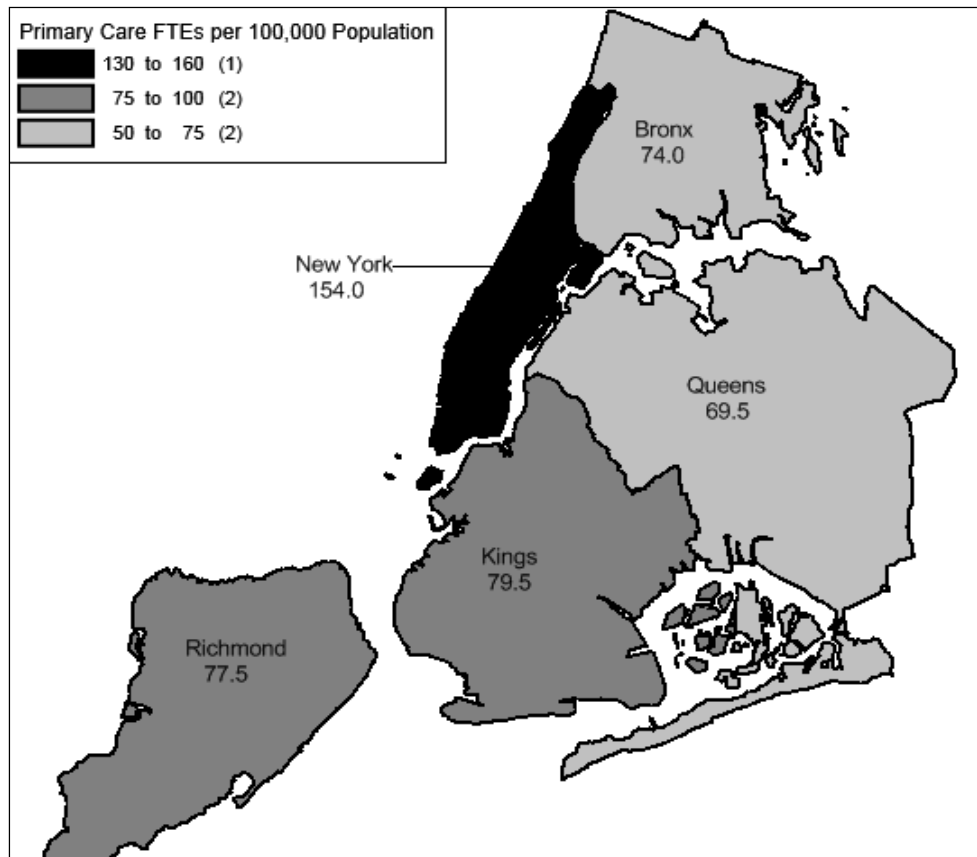
There were almost 7,400 primary care physician FTEs practicing in the New York City region. Slightly less than half of them (49%) practiced general internal medicine and nearly 22% practiced general pediatrics. There were 90.2 primary care physicians per 100,000 total population in New York City, higher than the statewide rate of 84.5 per 100,000 total population. Reflecting its younger population, New York City also had a higher rate of ob/gyns per 100,000 women age 15-44 than the state as a whole. The county of New York had the most primary care physicians per 100,000 total population (154.0) and Queens had the least (69.5) (Exhibits 38 and 39).

Exhibit 38. Primary Care FTEs in the New York City Region, by Specialty, 2013²³

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	1,145	14.0
Internal Medicine (General)	3,616	44.1
Geriatrics	68	6.8
Obstetrics/Gynecology	919	51.8
Pediatrics (General)	1,650	86.4
Total	7,399	90.2

²³ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and geriatrics rate, which was based on population age 65 years and above.

**Exhibit 39. Number of Primary Care FTEs per 100,000 Population
in the New York City Region, 2013**

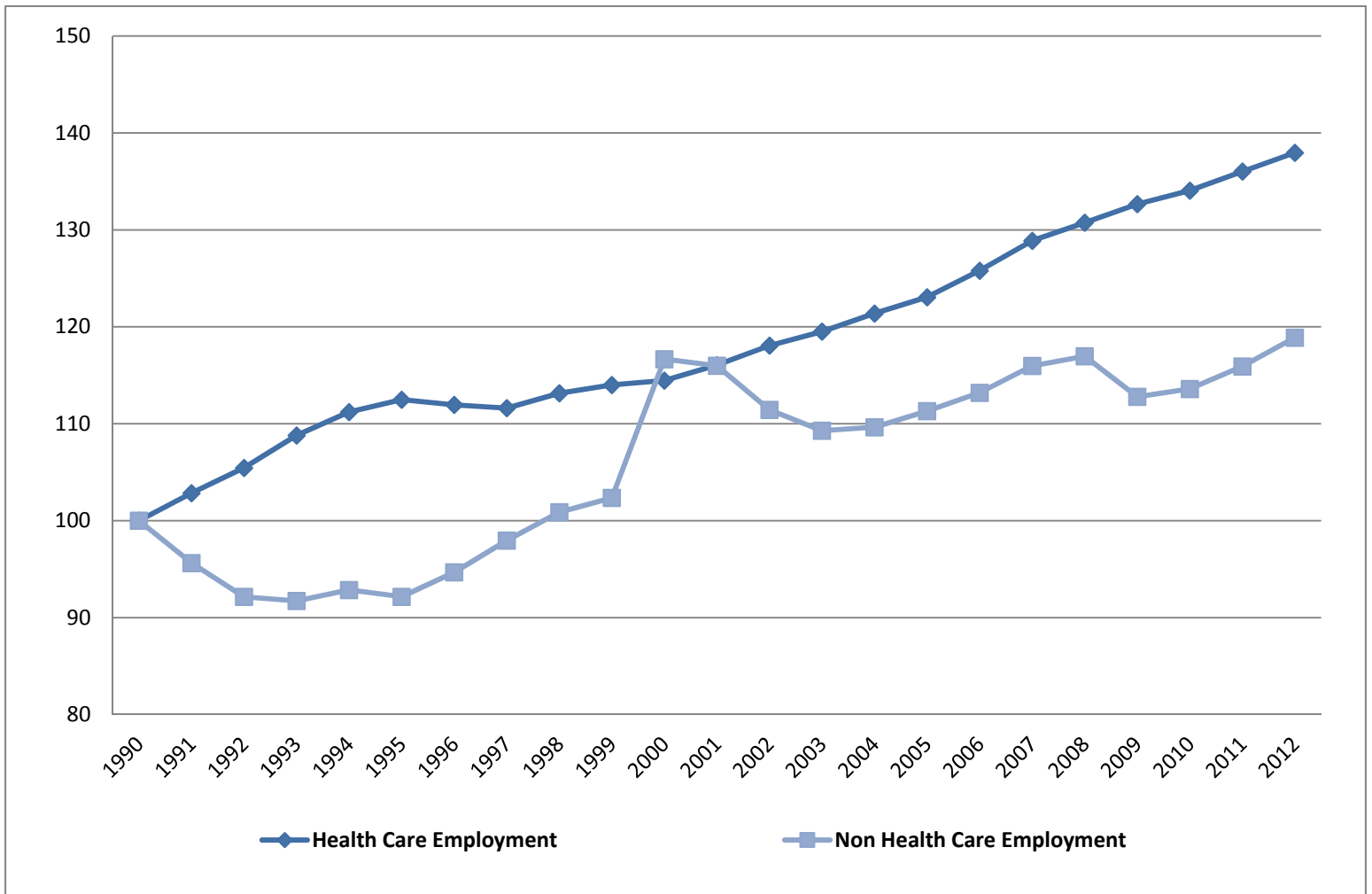


Employment

Total Health Sector Employment

Between 1990 and 2012, 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 a combination of sporadic growth and declines between 1990 and 1995, but substantial growth between 1995 and 2000 and 2004 and 2008. From 2008 and 2009, employment in New York City in sectors outside of health care declined but has since recovered. Between 1990 and 2012, employment in the health sector in New York City rose by nearly 38%, while employment in all other sectors grew by almost 20% during the same period (Exhibit 40).

**Exhibit 40. Employment Growth in the New York City Region, 1990-2012
(Standardized to 1990)**

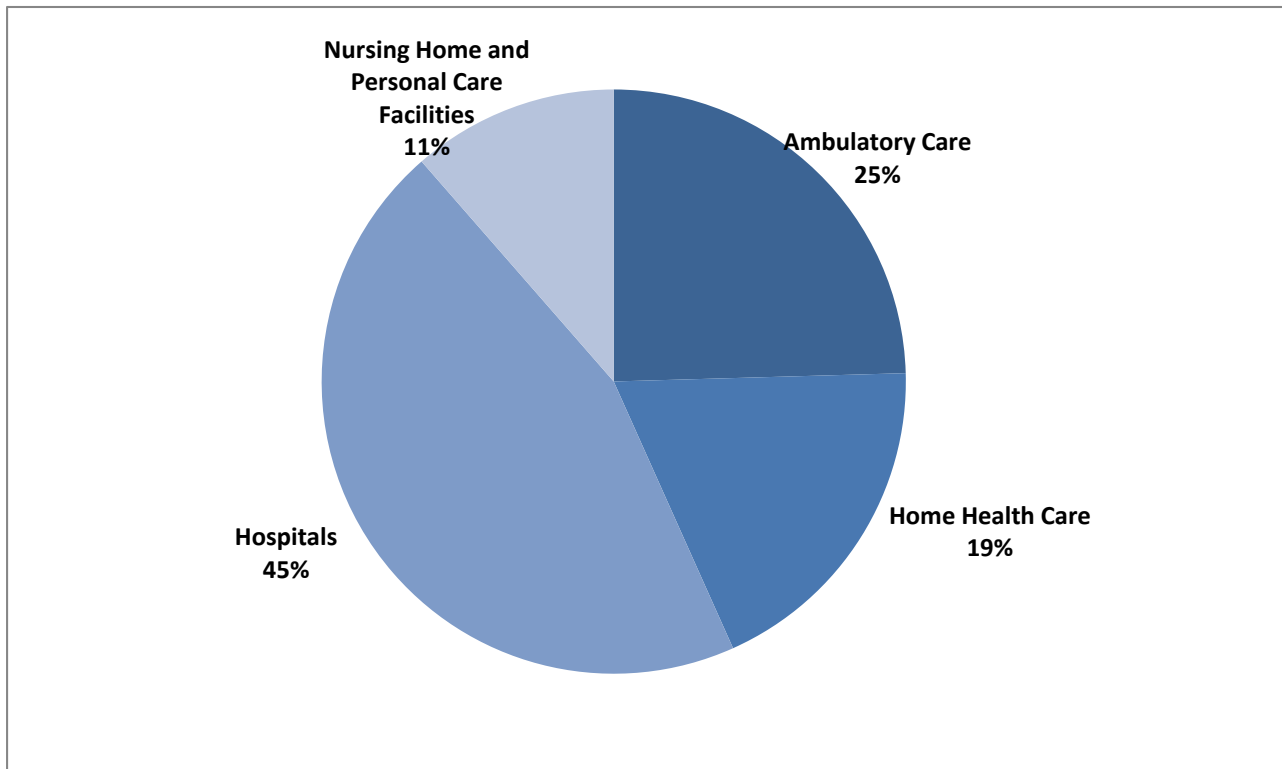


Source: NYS Department of Labor, ES-202

Employment by Setting

Hospitals continued to be the largest employer of New York City health workers in 2012, accounting for nearly one-half (45%) of all health care jobs. Ambulatory care settings and home health care agencies followed at 25% and 19%, respectively (Exhibit 41).

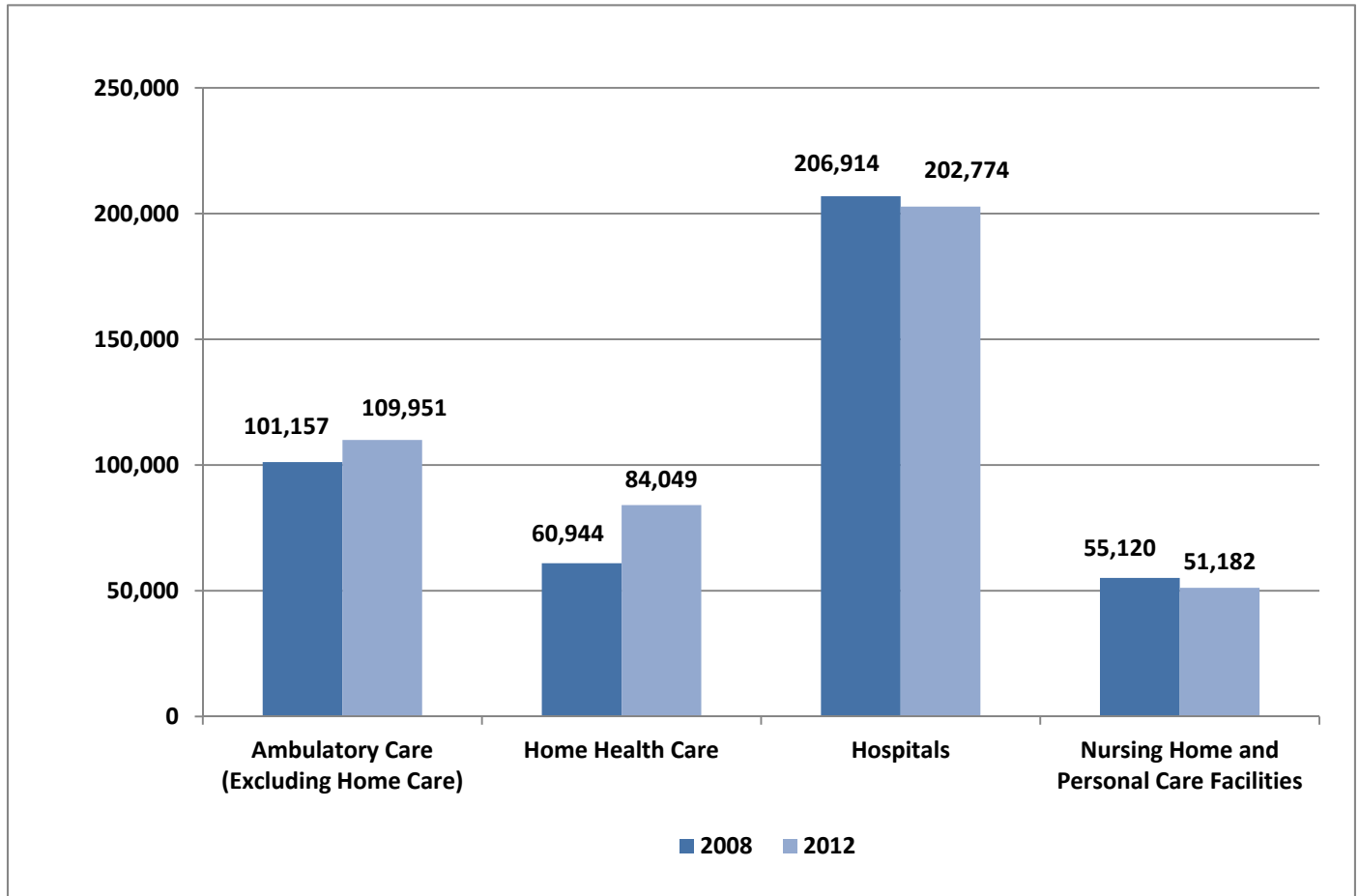
Exhibit 41. Health Sector Employment in the New York City Region, by Setting, 2012



Source: NYS Department of Labor, ES-202

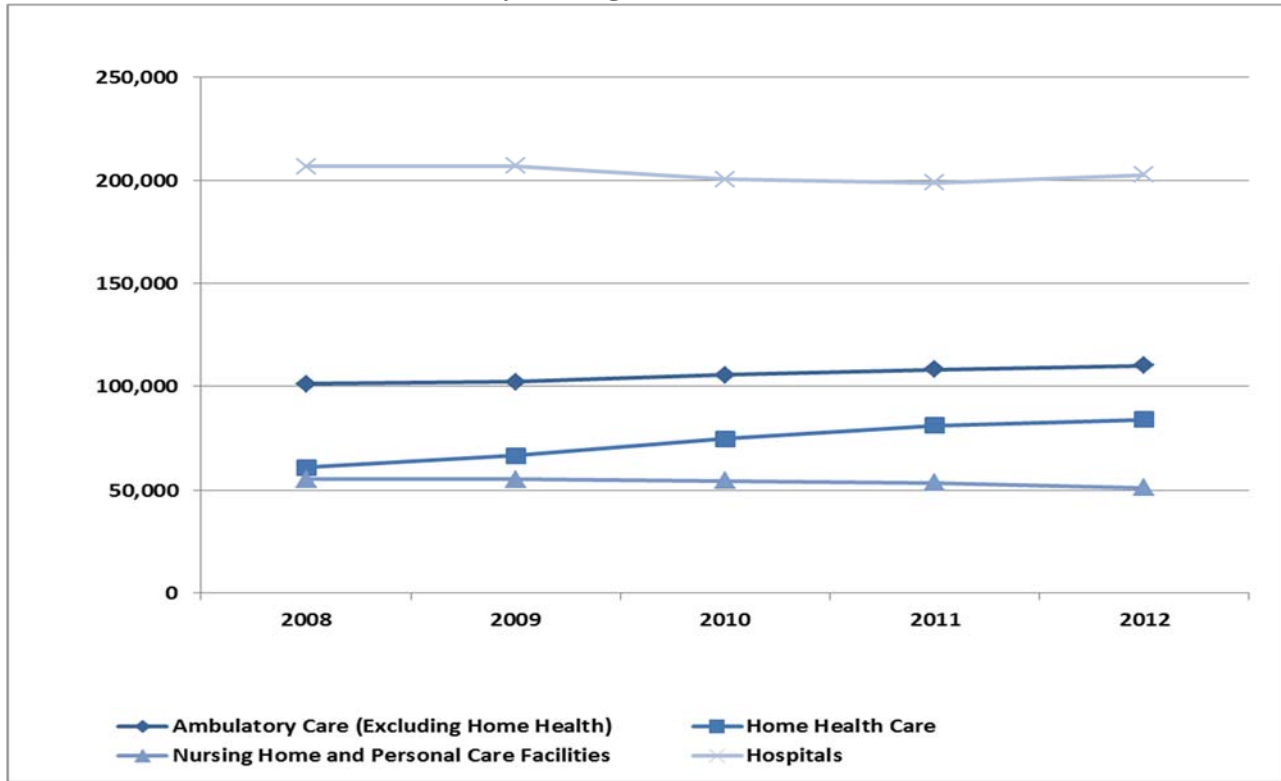
Between 2008 and 2012, health sector employment increased in New York City in ambulatory care and home health care, while hospitals and nursing homes lost jobs in New York City during the same time period. Home health care jobs grew by more than 37% between 2008 and 2012. Ambulatory care settings experienced the next largest job growth (9%), while the number of jobs in hospitals and nursing homes declined by 2% and 7%, respectively (Exhibits 42 and 43).

**Exhibit 42. Number of Health Care Jobs in the New York City Region,
by Setting, 2008, 2012**



Source: NYS Department of Labor, ES-202

**Exhibit 43. Number of Health Care Jobs in the New York City Region,
by Setting, 2008-2012**



Source: NYS Department of Labor, ES-202

Employment by Occupation

Between 2008 and 2012, changes in the number of health care jobs in the New York City PMSA²⁴ varied widely by occupation. While these data represent positions and not individuals or FTEs, they were useful in identifying trends in occupations or job titles. A number of occupations experienced substantial increases in the number of jobs between 2008 and 2012, including:

- Home health aide jobs, which grew by nearly 10,000, or by 11%;
- Pharmacist jobs, which increased by almost 2,600 or by 30%;
- Medical assistant jobs, which grew by over 2,300, or by 19%; and
- Pharmacy technician jobs, which increased by more than 2,200, or by 33%.

²⁴ The New York City PMSA includes the following counties: Bronx, Kings, New York, Queens, Richmond, Westchester, Putnam, and Rockland.

More than half of the health occupations jobs in the New York City PMSA declined between 2008 and 2012, including:

- RN jobs, which decreased by over 5,700, or by 6%;
- Social worker jobs, which declined by nearly 4,600, or by 13%
- Medical secretary jobs, which decreased by almost 2,000, or by 23%;
- Dental hygienist jobs, which declined by over 1,100, or by 23%; and
- Medical and clinical laboratory technicians, which decreased by about 1,100, or by 23%.

**Exhibit 44. Number of Jobs in Selected Health Occupations in the New York City PMSA,
2008-2012²⁵**

Occupation	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Personal Care Aides	N/A	N/A	76,380	82,090	79,770	N/A	N/A
Home Health Aides	86,460	82,710	92,710	94,550	96,340	9,880	11.4%
Pharmacists	8,700	9,220	9,680	10,640	11,290	2,590	29.8%
Medical Assistants	12,080	12,700	12,710	12,980	14,390	2,310	19.1%
Pharmacy Technicians	6,860	6,770	6,760	8,270	9,090	2,230	32.5%
Licensed Practical Nurses	18,090	17,440	17,670	18,880	19,950	1,860	10.3%
Medical and Health Services Managers	15,540	17,070	17,070	16,690	16,500	960	6.2%
Physical Therapists	7,130	7,410	7,450	7,470	7,610	480	6.7%
Dietitians and Nutritionists	2,500	2,430	2,450	2,900	2,970	470	18.8%
Physician Assistants	3,910	4,250	4,580	4,560	4,320	410	10.5%
Respiratory Therapists	3,100	2,930	3,340	3,540	3,390	290	9.4%
Medical Records and Health Information Techs	4,280	4,120	4,590	4,640	4,560	280	6.5%
Occupational Therapists	3,860	3,870	3,880	3,890	4,030	170	4.4%
Physical Therapy Assistants/Aides	3,300	3,240	3,280	2,980	3,470	170	5.2%
Dietetic Technicians	390	410	460	370	320	-70	-17.9%
Surgical Technologists	3,070	3,070	2,910	2,870	2,960	-110	-3.6%
Dental Assistants	9,510	9,310	9,360	9,730	9,350	-160	-1.7%
Nuclear Medicine Technologists	770	760	700	580	600	-170	-22.1%
Occupational Therapy Assistants/Aides	1,120	1,010	910	930	950	-170	-15.2%
Cardiovascular Technologists and Technicians	1,740	1,430	1,450	1,300	1,290	-450	-25.9%
Medical and Clinical Laboratory Technologists	6,920	6,790	6,710	6,850	6,390	-530	-7.7%
Speech-Language Pathologists	4,980	5,380	3,780	4,000	4,300	-680	-13.7%
Medical and Clinical Laboratory Technicians	4,810	4,420	4,350	3,980	3,720	-1,090	-22.7%
Dental Hygienists	5,020	5,120	4,190	3,790	3,870	-1,150	-22.9%
Medical Secretaries	8,590	7,270	5,960	5,900	6,600	-1,990	-23.2%
Social Workers	35,890	35,490	34,350	32,160	31,300	-4,590	-12.8%
Registered Nurses	97,790	96,270	96,270	96,210	92,060	-5,730	-5.9%
Certified Registered Nurse Anesthetists	NA	NA	NA	NA	510	NA	NA
Nurse Midwives	NA	NA	NA	NA	350	NA	NA
Nurse Practitioners	NA	NA	NA	NA	4,130	NA	NA
Nursing Assistants	NA	NA	NA	NA	56,810	NA	NA
Orderlies	NA	NA	NA	NA	2,340	NA	NA
Radiologic Technologists	NA	NA	NA	NA	5,800	NA	NA

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

²⁵ Prior to 2010, registered nurses included advanced practice nurses (nurse practitioners, certified nurse midwives, and certified registered nurse anesthetists). Additionally, the previous definition for personal care aides included home health aides.

Average wages per hour in selected health occupations for New York City are reported in Exhibit 45. These wages are based on the data for the first quarter of 2013. The wage reported for social workers includes health care social workers only. Certified registered nurse anesthetists earned the highest per hour wage in 2013 (\$80.45), followed by medical and health service managers (\$60.69), pharmacists (\$56.65), and NPs (\$50.97). Personal care aides and home health aides were the lowest wage earners (\$10.73 and \$9.67, respectively).

**Exhibit 45. Average per Hour Wage in Selected Health Occupations
in the New York City Region, 2013**

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$80.45
Medical and Health Services Managers	\$60.69
Pharmacists	\$56.66
Nurse Practitioners	\$50.97
Physician Assistants	\$48.12
Nurse Midwives	\$47.87
Speech-Language Pathologists	\$42.15
Registered Nurses	\$40.97
Physical Therapists	\$39.89
Occupational Therapists	\$38.71
Nuclear Medicine Technologists	\$38.06
Dental Hygienists	\$36.00
Radiologic Technologists and Technicians	\$33.83
Respiratory Therapists	\$33.66
Medical and Clinical Laboratory Technologists	\$31.27
Healthcare Social Workers	\$29.12
Dietitians and Nutritionists	\$29.04
Physical Therapist Assistants	\$27.50
Occupational Therapy Assistants	\$26.20
Cardiovascular Technologists and Technicians	\$26.07
Mental Health and Substance Abuse Social Workers	\$24.20
Licensed Practical and Licensed Vocational Nurses	\$24.11
Surgical Technologists	\$23.71
Medical and Clinical Laboratory Technicians	\$22.93
Medical Records and Health Information Technicians	\$21.34
Medical Secretaries	\$20.49
Dietetic Technicians	\$19.64
Dental Assistants	\$17.44
Nursing Assistants	\$16.88
Pharmacy Technicians	\$16.71
Medical Assistants	\$16.54
Orderlies	\$15.86
Occupational Therapy Aides	\$14.83
Physical Therapist Aides	\$12.87
Personal Care Aides	\$10.73
Home Health Aides	\$9.67

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012, the number of RNs in New York City grew by over 6,000, or by 11%. During the same time period, the number of social workers (both LCSWs and LMSWs) increased by over 2,000, or by 12%. NPs had the largest percentage increase, growing by more than 37% between 2008 and 2012. The numbers of licensed speech-language pathologists, PAs, physical therapists, and occupational therapists all grew by more than 20% (Exhibit 46).

**Exhibit 46. Number of Licensed Individuals in Selected Health Occupations
in the New York City Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	55,300	57,283	58,980	59,559	61,393	6,093	11.0%
Social Workers	17,745	17,917	18,353	19,175	19,874	2,129	12.0%
Nurse Practitioners	2,821	3,068	3,263	3,541	3,874	1,053	37.3%
Pharmacists	5,006	5,281	5,503	5,709	5,930	924	18.5%
Speech-Language Pathologists	3,356	3,572	3,744	3,972	4,243	887	26.4%
Physical Therapists	4,328	4,508	4,714	4,799	4,978	650	15.0%
Physician Assistants	2,579	2,734	2,885	3,013	3,211	632	24.5%
Occupational Therapists	2,554	2,695	2,771	2,911	3,067	513	20.1%
Clinical Laboratory Technologists	3,984	4,545	4,493	4,406	4,474	490	12.3%
Dental Hygienists	1,573	1,638	1,704	1,775	1,856	283	18.0%
Respiratory Therapists	1,227	1,243	1,331	1,402	1,439	212	17.3%
Physical Therapy Assistants	1,005	1,061	1,085	1,104	1,213	208	20.7%
Dietitians/Nutritionists	1,407	1,444	1,477	1,489	1,564	157	11.2%
Occupational Therapy Assistants	870	898	944	992	1,013	143	16.4%
Clinical Laboratory Technicians	532	678	631	577	581	49	9.2%
Licensed Practical Nurses	14,785	14,488	14,201	14,588	14,792	7	0.0%

Source: NYS Education Department, Office of Professions

Demand for Health Workers

Hospitals

Hospitals in the New York City reported the most difficulty recruiting nurse managers, medical coders, and clinical laboratory technologists with the primary reason cited as shortages of these workers. Medical coders and PAs were the most difficult to retain, followed by nurse managers and clinical laboratory technologists (Exhibit 47).

**Exhibit 47. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the New York City Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	3.0	2.1	21%	7%	0%
Certified Nursing Aides	1.2	1.6	5%	5%	5%
Clinical Laboratory Technicians	3.3	2.5	73%	46%	0%
Clinical Laboratory Technologists	3.9	2.9	91%	38%	5%
HIT Staff	2.9	2.0	58%	8%	0%
Licensed Clinical Social Workers	2.9	2.5	13%	13%	6%
Licensed Practical Nurses	2.1	1.3	25%	0%	0%
Medical Assistants	1.3	1.4	7%	0%	0%
Medical Coders	4.2	3.1	68%	27%	0%
Nurse Practitioners	2.8	2.1	4%	22%	9%
Occupational Therapists	3.0	2.5	14%	24%	14%
Pharmacists	3.2	2.1	35%	5%	5%
Physical Therapists	3.1	2.1	19%	29%	10%
Physician Assistants	3.5	3.1	36%	50%	14%
Radiological Technicians	2.4	1.6	0%	0%	0%
Radiological Technologists	2.3	1.9	0%	0%	0%
Registered Nurses					
Newly Licensed RNs	1.7	1.8	21%	0%	8%
Experienced RNs	3.0	1.6	58%	25%	8%
Nurse Managers	4.3	3.0	87%	26%	4%
Speech-Language Pathologists	2.7	1.7	14%	23%	9%

- Hospitals in the New York City reported plans to increase both outpatient procedural services and ambulatory services with increased demand for physicians, RNs, NPs and PAs.
- In addition, hospitals anticipated shifting the focus of inpatient services to include more oncology, intensive care, and surgical services.

Nursing Homes

Nursing homes in New York City reported that nurse managers and experienced RNs were the most difficult to recruit, followed by directors of nursing. Occupational therapists were the most difficult to retain, followed by occupational therapy assistants, CNAs, and experienced RNs (Exhibit 48).

**Exhibit 48. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the New York City Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	1.9	2.6	17%	25%	42%	50%
Clerical	1.8	1.5	14%	29%	14%	43%
Dietitians/Nutritionists	2.8	2.0	33%	67%	22%	22%
Licensed Practical Nurses	2.2	2.4	33%	42%	33%	17%
Medical Billers	2.3	1.6	25%	0%	0%	75%
Occupational Therapists	2.9	2.7	40%	30%	20%	30%
Occupational Therapy Assts.	2.8	2.6	33%	22%	11%	56%
Personal Care Assistants	1.8	1.8	0%	0%	0%	100%
Physical Therapists	2.5	2.3	33%	56%	22%	22%
Physical Therapy Assistants	2.8	2.5	25%	50%	25%	38%
Registered Nurses						
Newly Licensed RNs	1.9	2.3	22%	22%	33%	33%
Experienced RNs	3.1	2.6	33%	42%	33%	17%
MDS Coordinators	2.9	2.2	36%	55%	18%	27%
Nurse Managers	3.1	2.5	27%	55%	36%	36%
Directors of Nursing	3.0	2.3	30%	40%	10%	40%
Rec. Therapists/Activities Dirs.	2.4	2.2	0%	63%	13%	38%
Respiratory Therapists	2.4	2.1	0%	25%	0%	75%
Social Workers						
Licensed Clinical SWs	2.6	2.3	15%	46%	8%	39%
Licensed Master's SWs	2.7	2.4	15%	46%	8%	39%
Speech-Language Pathologists	2.7	2.1	13%	63%	25%	38%

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

- Nursing homes reported difficulty hiring RNs and LPNs for all off-shifts.
- Eighty-six percent (86%) of nursing homes reported using contract agency and per diem staff.
- Most nursing homes in the New York City region (73%) were not planning to expand or reduce services next year.

Home Health Care Agencies

Home health care agencies in New York City reported the most difficulty recruiting occupational therapists and speech-language pathologists, followed by physical therapists, dietitians/nutritionists, and respiratory therapists. Speech-language pathologists were the most difficult to retain, followed by occupational therapists and dietitians/nutritionists (Exhibit 49).

Exhibit 49. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the New York City Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.6	3.2	33%	67%	33%	17%
Home Health Aides	1.7	2.0	0%	0%	0%	100%
Licensed Practical Nurses	2.0	2.1	20%	40%	20%	40%
Occupational Therapists	4.5	3.5	62%	38%	8%	15%
Personal Care Aides/Homemakers	2.0	2.0	0%	0%	0%	100%
Physical Therapists	3.7	3.0	55%	55%	0%	18%
Registered Nurses						
Newly Licensed RNs	1.8	2.5	0%	29%	29%	86%
Experienced RNs	2.9	3.1	15%	54%	54%	31%
Respiratory Therapists	3.4	3.0	67%	33%	0%	33%
Social Workers						
Licensed Clinical SWs	2.7	2.8	0%	20%	0%	80%
Licensed Master's SWs	2.8	2.8	0%	43%	0%	57%
Speech-Language Pathologists	4.0	4.0	40%	40%	0%	40%
Others	N/A	N/A	N/A	N/A	N/A	N/A

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

- Half (50%) reported difficulty hiring part-time workers.
- Forty-four percent (44%) indicated difficulty hiring bilingual workers, with Spanish the language most needed.
- Seventy-six percent (76%) of home health care agencies reported using contract agency staff, while 94% used per diem staff.
- More than half (59%) anticipated expanding services in the next year, and projected adding jobs for RNs, physical therapists, and occupational therapists.

FQHCs

FQHCs in New York City reported the most difficulty recruiting geriatric NPs, psychiatric NPs, and psychiatrists and reported the most difficulty retaining case managers, medical assistants, case coordinators, and HIV counselors (Exhibit 50).

**Exhibit 50. Recruitment and Retention Difficulties for FQHCs
in Selected Health Occupations in the New York City Region, 2013**

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	2.8	1.6
	Internal Medicine Physicians	3.0	1.5
	Ob/Gyn Physicians	3.3	1.9
	Pediatric Physicians	2.8	1.3
	Adult Nurse Practitioners	2.6	1.9
	Family Nurse Practitioners	3.0	1.7
	Geriatric Nurse Practitioners	4.0	2.0
	Pediatric Nurse Practitioners	1.5	1.5
	Midwives	2.9	1.8
	Physician Assistants	1.7	1.6
Nursing	Certified Nurse Aids/Assistants	1.3	1.3
	Licensed Practical Nurses	2.0	2.1
	Registered Nurses	2.4	2.2
	Medical Assistants	1.5	2.5
Behavioral Health	Psychiatrists	3.5	1.7
	Psychiatric Nurse Practitioners	3.6	1.6
	Psychologists	2.6	1.9
	Substance Abuse Counselors	2.0	1.7
	Licensed Clinical Social Workers	3.1	2.1
	Licensed Master Social Workers	2.9	2.1
Oral Health	Dental Assistants/Aides/Techs	2.4	2.1
	Dental Hygienists	2.8	1.4
	Dentists	2.6	1.9
Ancillary	Care Coordinators	2.4	2.4
	Case Managers	2.0	2.6
	Community Health Workers	1.5	1.9
	Health Educators	2.1	1.7
	HIV Counselors	2.2	2.4
	Nutritionists/Nutrition Educators	2.8	2.3
	Patient Health Navigators	2.4	2.1

- Eighty-five percent (85%) of FQHCs indicated plans to expand services and expected to hire more social workers and dental service providers. None indicated plans to reduce services.
- Also, 69% of FQHCs reported difficulty hiring bilingual staff and Spanish was the language most commonly needed.
- Sixty-four percent (64%) reported difficulty hiring workers for weekend shifts.

Employment Projections by Health Occupation

Between 2010 and 2020, the largest numbers of average annual job openings projected in New York City will be for home health aides (4,700), personal and home care aides (4,530), and RNs (2,170) (Exhibit 51).

**Exhibit 51. Employment Projections for Selected Health Occupations
in the New York City Region, 2010-2020²⁶**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Home Health Aides	77,570	114,57	37,000	47.7%	4,700
Personal and Home Care Aides	79,860	118,90	39,040	48.9%	4,530
Registered Nurses	68,000	77,400	9,400	13.8%	2,170
Social Workers	27,950	31,720	3,770	13.5%	1,030
Nursing Aides, Orderlies, and Attendants	41,130	45,380	4,250	10.3%	960
Licensed Practical and Licensed Vocational Nurses	13,740	15,560	1,820	13.2%	550
Medical and Health Service Managers	13,500	14,490	990	7.3%	430
Pharmacists	7,790	9,840	2,050	26.3%	410
Pharmacy Technicians	5,940	7,990	2,050	34.5%	310
Medical Assistants	8,020	9,940	1,920	23.9%	310
Clinical, Counseling, and School Psychologists	5,880	6,760	880	15.0%	280
Dental Assistants	6,560	7,950	1,390	21.2%	280
Physical Therapists	5,610	7,120	1,510	26.9%	220
Emergency Medical Technicians and Paramedics	6,070	7,030	960	15.8%	220
Radiologic Technologists and Technicians	4,620	5,540	920	19.9%	160
Medical and Clinical Laboratory Technologists	4,700	5,120	420	8.9%	130
Physician Assistants	3,910	4,380	470	12.0%	120
Medical Records and Health Information Technicians	3,750	4,160	410	10.9%	120
Occupational Therapists	3,310	3,810	500	15.1%	110
Dietitians and Nutritionists	2,120	2,350	230	10.8%	100
Speech-Language Pathologists	2,520	3,020	500	19.8%	100
Psychiatric Aides	4,250	4,660	410	9.6%	100
Respiratory Therapists	2,350	2,720	370	15.7%	90
Dental Hygienists	1,940	2,470	530	27.3%	90
Medical and Clinical Laboratory Technicians	2,670	2,830	160	6.0%	70
Diagnostic Medical Sonographers	1,240	1,660	420	33.9%	60
Surgical Technologists	2,270	2,370	100	4.4%	50
Cardiovascular Technologists and Technicians	850	990	140	16.5%	20

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

²⁶ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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, Saratoga, Schenectady, Warren, and Washington.

Population

The population of the Capital District region was less racially and ethnically diverse than New York as a whole and also had a lower percentage of people below the 100% and 200% federal poverty level. A higher percentage of individuals in the Capital District held associate degrees but a lower percentage held bachelor's degrees or higher (Exhibit 52).

**Exhibit 52. Selected Population Characteristics in the Capital District Region, 2008-2012
(5-year Average)²⁷**

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	1,076,759	N/A	N/A
Population Under 100% FPL Level	118,346	11.0%	14.5%
Population Under 200% FPL Level	261,502	24.3%	30.2%
Population Age Birth-17	230,699	21.4%	22.5%
Population Age 65 and older	156,479	14.5%	13.4%
Population Female Age 15-44	209,521	19.5%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	419	1.1%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	8,508	8.6%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	2,678	3.7%	4.5%
Black/African American, non-Hispanic	69,087	6.4%	14.5%
Hispanic/Latino	41,647	3.9%	17.4%
Asian/Pacific Islander, non-Hispanic	28,911	2.7%	7.3%
American Indian/Native Alaskan, non-Hispanic	2,195	0.2%	0.2%
Two or More/Other	22,922	2.1%	1.9%
Less than High School Education	72,236	9.8%	15.4%
High School or Equivalent	352,589	47.9%	43.9%
Associate Degree	81,746	11.1%	8.2%
Bachelor's Degree	125,711	17.1%	18.5%
Master's Degree or Higher	103,156	14.0%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

²⁷ Education levels and rates are based on individuals age 25 and older.

Health Status

The Capital District region had higher death rates than the state as a whole and upstate New York, including higher rates of death due to heart disease and all types of cancer. The Capital District region had lower rates of asthma (both adult and pediatric) and diabetes hospitalizations compared to both the state as a whole and upstate New York. The rate for preventable hospitalizations was much lower in the Capital District region compared to the state as a whole and upstate New York (Exhibit 53).

**Exhibit 53. Selected Health Indicators in the Capital District Region, 2009-2011
(3-year Average)²⁸**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	9,575	891.0	748.3	843.7
Deaths Due to Heart Disease, per 100,000	2,604	242.3	230.9	240.2
Deaths Due to All Cancers, per 100,000	2,351	218.2	181.2	202.9
Deaths Due to Diabetes, per 100,000	206	19.1	19.2	18.3
Total Births, per 1,000 females, age 15-44	11,132	10.4	12.5	11.0
Teen Births, per 1,000 females, age 15-19	774	6.9	6.2	6.5
Low-birthweight Births, as a percent of total births	898	8.1	8.2	7.8
Late/No Prenatal Care, as a percent of total births	547	5.2	5.6	4.1
Infant Deaths, per 1,000 live births	74	6.6	5.1	5.6
Total Hospitalizations, per 10,000	122,475	1,139.7	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	13,655	127.1	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	916	10.8	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	308	13.6	28.3	15.9
Diabetes Hospitalizations, ²⁹ per 10,000	1,519	14.1	20.1	15.7
CLRD Hospitalizations, ³⁰ per 10,000	3,953	36.8	39.0	35.4
Heart Disease Hospitalizations, per 10,000	11,012	102.5	120.6	123.1
Total ED Visits, per 10,000	405,023	3,768.8	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

²⁸ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

²⁹ Primary diagnosis only.

³⁰ Chronic Lower Respiratory Disease.

Primary Care Physicians

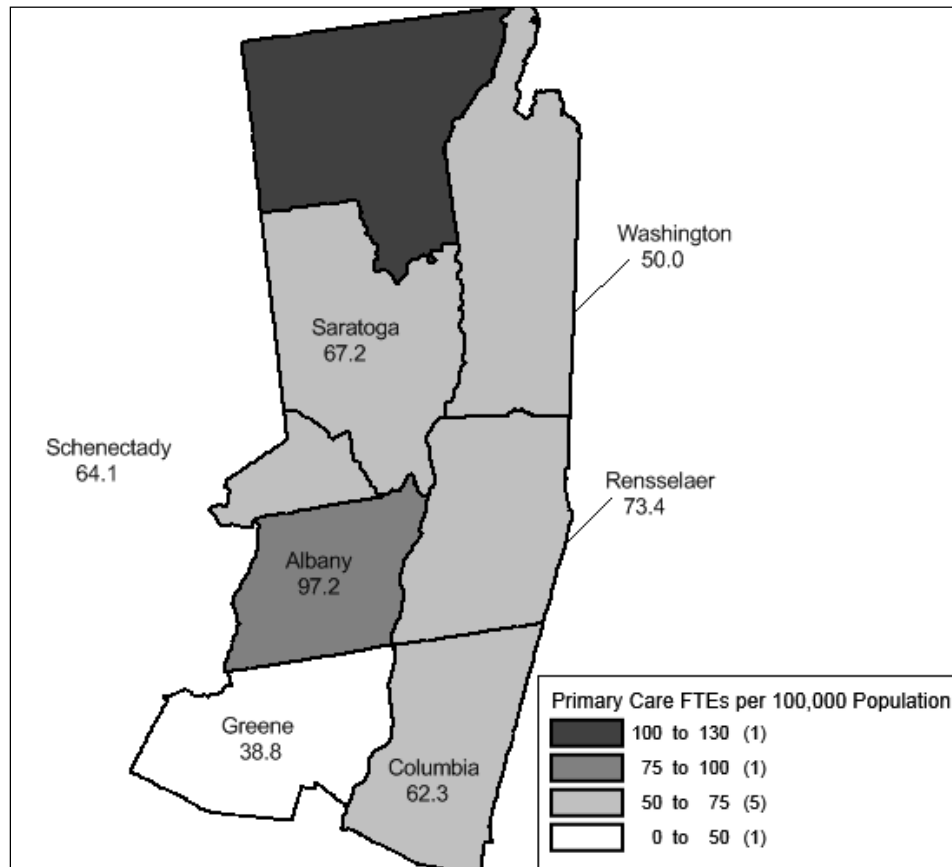
There were nearly 850 primary care physician FTEs practicing in the Capital District region in 2013. More than one-third of them (38%) were in family or general practice and 30% were in general internal medicine. There were 78 primary care physicians per 100,000 total population in the Capital District region, lower than the statewide rate of 84.5. Warren County had the highest rate of physicians, with 96.8 per 100,000 total population, while Greene County had the lowest with 38.8 per 100,000 total population (Exhibits 54 and 55).

Exhibit 54. Primary Care FTEs in the Capital District Region, by Specialty, 2013³¹

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	326	30.2
Internal Medicine (General)	255	23.7
Geriatrics	3	1.7
Obstetrics/Gynecology	101	44.3
Pediatrics (General)	157	75.4
Total	842	78.0

³¹ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate, which is per 100,000 population age 65 and older.

Exhibit 55. Number of Primary Care FTEs per 100,000 Population in the Capital District Region by County, 2013



Employment

Total Health Sector Employment

Between 2008 and 2012, employment in the health care sector in the Capital District region grew by over 2,800 jobs, or by more than 5%. Jobs in all health care settings increased during that time period, with a 6.5% increase in ambulatory care, a 6.2% increase in hospitals, a 5.5% increase in home health care, and a 2% increase in nursing homes and personal care facilities (Exhibit 56).

**Exhibit 56. Number of Health Care Jobs in the Capital District Region,
by Setting, 2008-2012**

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	22,413	22,980	23,057	23,541	23,796	1,383	6.2%
Ambulatory Care (Excluding Home Health)	16,659	16,905	17,222	17,461	17,735	1,076	6.5%
Nursing Homes and Personal Care Facilities	11,188	11,191	11,194	11,240	11,413	225	2.0%
Home Health Care	2,989	3,060	3,049	3,078	3,154	165	5.5%
Total	53,249	54,136	54,521	55,320	56,098	2,849	5.4%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations is reported in Exhibit 57. RNs in the Capital District had the largest number of jobs in the first quarter of 2013 (11,600), followed by nursing assistants (5,900), home health aides (4,810), and personal care aides (4,760). Dietetic technicians (80) and nuclear medicine technologists (50) had the smallest number of jobs in the Capital District region.

Average wages per hour in selected health occupations for Capital District are reported in Exhibit 58. These wages were based on the data for the first quarter of 2013. Certified registered nurse anesthetists earned the highest per hour wage in 2013 (\$68.41), followed by pharmacists and medical and health service managers (\$56.68 and \$49.43 respectively). Physical therapist aides (\$12.08), home health aides (\$12.01), and orderlies (\$11.49) were the lowest wage earners.

**Exhibit 57. Number of Jos in Selected Health Occupations
in the Capital District Region, 2013**

Occupation	Employment
Registered Nurses	11,600
Nursing Assistants	5,900
Home Health Aides	4,810
Personal Care Aides	4,760
Licensed Practical and Licensed Vocational Nurses	3,810
Medical and Health Services Managers	1,700
Medical Secretaries	1,050
Pharmacy Technicians	1,040
Pharmacists	980
Medical Assistants	970
Dental Assistants	900
Dental Hygienists	850
Radiologic Technologists and Technicians	780
Speech-Language Pathologists	750
Physical Therapists	700
Healthcare Social Workers	690
Medical and Clinical Laboratory Technicians	660
Nurse Practitioners	640
Medical and Clinical Laboratory Technologists	590
Physician Assistants	590
Medical Records and Health Information Technicians	580
Mental Health and Substance Abuse Social Workers	510
Occupational Therapists	470
Respiratory Therapists	340
Surgical Technologists	320
Dietitians and Nutritionists	260
Physical Therapist Assistants	230
Occupational Therapy Assistants	200
Cardiovascular Technologists and Technicians	190
Orderlies	150
Certified Registered Nurse Anesthetists	140
Physical Therapist Aides	100
Dietetic Technicians	80
Nuclear Medicine Technologists	50
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 58. Average per hour Wage in Selected Health Occupations
in the Capital District Region, 2013**

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$68.41
Pharmacists	\$56.68
Medical and Health Services Managers	\$49.43
Nurse Midwives	\$44.87
Nurse Practitioners	\$44.05
Physician Assistants	\$42.90
Nuclear Medicine Technologists	\$37.04
Physical Therapists	\$32.57
Occupational Therapists	\$32.39
Speech-Language Pathologists	\$32.24
Respiratory Therapists	\$29.60
Dental Hygienists	\$29.33
Dietitians and Nutritionists	\$29.26
Medical and Clinical Laboratory Technologists	\$28.33
Radiologic Technologists and Technicians	\$28.32
Registered Nurses	\$28.31
Mental Health and Substance Abuse Social Workers	\$27.75
Cardiovascular Technologists and Technicians	\$24.76
Healthcare Social Workers	\$23.89
Occupational Therapy Assistants	\$22.22
Physical Therapist Assistants	\$20.88
Medical and Clinical Laboratory Technicians	\$20.47
Licensed Practical and Licensed Vocational Nurses	\$19.28
Surgical Technologists	\$19.03
Dietetic Technicians	\$18.56
Dental Assistants	\$17.79
Medical Records and Health Information Technicians	\$16.84
Medical Assistants	\$15.75
Medical Secretaries	\$15.67
Occupational Therapy Aides	\$14.86
Pharmacy Technicians	\$14.51
Nursing Assistants	\$13.26
Personal Care Aides	\$12.58
Physical Therapist Aides	\$12.08
Home Health Aides	\$12.01
Orderlies	\$11.49

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012, the number of licensed RNs increased by more than 400, or about 3%, in the Capital District, and the number of social workers (both LCSWs and LMSWs) grew by over 200, or by 9%. The licensed professions with the largest percentage increases in the Capital District during that time period included respiratory therapists (18%), PAs (17%), and NPs (14%). Of note, in 2013, hospitals in the Capital District Region reported difficulty recruiting and retaining clinical laboratory technologists and technicians (Exhibit 60), while the number of licensed clinical laboratory technologists and technicians declined between 2008 and 2012 in the Capital District region (Exhibit 59).

**Exhibit 59. Number of Licensed Individuals in Selected Health Occupations
in the Capital District Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	15,196	15,420	15,513	15,506	15,643	447	2.9%
Social Workers	2,247	2,268	2,320	2,415	2,450	203	9.0%
Licensed Practical Nurses	5,117	5,087	5,064	5,245	5,269	152	3.0%
Pharmacists	1,342	1,392	1,431	1,444	1,487	145	10.8%
Nurse Practitioners	656	685	704	716	748	92	14.0%
Physician Assistants	552	575	593	612	643	91	16.5%
Physical Therapists	966	992	1,011	1,019	1,050	84	8.7%
Occupational Therapists	516	540	539	547	578	62	12.0%
Respiratory Therapists	320	344	360	370	377	57	17.8%
Dental Hygienists	807	806	821	849	855	48	5.9%
Speech-Language Pathologists	868	892	892	912	913	45	5.2%
Dietitians/Nutritionists	291	297	300	294	303	12	4.1%
Occupational Therapy Assistants	298	295	292	308	309	11	3.7%
Physical Therapy Assistants	347	355	355	339	337	-10	-2.9%
Clinical Laboratory Technicians	121	135	130	115	109	-12	-9.9%
Clinical Laboratory Technologists	879	949	924	876	854	-25	-2.8%

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, followed by clinical laboratory technicians and experienced RNs. Other occupations identified as difficult to recruit included physical therapist, nurse managers, occupational therapists, and speech-language pathologists. Clinical laboratory technicians were the most difficult to retain, followed by CNAs, experienced RNs and clinical laboratory technologists (Exhibit 60).

**Exhibit 60. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Capital District Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	2.5	2.0	0%	0%	0%
Certified Nursing Aides	3.3	4.2	67%	17%	0%
Clinical Laboratory Technicians	4.0	5.0	0%	0%	0%
Clinical Laboratory Technologists	5.0	3.8	100%	20%	0%
HIT Staff	3.0	2.8	20%	20%	0%
Licensed Clinical Social Workers	2.8	2.8	0%	0%	0%
Licensed Practical Nurses	2.0	2.2	0%	0%	0%
Medical Assistants	2.5	3.0	0%	0%	0%
Medical Coders	3.2	2.8	40%	0%	0%
Nurse Practitioners	2.5	2.0	17%	17%	17%
Occupational Therapists	3.7	3.0	67%	33%	0%
Pharmacists	3.0	2.8	50%	0%	0%
Physical Therapists	3.8	2.6	33%	17%	0%
Physician Assistants	3.5	2.8	83%	33%	17%
Radiological Technicians	3.0	3.0	0%	0%	0%
Radiological Technologists	2.3	1.4	17%	0%	0%
Registered Nurses					
Newly Licensed RNs	1.6	3.5	0%	0%	0%
Experienced RNs	4.0	3.8	100%	20%	20%
Nurse Managers	3.8	2.5	60%	20%	0%
Speech-Language Pathologists	3.7	3.0	67%	33%	0%

- Hospitals in the Capital District region reported plans to increase both outpatient procedural services and ambulatory services with increased demand for RNs.

Nursing Homes

Nursing homes in the Capital District region reported that in 2013 experienced RNs were the most difficult to recruit and among the most difficult to retain. MDS coordinators, nurse managers, and directors of nursing were also difficult to recruit. CNAs were the most difficult to retain, followed by experienced RNs and nurse managers (Exhibit 61).

**Exhibit 61. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the Capital District Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	2.7	3.6	29%	47%	24%	41%
Clerical	1.9	1.7	0%	25%	25%	50%
Dietitians/Nutritionists	3.1	2.6	56%	22%	0%	11%
Licensed Practical Nurses	2.7	2.8	31%	77%	0%	8%
Medical Billers	3.1	2.3	13%	25%	13%	25%
Occupational Therapists	3.2	2.4	33%	17%	0%	33%
Occupational Therapy Assts.	3.1	2.4	33%	17%	0%	33%
Personal Care Assistants	2.5	3.0	0%	0%	0%	75%
Physical Therapists	3.1	2.5	43%	29%	14%	29%
Physical Therapy Assistants	3.2	2.5	33%	33%	0%	33%
Registered Nurses						
Newly Licensed RNs	2.4	2.8	25%	50%	25%	38%
Experienced RNs	4.0	3.1	25%	50%	19%	25%
MDS Coordinators	3.7	2.7	50%	38%	13%	0%
Nurse Managers	3.7	3.1	42%	33%	8%	17%
Directors of Nursing	3.6	2.6	33%	67%	11%	22%
Rec. Therapists/Activities Dirs.	2.4	2.2	0%	33%	0%	33%
Respiratory Therapists	2.5	2.0	0%	0%	0%	100%
Social Workers						
Licensed Clinical SWs	3.0	2.3	0%	40%	20%	0%
Licensed Master's SWs	3.5	2.4	0%	33%	0%	33%
Speech-Language Pathologists	2.9	2.7	50%	0%	0%	50%
Others	3.0	2.5	N/A	N/A	N/A	N/A

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

- Forty-five percent (45%) reported difficulty hiring part-time workers.
- Nursing homes reported difficulty hiring RNs, CNAs, and LPNs for all off-shifts (evenings, nights, and weekends).
- Forty-eight percent (48%) of nursing homes used contract agency staff, while all (100%) used per diem staff.

Home Health Care Agencies

Home health care agencies in the Capital District region reported the greatest difficulty recruiting occupational therapists, respiratory therapists, and LCSWs. In addition these agencies indicated that personal care aides/homemakers were most difficult to retain, followed by respiratory therapists and LCSWs (Exhibit 62).

Exhibit 62. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Capital District Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.7	3.3	50%	50%	0%	50%
Home Health Aides	3.5	3.5	0%	33%	33%	67%
Licensed Practical Nurses	2.7	2.3	0%	33%	33%	33%
Occupational Therapists	4.0	3.0	40%	60%	20%	0%
Personal Care Aides/Homemakers	3.5	4.5	0%	33%	33%	33%
Physical Therapists	3.8	3.0	50%	75%	50%	0%
Registered Nurses						
Newly Licensed RNs	N/A	N/A	0%	0%	0%	100%
Experienced RNs	3.6	3.5	25%	100%	25%	0%
Respiratory Therapists	4.0	4.0	100%	100%	0%	100%
Social Workers						
Licensed Clinical SWs	4.0	4.0	0%	50%	0%	50%
Licensed Master's SWs	3.4	3.7	0%	50%	25%	25%
Speech-Language Pathologists	3.0	3.0	0%	67%	33%	33%

Other information reported by home health care agencies in the Capital District region included:

- Half (50%) reported difficulty hiring part-time workers.
- Eighty percent (80%) indicated difficulty hiring workers for off-shifts.
- Sixty percent (60%) reported using contract agency staff, while 80% used per diem staff.
- Sixty percent (60%) also indicated they anticipated expanding services in the next year. The expansion was expected to increase the number of jobs for RNs, home health aides, and physical therapists.

FQHCs

The response rates for FQHCs in the Capital District, Mohawk Valley, and North Country regions were too low to analyze separately so the responses from these regions were combined. FQHCs in this combined region reported the most difficulty recruiting ob/gyns, geriatric NPs, psychiatrists, and LMSWs and reported the most difficulty retaining CNAs, LPNs, substance abuse counselors, case managers, community health workers, and patient health navigators (Exhibit 63).

Exhibit 63. Recruitment and Retention Difficulties for FQHCs in Selected Health Occupations in the Capital District, Mohawk Valley, and North Country Regions, 2013

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	3.8	1.9
	Internal Medicine Physicians	4.5	2.0
	Ob/Gyn Physicians	5.0	N/A
	Pediatric Physicians	3.3	1.5
	Adult Nurse Practitioners	3.5	2.5
	Family Nurse Practitioners	3.2	2.1
	Geriatric Nurse Practitioners	5.0	2.0
	Pediatric Nurse Practitioners	N/A	1.0
	Midwives	3.7	2.7
	Physician Assistants	2.8	1.7
Nursing	Certified Nurse Aids/Assistants	1.3	3.0
	Licensed Practical Nurses	2.0	3.0
	Registered Nurses	2.5	2.7
	Medical Assistants	1.8	2.5
Behavioral Health	Psychiatrists	5.0	2.0
	Psychiatric Nurse Practitioners	4.7	2.0
	Psychologists	N/A	2.0
	Substance Abuse Counselors	4.0	3.0
	Licensed Clinical Social Workers	4.0	2.0
	Licensed Master Social Workers	5.0	2.0
Oral Health	Dental Assistants/Aides/Techs	2.4	2.6
	Dental Hygienists	1.8	1.8
	Dentists	4.2	2.8
Ancillary	Care Coordinators	2.5	2.8
	Case Managers	2.3	3.0
	Community Health Workers	2.5	3.0
	Health Educators	N/A	N/A
	HIV Counselors	N/A	N/A
	Nutritionists/Nutrition Educators	4.0	2.0
	Patient Health Navigators	2.0	3.0

- Eighty percent (80%) of FQHCs indicated plans to expand services and two-thirds of them expected an increase in dental services. None indicated plans to reduce services.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Capital District region will be for RNs (400), home health aides (330), and personal and home care aides (180) (Exhibit 64).

**Exhibit 64. Employment Projections for Selected Health Occupations
in the Capital District Region, 2010-2020³²**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Registered Nurses	12,090	13,840	1,750	14.5%	400
Home Health Aides	5,960	8,400	2,440	40.9%	330
Personal and Home Care Aides	3,330	4,870	1,540	46.2%	180
Licensed Practical and Licensed Vocational Nurses	3,460	3,920	460	13.3%	140
Nursing Aides, Orderlies, and Attendants	6,230	6,680	450	7.2%	130
Social Workers	3,350	3,730	380	11.3%	120
Emergency Medical Technicians and Paramedics	1,340	1,750	410	30.6%	70
Medical and Health Service Managers	1,790	1,900	110	6.1%	50
Clinical, Counseling, and School Psychologists	850	930	80	9.4%	40
Dental Hygienists	760	980	220	28.9%	40
Pharmacy Technicians	910	1,060	150	16.5%	40
Dental Assistants	800	970	170	21.3%	40
Medical Assistants	970	1,190	220	22.7%	40
Pharmacists	940	1,030	90	9.6%	30
Physical Therapists	860	1,090	230	26.7%	30
Physician Assistants	690	830	140	20.3%	20
Occupational Therapists	520	610	90	17.3%	20
Speech-Language Pathologists	760	890	130	17.1%	20
Medical and Clinical Laboratory Technicians	630	680	50	7.9%	20
Radiologic Technologists and Technicians	850	980	130	15.3%	20
Medical Records and Health Information Technicians	530	610	80	15.1%	20
Dietitians and Nutritionists	390	420	30	7.7%	10
Respiratory Therapists	300	340	40	13.3%	10
Medical and Clinical Laboratory Technologists	690	720	30	4.3%	10
Diagnostic Medical Sonographers	230	300	70	30.4%	10
Surgical Technologists	310	320	10	3.2%	10
Psychiatric Aides	630	670	40	6.3%	10
Cardiovascular Technicians and Technologists	180	220	40	22.2%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

³² Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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 (age 15-44). The Central New York region, however, was substantially less racially and ethnically diverse than the state as a whole and had higher percentages of individuals with high school diplomas or equivalents and a higher percentage of individuals with associate degrees (Exhibit 65).

Exhibit 65. Selected Population Characteristics in the Central New York Region, 2008-2012 (5-year Average)³³

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	789,928	N/A	N/A
Population Under 100% FPL Level	108,096	13.7%	14.5%
Population Under 200% FPL Level	232,163	29.4%	30.2%
Population Age Birth-17	180,893	22.9%	22.5%
Population Age 65 and older	108,636	13.8%	13.4%
Population Female Age 15-44	159,934	20.2%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	458	1.4%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	7,073	9.4%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	1,608	3.1%	4.5%
Black/African American, non-Hispanic	53,632	6.8%	14.5%
Hispanic/Latino	25,099	3.2%	17.4%
Asian/Pacific Islander, non-Hispanic	16,780	2.1%	7.3%
American Indian/Native Alaskan, non-Hispanic	4,230	0.5%	0.2%
Two or More/Other	15,021	1.9%	1.9%
Less than High School Education	60,784	11.7%	15.4%
High School or Equivalent	256,769	49.6%	43.9%
Associate Degree	59,034	11.4%	8.2%
Bachelor's Degree	80,957	15.6%	18.5%
Master's Degree or Higher	59,831	11.6%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

³³ Education levels and rates are based on individuals age 25 and older.

Health Status

The Central New York region had a higher total death rate and deaths due to all cancers than the state as a whole and upstate New York. While the overall birth rate was lower in Central New York than in the state, the teen birth rate was higher than both statewide and upstate New York. The Central New York region also had lower rates of asthma (both adult and pediatric) and diabetes hospitalizations compared to the state as a whole as well as upstate New York. The Central New York region also had lower rates of ED visits and total hospitalizations than the state as a whole and upstate New York (Exhibit 66).

**Exhibit 66. Selected Health Indicators in the Central New York Region, 2009-2011
(3-year Average)³⁴**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	6,734	857.0	748.3	843.7
Deaths Due to Heart Disease, per 100,000	1,554	197.8	230.9	240.2
Deaths Due to All Cancers, per 100,000	1,659	209.9	181.2	202.9
Deaths Due to Diabetes, per 100,000	148	18.9	19.2	18.3
Total Births, per 1,000 females, age 15-44	8,757	11.1	12.5	11.0
Teen Births, per 1,000 females, age 15-19	801	9.1	6.2	6.5
Low-birthweight Births, as a percent of total births	669	7.6	8.2	7.8
Late/No Prenatal Care, as a percent of total births	301	3.5	5.6	4.1
Infant Deaths, per 1,000 live births	55	6.2	5.1	5.6
Total Hospitalizations, per 10,000	87,831	1,117.8	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	11,021	140.3	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	487	8.0	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	172	9.8	28.3	15.9
Diabetes Hospitalizations, ³⁵ per 10,000	1,126	14.3	20.1	15.7
CLRD Hospitalizations, ³⁶ per 10,000	2,634	33.5	39.0	35.4
Heart Disease Hospitalizations, per 10,000	8,409	107.0	120.6	123.1
Total ED Visits, per 10,000	250,142	3,183.5	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

³⁴ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

³⁵ Primary diagnosis only.

³⁶ Chronic Lower Respiratory Disease.

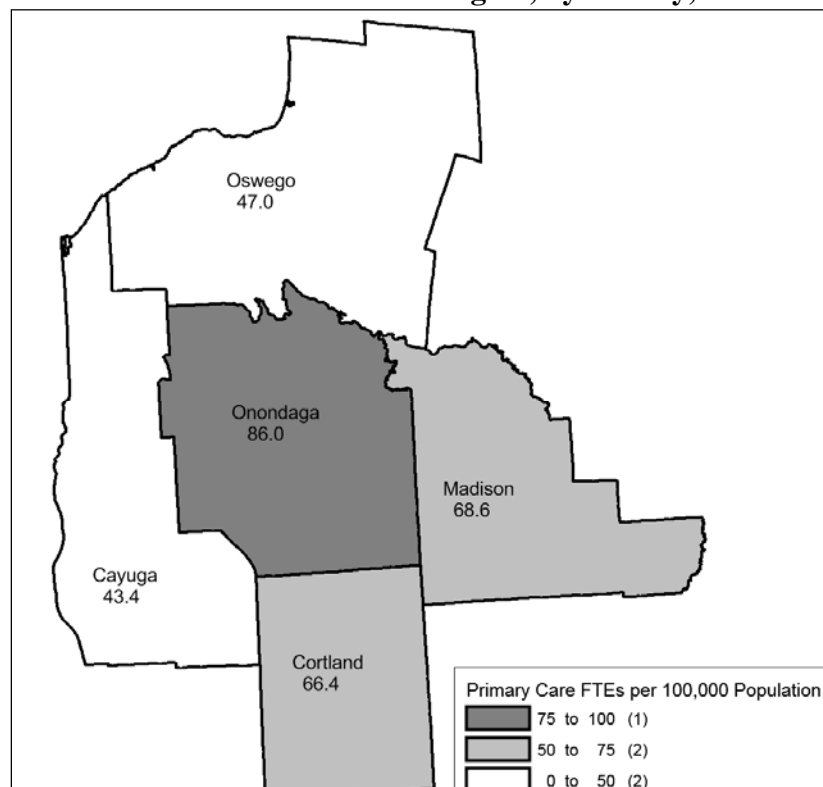
Primary Care Physicians

There were more than 570 primary care physician FTEs practicing in the Central New York region. Forty-two percent (42%) were in family or general practice, 25% were in general internal medicine, and another 20% were in general pediatrics. There were 72.8 primary care physicians per 100,000 total population in the Central New York region, below the statewide rate of 84.5. Onondaga County had the most physicians per capita with 86.0 per 100,000 total population, while Cayuga County had the fewest with 43.4 per 100,000 (Exhibits 67 and 68).

Exhibit 67. Primary Care FTEs in the Central New York Region, by Specialty, 2013³⁷

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	241	30.5
Internal Medicine (General)	145	18.4
Geriatrics	6	5.4
Obstetrics/Gynecology	70	39.0
Pediatrics (General)	114	71.8
Total	576	72.8

Exhibit 68. Number of Primary Care FTEs per 100,000 Population in the Central New York Region, by County, 2013



³⁷ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Between 2008 and 2012, health sector employment in the Central New York region grew by more than 1,900 jobs, or over 5%. Employment in home health care grew by more than 550 jobs, or 44%, while jobs in nursing homes and personal care facilities declined by over 500 jobs, or 6%, during the same period. Hospitals added nearly 1,100 jobs between 2008 and 2012, growing by almost 9% (Exhibit 69).

**Exhibit 69. Number of Health Care Jobs in the Central New York Region,
by Setting, 2008-2012**

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	12,686	12,706	13,133	13,202	13,781	1,095	8.6%
Ambulatory Care (Excluding Home Health)	13,338	13,632	13,414	13,644	14,125	787	5.9%
Nursing Home and Personal Care Facilities	9,281	9,347	9,142	8,929	8,765	-516	-5.6%
Home Health Care	1,273	1,377	1,404	1,593	1,829	556	43.7%
Total	36,578	37,061	37,093	37,367	38,500	1,922	5.3%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations for the Central New York region is reported in Exhibit 70. RNs in the Central New York region had the most jobs in the first quarter of 2013 (7,350), followed by personal care aides (4,220), and nursing assistants (4,050). Dietetic technicians, occupational therapist assistants and nuclear medicine technologists had the fewest jobs (60, 50 and 50 respectively).

Wages in selected health occupations for Central New York are reported in Exhibit 71. These wages were based on the data for the first quarter of 2013. Certified registered nurse anesthetists earned the highest hourly wage in 2013 (\$68.59), followed by pharmacists and medical and health service managers (\$61.45 and \$46.63, respectively). Home health aides (\$11.69) and personal care aides (\$11.56) were the lowest wage earners for the selected health occupations in health care in the Central New York region.

**Exhibit 70. Number of Jobs in Selected Health Occupations
in the Central New York Region, 2013**

Occupation	Employment
Registered Nurses	7,350
Personal Care Aides	4,220
Nursing Assistants	4,050
Licensed Practical and Licensed Vocational Nurses	3,370
Home Health Aides	1,940
Medical Assistants	870
Medical and Health Services Managers	760
Pharmacists	740
Pharmacy Technicians	730
Physical Therapists	710
Dental Assistants	700
Medical Secretaries	690
Medical and Clinical Laboratory Technologists	580
Radiologic Technologists and Technicians	570
Medical Records and Health Information Technicians	480
Dental Hygienists	460
Physician Assistants	460
Nurse Practitioners	460
Mental Health and Substance Abuse Social Workers	390
Healthcare Social Workers	380
Speech-Language Pathologists	360
Occupational Therapists	330
Respiratory Therapists	330
Surgical Technologists	270
Physical Therapist Assistants	210
Medical and Clinical Laboratory Technicians	190
Dietitians and Nutritionists	170
Physical Therapist Aides	120
Dietetic Technicians	60
Occupational Therapy Assistants	50
Nuclear Medicine Technologists	50
Orderlies	N/A
Cardiovascular Technologists and Technicians	N/A
Certified Registered Nurse Anesthetists	N/A
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 71. Average per hour Wage in Selected Health Occupations
in the Central New York Region, 2013**

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$68.59
Pharmacists	\$61.45
Medical and Health Services Managers	\$46.63
Physician Assistants	\$44.50
Nurse Practitioners	\$41.01
Nurse Midwives	\$38.87
Nuclear Medicine Technologists	\$35.28
Speech-Language Pathologists	\$33.24
Dental Hygienists	\$32.36
Physical Therapists	\$32.13
Occupational Therapists	\$30.76
Radiologic Technologists and Technicians	\$30.12
Registered Nurses	\$28.44
Dietitians and Nutritionists	\$28.35
Respiratory Therapists	\$27.03
Mental Health and Substance Abuse Social Workers	\$26.25
Medical and Clinical Laboratory Technologists	\$25.17
Cardiovascular Technologists and Technicians	\$24.12
Healthcare Social Workers	\$21.91
Occupational Therapy Assistants	\$21.32
Physical Therapist Assistants	\$21.19
Surgical Technologists	\$21.00
Medical and Clinical Laboratory Technicians	\$19.58
Licensed Practical and Licensed Vocational Nurses	\$18.63
Medical Records and Health Information Technicians	\$18.57
Dietetic Technicians	\$17.66
Dental Assistants	\$15.59
Medical Secretaries	\$15.00
Medical Assistants	\$13.67
Pharmacy Technicians	\$13.30
Nursing Assistants	\$13.21
Orderlies	\$12.90
Physical Therapist Aides	\$12.69
Home Health Aides	\$11.69
Personal Care Aides	\$11.56
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012 in the Central New York region, the number of licensed RNs grew by over 850, or by more than 8%, and social workers increased by nearly 180, or by 16%. During the same period, clinical laboratory technicians saw the highest percentage increase in number (58%), followed by PAs (34%) (Exhibit 72).

**Exhibit 72. Number of Licensed Individuals in Selected Health Occupations
in the Central New York Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	10,336	10,538	10,785	10,935	11,197	861	8.3%
Social Workers	1,144	1,182	1,217	1,263	1,323	179	15.6%
Licensed Practical Nurses	4,985	5,036	5,046	5,177	5,130	145	2.9%
Physician Assistants	326	339	370	405	436	110	33.7%
Pharmacists	659	685	708	714	746	87	13.2%
Nurse Practitioners	931	941	959	992	1,018	87	9.3%
Speech-Language Pathologists	445	467	471	489	512	67	15.1%
Physical Therapists	678	699	724	721	735	57	8.4%
Clinical Laboratory Technologists	506	563	564	558	561	55	10.9%
Clinical Laboratory Technicians	81	123	123	110	128	47	58.0%
Physical Therapy Assistants	221	227	235	241	255	34	15.4%
Dental Hygienists	538	544	548	563	563	25	4.6%
Occupational Therapists	295	294	307	298	315	20	6.8%
Occupational Therapy Assistants	97	93	97	95	103	6	6.2%
Respiratory Therapists	350	348	342	353	355	5	1.4%
Dietitians/Nutritionists	187	185	187	183	192	5	2.7%

Source: NYS Education Department, Office of Professions

Demand for Health Workers

Hospitals

Hospitals in the Central New York region reported the most difficulty recruiting NPs and PAs, followed by clinical laboratory technologists, occupational therapists, and medical coders. Hospitals had the most difficulty retaining radiological technicians, followed by occupational therapists, clinical laboratory technologists, and physical therapists (Exhibit 73).

**Exhibit 73. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Central New York Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	2.3	2.3	0%	0%	0%
Certified Nursing Aides	1.0	1.0	0%	0%	0%
Clinical Laboratory Technicians	2.3	1.7	0%	0%	0%
Clinical Laboratory Technologists	3.8	2.7	50%	25%	0%
HIT Staff	2.0	1.7	0%	0%	0%
Licensed Clinical Social Workers	3.0	2.3	10%	20%	0%
Licensed Practical Nurses	1.2	1.2	0%	0%	0%
Medical Assistants	1.3	1.0	0%	0%	0%
Medical Coders	3.5	2.0	100%	0%	0%
Nurse Practitioners	4.4	2.5	100%	20%	20%
Occupational Therapists	3.8	2.8	100%	0%	0%
Pharmacists	2.8	2.3	0%	20%	0%
Physical Therapists	3.0	2.7	0%	0%	0%
Physician Assistants	4.4	2.3	100%	20%	20%
Radiological Technicians	3.0	3.0	0%	0%	0%
Radiological Technologists	2.8	2.5	0%	0%	0%
Registered Nurses					
Newly Licensed RNs	1.5	2.0	33%	0%	17%
Experienced RNs	3.3	2.4	67%	0%	50%
Nurse Managers	3.3	2.2	17%	50%	0%
Speech-Language Pathologists	2.7	2.3	33%	0%	0%

- Hospitals in the Central New York region anticipated shifting the focus of inpatient services to include more surgical services, with increased need for PAs and RNs.

Nursing Homes

In the Central New York region, nursing homes reported that directors of nursing were the most difficult to recruit, followed by experienced RNs, nurse managers, and LMSWs. CNAs and newly licensed RNs were the most difficult to retain, followed by experienced RNs and LPNs (Exhibit 74).

**Exhibit 74. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the Central New York Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	3.2	3.8	33%	58%	17%	67%
Clerical	1.5	1.4	0%	40%	20%	40%
Dietitians/Nutritionists	3.0	2.6	25%	0%	75%	25%
Licensed Practical Nurses	3.4	3.5	36%	55%	18%	55%
Medical Billers	2.1	2.1	25%	0%	0%	75%
Occupational Therapists	2.0	2.0	0%	0%	0%	100%
Occupational Therapy Assts.	2.5	3.0	0%	0%	0%	100%
Personal Care Assistants	2.5	3.0	0%	0%	0%	100%
Physical Therapists	2.5	3.0	0%	0%	0%	100%
Physical Therapy Assistants	2.0	3.0	0%	0%	0%	100%
Registered Nurses						
Newly Licensed RNs	3.4	3.8	50%	75%	33%	17%
Experienced RNs	4.1	3.6	33%	75%	42%	17%
MDS Coordinators	3.6	2.8	50%	25%	38%	25%
Nurse Managers	3.9	3.4	33%	44%	56%	22%
Directors of Nursing	4.3	3.2	38%	63%	38%	25%
Rec. Therapists/Activities Dirs.	2.9	2.4	25%	25%	50%	25%
Respiratory Therapists	3.0	2.5	0%	0%	0%	100%
Social Workers						
Licensed Clinical SWs	3.0	3.1	0%	57%	43%	29%
Licensed Master's SWs	3.8	3.3	0%	57%	43%	29%
Speech-Language Pathologists	3.0	2.0	0%	0%	0%	100%

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

- Almost 46% reported difficulty hiring part-time workers.
- Nursing homes also reported difficulty hiring RNs, CNAs, and LPNs for all off-shifts (evenings, nights, and weekends).

Home Health Care Agencies

Home health care agencies reported the most difficulty recruiting PA, followed by occupational therapists, experienced RNs, and LCSWs. Home health aides were the most difficult to retain, followed by personal care aides/homemakers (Exhibit 75).

Exhibit 75. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Central New York Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	2.3	1.8	0%	0%	0%	0%
Home Health Aides	1.3	3.5	0%	100%	0%	0%
Licensed Practical Nurses	2.0	2.2	0%	100%	0%	0%
Occupational Therapists	3.6	2.4	67%	33%	0%	0%
Personal Care Aides/Homemakers	2.0	3.0	0%	100%	0%	0%
Physical Therapists	3.0	2.0	67%	20%	0%	0%
Registered Nurses						
Newly Licensed RNs	2.5	2.2	0%	50%	0%	50%
Experienced RNs	3.6	2.2	50%	25%	25%	50%
Respiratory Therapists	N/A	N/A	N/A	N/A	N/A	N/A
Social Workers						
Licensed Clinical SWs	3.5	2.5	0%	0%	0%	100%
Licensed Master's SWs	3.9	2.2	75%	0%	25%	25%
Speech-Language Pathologists	2.8	2.2	100%	0%	0%	0%

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

- Seventy one percent (71%) indicated difficulty hiring workers for off-shifts.
- Twenty-nine percent (29%) of home health care agencies reported using contract agency staff, while 57% used per diem staff.

FQHCs

The response rates for FQHCs in the Central New York and Southern Tier regions were too low to analyze separately so the responses from these regions were combined. FQHCs in these regions reported the most difficulty recruiting internal medicine physicians, psychiatrists, and psychiatric NPs and reported the most difficulty retaining CNAs, and family NPs (Exhibit 76).

Exhibit 76. Recruitment and Retention Difficulties for FQHCs in Selected Health Occupations in the Central New York and Southern Tier Regions, 2013

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	4.2	2.2
	Internal Medicine Physicians	5.0	2.0
	Ob/Gyn Physicians	N/A	N/A
	Pediatric Physicians	3.6	1.8
	Adult Nurse Practitioners	4.0	2.0
	Family Nurse Practitioners	3.3	2.7
	Geriatric Nurse Practitioners	N/A	N/A
	Pediatric Nurse Practitioners	N/A	N/A
	Midwives	N/A	N/A
	Physician Assistants	3.2	2.0
Nursing	Certified Nurse Aids/Assistants	2.0	3.0
	Licensed Practical Nurses	2.3	2.2
	Registered Nurses	3.5	2.5
	Medical Assistants	2.5	1.8
Behavioral Health	Psychiatrists	5.0	1.0
	Psychiatric Nurse Practitioners	5.0	1.0
	Psychologists	N/A	N/A
	Substance Abuse Counselors	3.0	1.0
	Licensed Clinical Social Workers	3.0	1.3
	Licensed Master Social Workers	N/A	N/A
Oral Health	Dental Assistants/Aides/Techs	2.3	2.3
	Dental Hygienists	1.3	1.8
	Dentists	3.7	2.2
Ancillary	Care Coordinators	2.7	2.0
	Case Managers	2.0	2.0
	Community Health Workers	2.3	2.0
	Health Educators	2.0	2.0
	HIV Counselors	N/A	N/A
	Nutritionists/Nutrition Educators	N/A	N/A
	Patient Health Navigators	2.0	2.0

- All FQHCs in these regions reported plans to expand services, primarily in medical and dental services.
- All FQHCs also reported difficulty hiring bilingual staff, citing Spanish as the language most commonly needed.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Central New York region will be for RNs (250), personal and home care aides (220), and home health aides (160) (Exhibit 77).

**Exhibit 77. Employment Projections for Selected Health Occupations
in the Central New York Region, 2010-2020³⁸**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Registered Nurses	8,030	9,040	1,010	12.6%	250
Personal and Home Care Aides	4,230	6,130	1,900	44.9%	220
Home Health Aides	3,270	4,460	1,190	36.4%	160
Licensed Practical and Licensed Vocational Nurses	3,360	3,800	440	13.1%	130
Nursing Aides, Orderlies, and Attendants	4,030	4,490	460	11.4%	100
Social Workers	2,330	2,580	250	10.7%	90
Medical and Health Service Managers	1,030	1,110	80	7.8%	40
Dental Assistants	710	850	140	19.7%	40
Medical Assistants	1,170	1,410	240	20.5%	40
Clinical, Counseling, and School Psychologists	600	660	60	10.0%	30
Physical Therapists	630	800	170	27.0%	30
Emergency Medical Technicians and Paramedics	620	800	180	29.0%	30
Pharmacists	730	770	40	5.5%	20
Physician Assistants	380	450	70	18.4%	20
Occupational Therapists	310	360	50	16.1%	20
Speech-Language Pathologists	340	400	60	17.6%	20
Dental Hygienists	500	630	130	26.0%	20
Radiologic Technologists and Technicians	680	790	110	16.2%	20
Pharmacy Technicians	710	790	80	11.3%	20
Medical Records and Health Information Technicians	650	720	70	10.8%	20
Dietitians and Nutritionists	280	300	20	7.1%	10
Respiratory Therapists	280	310	30	10.7%	10
Medical and Clinical Laboratory Technologists	460	500	40	8.7%	10
Medical and Clinical Laboratory Technicians	370	410	40	10.8%	10
Diagnostic Medical Sonographers	170	220	50	29.4%	10
Surgical Technologists	280	300	20	7.1%	10
Psychiatric Aides	320	350	30	9.4%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

³⁸ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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 population of the Finger Lakes region was slightly older than the population of the state as a whole, and less racially and ethnically diverse. The region also had a higher percentage of individuals with associate degrees but a lower percentage of individuals with bachelor's degrees or higher compared to the statewide percentage (Exhibit 78).

Exhibit 78. Selected Population Characteristics in the Finger Lakes Region, 2008-2012
(5-year Average)³⁹

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	1,214,716	N/A	N/A
Population Under 100% FPL Level	160,388	13.2%	14.5%
Population Under 200% FPL Level	348,604	28.7%	30.2%
Population Age Birth-17	276,244	22.7%	22.5%
Population Age 65 and older	171,428	14.1%	13.4%
Population Female Age 15-44	238,472	19.6%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	912	2.0%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	10,620	9.5%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	2,870	3.6%	4.5%
Black/African American, non-Hispanic	121,186	10.0%	14.5%
Hispanic/Latino	66,980	5.5%	17.4%
Asian/Pacific Islander, non-Hispanic	27,613	2.3%	7.3%
American Indian/Native Alaskan, non-Hispanic	3,079	0.3%	0.2%
Two or More/Other	21,195	1.7%	1.9%
Less than High School Education	94,431	11.7%	15.4%
High School or Equivalent	379,471	46.8%	43.9%
Associate Degree	92,575	11.4%	8.2%
Bachelor's Degree	140,532	17.3%	18.5%
Master's Degree or Higher	103,338	12.8%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

³⁹ Education levels and rates are based on individuals age 25 and older.

Health Status

The Finger Lakes region had a higher total death rate, including deaths due to all cancers, than the state as a whole and compared to upstate New York. The rate of infant deaths was slightly higher in the Finger Lakes region than statewide or in upstate New York, and the teen birth rate in the Finger Lakes region was higher than both statewide and upstate New York.

The rates of preventable hospitalizations, ED visits, and total hospitalizations were lower in the Finger Lakes region than either the state as a whole or upstate. The Finger Lakes region also had lower rates of pediatric asthma, adult asthma, diabetes, and chronic lower respiratory disease hospitalizations than the state as a whole and upstate, though the rate of heart disease hospitalizations was higher in Finger Lakes than the statewide rate but comparable to the upstate New York rate (Exhibit 79).

**Exhibit 79. Selected Health Indicators in the Finger Lakes Region, 2009-2011
(3-year Average)⁴⁰**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	10,552	872.5	748.3	843.7
Deaths Due to Heart Disease, per 100,000	2,531	209.2	230.9	240.2
Deaths Due to All Cancers, per 100,000	2,520	207.3	181.2	202.9
Deaths Due to Diabetes, per 100,000	206	17.1	19.2	18.3
Total Births, per 1,000 females, age 15-44	13,313	11.0	12.5	11.0
Teen Births, per 1,000 females, age 15-19	1,089	8.2	6.2	6.5
Low-birthweight Births, as a percent of total births	1,035	7.8	8.2	7.8
Late/No Prenatal Care, as a percent of total births	424	3.5	5.6	4.1
Infant Deaths, per 1,000 live births	89	6.7	5.1	5.6
Total Hospitalizations, per 10,000	136,503	1,128.6	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	15,426	127.5	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	928	9.9	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	269	10.0	28.3	15.9
Diabetes Hospitalizations, ⁴¹ per 10,000	1,829	15.1	20.1	15.7
CLRD Hospitalizations, ⁴² per 10,000	3,611	29.9	39.0	35.4
Heart Disease Hospitalizations, per 10,000	14,875	123.0	120.6	123.1
Total ED Visits, per 10,000	422,841	3,496.1	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

⁴⁰ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

⁴¹ Primary diagnosis only.

⁴² Chronic Lower Respiratory Disease.

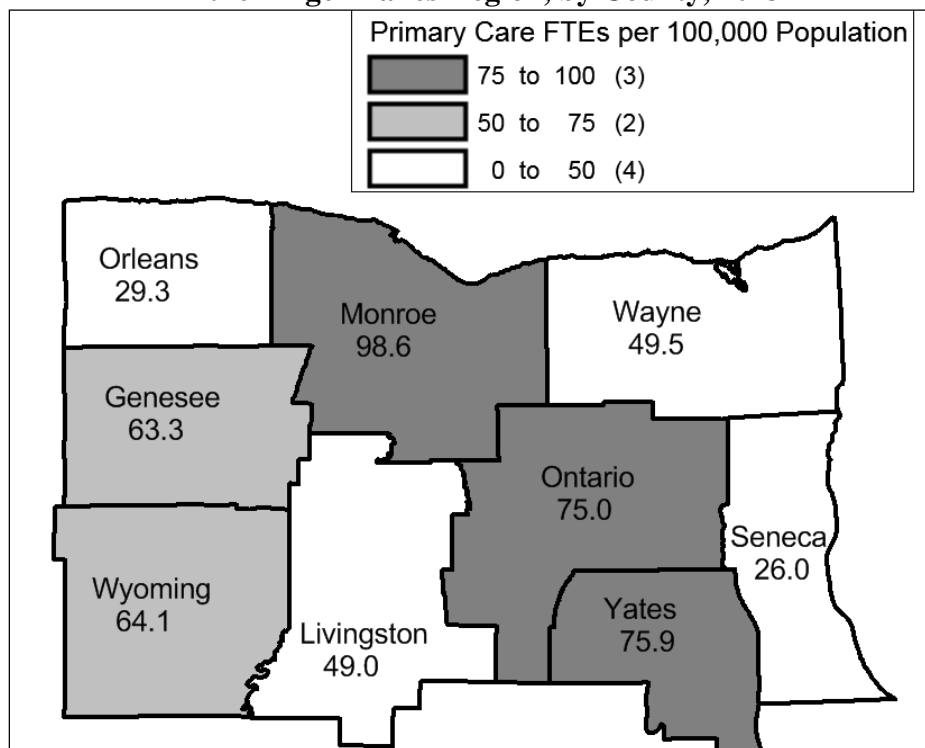
Primary Care Physicians

There were about 1,000 primary care physician FTEs practicing in the Finger Lakes region. Forty-two percent (42%) were in general internal medicine, 25% were in family or general practice, and another 20% were in general pediatrics. There were 82.1 primary care physicians per 100,000 total population in the Finger Lakes region, slightly less than the statewide rate of 84.5. Monroe County had the most with 98.6 per 100,000 total population, while Seneca County had the least with 26.0 per 100,000 total population. Orleans also had a low rate of primary care physicians with 29.3 per 100,000 total population (Exhibits 80 and 81).

Exhibit 80. Primary Care FTEs in the Finger Lakes Region, by Specialty, 2013⁴³

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	250	20.5
Internal Medicine (General)	418	34.3
Geriatrics	9	5
Obstetrics/Gynecology	123	45.1
Pediatrics (General)	200	84.3
Total	999	82.1

Exhibit 81. Number of Primary Care FTEs per 100,000 Population in the Finger Lakes Region, by County, 2013



⁴³ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17 and the geriatrics rate, which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Between 2008 and 2012, health sector employment throughout the Finger Lakes region grew by nearly 3,300 jobs, or 6%. Employment in hospitals increased by more than 1,400 jobs, over 5%, and employment in ambulatory care settings grew by almost 900 jobs, or nearly 6%, during the same time period. Home health care had the highest percentage increase in jobs (9%) between 2008 and 2012, while adding the least number of jobs (312) (Exhibit 82).

Exhibit 82. Number of Health Care Jobs in the Finger Lakes Region, by Setting, 2008-2012

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	27,984	28,252	28,258	28,916	29,436	1,452	5.2%
Ambulatory Care (Excluding Home Health)	15,645	15,981	16,457	16,505	16,538	893	5.7%
Nursing Home and Personal Care Facilities	12,183	12,519	12,811	12,746	12,817	634	5.2%
Home Health Care	3,420	3,441	3,473	3,722	3,732	312	9.1%
Total	59,232	60,192	60,999	61,889	62,523	3,291	5.6%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations is reported in Exhibit 83. RNs accounted for the most jobs in the Finger Lakes region in the first quarter of 2013 (11,830), followed by nursing assistants (6,650), and home health aides (5,730). Physical therapist aides, nuclear medicine technologists, and dietetic technicians had the fewest jobs (90, 70 and 70 respectively).

Wages in selected health occupations for the Finger Lakes region are reported in Exhibit 84. These wages were based on data for the first quarter of 2013. Pharmacists earned the highest hourly wage in 2013 (\$55.18), followed by medical and health service managers and PAs (\$45.24 and \$43.24, respectively). Home health aides (\$11.48) and orderlies (\$11.37) were the lowest wage earners in the selected health occupations reported for the Finger Lakes region.

**Exhibit 83. Number of Jobs in Selected Health Occupations in
the Finger Lakes Region, 2013**

Occupation	Employment
Registered Nurses	11,830
Nursing Assistants	6,650
Home Health Aides	5,730
Personal Care Aides	5,010
Licensed Practical and Licensed Vocational Nurses	4,350
Medical and Health Services Managers	1,490
Medical Secretaries	1,170
Dental Assistants	1,110
Dental Hygienists	1,060
Pharmacists	970
Pharmacy Technicians	970
Physical Therapists	910
Nurse Practitioners	910
Medical and Clinical Laboratory Technicians	850
Medical and Clinical Laboratory Technologists	770
Radiologic Technologists and Technicians	710
Physician Assistants	700
Medical Assistants	690
Healthcare Social Workers	610
Speech-Language Pathologists	590
Occupational Therapists	580
Medical Records and Health Information Technicians	530
Mental Health and Substance Abuse Social Workers	480
Respiratory Therapists	340
Surgical Technologists	300
Dietitians and Nutritionists	270
Physical Therapist Assistants	220
Cardiovascular Technologists and Technicians	220
Occupational Therapy Assistants	140
Certified Registered Nurse Anesthetists	140
Physical Therapist Aides	90
Nuclear Medicine Technologists	70
Dietetic Technicians	70
Orderlies	N/A
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 84. Average per hour Wage in Selected Health Occupations
in the Finger Lakes Region, 2013**

Occupation	Average wage per hour
Pharmacists	\$55.18
Medical and Health Services Managers	\$45.25
Physician Assistants	\$43.24
Nurse Midwives	\$42.81
Nurse Practitioners	\$40.09
Physical Therapists	\$35.14
Nuclear Medicine Technologists	\$33.82
Occupational Therapists	\$33.04
Speech-Language Pathologists	\$29.34
Registered Nurses	\$28.76
Dental Hygienists	\$28.53
Medical and Clinical Laboratory Technologists	\$27.35
Respiratory Therapists	\$26.08
Cardiovascular Technologists and Technicians	\$25.18
Radiologic Technologists and Technicians	\$24.82
Dietitians and Nutritionists	\$24.43
Healthcare Social Workers	\$22.39
Physical Therapist Assistants	\$21.71
Mental Health and Substance Abuse Social Workers	\$21.42
Occupational Therapy Assistants	\$21.19
Occupational Therapy Aides	\$20.27
Medical and Clinical Laboratory Technicians	\$18.33
Licensed Practical and Licensed Vocational Nurses	\$18.32
Surgical Technologists	\$18.25
Medical Records and Health Information Technicians	\$16.76
Dietetic Technicians	\$16.49
Dental Assistants	\$16.32
Medical Secretaries	\$13.88
Medical Assistants	\$13.74
Pharmacy Technicians	\$12.69
Physical Therapist Aides	\$12.65
Nursing Assistants	\$12.61
Personal Care Aides	\$12.48
Home Health Aides	\$11.48
Orderlies	\$11.37
Certified Registered Nurse Anesthetists	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012 in the Finger Lakes region, the number of licensed RNs increased by more than 1,400, or 10%, and the number of social workers grew by over 300, or nearly 16%. The number of LPNs increased by more than 200, or more than 3%. Clinical laboratory technicians had the largest percentage increase at 42%, followed by PAs (21%) and respiratory therapists (17%) (Exhibit 85).

**Exhibit 85. Number of Licensed Individuals in Selected Health Occupations
in the Finger Lakes Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	14,717	15,178	15,502	15,704	16,195	1,478	10.0%
Social Workers	1,981	2,043	2,110	2,199	2,291	310	15.6%
Licensed Practical Nurses	6,132	6,129	6,191	6,395	6,342	210	3.4%
Nurse Practitioners	1,304	1,351	1,365	1,413	1,451	147	11.3%
Pharmacists	977	1,025	1,036	1,071	1,121	144	14.7%
Speech-Language Pathologists	907	946	978	1,022	1,037	130	14.3%
Physician Assistants	566	588	625	642	686	120	21.2%
Physical Therapists	919	949	967	990	1,006	87	9.5%
Clinical Laboratory Technologists	873	975	960	939	950	77	8.8%
Occupational Therapists	578	592	601	614	635	57	9.9%
Respiratory Therapists	271	270	285	305	318	47	17.3%
Physical Therapy Assistants	266	267	279	287	299	33	12.4%
Dental Hygienists	1,018	1,023	1,032	1,049	1,041	23	2.3%
Clinical Laboratory Technicians	45	71	71	65	64	19	42.2%
Dietitians/Nutritionists	249	257	256	247	265	16	6.4%
Occupational Therapy Assistants	213	223	226	222	222	9	4.2%

Source: NYS Education Department, Office of Professions

Demand for Health Workers

Hospitals

Hospitals in the Finger Lakes region reported the most difficulty recruiting occupational therapists, followed by NPs, physical therapists, PAs and speech-language pathologists. The hospitals reported the greatest retention difficulty for care coordinators, PAs, HIT staff, and clinical laboratory technicians (Exhibit 86).

**Exhibit 86. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Finger Lakes Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	3.0	3.0	0%	0%	100%
Certified Nursing Aides	1.3	1.3	0%	0%	0%
Clinical Laboratory Technicians	3.0	3.0	50%	0%	0%
Clinical Laboratory Technologists	3.3	2.3	67%	0%	0%
HIT Staff	3.0	3.0	0%	100%	0%
Licensed Clinical Social Workers	2.3	2.5	50%	0%	0%
Licensed Practical Nurses	2.0	2.0	0%	0%	50%
Medical Assistants	3.0	2.0	100%	0%	0%
Medical Coders	2.8	2.8	50%	50%	50%
Nurse Practitioners	4.0	2.8	25%	25%	0%
Occupational Therapists	5.0	2.5	100%	0%	0%
Pharmacists	2.3	2.3	0%	0%	0%
Physical Therapists	4.0	2.3	67%	0%	0%
Physician Assistants	4.0	3.0	50%	50%	25%
Radiological Technicians	2.5	2.5	0%	50%	50%
Radiological Technologists	2.3	2.3	33%	0%	0%
Registered Nurses					
Newly Licensed RNs	1.5	2.5	0%	50%	100%
Experienced RNs	2.5	2.5	25%	75%	75%
Nurse Managers	3.3	2.3	50%	25%	50%
Speech-Language Pathologists	4.0	2.3	100%	0%	0%

- Hospitals in the Finger Lakes region reported plans to increase both outpatient procedural services and ambulatory services, with increased demand for RNs and NPs.

Nursing Homes

Nursing homes in the Finger Lakes region reported recruiting difficulties for MDS coordinators, directors of nursing, physical therapists, nurse managers, occupational therapists, and experienced RNs. They reported the most difficulty retaining both experienced and newly trained RNs as well as directors of nursing (Exhibit 87).

**Exhibit 87. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the Finger Lakes Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	2.8	3.3	35%	41%	12%	41%
Clerical	1.6	2.0	0%	38%	0%	63%
Dietitians/Nutritionists	3.5	2.6	43%	14%	0%	43%
Licensed Practical Nurses	3.1	3.1	36%	57%	21%	14%
Medical Billers	3.6	2.5	29%	0%	14%	57%
Occupational Therapists	4.2	2.7	50%	50%	17%	25%
Occupational Therapy Assts.	3.7	2.9	30%	60%	20%	40%
Personal Care Assistants	2.0	3.0	50%	50%	50%	50%
Physical Therapists	4.3	3.1	50%	50%	17%	17%
Physical Therapy Assistants	3.4	3.0	30%	60%	20%	40%
Registered Nurses						
Newly Licensed RNs	3.1	3.5	27%	55%	36%	27%
Experienced RNs	4.1	3.6	59%	41%	35%	18%
MDS Coordinators	4.4	3.0	80%	40%	20%	10%
Nurse Managers	4.2	3.3	69%	44%	31%	19%
Directors of Nursing	4.3	3.4	50%	40%	50%	20%
Rec. Therapists/Activities Dirs.	2.9	2.5	29%	43%	0%	43%
Respiratory Therapists	3.3	2.0	0%	0%	0%	100%
Social Workers						
Licensed Clinical SWs	2.9	2.3	25%	38%	13%	38%
Licensed Master's SWs	3.3	2.4	38%	25%	13%	38%
Speech-Language Pathologists	3.8	3.0	60%	60%	40%	20%

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

- Difficulty hiring RNs for off-shifts, including evenings (75%), nights (60%), and weekends (60%).
- Nearly two-thirds (65%) of nursing homes in the Finger Lakes region used contract agency staff, and 75% used per diem staff.
- The majority of nursing homes in the Finger Lakes region (85%) reported no plans to expand or reduce services next year.

Home Health Care Agencies

The number of responses for home health care 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 care agencies in the combined two regions indicated the most difficulty recruiting physical therapists, speech-language pathologists, respiratory therapists, occupational therapists, experienced RNs, and LMSWs. Experienced RNs and respiratory therapists were the most difficult to retain (Exhibit 88).

Exhibit 88. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Finger Lakes and Western New York Regions, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.4	2.6	67%	33%	17%	33%
Home Health Aides	3.4	3.4	38%	75%	50%	50%
Licensed Practical Nurses	2.5	2.5	50%	100%	100%	0%
Occupational Therapists	3.6	2.4	75%	75%	50%	25%
Personal Care Aides/Homemakers	2.2	2.5	0%	50%	50%	100%
Physical Therapists	4.2	2.8	80%	80%	80%	0%
Registered Nurses						
Newly Licensed RNs	1.6	2.6	0%	100%	50%	0%
Experienced RNs	3.6	3.7	22%	78%	67%	33%
Respiratory Therapists	3.7	3.7	33%	33%	67%	33%
Social Workers						
Licensed Clinical SWs	3.0	2.8	50%	50%	100%	0%
Licensed Master's SWs	3.6	3.2	50%	83%	50%	0%
Speech-Language Pathologists	4.0	3.5	100%	25%	25%	0%

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

- One-half (50%) reported difficulty hiring part-time workers.
- Seventy percent (70%) indicated difficulty hiring workers for off-shifts, with RNs posing the greatest recruitment difficulty.
- Eighty percent (80%) of home health care agencies reported using contract agency staff, while all (100%) used per diem staff.
- Seventy percent (70%) reported no plans to either expand or reduce services next year.

FQHCs

The response rates for FQHCs in the Finger Lakes and Western New York regions were too low to analyze separately so the responses from these regions were combined. FQHCs in this combined region reported the most difficulty recruiting ob/gyn physicians, psychiatrists, psychiatric NPs, and psychologists, and reported the most difficulty retaining CNAs, and RNs (Exhibit 89).

**Exhibit 89. Recruitment and Retention Difficulties for FQHCs
in Selected Health Occupations in the Finger Lakes and Western New York Regions, 2013**

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	4.4	2.3
	Internal Medicine Physicians	4.5	2.0
	Ob/Gyn Physicians	5.0	2.0
	Pediatric Physicians	4.7	1.2
	Adult Nurse Practitioners	3.5	2.5
	Family Nurse Practitioners	3.6	2.4
	Geriatric Nurse Practitioners	N/A	N/A
	Pediatric Nurse Practitioners	2.0	1.0
	Midwives	4.0	2.0
	Physician Assistants	3.1	1.9
Nursing	Certified Nurse Aids/Assistants	2.0	3.0
	Licensed Practical Nurses	2.4	2.6
	Registered Nurses	3.1	2.9
	Medical Assistants	1.7	1.7
Behavioral Health	Psychiatrists	5.0	2.5
	Psychiatric Nurse Practitioners	5.0	1.5
	Psychologists	5.0	N/A
	Substance Abuse Counselors	3.0	1.0
	Licensed Clinical Social Workers	3.7	2.0
	Licensed Master Social Workers	2.5	1.8
Oral Health	Dental Assistants/Aides/Techs	2.0	2.8
	Dental Hygienists	2.2	1.8
	Dentists	3.2	2.6
Ancillary	Care Coordinators	2.3	1.8
	Case Managers	1.6	1.4
	Community Health Workers	2.0	2.0
	Health Educators	2.0	2.0
	HIV Counselors	N/A	N/A
	Nutritionists/Nutrition Educators	2.8	1.5
	Patient Health Navigators	1.7	1.3

- Seventy-five percent (75%) of FQHCs indicated plans to expand services in primary care, mental health, and oral health. None indicated plans to reduce services.
- Sixty-three percent (63%) of centers reported difficulty hiring bilingual staff and Spanish was the most commonly needed language.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Finger Lakes region will be for home health aides (390), RNs (370), and personal and home care aides (240) (Exhibit 90).

**Exhibit 90. Employment Projections for Selected Health Care Occupations
in the Finger Lakes Region, 2010-2020⁴⁴**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Home Health Aides	8,890	11,630	2,740	30.8%	390
Registered Nurses	12,310	13,790	1,480	12.0%	370
Personal and Home Care Aides	4,200	6,320	2,120	50.5%	240
Licensed Practical and Licensed Vocational Nurses	4,140	4,530	390	9.4%	150
Social Workers	3,080	3,420	340	11.0%	100
Emergency Medical Technicians and Paramedics	1,410	1,830	420	29.8%	70
Medical and Health Service Managers	1,500	1,610	110	7.3%	50
Clinical, Counseling, and School Psychologists	890	960	70	7.9%	40
Dental Hygienists	970	1,180	210	21.6%	40
Dental Assistants	1,100	1,260	160	14.5%	40
Pharmacists	890	950	60	6.7%	30
Physical Therapists	940	1,140	200	21.3%	30
Medical and Clinical Laboratory Technologists	1,040	1,150	110	10.6%	30
Medical and Clinical Laboratory Technicians	1,200	1,290	90	7.5%	30
Pharmacy Technicians	1,030	1,120	90	8.7%	30
Medical Assistants	670	820	150	22.4%	30
Physician Assistants	640	720	80	12.5%	20
Occupational Therapists	680	770	90	13.2%	20
Speech-Language Pathologists	710	810	100	14.1%	20
Radiologic Technologists and Technicians	780	920	140	17.9%	20
Medical Records and Health Information Technicians	540	590	50	9.3%	20
Dietitians and Nutritionists	330	360	30	9.1%	10
Respiratory Therapists	320	360	40	12.5%	10
Diagnostic Medical Sonographers	250	330	80	32.0%	10
Surgical Technologists	290	330	40	13.8%	10

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

⁴⁴ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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 lower percentage of individuals below 100% and 200% of federal poverty levels and was less diverse than the state overall. The Hudson Valley region also had a higher percentage of its population with a bachelor's degree or higher (Exhibit 91).

**Exhibit 91. Selected Population Characteristics in the Hudson Valley Region, 2008-2012
(5-year Average)⁴⁵**

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	2,281,531	N/A	N/A
Population Under 100% FPL Level	229,985	10.1%	14.5%
Population Under 200% FPL Level	508,815	22.3%	30.2%
Population Age Birth-17	562,515	24.7%	22.5%
Population Age 65 and older	308,215	13.5%	13.4%
Population Female Age 15-44	435,634	19.1%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	1,227	1.5%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	18,809	9.9%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	8,482	5.2%	4.5%
Black/African American, non-Hispanic	239,666	10.5%	14.5%
Hispanic/Latino	378,770	16.6%	17.4%
Asian/Pacific Islander, non-Hispanic	96,560	4.2%	7.3%
American Indian/Native Alaskan, non-Hispanic	2,972	0.1%	0.2%
Two or More/Other	41,764	1.8%	1.9%
Less than High School Education	184,863	12.2%	15.4%
High School or Equivalent	644,570	42.5%	43.9%
Associate Degree	116,940	7.7%	8.2%
Bachelor's Degree	303,826	20.0%	18.5%
Master's Degree or Higher	265,496	17.5%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

⁴⁵ Education levels and rates are based on individuals age 25 and older.

Health Status

The Hudson Valley region had a lower rate of total deaths than the state as a whole and upstate New York. Deaths and hospitalizations due to heart disease and diabetes were also lower. The Hudson Valley region also had lower rates of asthma hospitalizations (both adult and pediatric) than the state as a whole, but adult asthma hospitalization rate was higher than upstate New York. Preventable hospitalizations and ED visits were also lower in Hudson Valley, compared to statewide and upstate rates (Exhibit 92).

**Exhibit 92. Selected Health Indicators in the Hudson Valley Region, 2009-2011
(3-year Average)⁴⁶**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	16,389	714.2	748.3	843.7
Deaths Due to Heart Disease, per 100,000	4,717	205.6	230.9	240.2
Deaths Due to All Cancers, per 100,000	4,093	179.4	181.2	202.9
Deaths Due to Diabetes, per 100,000	324	14.1	19.2	18.3
Total Births, per 1,000 females, age 15-44	26,725	11.6	12.5	11.0
Teen Births, per 1,000 females, age 15-19	1,282	4.8	6.2	6.5
Low-birthweight Births, as a percent of total births	2,010	7.5	8.2	7.8
Late/No Prenatal Care, as a percent of total births	1,019	4.2	5.6	4.1
Infant Deaths, per 1,000 live births	137	5.1	5.1	5.6
Total Hospitalizations, per 10,000	273,716	1,192.9	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	28,741	125.3	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	2,118	12.2	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	903	16.2	28.3	15.9
Diabetes Hospitalizations, ⁴⁷ per 10,000	3,416	14.9	20.1	15.7
CLRD Hospitalizations, ⁴⁸ per 10,000	7,237	31.5	39.0	35.4
Heart Disease Hospitalizations, per 10,000	24,677	107.5	120.6	123.1
Total ED Visits, per 10,000	765,606	3,336.5	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

⁴⁶ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

⁴⁷ Primary diagnosis only.

⁴⁸ Chronic Lower Respiratory Disease.

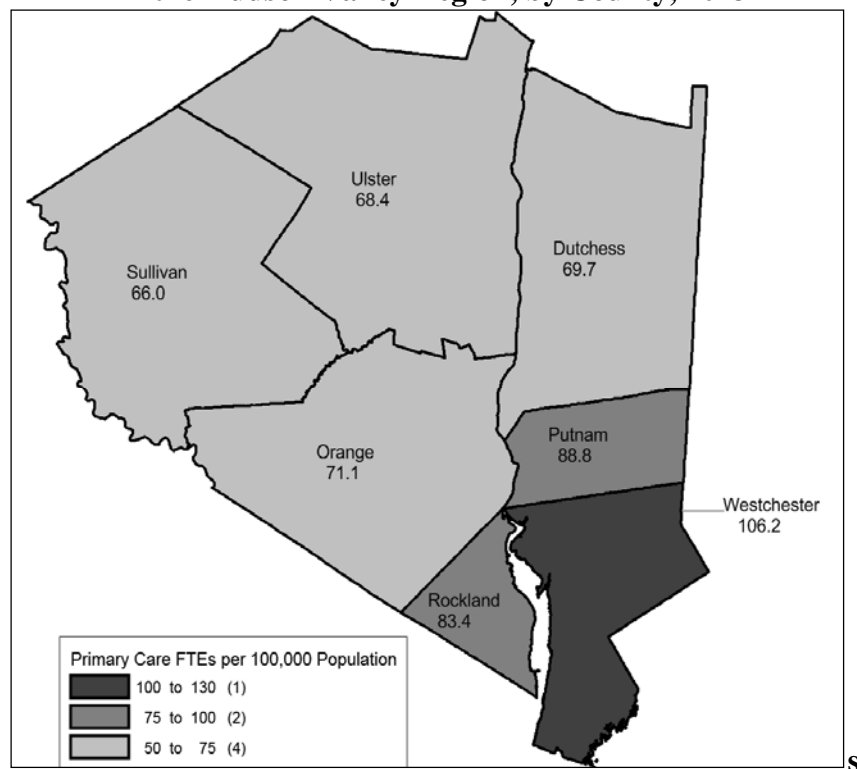
Primary Care Physicians

There were over 2,000 primary care physician FTEs practicing in the Hudson Valley region. Forty-three percent (43%) were in general internal medicine, 23% were in general pediatrics, and another 21% were in general or family practice. There were 87.5 primary care physicians per 100,000 population in the Hudson Valley region, above the statewide rate of 84.5. Westchester County had the most primary care physicians with 106.2 per 100,000 population, while Sullivan County had the least with 66.0 per 100,000 (Exhibits 93 and 94).

Exhibit 93. Primary Care FTEs in the Hudson Valley Region, by Specialty 2013⁴⁹

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	410	17.9
Internal Medicine (General)	855	37.3
Geriatrics	13	4.2
Obstetrics/Gynecology	271	48.6
Pediatrics (General)	457	105.4
Total	2,007	87.5

Exhibit 94. Number of Primary Care FTEs per 100,000 Population in the Hudson Valley Region, by County, 2013



⁴⁹ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate, which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Between 2008 and 2012, health sector employment in the Hudson Valley region increased by nearly 4%, adding over 4,000 jobs. All settings in the health sector experienced job growth between 2008 and 2012 except hospitals which experienced a decrease of nearly 2,000 jobs. Home health care had the largest percentage increase in jobs (28%), followed by ambulatory care (8%) (Exhibit 95).

Exhibit 95. Number of Health Care Jobs in the Hudson Valley Region, by Setting, 2008-2012

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	40,341	40,243	39,765	39,311	38,351	-1,990	-4.9%
Ambulatory Care (Excluding Home Health)	38,821	39,449	40,676	41,085	42,068	3,247	8.4%
Nursing Home and Personal Care Facilities	20,111	20,083	20,605	20,742	20,767	656	3.3%
Home Health Care	8,091	9,003	9,499	10,517	10,343	2,252	27.8%
Total	107,364	108,778	110,546	111,655	111,529	4,165	3.9%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations is reported in Exhibit 96. RNs in the Hudson Valley region accounted for the most jobs in the first quarter of 2013 (17,660), followed by personal care aides (11,450) and nursing assistants (11,080). Orderlies and nuclear medicine technologists had the fewest jobs (230 and 130 respectively).

Wages in selected health occupations for Hudson Valley region are reported in Exhibit 97. These wages were based on the data for the first quarter of 2013. Certified registered nurse anesthetists earned the highest hourly wage in 2013 (\$79.93), followed by medical and health service managers (\$58.40) and pharmacists (\$57.80). Home health aides (\$11.87) earned the least amount for the selected health occupations in the Hudson Valley region.

**Exhibit 96. Number of Jobs in Selected Health Occupations
in the Hudson Valley Region, 2013**

Occupation	Employment
Registered Nurses	17,660
Personal Care Aides	11,450
Nursing Assistants	11,080
Home Health Aides	8,690
Licensed Practical and Licensed Vocational Nurses	6,100
Medical and Health Services Managers	2,720
Dental Assistants	2,270
Medical Assistants	2,080
Pharmacists	1,840
Physical Therapists	1,600
Medical Secretaries	1,580
Pharmacy Technicians	1,430
Dental Hygienists	1,420
Speech-Language Pathologists	1,320
Healthcare Social Workers	1,180
Radiologic Technologists and Technicians	1,170
Mental Health and Substance Abuse Social Workers	1,030
Occupational Therapists	990
Medical Records and Health Information Technicians	940
Nurse Practitioners	850
Respiratory Therapists	750
Physician Assistants	740
Medical and Clinical Laboratory Technologists	720
Medical and Clinical Laboratory Technicians	720
Dietitians and Nutritionists	640
Surgical Technologists	540
Occupational Therapy Assistants	470
Physical Therapist Aides	430
Physical Therapist Assistants	420
Cardiovascular Technologists and Technicians	410
Orderlies	230
Nuclear Medicine Technologists	130
Certified Registered Nurse Anesthetists	N/A
Dietetic Technicians	N/A
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 97. Average per hour Wage in Selected Health Occupations
in the Hudson Valley Region, 2013**

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$79.93
Medical and Health Services Managers	\$58.40
Pharmacists	\$57.80
Nurse Midwives	\$49.53
Nurse Practitioners	\$47.36
Physician Assistants	\$46.54
Dental Hygienists	\$42.46
Speech-Language Pathologists	\$41.42
Nuclear Medicine Technologists	\$41.37
Physical Therapists	\$41.25
Occupational Therapists	\$40.12
Registered Nurses	\$37.41
Medical and Clinical Laboratory Technologists	\$33.24
Radiologic Technologists and Technicians	\$32.96
Respiratory Therapists	\$32.75
Dietitians and Nutritionists	\$31.85
Mental Health and Substance Abuse Social Workers	\$29.46
Occupational Therapy Assistants	\$27.61
Healthcare Social Workers	\$27.33
Cardiovascular Technologists and Technicians	\$26.94
Physical Therapist Assistants	\$25.85
Medical and Clinical Laboratory Technicians	\$23.81
Licensed Practical and Licensed Vocational Nurses	\$23.16
Surgical Technologists	\$23.05
Dietetic Technicians	\$19.77
Medical Records and Health Information Technicians	\$19.40
Occupational Therapy Aides	\$19.03
Medical Secretaries	\$18.88
Dental Assistants	\$18.68
Medical Assistants	\$17.10
Nursing Assistants	\$15.75
Orderlies	\$15.58
Pharmacy Technicians	\$14.98
Physical Therapist Aides	\$13.81
Personal Care Aides	\$13.05
Home Health Aides	\$11.87

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012, the number of licensed RNs in the Hudson Valley region increased by more than 1,500, or 5%. Based on percentage increases, the number of NPs (23%) grew the fastest, followed by speech-language pathologists (22%), occupational therapy assistants (20%), and PAs (18%). The number of licensed clinical laboratory technicians increased nearly 16%, adding just over 30 jobs (Exhibit 98).

**Exhibit 98. Number of Licensed Individuals
in Selected Health Occupations in the Hudson Valley Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	30,769	31,300	31,875	31,788	32,299	1,530	5.0%
Social Workers	7,043	7,072	7,160	7,383	7,448	405	5.8%
Nurse Practitioners	1,674	1,759	1,838	1,945	2,064	390	23.3%
Speech-Language Pathologists	1,720	1,817	1,910	2,013	2,106	386	22.4%
Physical Therapists	2,201	2,234	2,293	2,340	2,407	206	9.4%
Pharmacists	1,949	1,998	2,030	2,021	2,094	145	7.4%
Clinical Laboratory Technologists	1,291	1,434	1,433	1,419	1,433	142	11.0%
Physician Assistants	747	787	810	844	884	137	18.3%
Occupational Therapists	1,285	1,324	1,353	1,408	1,421	136	10.6%
Occupational Therapy Assistants	654	680	710	751	782	128	19.6%
Dental Hygienists	1,087	1,101	1,127	1,136	1,150	63	5.8%
Dietitians/Nutritionists	671	689	717	705	733	62	9.2%
Physical Therapy Assistants	461	483	503	494	510	49	10.6%
Licensed Practical Nurses	7,716	7,674	7,621	7,763	7,763	47	0.6%
Respiratory Therapists	610	610	624	645	647	37	6.1%
Clinical Laboratory Technicians	196	248	248	227	227	31	15.8%

Source: NYS Education Department, Office of Professions

Demand for Health Workers

Hospitals

Hospitals in the Hudson Valley region reported the most difficulty recruiting clinical laboratory technologists, followed by care coordinators and nurse managers. Care coordinators were also the most difficult to retain, followed by clinical laboratory technologists and medical coders (Exhibit 99).

**Exhibit 99. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Hudson Valley Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	3.7	3.6	71%	29%	71%
Certified Nursing Aides	1.6	1.7	6%	13%	6%
Clinical Laboratory Technicians	2.8	2.4	33%	11%	33%
Clinical Laboratory Technologists	4.0	3.1	70%	20%	60%
HIT Staff	3.1	2.8	33%	33%	67%
Licensed Clinical Social Workers	3.2	2.3	8%	15%	15%
Licensed Practical Nurses	1.7	1.2	0%	0%	0%
Medical Assistants	2.0	2.0	0%	17%	0%
Medical Coders	3.4	3.0	77%	62%	54%
Nurse Practitioners	2.6	2.2	17%	17%	0%
Occupational Therapists	3.4	2.4	40%	40%	53%
Pharmacists	2.7	1.9	27%	20%	53%
Physical Therapists	3.2	2.7	40%	53%	53%
Physician Assistants	2.6	2.3	0%	0%	0%
Radiological Technicians	1.0	1.7	0%	11%	0%
Radiological Technologists	2.4	2.6	8%	25%	17%
Registered Nurses					
Newly Licensed RNs	1.8	2.4	0%	18%	0%
Experienced RNs	2.5	1.7	44%	19%	38%
Nurse Managers	3.5	2.3	56%	6%	44%
Speech-Language Pathologists	3.2	2.5	18%	46%	46%

- Hospitals in the Hudson Valley region anticipated expansion of ambulatory surgery services.

Nursing Homes

Nursing homes in the Hudson Valley region reported the greatest difficulty recruiting nurse managers, occupational therapists, and physical therapists. Experienced RNs, personal care assistants, and physical therapy assistants were the most difficult to retain (Exhibit 100).

**Exhibit 100. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the Hudson Valley Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	2.4	2.8	13%	38%	38%	63%
Clerical	2.2	2.2	0%	0%	100%	0%
Dietitians/Nutritionists	3.1	2.6	50%	17%	33%	0%
Licensed Practical Nurses	2.6	2.4	17%	67%	33%	17%
Medical Billers	2.8	2.9	0%	33%	33%	33%
Occupational Therapists	3.4	2.8	50%	38%	50%	0%
Occupational Therapy Assts.	2.9	2.8	0%	50%	75%	25%
Personal Care Assistants	2.3	3.0	N/A	N/A	N/A	N/A
Physical Therapists	3.4	2.9	50%	33%	50%	0%
Physical Therapy Assistants	2.9	3.0	0%	75%	75%	25%
Registered Nurses						
Newly Licensed RNs	2.6	2.8	0%	40%	40%	40%
Experienced RNs	3.1	3.0	38%	50%	38%	38%
MDS Coordinators	2.9	2.3	50%	33%	17%	33%
Nurse Managers	3.7	2.5	29%	29%	57%	29%
Directors of Nursing	3.3	2.3	20%	40%	20%	60%
Rec. Therapists/Activities Dirs.	3.0	2.6	0%	33%	33%	33%
Respiratory Therapists	2.4	2.7	0%	0%	100%	0%
Social Workers						
Licensed Clinical SWs	3.0	2.6	25%	0%	50%	25%
Licensed Master's SWs	2.9	2.6	0%	0%	19%	0%
Speech-Language Pathologists	3.0	2.8	25%	0%	50%	25%

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

- Sixty percent (60%) reported difficulty hiring RNs for the night shift.
- Fifty-five percent (55%) of nursing homes in the Hudson Valley region reported using contract agency staff and 90% indicated using per diem staff.
- The vast majority of nursing homes (95%) in the Hudson Valley region had no plans to expand or reduce services next year.

Home Health Care Agencies

Home health care agencies in the Hudson Valley region reported the most difficulty recruiting occupational therapists and dietitians/nutritionists. Experienced RNs were the most difficult to retain, followed by occupational therapists, LPNs, and speech-language pathologists (Exhibit 101).

Exhibit 101. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Hudson Valley Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.7	2.3	50%	50%	75%	25%
Home Health Aides	3.0	1.9	25%	50%	25%	25%
Licensed Practical Nurses	2.5	2.5	100%	0%	0%	0%
Occupational Therapists	4.3	2.6	88%	50%	25%	13%
Personal Care Aides/Homemakers	2.5	2.0	N/A	N/A	N/A	N/A
Physical Therapists	3.2	2.4	83%	50%	50%	17%
Registered Nurses						
Newly Licensed RNs	2.0	2.1	0%	0%	25%	75%
Experienced RNs	3.3	2.8	29%	71%	29%	29%
Respiratory Therapists	3.4	2.0	100%	0%	0%	0%
Social Workers						
Licensed Clinical SWs	2.5	2.4	0%	0%	100%	0%
Licensed Master's SWs	2.6	2.3	0%	0%	100%	0%
Speech-Language Pathologists	3.2	2.5	100%	33%	67%	0%

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

- More than one-half (58%) had difficulty hiring bilingual workers. Spanish was the language most needed, followed by Russian.
- About two-thirds (66%) of home health care agencies in the Hudson valley region reported no plans to expand or reduce services next year.

FQHCs

FQHCs in Hudson Valley reported the most difficulty recruiting substance abuse counselors, psychiatrists, and family/general practice physicians and reported the most difficulty retaining psychologists, substance abuse counselors, and community health workers (Exhibit 102).

**Exhibit 102. Recruitment and Retention Difficulties for FQHCs
in Selected Health Occupations in the Hudson Valley Region, 2013**

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	4.3	1.6
	Internal Medicine Physicians	3.5	1.3
	Ob/Gyn Physicians	3.4	2.4
	Pediatric Physicians	2.5	1.3
	Adult Nurse Practitioners	1.8	2.0
	Family Nurse Practitioners	2.3	2.5
	Geriatric Nurse Practitioners	N/A	N/A
	Pediatric Nurse Practitioners	2.3	2.0
	Midwives	2.0	1.0
	Physician Assistants	2.0	1.6
Nursing	Certified Nurse Aids/Assistants	1.0	2.0
	Licensed Practical Nurses	2.2	1.4
	Registered Nurses	2.8	2.4
	Medical Assistants	1.2	2.4
Behavioral Health	Psychiatrists	4.5	2.5
	Psychiatric Nurse Practitioners	3.0	3.0
	Psychologists	3.0	5.0
	Substance Abuse Counselors	5.0	4.0
	Licensed Clinical Social Workers	3.3	2.7
	Licensed Master Social Workers	1.7	2.3
Oral Health	Dental Assistants/Aides/Techs	2.4	2.4
	Dental Hygienists	2.0	1.2
	Dentists	1.8	1.6
Ancillary	Care Coordinators	2.7	1.8
	Case Managers	2.0	2.7
	Community Health Workers	2.5	3.5
	Health Educators	3.5	2.5
	HIV Counselors	3.3	2.0
	Nutritionists/Nutrition Educators	2.0	1.8
	Patient Health Navigators	3.3	1.5

- Eighty percent (80%) of FQHCs in the Hudson Valley region indicated plans to expand services in pediatrics, dentistry, internal medicine, and ob/gyn. None indicated plans to reduce services.
- Sixty percent (60%) of centers reported difficulty hiring bilingual staff, citing Spanish as the language most commonly needed.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Hudson Valley region will be for home health aides (700), RNs (660), and personal and home care aides (520) (Exhibit 103).

**Exhibit 103. Employment Projections for Selected Health Occupations
in the Hudson Valley Region, 2010-2020⁵⁰**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Home Health Aides	12,660	18,060	5,400	42.7%	700
Registered Nurses	19,760	22,780	3,020	15.3%	660
Personal and Home Care Aides	8,940	13,420	4,480	50.1%	520
Licensed Practical and Licensed Vocational Nurses	6,270	7,390	1,120	17.9%	280
Nursing Aides, Orderlies, and Attendants	11,010	12,420	1,410	12.8%	280
Social Workers	5,970	6,830	860	14.4%	230
Medical Assistants	2,810	3,540	730	26.0%	110
Medical and Health Service Managers	3,020	3,330	310	10.3%	100
Dental Assistants	2,120	2,580	460	21.7%	90
Clinical, Counseling, and School Psychologists	1,830	2,020	190	10.4%	80
Physical Therapists	1,900	2,550	650	34.2%	80
Emergency Medical Technicians and Paramedics	1,630	2,090	460	28.2%	80
Pharmacists	1,570	1,820	250	15.9%	70
Dental Hygienists	1,490	1,900	410	27.5%	70
Speech-Language Pathologists	1,470	1,730	260	17.7%	60
Occupational Therapists	1,230	1,490	260	21.1%	50
Radiologic Technologists and Technicians	1,510	1,770	260	17.2%	50
Pharmacy Technicians	1,250	1,560	310	24.8%	50
Physician Assistants	810	1,020	210	25.9%	40
Psychiatric Aides	1,960	2,020	60	3.1%	40
Dietitians and Nutritionists	610	690	80	13.1%	30
Diagnostic Medical Sonographers	520	680	160	30.8%	30
Medical Records and Health Information Technicians	1,050	1,200	150	14.3%	30
Respiratory Therapists	760	890	130	17.1%	20
Medical and Clinical Laboratory Technologists	790	830	40	5.1%	20
Medical and Clinical Laboratory Technicians	740	800	60	8.1%	20
Cardiovascular Technologists and Technicians	460	570	110	23.9%	20
Surgical Technologists	500	520	20	4.0%	10

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

⁵⁰ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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 significantly lower percentage of individuals below the 100% and 200% federal poverty level and had a less diverse population than the state as a whole. The region also had a higher percentage of individuals with a bachelor's or higher college degree (Exhibit 104).

**Exhibit 104. Selected Population Characteristics in the Long Island Region, 2008-2012
(5-year Average)⁵¹**

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	2,820,124	N/A	N/A
Population Under 100% FPL Level	154,082	5.5%	14.5%
Population Under 200% FPL Level	425,279	15.1%	30.2%
Population Age Birth-17	671,819	23.8%	22.5%
Population Age 65 and older	400,977	14.2%	13.4%
Population Female Age 15-44	535,013	19.0%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	798	0.8%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	20,242	8.7%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	10,803	5.2%	4.5%
Black/African American, non-Hispanic	243,749	8.6%	14.5%
Hispanic/Latino	425,797	15.1%	17.4%
Asian/Pacific Islander, non-Hispanic	151,773	5.4%	7.3%
American Indian/Native Alaskan, non-Hispanic	3,244	0.1%	0.2%
Two or More/Other	38,749	1.4%	1.9%
Less than High School Education	197,062	10.3%	15.4%
High School or Equivalent	854,406	44.8%	43.9%
Associate Degree	159,107	8.3%	8.2%
Bachelor's Degree	387,879	20.3%	18.5%
Master's Degree or Higher	310,498	16.3%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

⁵¹ Education levels and rates are based on individuals age 25 and older.

Health Status

The Long Island region had slightly higher rates of total deaths and deaths due to all cancers and heart disease than the state as a whole, though it had lower rates of deaths due to diabetes. The rate of preventable hospitalizations was much higher in the Long Island region as compared to statewide and the upstate rate, though the rate of ED visits on Long Island was lower than both the statewide and upstate New York rates. The Long Island region also had a higher rate of heart disease hospitalizations than the state as a whole and upstate New York (Exhibit 105).

**Exhibit 105. Selected Health Indicators in the Long Island Region, 2009-2011
(3-year Average)⁵²**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	21,779	764.0	748.3	843.7
Deaths Due to Heart Disease, per 100,000	7,344	257.6	230.9	240.2
Deaths Due to All Cancers, per 100,000	5,360	190.1	181.2	202.9
Deaths Due to Diabetes, per 100,000	399	14.0	19.2	18.3
Total Births, per 1,000 females, age 15-44	30,992	10.9	12.5	11.0
Teen Births, per 1,000 females, age 15-19	1,234	4.0	6.2	6.5
Low-birthweight Births, as a percent of total births	2,460	7.9	8.2	7.8
Late/No Prenatal Care, as a percent of total births	1,130	3.8	5.6	4.1
Infant Deaths, per 1,000 live births	129	4.2	5.1	5.6
Total Hospitalizations, per 10,000	376,707	1,321.5	1,280.9	1,214.7
Preventable Hospitalizations per 10,000	42,779	150.1	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	2,889	13.2	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	1,337	20.0	28.3	15.9
Diabetes Hospitalizations, ⁵³ per 10,000	4,733	16.6	20.1	15.7
CLRD Hospitalizations, ⁵⁴ per 10,000	10,134	35.5	39.0	35.4
Heart Disease Hospitalizations, per 10,000	41,147	144.3	120.6	123.1
Total ED Visits, per 10,000	950,722	3,335.1	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

⁵² All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

⁵³ Primary diagnosis only.

⁵⁴ Chronic Lower Respiratory Disease.

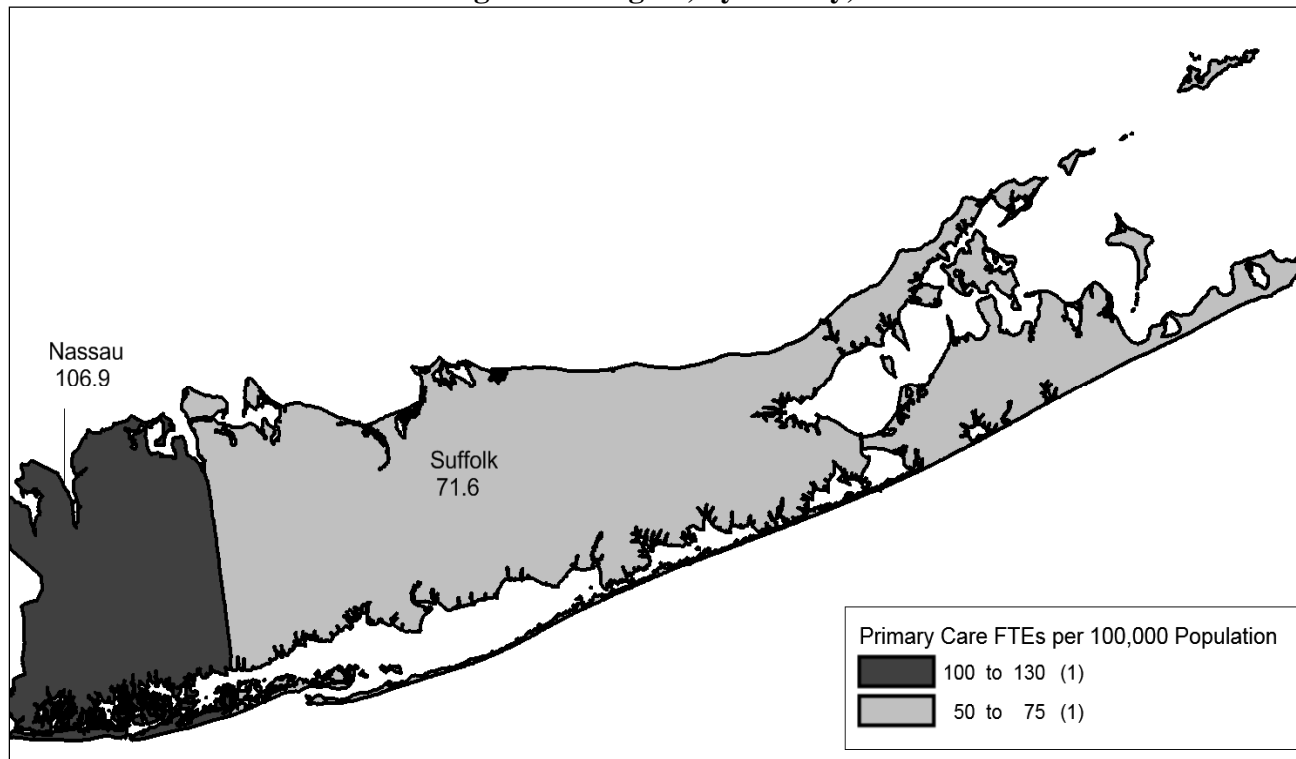
Primary Care Physicians

There were 2,500 primary care physician FTEs practicing in the Long Island region. Forty percent (40%) were in general internal medicine, 25% were in general pediatrics, and another 22% were in general or family practice. There were 88.3 primary care physicians per 100,000 population in the Long Island region, above the statewide rate of 84.5. Nassau County had nearly 106.9 primary care physicians per 100,000 population, while Suffolk County only had 71.6 per 100,000 total population (Exhibits 106 and 107).

Exhibit 106. Primary Care FTEs in the Long Island Region, by Specialty, 2013⁵⁵

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	551	19.4
Internal Medicine (General)	990	35.0
Geriatrics	12	2.9
Obstetrics/Gynecology	329	49.5
Pediatrics (General)	618	116.1
Total	2,500	88.3

Exhibit 107. Number of Primary Care FTEs per 100,000 Population in the Long Island Region, by County, 2013



⁵⁵ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Health sector employment in the Long Island region grew by nearly 9% between 2008 and 2012, adding more than 13,000 jobs. Employment in home health care grew the fastest, increasing by 22% between 2008 and 2012. There was also growth in hospital employment (13%) and ambulatory care (6%), while the number of jobs in nursing homes and personal care facilities in 2012 decreased to its 2008 level, after experiencing an increase between 2009 to 2011 (Exhibit 108).

Exhibit 108. Number of Health Care Jobs in the Long Island Region, by Setting, 2008-2012

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	55,514	57,061	62,646	64,558	62,754	7,240	13.0%
Ambulatory Care (Excluding Home Health)	59,293	59,836	61,385	62,110	62,528	3,235	5.5%
Nursing Home and Personal Care Facilities	23,918	24,238	24,244	24,399	23,918	0	0.0%
Home Health Care	11,987	12,696	13,120	13,561	14,630	2,643	22.0%
Total	150,712	153,830	161,395	164,628	163,830	13,118	8.7%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations in the Long Island region is reported in Exhibit 109. RNs on Long Island accounted for the most jobs in the first quarter of 2013 (23,840), followed by nursing assistants (15,380), personal care aides (13,930) and home health aides (12,110). Nuclear medicine technologists, occupational therapy assistants and dietetic technicians had the fewest jobs (220, 200, and 130 respectively).

Wages in selected health occupations for Long Island are reported in Exhibit 110. These wages were based on the data for the first quarter of 2013. Certified registered nurse anesthetists earned the highest hourly wage in 2013 (\$90.63), followed by medical and health service managers (\$56.41), NPs (\$55.37), and pharmacists (\$54.21). Home health aides (\$11.09) and personal care aides (\$12.32) were the lowest wage earners for the selected health occupations in the Long Island region.

**Exhibit 109. Number of Jobs in Selected Health Occupations
in the Long Island Region, 2013**

Occupation	Employment
Registered Nurses	23,840
Nursing Assistants	15,380
Personal Care Aides	13,930
Home Health Aides	12,110
Licensed Practical and Licensed Vocational Nurses	6,650
Medical Assistants	5,400
Medical and Health Services Managers	3,830
Dental Assistants	3,750
Pharmacists	2,600
Physical Therapists	2,570
Radiologic Technologists and Technicians	2,400
Pharmacy Technicians	2,350
Physician Assistants	2,190
Dental Hygienists	1,960
Speech-Language Pathologists	1,870
Medical Secretaries	1,820
Medical and Clinical Laboratory Technologists	1,740
Nurse Practitioners	1,540
Mental Health and Substance Abuse Social Workers	1,460
Healthcare Social Workers	1,330
Medical Records and Health Information Technicians	1,300
Medical and Clinical Laboratory Technicians	1,180
Occupational Therapists	1,120
Respiratory Therapists	1,050
Physical Therapist Aides	900
Surgical Technologists	670
Physical Therapist Assistants	640
Cardiovascular Technologists and Technicians	630
Dietitians and Nutritionists	620
Orderlies	360
Certified Registered Nurse Anesthetists	360
Nuclear Medicine Technologists	220
Occupational Therapy Assistants	200
Dietetic Technicians	130
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 110. Average per hour Wage in Selected Health Occupations
in the Long Island Region, 2013**

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$90.63
Medical and Health Services Managers	\$56.41
Nurse Practitioners	\$55.37
Pharmacists	\$54.21
Physician Assistants	\$48.56
Nurse Midwives	\$42.48
Physical Therapists	\$42.25
Speech-Language Pathologists	\$42.21
Nuclear Medicine Technologists	\$38.54
Registered Nurses	\$38.51
Occupational Therapists	\$37.69
Dental Hygienists	\$35.08
Medical and Clinical Laboratory Technologists	\$34.90
Radiologic Technologists and Technicians	\$34.29
Respiratory Therapists	\$33.23
Dietitians and Nutritionists	\$31.86
Cardiovascular Technologists and Technicians	\$28.58
Healthcare Social Workers	\$27.92
Occupational Therapy Assistants	\$27.27
Physical Therapist Assistants	\$26.76
Mental Health and Substance Abuse Social Workers	\$26.18
Licensed Practical and Licensed Vocational Nurses	\$25.30
Medical and Clinical Laboratory Technicians	\$24.97
Surgical Technologists	\$24.90
Occupational Therapy Aides	\$20.18
Dietetic Technicians	\$19.85
Medical Records and Health Information Technicians	\$19.73
Dental Assistants	\$18.03
Medical Secretaries	\$17.18
Nursing Assistants	\$17.03
Medical Assistants	\$16.57
Orderlies	\$15.40
Pharmacy Technicians	\$14.84
Physical Therapist Aides	\$13.29
Personal Care Aides	\$12.32
Home Health Aides	\$11.09

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012, the number of licensed RNs on Long Island increased by nearly 2,900, or 8%. There were significant increases in the number of licensed health professionals, other than LPNs, during the same time period, including social workers (745), speech-language pathologists (625), and NPs (505). The occupations with the greatest percentage growth in numbers included PAs (25%), speech-language pathologists (21%), and NPs (20%) (Exhibit 111).

**Exhibit 111. Number of Licensed Individuals in Selected Health Occupations
in the Long Island Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	38,496	39,390	40,185	40,574	41,377	2,881	7.5%
Social Workers	8,220	8,280	8,464	8,717	8,965	745	9.1%
Speech-Language Pathologists	2,950	3,096	3,222	3,389	3,575	625	21.2%
Nurse Practitioners	2,546	2,645	2,765	2,890	3,051	505	19.8%
Physician Assistants	1,803	1,896	1,987	2,120	2,248	445	24.7%
Pharmacists	3,543	3,642	3,741	3,805	3,938	395	11.1%
Physical Therapists	3,154	3,273	3,342	3,367	3,490	336	10.7%
Occupational Therapists	1,761	1,818	1,860	1,916	2,000	239	13.6%
Clinical Laboratory Technologists	2,186	2,389	2,410	2,381	2,424	238	10.9%
Respiratory Therapists	861	898	936	983	997	136	15.8%
Dietitians/Nutritionists	914	932	966	975	1,023	109	11.9%
Occupational Therapy Assistants	355	377	396	413	419	64	18.0%
Dental Hygienists	1,670	1,680	1,699	1,720	1,730	60	3.6%
Physical Therapy Assistants	933	968	973	958	990	57	6.1%
Clinical Laboratory Technicians	283	371	352	323	327	44	15.5%
Licensed Practical Nurses	8,943	8,814	8,718	8,884	8,922	-21	-0.2%

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, followed by clinical laboratory technicians, medical coders, and nurse managers. Clinical laboratory technicians were also the most difficult to retain, followed by nurse managers and NPs (Exhibit 112).

**Exhibit 112. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Long Island Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	3.0	2.0	11%	11%	6%
Certified Nursing Aides	1.4	1.9	5%	5%	0%
Clinical Laboratory Technicians	4.1	2.6	87%	47%	27%
Clinical Laboratory Technologists	4.3	2.4	81%	43%	24%
HIT Staff	3.8	2.4	50%	29%	7%
Licensed Clinical Social Workers	2.5	1.7	23%	9%	5%
Licensed Practical Nurses	1.5	1.5	13%	13%	13%
Medical Assistants	1.5	1.7	5%	5%	0%
Medical Coders	4.0	2.0	67%	5%	5%
Nurse Practitioners	3.5	2.5	18%	18%	9%
Occupational Therapists	3.1	2.2	44%	22%	17%
Pharmacists	3.8	2.0	63%	26%	26%
Physical Therapists	3.2	2.1	50%	32%	18%
Physician Assistants	2.7	2.2	16%	16%	11%
Radiological Technicians	2.0	1.7	7%	0%	7%
Radiological Technologists	2.0	1.9	5%	5%	0%
Registered Nurses					
Newly Licensed RNs	1.8	2.1	17%	8%	25%
Experienced RNs	3.7	2.2	46%	17%	29%
Nurse Managers	4.0	2.5	38%	21%	17%
Speech-Language Pathologists	3.0	2.2	32%	11%	5%

- Hospitals in the Long Island region reported plans to increase both outpatient procedural services and ambulatory services, with increased demand for RNs and PAs.
- They also reported plans to shift the focus of inpatient services to include more cardiology and surgical services.

Nursing Homes

Nursing homes in the Long Island region reported the most difficulty recruiting MDS coordinators and directors of nursing, followed by experienced RNs and nurse managers. Personal care assistants were the most difficult to retain, followed by CNAs and newly licensed RNs (Exhibit 113).

**Exhibit 113. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the Long Island Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	2.1	2.8	25%	50%	13%	25%
Clerical	1.9	2.1	0%	33%	33%	50%
Dietitians/Nutritionists	2.4	1.8	20%	60%	20%	20%
Licensed Practical Nurses	2.4	2.6	13%	63%	50%	13%
Medical Billers	2.4	1.9	20%	20%	40%	20%
Occupational Therapists	2.8	2.5	40%	60%	40%	20%
Occupational Therapy Assts.	2.6	2.4	40%	80%	20%	20%
Personal Care Assistants	2.3	3.0	50%	75%	25%	25%
Physical Therapists	2.8	2.5	25%	50%	25%	50%
Physical Therapy Assistants	2.6	2.4	33%	67%	17%	33%
Registered Nurses						
Newly Licensed RNs	2.0	2.8	0%	50%	50%	17%
Experienced RNs	3.1	2.4	0%	33%	67%	0%
MDS Coordinators	3.3	2.6	25%	50%	38%	0%
Nurse Managers	3.1	2.5	0%	33%	67%	0%
Directors of Nursing	3.2	2.6	43%	57%	0%	14%
Rec. Therapists/Activities Dirs.	2.5	2.3	17%	33%	50%	33%
Respiratory Therapists	2.4	2.4	33%	33%	0%	33%
Social Workers						
Licensed Clinical SWs	2.6	2.3	33%	33%	33%	33%
Licensed Master's SWs	2.5	2.1	40%	40%	20%	40%
Speech-Language Pathologists	2.4	2.4	0%	33%	33%	33%

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

- More than half (55%) of nursing homes in the Long Island region reported difficulty hiring RNs for night shifts.
- Fifty-five percent (55%) of nursing homes used contract agency staff, and 85% used per diem staff.
- The majority of nursing homes (85%) were not planning to expand or reduce services next year.

Home Health Care Agencies

Home health care agencies in the Long Island region reported the most difficulty recruiting occupational therapists, speech-language pathologists and dietitians/nutritionists. Speech-language pathologists were also the most difficult to retain, followed by experienced RNs, dietitians/nutritionists, and occupational therapists (Exhibit 114).

Exhibit 114. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Long Island Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.3	2.7	67%	33%	33%	0%
Home Health Aides	1.7	1.9	0%	50%	0%	50%
Licensed Practical Nurses	2.0	1.9	33%	33%	33%	0%
Occupational Therapists	3.7	2.7	57%	71%	0%	14%
Personal Care Aides/Homemakers	1.0	1.0	N/A	N/A	N/A	N/A
Physical Therapists	3.2	2.6	80%	40%	0%	20%
Registered Nurses						
Newly Licensed RNs	1.4	2.3	0%	33%	0%	67%
Experienced RNs	2.8	2.8	13%	63%	50%	13%
Respiratory Therapists	2.5	2.0	N/A	N/A	N/A	N/A
Social Workers						
Licensed Clinical SWs	2.6	2.2	0%	0%	50%	50%
Licensed Master's SWs	2.6	2.3	0%	33%	33%	33%
Speech-Language Pathologists	3.4	3.1	20%	80%	0%	20%

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

- Thirty-six percent (36%) reported difficulty hiring part-time workers.
- Thirty-six percent (36%) indicated difficulty hiring bilingual workers, with Russian being the language most needed.
- Three-fourths (75%) of all home health care agencies used contract agency staff, while all of them used per diem staff.
- Forty-two percent (42%) anticipated expanding services in the next year with increased demand for RNs, physical therapists and occupational therapists. Half (50%) reported no plans to either expand or reduce services next year.

FQHCs

There were no responses from FQHCs in the Long Island region.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Long Island region will be for RNs (920), home health aides (790), and personal and home care aides (750) (Exhibit 115).

**Exhibit 115. Employment Projections for Selected Health Occupations
in the Long Island Region, 2010-2020⁵⁶**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Registered Nurses	12,660	18,060	5,400	42.7%	700
Home Health Aides	19,760	22,780	3,020	15.3%	660
Personal and Home Care Aides	8,940	13,420	4,480	50.1%	520
Nursing Aides, Orderlies, and Attendants	6,270	7,390	1,120	17.9%	280
Licensed Practical and Licensed Vocational Nurses	11,010	12,420	1,410	12.8%	280
Medical Assistants	5,970	6,830	860	14.4%	230
Social Workers	2,810	3,540	730	26.0%	110
Dental Assistants	3,020	3,330	310	10.3%	100
Medical and Health Service Managers	2,120	2,580	460	21.7%	90
Physical Therapists	1,830	2,020	190	10.4%	80
Pharmacy Technicians	1,900	2,550	650	34.2%	80
Pharmacists	1,630	2,090	460	28.2%	80
Physician Assistants	1,570	1,820	250	15.9%	70
Dental Hygienists	1,490	1,900	410	27.5%	70
Radiologic Technologists and Technicians	1,470	1,730	260	17.7%	60
Emergency Medical Technicians and Paramedics	1,230	1,490	260	21.1%	50
Clinical, Counseling, and School Psychologists	1,510	1,770	260	17.2%	50
Speech-Language Pathologists	1,250	1,560	310	24.8%	50
Medical Records and Health Information Technicians	810	1,020	210	25.9%	40
Dietitians and Nutritionists	1,960	2,020	60	3.1%	40
Occupational Therapists	610	690	80	13.1%	30
Respiratory Therapists	520	680	160	30.8%	30
Medical and Clinical Laboratory Technicians	1,050	1,200	150	14.3%	30
Psychiatric Aides	760	890	130	17.1%	20
Diagnostic Medical Sonographers	790	830	40	5.1%	20
Cardiovascular Technologists and Technicians	740	800	60	8.1%	20
Surgical Technologists	460	570	110	23.9%	20

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

⁵⁶ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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 was less racially and ethnically diverse and older than New York as a whole. The Mohawk Valley region also had a higher percentage of people below 100% and 200% of the FPL and a lower percentage of people with a bachelor's degree or higher than the state as a whole (Exhibit 116).

Exhibit 116. Selected Population Characteristics in the Mohawk Valley Region, 2008-2012
(5-year Average)⁵⁷

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	499,490	N/A	N/A
Population Under 100% FPL Level	75,847	15.2%	14.5%
Population Under 200% FPL Level	165,835	33.2%	30.2%
Population Age Birth-17	108,611	21.7%	22.5%
Population Age 65 and older	81,197	16.3%	13.4%
Population Female Age 15-44	92,891	18.6%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	382	2.0%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	4,160	9.7%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	932	3.0%	4.5%
Black/African American, non-Hispanic	16,507	3.3%	14.5%
Hispanic/Latino	21,205	4.2%	17.4%
Asian/Pacific Islander, non-Hispanic	8,447	1.7%	7.3%
American Indian/Native Alaskan, non-Hispanic	913	0.2%	0.2%
Two or More/Other	7,266	1.5%	1.9%
Less than High School Education	46,903	13.8%	15.4%
High School or Equivalent	183,118	54.0%	43.9%
Associate Degree	39,423	11.6%	8.2%
Bachelor's Degree	40,929	12.1%	18.5%
Master's Degree or Higher	28,584	8.4%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

⁵⁷ Education levels and rates are based on individuals age 25 and older.

Health Status

The Mohawk Valley region had much higher rates of total deaths, deaths due to heart disease, deaths due to all cancer, and deaths due to diabetes than the state as a whole and upstate New York. Additionally, the rates of total hospitalizations as well as hospitalizations due to chronic lower respiratory disease and due to heart disease were all higher than the state or upstate New York rates. The rates of preventable hospitalizations and ED visits were also much higher in the Mohawk Valley region compared to statewide and upstate New York. While having a lower birth rate than the state as a whole, the Mohawk Valley had a higher teen birth rate (Exhibit 117).

**Exhibit 117. Selected Health Indicators in the Mohawk Valley Region, 2009-2011
(3-year Average)⁵⁸**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	5,070	1,022.0	748.3	843.7
Deaths Due to Heart Disease, per 100,000	1,497	301.7	230.9	240.2
Deaths Due to All Cancers, per 100,000	1,121	224.3	181.2	202.9
Deaths Due to Diabetes, per 100,000	122	24.5	19.2	18.3
Total Births, per 1,000 females, age 15-44	5,256	10.6	12.5	11.0
Teen Births, per 1,000 females, age 15-19	481	9.2	6.2	6.5
Low-birthweight Births, as a percent of total births	377	7.2	8.2	7.8
Late/No Prenatal Care, as a percent of total births	265	5.1	5.6	4.1
Infant Deaths, per 1,000 live births	32	6.2	5.1	5.6
Total Hospitalizations, per 10,000	66,838	1,347.3	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	8,534	172.0	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	497	12.7	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	167	15.7	28.3	15.9
Diabetes Hospitalizations, ⁵⁹ per 10,000	896	18.1	20.1	15.7
CLRD Hospitalizations, ⁶⁰ per 10,000	2,372	47.8	39.0	35.4
Heart Disease Hospitalizations, per 10,000	7,285	146.9	120.6	123.1
Total ED Visits, per 10,000	217,374	4,381.7	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

⁵⁸ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

⁵⁹ Primary diagnosis only.

⁶⁰ Chronic Lower Respiratory Disease.

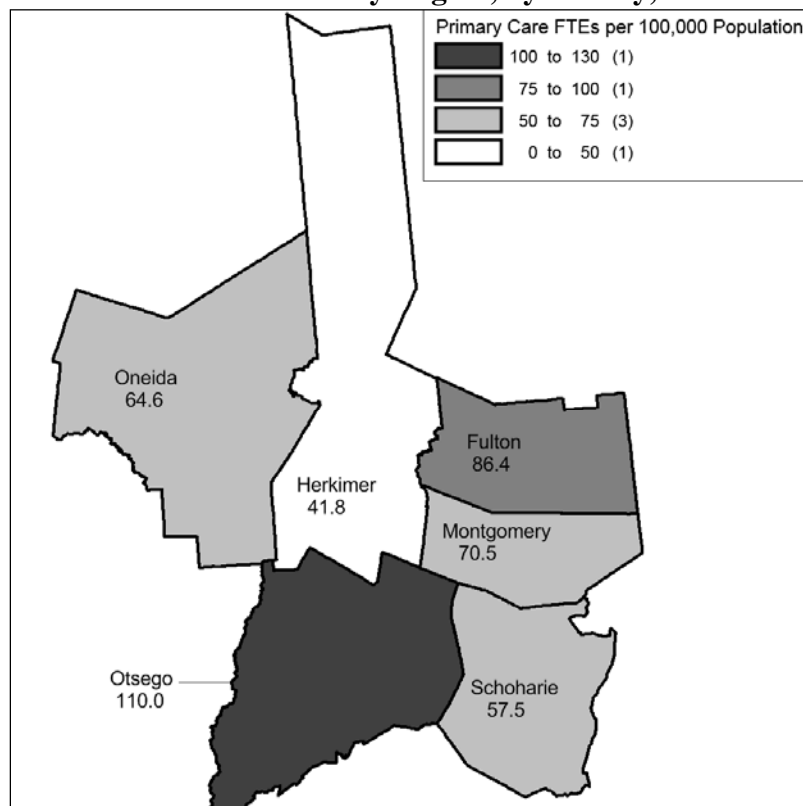
Primary Care Physicians

There were almost 350 primary care physician FTEs practicing in the Mohawk Valley region. Forty-two percent (42%) were in family or general practice and 32% were in general internal medicine. There were 69.9 primary care physicians per 100,000 population in the Mohawk Valley region, which was below the statewide rate of 84.5. Otsego County had the highest number with nearly 110.0 primary care physicians per 100,000 population and Herkimer County had the lowest with 41.8 per 100,000 (Exhibits 118 and 119).

Exhibit 118. Primary Care FTEs in the Mohawk Valley Region, by Specialty 2013⁶¹

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	147	29.4
Internal Medicine (General)	112	22.5
Geriatrics	5	6.3
Obstetrics/Gynecology	35	32.6
Pediatrics (General)	50	53.6
Total	349	69.9

Exhibit 119. Number of Primary Care FTEs per 100,000 Population in the Mohawk Valley Region, by County, 2013



⁶¹ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate, which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Between 2008 and 2012, health sector employment in the Mohawk Valley region increased by almost 1%, adding more than 250 jobs. Employment in ambulatory care increased by more than 200 jobs, or 4% and jobs in nursing home and personal care facilities grew by 3%, adding 190 jobs. In contrast, employment in hospitals declined by 165 jobs and employment in home health care slightly declined during the same period (Exhibit 120).

**Exhibit 120. Number of Health Care Jobs in the Mohawk Valley Region,
by Setting, 2008-2012**

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	12,318	12,450	12,501	12,359	12,153	-165	-1.3%
Ambulatory Care (Excluding Home Health)	6,524	6,476	6,646	6,635	6,757	233	3.6%
Nursing Home and Personal Care Facilities	6,365	6,618	6,632	6,561	6,555	190	3.0%
Home Health Care	1,402	1,398	1,416	1,464	1,396	-6	-0.4%
Total	26,609	26,942	27,195	27,019	26,861	252	0.9%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations is reported in Exhibit 121. RNs in the Mohawk Valley region accounted for the most jobs in the first quarter of 2013 (4,680), followed by personal care aides (3,740) and nursing assistants (3,000). Medical and clinical laboratory technicians, occupational therapy assistants, and dietetic technicians accounted for the fewest jobs (70, 70, and 60 respectively).

Wages in selected health occupations for Mohawk Valley are reported in Exhibit 122. These wages were based on the data for the first quarter of 2013. Pharmacists earned the highest per hour wage in 2013 (\$60.68), followed by nurse midwives (\$47.27) and PAs (\$46.63). Orderlies were the lowest wage earners (\$11.74) in the selected health occupations in the Mohawk Valley region. Please note there were too few certified registered nurses anesthetists to count for NYSDOL analysis.

**Exhibit 121. Number of Jobs in Selected Health Occupations
in the Mohawk Valley Region, 2013**

Occupation	Employment
Registered Nurses	4,680
Personal Care Aides	3,740
Nursing Assistants	3,000
Home Health Aides	2,110
Licensed Practical and Licensed Vocational Nurses	1,960
Medical and Health Services Managers	740
Pharmacy Technicians	520
Pharmacists	470
Physical Therapists	450
Radiologic Technologists and Technicians	410
Dental Assistants	370
Mental Health and Substance Abuse Social Workers	320
Dental Hygienists	290
Medical Assistants	270
Nurse Practitioners	260
Occupational Therapists	260
Medical Secretaries	260
Speech-Language Pathologists	240
Medical Records and Health Information Technicians	240
Respiratory Therapists	230
Healthcare Social Workers	200
Medical and Clinical Laboratory Technologists	170
Physical Therapist Assistants	170
Physician Assistants	160
Dietitians and Nutritionists	130
Physical Therapist Aides	120
Orderlies	100
Surgical Technologists	80
Medical and Clinical Laboratory Technicians	70
Occupational Therapy Assistants	70
Dietetic Technicians	60
Nuclear Medicine Technologists	N/A
Nurse Midwives	N/A
Cardiovascular Technologists and Technicians	N/A
Certified Registered Nurse Anesthetists	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 122. Average per hour Wage in Selected Health Occupations
in the Mohawk Valley Region, 2013**

Occupation	Average wage per hour
Pharmacists	\$60.68
Nurse Midwives	\$47.27
Physician Assistants	\$46.63
Medical and Health Services Managers	\$42.76
Nurse Practitioners	\$41.12
Nuclear Medicine Technologists	\$36.13
Physical Therapists	\$35.23
Speech-Language Pathologists	\$33.67
Occupational Therapists	\$31.29
Dental Hygienists	\$30.87
Mental Health and Substance Abuse Social Workers	\$29.10
Registered Nurses	\$27.89
Medical and Clinical Laboratory Technologists	\$27.58
Respiratory Therapists	\$27.41
Dietitians and Nutritionists	\$26.44
Radiologic Technologists and Technicians	\$25.37
Healthcare Social Workers	\$23.37
Medical and Clinical Laboratory Technicians	\$22.88
Occupational Therapy Assistants	\$20.49
Surgical Technologists	\$19.59
Physical Therapist Assistants	\$18.75
Dietetic Technicians	\$17.73
Licensed Practical and Licensed Vocational Nurses	\$17.25
Medical Records and Health Information Technicians	\$16.51
Dental Assistants	\$16.27
Physical Therapist Aides	\$14.41
Medical Secretaries	\$14.11
Medical Assistants	\$13.55
Pharmacy Technicians	\$12.76
Personal Care Aides	\$12.57
Nursing Assistants	\$12.34
Home Health Aides	\$12.06
Orderlies	\$11.74
Certified Registered Nurse Anesthetists	N/A
Cardiovascular Technologists and Technicians	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012, the number of licensed RNs in the Mohawk Valley region increased by more than 500, or 8%. PAs experienced the highest percentage growth (25%), followed by respiratory therapists (21%), and pharmacists (19%). The number of LPNs, occupational therapy assistants and clinical laboratory technicians all declined between 2008 and 2012 in the Mohawk Valley region (Exhibit 123).

**Exhibit 123. Number of Licensed Individuals in Selected Health Occupations
in the Mohawk Valley Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	6,469	6,653	6,786	6,832	6,978	509	7.9%
Pharmacists	436	459	480	498	519	83	19.0%
Social Workers	610	625	640	681	666	56	9.2%
Nurse Practitioners	379	377	402	418	428	49	12.9%
Physical Therapists	316	326	341	339	357	41	13.0%
Dental Hygienists	249	257	265	283	289	40	16.1%
Physician Assistants	155	174	182	192	194	39	25.2%
Respiratory Therapists	170	183	186	194	205	35	20.6%
Occupational Therapists	295	305	309	320	328	33	11.2%
Speech-Language Pathologists	201	210	223	225	227	26	12.9%
Clinical Laboratory Technologists	317	348	343	332	341	24	7.6%
Dietitians/Nutritionists	87	83	89	90	94	7	8.0%
Physical Therapy Assistants	205	209	210	204	205	0	0.0%
Occupational Therapy Assistants	164	158	157	153	154	-10	-6.1%
Clinical Laboratory Technicians	89	99	87	77	74	-15	-16.9%
Licensed Practical Nurses	3,592	3,537	3,505	3,579	3,533	-59	-1.6%

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 profession to recruit, followed by physical therapists, speech-language pathologists, and experienced RNs. CNAs were the most difficult occupation to retain (Exhibit 124).

**Exhibit 124. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Mohawk Valley Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	1.5	1.5	0%	0%	0%
Certified Nursing Aides	2.4	3.3	14%	14%	0%
Clinical Laboratory Technicians	2.0	2.0	0%	0%	0%
Clinical Laboratory Technologists	5.0	2.8	100%	20%	40%
HIT Staff	2.0	1.5	20%	0%	0%
Licensed Clinical Social Workers	2.3	2.3	33%	33%	33%
Licensed Practical Nurses	1.8	1.8	0%	0%	0%
Medical Assistants	3.0	3.0	0%	0%	0%
Medical Coders	2.9	1.9	25%	0%	0%
Nurse Practitioners	3.0	2.3	50%	0%	25%
Occupational Therapists	3.0	2.0	43%	0%	29%
Pharmacists	2.8	2.1	25%	13%	25%
Physical Therapists	3.9	2.9	63%	13%	38%
Physician Assistants	3.0	2.3	33%	0%	33%
Radiological Technicians	2.3	2.3	0%	0%	0%
Radiological Technologists	1.7	1.5	0%	17%	0%
Registered Nurses					
Newly Licensed RNs	1.9	2.3	0%	13%	25%
Experienced RNs	3.5	3.0	75%	25%	75%
Nurse Managers	3.0	2.5	57%	14%	29%
Speech-Language Pathologists	3.8	2.6	50%	0%	33%

- Hospitals in the Mohawk Valley region reported plans to expand both outpatient procedural services and ambulatory services, particularly primary care and urgent care services.

Nursing Homes

Nursing homes in the Mohawk Valley region reported the most difficulties recruiting MDS coordinators and nurse managers. CNAs were the most difficult to retain, followed by LPNs, experienced RNs, nurse managers, respiratory therapists, and LCSWs (Exhibit 125).

**Exhibit 125. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the Mohawk Valley Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	2.4	3.5	9%	64%	9%	46%
Clerical	1.6	1.9	20%	40%	0%	40%
Dietitians/Nutritionists	2.5	2.4	40%	60%	0%	0%
Licensed Practical Nurses	2.8	3.0	0%	75%	13%	25%
Medical Billers	2.3	2.4	0%	100%	0%	0%
Occupational Therapists	2.8	2.6	0%	100%	25%	0%
Occupational Therapy Assts.	2.8	2.7	20%	80%	20%	0%
Personal Care Assistants	2.3	2.3	0%	100%	0%	0%
Physical Therapists	3.0	2.7	0%	100%	25%	0%
Physical Therapy Assistants	2.8	2.6	20%	80%	20%	0%
Registered Nurses						
Newly Licensed RNs	2.3	2.8	0%	100%	0%	25%
Experienced RNs	3.0	3.0	17%	67%	17%	0%
MDS Coordinators	3.3	2.7	33%	33%	0%	33%
Nurse Managers	3.2	3.0	0%	78%	33%	0%
Directors of Nursing	2.8	2.9	0%	71%	14%	14%
Rec. Therapists/Activities Dirs.	2.4	2.5	25%	75%	0%	0%
Respiratory Therapists	3.0	3.0	N/A	N/A	N/A	N/A
Social Workers						
Licensed Clinical SWs	3.0	3.0	25%	50%	0%	25%
Licensed Master's SWs	2.9	2.8	33%	33%	0%	33%
Speech-Language Pathologists	3.0	2.3	0%	100%	33%	0%

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

- Nearly all nursing homes in the Mohawk Valley used per diem staff, while less than one-fourth used contract staff.
- Most nursing homes (85%) were not planning to expand or reduce services next year.

Home Health Care Agencies

Home health care agencies in the Mohawk Valley reported the greatest difficulty recruiting personal care aides. Speech-language pathologists were also difficult for home health care agencies to recruit as were occupational therapists, physical therapists, respiratory therapists, and LCSWs. Experienced RNs and respiratory therapists were the most difficult to retain (Exhibit 126).

Exhibit 126. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Mohawk Valley Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	2.7	2.2	50%	50%	0%	50%
Home Health Aides	2.7	2.8	50%	50%	25%	25%
Licensed Practical Nurses	2.8	2.8	0%	100%	0%	50%
Occupational Therapists	4.2	2.8	80%	40%	0%	0%
Personal Care Aides/Homemakers	4.5	3.0	0%	100%	0%	0%
Physical Therapists	4.0	3.0	60%	40%	20%	0%
Registered Nurses						
Newly Licensed RNs	1.7	1.7	100%	100%	100%	100%
Experienced RNs	3.5	3.5	20%	80%	40%	20%
Respiratory Therapists	4.0	3.5	50%	50%	0%	0%
Social Workers						
Licensed Clinical SWs	4.0	2.0	0%	100%	0%	100%
Licensed Master's SWs	3.7	2.6	50%	50%	0%	25%
Speech-Language Pathologists	4.4	2.5	80%	40%	0%	0%

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

- Forty percent (40%) reported difficulty hiring part-time workers.
- More than one-half (60%) indicated difficulty hiring bilingual workers, and Spanish was the language most needed.
- Sixty percent (60%) indicated difficulty hiring workers for off-shifts.
- Eighty-three percent (83%) of home health care agencies reported using contract agency staff and per diem staff.
- Eighty-three percent (83%) anticipated expanding services in the next year, with increased demand for RNs, home health aides, physical therapists and occupational therapists.

FQHCs

The response rates for FQHCs in the Capital District, Mohawk Valley, and North Country regions were too low to analyze separately so the responses from these regions were combined. FQHCs in this combined region reported the most difficulty recruiting ob/gyns, geriatric NPs, psychiatrists, and LMSWs and reported the most difficulty retaining CNAs, LPNs, substance abuse counselors, case managers, community health workers, and patient health navigators (Exhibit 127).

Exhibit 127. Recruitment and Retention Difficulties for FQHCs in Selected Health Occupations in the Capital District, Mohawk Valley, and North Country Regions, 2013

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	3.8	1.9
	Internal Medicine Physicians	4.5	2.0
	Ob/Gyn Physicians	5.0	N/A
	Pediatric Physicians	3.3	1.5
	Adult Nurse Practitioners	3.5	2.5
	Family Nurse Practitioners	3.2	2.1
	Geriatric Nurse Practitioners	5.0	2.0
	Pediatric Nurse Practitioners	N/A	1.0
	Midwives	3.7	2.7
	Physician Assistants	2.8	1.7
Nursing	Certified Nurse Aids/Assistants	1.3	3.0
	Licensed Practical Nurses	2.0	3.0
	Registered Nurses	2.5	2.7
	Medical Assistants	1.8	2.5
Behavioral Health	Psychiatrists	5.0	2.0
	Psychiatric Nurse Practitioners	4.7	2.0
	Psychologists	N/A	2.0
	Substance Abuse Counselors	4.0	3.0
	Licensed Clinical Social Workers	4.0	2.0
	Licensed Master Social Workers	5.0	2.0
Oral Health	Dental Assistants/Aides/Techs	2.4	2.6
	Dental Hygienists	1.8	1.8
	Dentists	4.2	2.8
Ancillary	Care Coordinators	2.5	2.8
	Case Managers	2.3	3.0
	Community Health Workers	2.5	3.0
	Health Educators	N/A	N/A
	HIV Counselors	N/A	N/A
	Nutritionists/Nutrition Educators	4.0	2.0
	Patient Health Navigators	2.0	3.0

- Eighty percent (80%) of FQHCs indicated plans to expand services and two-thirds of them expected an increase in dental services. None indicated plans to reduce services.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Mohawk Valley region will be for home health aides (180), personal and home care aides (170), and RNs (160) (Exhibit 128).

**Exhibit 128. Employment Projections for Selected Health Occupations
in the Mohawk Valley Region, 2010-2020⁶²**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Home Health Aides	3,600	4,900	1,300	36.1%	180
Personal and Home Care Aides	2,980	4,490	1,510	50.7%	170
Registered Nurses	4,840	5,490	650	13.4%	160
Licensed Practical and Licensed Vocational Nurses	2,300	2,560	260	11.3%	90
Nursing Aides, Orderlies, and Attendants	3,330	3,670	340	10.2%	70
Medical and Health Service Managers	760	830	70	9.2%	30
Social Workers	960	1,040	80	8.3%	30
Pharmacists	420	480	60	14.3%	20
Dental Hygienists	320	410	90	28.1%	20
Radiologic Technologists and Technicians	490	590	100	20.4%	20
Emergency Medical Technicians and Paramedics	410	510	100	24.4%	20
Pharmacy Technicians	490	600	110	22.4%	20
Dental Assistants	330	390	60	18.2%	20
Occupational Therapists	290	320	30	10.3%	10
Speech-Language Pathologists	280	310	30	10.7%	10
Diagnostic Medical Sonographers	200	270	70	35.0%	10
Medical Records and Health Information Technicians	290	310	20	6.9%	10
Psychiatric Aides	500	510	10	2.0%	10
Medical Assistants	290	360	70	24.1%	10
Dietitians and Nutritionists	130	140	10	7.7%	0
Respiratory Therapists	160	180	20	12.5%	0
Medical and Clinical Laboratory Technologists	210	220	10	4.8%	0
Medical and Clinical Laboratory Technicians	110	110	0	0.0%	0
Cardiovascular Technologists and Technicians	90	110	20	22.2%	0
Surgical Technologists	90	90	0	0.0%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

⁶² Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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, Jefferson, Lewis, and Saint Lawrence.

Population

The North Country region was less racially and ethnically diverse compared to New York as a whole. The North Country region also had higher percentage of people under both 100% and 200% of the federal poverty level. A higher percentage of the North Country region population had associate degrees but lower percentages held bachelor's degree or higher compared to the state overall (Exhibit 129).

**Exhibit 129. Selected Population Characteristics in the North Country Region, 2008-2012
(5-year Average)⁶³**

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	432,990	N/A	N/A
Population Under 100% FPL Level	66,218	15.3%	14.5%
Population Under 200% FPL Level	138,632	32.0%	30.2%
Population Age Birth-17	95,037	21.9%	22.5%
Population Age 65 and older	58,012	13.4%	13.4%
Population Female Age 15-44	82,333	19.0%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	343	2.2%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	4,362	10.8%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	592	2.3%	4.5%
Black/African American, non-Hispanic	15,729	3.6%	14.5%
Hispanic/Latino	13,720	3.2%	17.4%
Asian/Pacific Islander, non-Hispanic	5,000	1.2%	7.3%
American Indian/Native Alaskan, non-Hispanic	4,122	1.0%	0.2%
Two or More/Other	7,693	1.8%	1.9%
Less than High School Education	39,211	13.8%	15.4%
High School or Equivalent	157,433	55.4%	43.9%
Associate Degree	30,798	10.8%	8.2%
Bachelor's Degree	31,663	11.1%	18.5%
Master's Degree or Higher	25,250	8.9%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

⁶³ Education levels and rates are based on individuals age 25 and older.

Health Status

The North Country region had higher rates of deaths due to cancer than the state as a whole, but somewhat lower than upstate New York. The North Country also had higher rates of hospitalizations due to chronic lower respiratory disease than the state as a whole and upstate New York but had lower rates for diabetes hospitalizations. The North Country had significantly higher rates of ED visits than statewide or upstate New York (Exhibit 130).

**Exhibit 130. Selected Health Indicators in the North Country Region, 2009-2011
(3-year Average)⁶⁴**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	3,680	851.6	748.3	843.7
Deaths Due to Heart Disease, per 100,000	950	219.9	230.9	240.2
Deaths Due to All Cancers, per 100,000	872	201.6	181.2	202.9
Deaths Due to Diabetes, per 100,000	102	23.5	19.2	18.3
Total Births, per 1,000 females, age 15-44	5,292	12.2	12.5	11.0
Teen Births, per 1,000 females, age 15-19	446	8.4	6.2	6.5
Low-birthweight Births, as a percent of total births	379	7.2	8.2	7.8
Late/No Prenatal Care, as a percent of total births	193	3.8	5.6	4.1
Infant Deaths, per 1,000 live births	30	5.7	5.1	5.6
Total Hospitalizations, per 10,000	51,441	1,190.4	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	6,263	144.9	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	347	10.2	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	116	12.4	28.3	15.9
Diabetes Hospitalizations, ⁶⁵ per 10,000	652	15.1	20.1	15.7
CLRD Hospitalizations, ⁶⁶ per 10,000	2,013	46.6	39.0	35.4
Heart Disease Hospitalizations, per 10,000	5,052	116.9	120.6	123.1
Total ED Visits, per 10,000	227,348	5,261.0	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

⁶⁴ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

⁶⁵ Primary diagnosis only.

⁶⁶ Chronic Lower Respiratory Disease.

Primary Care Physicians

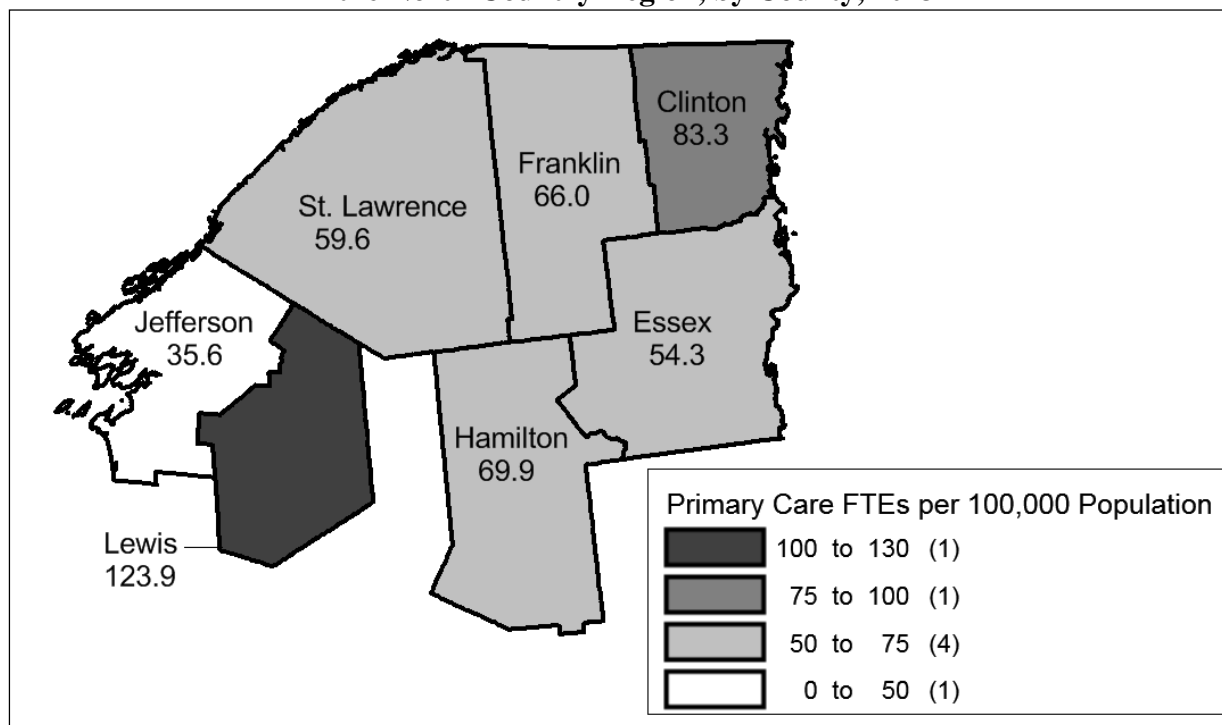
There were 269 primary care physician FTEs practicing in the North Country region. Forty three percent (43%) were in family or general practice and 26% were in general internal medicine. There were 62 primary care physicians per 100,000 population in the North Country region, much below the statewide rate of 84.5. Lewis County had the highest rate with nearly 123.9 primary care physicians per 100,000 population and Jefferson County had the lowest with 35.6 (Exhibits 131 and 132).

Exhibit 131. Primary Care FTEs in the North Country Region, by Specialty, 2013⁶⁷

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	115	26.6
Internal Medicine (General)	70	16.1
Geriatrics	0*	0.1
Obstetrics/Gynecology	36	38.5
Pediatrics (General)	48	57.9
Total	269	62.0

* Less than 0.5 FTEs

Exhibit 132. Number of Primary Care FTEs per 100,000 Population in the North Country Region, by County, 2013



⁶⁷ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate, which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Total health sector employment in the North Country region grew by more than 6% between 2008 and 2012, adding over 1,000 jobs. Employment in hospitals increased by 770 jobs, or 9%, and employment in ambulatory care grew by more than 300 jobs, or almost 7%. Jobs declined in home health care (- 57 jobs) or 9.7% while the number of jobs in nursing home and personal care facilities remained relatively stable between 2008 and 2012 (Exhibit 133).

**Exhibit 133. Number of Health Care Jobs in the North Country Region,
by Setting, 2008-2012**

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	8,481	8,764	8,991	9,190	9,251	770	9.1%
Ambulatory Care (Excluding Home Health)	4,853	5,020	5,103	5,137	5,180	327	6.7%
Nursing Home and Personal Care Facilities	2,936	2,911	2,937	2,920	2,937	1	0.0%
Home Health Care	588	549	532	538	531	-57	-9.7%
Total	16,858	17,244	17,564	17,784	17,899	1,041	6.2%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations is reported in Exhibit 134. RNs in the North Country region accounted for the most jobs in the first quarter of 2013 (3,510), followed by personal care aides (2,800) and nursing assistants (2,020). Physical therapist aides and certified registered nurse anesthetists had the fewest jobs among the selected health occupations (20 each).

Wages in selected health occupations for North Country are reported in Exhibit 135. These wages were based on the data for the first quarter of 2013. Certified registered nurse anesthetists earned the highest per hour wage in 2013 (\$103.23), followed by pharmacists (\$58.25) and PAs (\$49.61). Home health aides (\$11.48) and orderlies (\$10.43) were the lowest wage earners for the selected health occupations in the North Country.

**Exhibit 134. Number of Jobs in Selected Health Occupations
in the North Country Region, 2013**

Occupation	Employment
Registered Nurses	3,510
Personal Care Aides	2,800
Nursing Assistants	2,020
Licensed Practical and Licensed Vocational Nurses	1,560
Home Health Aides	1,550
Medical and Health Services Managers	480
Dental Assistants	440
Pharmacists	370
Pharmacy Technicians	300
Medical Assistants	280
Dental Hygienists	260
Orderlies	250
Physical Therapists	240
Speech-Language Pathologists	210
Medical Records and Health Information Technicians	210
Radiologic Technologists and Technicians	200
Medical and Clinical Laboratory Technologists	200
Mental Health and Substance Abuse Social Workers	190
Physician Assistants	180
Occupational Therapists	150
Nurse Practitioners	140
Healthcare Social Workers	120
Physical Therapist Assistants	110
Medical Secretaries	110
Medical and Clinical Laboratory Technicians	90
Dietitians and Nutritionists	90
Respiratory Therapists	80
Surgical Technologists	70
Occupational Therapy Assistants	60
Dietetic Technicians	60
Cardiovascular Technologists and Technicians	50
Nuclear Medicine Technologists	50
Physical Therapist Aides	20
Certified Registered Nurse Anesthetists	20
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 135. Average per hour Wage in Selected Health Occupations
in the North Country Region, 2013**

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$103.23
Pharmacists	\$58.25
Physician Assistants	\$49.61
Nurse Practitioners	\$45.34
Medical and Health Services Managers	\$43.09
Speech-Language Pathologists	\$33.06
Physical Therapists	\$32.69
Nuclear Medicine Technologists	\$30.67
Registered Nurses	\$30.06
Occupational Therapists	\$30.04
Dental Hygienists	\$29.00
Medical and Clinical Laboratory Technologists	\$27.80
Dietitians and Nutritionists	\$26.52
Radiologic Technologists and Technicians	\$24.78
Respiratory Therapists	\$24.75
Cardiovascular Technologists and Technicians	\$23.89
Mental Health and Substance Abuse Social Workers	\$23.86
Medical and Clinical Laboratory Technicians	\$23.52
Healthcare Social Workers	\$22.75
Physical Therapist Assistants	\$19.52
Occupational Therapy Assistants	\$19.51
Surgical Technologists	\$18.13
Medical Records and Health Information Technicians	\$17.66
Licensed Practical and Licensed Vocational Nurses	\$17.46
Medical Secretaries	\$16.71
Dietetic Technicians	\$15.33
Dental Assistants	\$14.85
Medical Assistants	\$14.10
Physical Therapist Aides	\$13.42
Pharmacy Technicians	\$13.37
Personal Care Aides	\$12.31
Nursing Assistants	\$12.13
Home Health Aides	\$11.48
Orderlies	\$10.43
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012, the number of licensed RNs increased by nearly 400, or 8%. NPs experienced the highest percentage increase in the North Country region (28%), followed by speech-language pathologists (25%) and dental hygienists (23%) during the same time period (Exhibit 136).

**Exhibit 136. Number of Licensed Individuals in Selected Health Occupations
in the North Country Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	4,878	4,979	5,082	5,165	5,260	382	7.8%
Licensed Practical Nurses	2,607	2,604	2,591	2,674	2,679	72	2.8%
Nurse Practitioners	203	215	226	238	260	57	28.1%
Social Workers	342	366	375	383	397	55	16.1%
Speech-Language Pathologists	201	218	226	237	252	51	25.4%
Pharmacists	316	326	336	346	366	50	15.8%
Dental Hygienists	195	205	225	235	240	45	23.1%
Physical Therapists	278	292	301	301	316	38	13.7%
Physician Assistants	180	191	191	200	211	31	17.2%
Clinical Laboratory Technologists	239	254	245	249	259	20	8.4%
Occupational Therapists	123	129	132	136	139	16	13.0%
Respiratory Therapists	69	69	69	79	81	12	17.4%
Dietitians/Nutritionists	74	77	80	81	81	7	9.5%
Physical Therapy Assistants	150	147	151	151	157	7	4.7%
Clinical Laboratory Technicians	64	77	77	72	70	6	9.4%
Occupational Therapy Assistants	84	84	84	82	85	1	1.2%

Source: NYS Education Department, Office of Professions

Demand for Health Workers

Hospitals

Hospitals in the North Country region had the most difficulty recruiting clinical laboratory technologists, followed by PAs and speech-language pathologists. CNAs were the most difficult to retain in hospitals across North Country, followed by newly licensed RNs (Exhibit 137).

**Exhibit 137. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the North Country Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	2.7	2.0	0%	0%	0%
Certified Nursing Aides	2.0	3.0	25%	25%	25%
Clinical Laboratory Technicians	3.3	2.0	67%	0%	67%
Clinical Laboratory Technologists	4.3	2.3	100%	0%	100%
HIT Staff	2.0	1.0	0%	0%	0%
Licensed Clinical Social Workers	2.7	2.0	33%	33%	33%
Licensed Practical Nurses	1.8	1.5	25%	0%	0%
Medical Assistants	1.5	1.5	0%	0%	0%
Medical Coders	3.0	2.0	50%	0%	25%
Nurse Practitioners	3.5	2.3	25%	25%	100%
Occupational Therapists	3.5	2.3	50%	0%	100%
Pharmacists	2.7	2.3	33%	33%	0%
Physical Therapists	3.0	1.8	50%	0%	75%
Physician Assistants	3.8	2.3	50%	25%	100%
Radiological Technicians	2.0	2.0	0%	0%	0%
Radiological Technologists	1.8	1.8	0%	0%	0%
Registered Nurses					
Newly Licensed RNs	1.8	2.7	25%	0%	25%
Experienced RNs	3.3	2.0	25%	0%	50%
Nurse Managers	2.8	2.3	0%	25%	0%
Speech-Language Pathologists	3.7	2.0	33%	0%	100%

- Hospitals in the North Country region reported plans to expand ambulatory services, particularly primary care and rehabilitation services, with increased need for RNs.

Nursing Homes

Nursing homes in the North Country region reported the most difficulty recruiting directors of nursing, speech-language pathologists, and nurse managers. CNAs and speech-language pathologists were cited as the most difficult to retain (Exhibit 138).

**Exhibit 138. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the North Country Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	3.4	3.4	50%	50%	10%	10%
Clerical	1.9	1.8	25%	25%	0%	50%
Dietitians/Nutritionists	3.3	1.9	67%	17%	17%	33%
Licensed Practical Nurses	3.4	2.5	63%	38%	25%	0%
Medical Billers	3.3	2.1	67%	17%	17%	33%
Occupational Therapists	4.0	2.3	86%	29%	14%	14%
Occupational Therapy Assistants	3.7	2.6	71%	43%	14%	14%
Personal Care Assistants	1.5	2.7	0%	0%	0%	100%
Physical Therapists	3.7	2.6	67%	50%	17%	17%
Physical Therapy Assistants	3.0	2.6	50%	50%	0%	25%
Registered Nurses						
Newly Licensed RNs	2.7	2.9	57%	43%	0%	14%
Experienced RNs	4.0	2.8	67%	56%	22%	11%
MDS Coordinators	4.0	2.7	50%	33%	0%	33%
Nurse Managers	4.4	2.7	50%	38%	13%	25%
Directors of Nursing	4.7	2.4	63%	38%	25%	38%
Rec. Therapists/Activities Dirs.	3.3	2.8	25%	50%	0%	50%
Respiratory Therapists	4.0	2.8	50%	50%	0%	25%
Social Workers						
Licensed Clinical SWs	4.1	2.4	67%	44%	11%	22%
Licensed Master's SWs	4.0	2.7	67%	50%	0%	17%
Speech-Language Pathologists	4.6	3.4	67%	67%	17%	17%

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

- More than a half of nursing homes reported difficulty hiring RNs, LPNs, and CNAs for overnight and weekend shifts.
- Eighty percent (80%) of nursing homes used contract agency staff; and 30% used per diem staff.
- Half (50%) of nursing homes were not planning to expand or reduce services next year, while 30% reported plans to expand services.

Home Health Care Agencies

Home health care agencies in the North Country region reported the most difficulty recruiting personal care aides/homemakers, followed by LCSWs, and LMSWs. Home health aides were the most difficult to retain, followed by LCSWs, LMSWs, experienced RNs, and speech-language pathologists (Exhibit 139).

Exhibit 139. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the North Country Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.8	3.5	67%	0%	33%	0%
Home Health Aides	3.0	5.0	N/A	N/A	N/A	N/A
Licensed Practical Nurses	3.0	2.0	0%	0%	100%	0%
Occupational Therapists	4.0	3.5	100%	0%	0%	0%
Personal Care Aides/Homemakers	5.0	N/A	N/A	N/A	N/A	N/A
Physical Therapists	3.4	3.5	100%	0%	0%	0%
Registered Nurses						
Newly Licensed RNs	3.0	2.7	100%	0%	0%	0%
Experienced RNs	4.2	3.8	0%	100%	100%	0%
Respiratory Therapists	3.5	3.5	100%	0%	0%	0%
Social Workers						
Licensed Clinical SWs	4.8	4.0	67%	33%	33%	0%
Licensed Master's SWs	4.5	3.8	75%	25%	25%	0%
Speech-Language Pathologists	4.0	3.8	100%	0%	0%	0%

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

- One-half of home health care agencies (50%) reported difficulty hiring part-time workers.
- Sixty percent (60%) indicated difficulty hiring bilingual workers. Spanish was the language most needed.
- Sixty-seven percent (67%) reported difficulty hiring workers for off-shifts.
- Eighty-three percent (83%) of home health care agencies reported using contract agency staff, while 33% used per diem staff.
- One-half (50%) anticipated no change in services, while 33% anticipated expansion in services in the coming year.

FQHCs

The response rates for FQHCs in the Capital District, Mohawk Valley, and North Country regions were too low to analyze separately so the responses from these regions were combined. FQHCs in this combined region reported the most difficulty recruiting ob/gyns, geriatric NPs, psychiatrists, and LMSWs and reported the most difficulty retaining CNAs, LPNs, substance abuse counselors, case managers, community health workers, and patient health navigators (Exhibit 140).

Exhibit 140. Recruitment and Retention Difficulties for FQHCs in Selected Health Occupations in the Capital District, Mohawk Valley, and North Country Regions, 2013

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	3.8	1.9
	Internal Medicine Physicians	4.5	2.0
	Ob/Gyn Physicians	5.0	N/A
	Pediatric Physicians	3.3	1.5
	Adult Nurse Practitioners	3.5	2.5
	Family Nurse Practitioners	3.2	2.1
	Geriatric Nurse Practitioners	5.0	2.0
	Pediatric Nurse Practitioners	N/A	1.0
	Midwives	3.7	2.7
	Physician Assistants	2.8	1.7
Nursing	Certified Nurse Aids/Assistants	1.3	3.0
	Licensed Practical Nurses	2.0	3.0
	Registered Nurses	2.5	2.7
	Medical Assistants	1.8	2.5
Behavioral Health	Psychiatrists	5.0	2.0
	Psychiatric Nurse Practitioners	4.7	2.0
	Psychologists	N/A	2.0
	Substance Abuse Counselors	4.0	3.0
	Licensed Clinical Social Workers	4.0	2.0
	Licensed Master Social Workers	5.0	2.0
Oral Health	Dental Assistants/Aides/Techs	2.4	2.6
	Dental Hygienists	1.8	1.8
	Dentists	4.2	2.8
Ancillary	Care Coordinators	2.5	2.8
	Case Managers	2.3	3.0
	Community Health Workers	2.5	3.0
	Health Educators	N/A	N/A
	HIV Counselors	N/A	N/A
	Nutritionists/Nutrition Educators	4.0	2.0
	Patient Health Navigators	2.0	3.0

- Eighty percent (80%) of FQHCs indicated plans to expand services and two-thirds of them expected an increase in dental services. None indicated plans to reduce services.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the North Country region will be for personal and home care aides (140), RNs (120), and home health aides (100) (Exhibit 141).

**Exhibit 141. Employment Projections for Selected Health Occupations
in the North Country Region, 2010-2020⁶⁸**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Personal and Home Care Aides	2,480	3,630	1,150	46.4%	140
Registered Nurses	3,850	4,310	460	11.9%	120
Home Health Aides	2,220	2,930	710	32.0%	100
Licensed Practical and Licensed Vocational Nurses	1,510	1,640	130	8.6%	50
Nursing Aides, Orderlies, and Attendants	2,070	2,230	160	7.7%	50
Social Workers	690	740	50	7.2%	20
Pharmacists	380	450	70	18.4%	20
Pharmacy Technicians	290	350	60	20.7%	20
Dental Assistants	400	470	70	17.5%	20
Medical Assistants	350	430	80	22.9%	20
Medical and Health Service Managers	500	530	30	6.0%	10
Clinical, Counseling, and School Psychologists	270	290	20	7.4%	10
Physical Therapists	290	350	60	20.7%	10
Emergency medical Technicians and Paramedics	190	240	50	26.3%	10
Psychiatric Aides	690	700	10	1.4%	10
Dietitians and Nutritionists	120	140	20	16.7%	0
Physician Assistants	190	220	30	15.8%	0
Occupational Therapists	180	200	20	11.1%	0
Respiratory Therapists	80	100	20	25.0%	0
Speech-Language Pathologists	210	240	30	14.3%	0
Medical and Clinical Laboratory Technologists	210	230	20	9.5%	0
Medical and Clinical Laboratory Technicians	100	100	0	0.0%	0
Dental Hygienists	160	200	40	25.0%	0
Cardiovascular Technologists and Technicians	50	60	10	20.0%	0
Diagnostic Medical Sonographers	70	90	20	28.6%	0
Radiologic Technologists and Technicians	250	290	40	16.0%	0
Surgical Technologists	70	70	0	0.0%	0
Medical Records and Health Information Technicians	190	200	10	5.3%	0

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

⁶⁸ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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 was less racially and ethnically diverse than New York as a whole. The Southern Tier region had a higher percentage of people with high school degrees and associate degrees and a lower percentage of people with a bachelor's degree or higher, compared to the state overall (Exhibit 142).

Exhibit 142. Selected Population Characteristics in the Southern Tier Region, 2008-2012
(5-year Average)⁶⁹

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	657,693	N/A	N/A
Population Under 100% FPL Level	102,925	15.6%	14.5%
Population Under 200% FPL Level	214,797	32.7%	30.2%
Population Age Birth-17	138,497	21.1%	22.5%
Population Age 65 and older	101,316	15.4%	13.4%
Population Female Age 15-44	128,036	19.5%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	562	2.1%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	5,964	9.7%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	1,048	2.7%	4.5%
Black/African American, non-Hispanic	20,713	3.1%	14.5%
Hispanic/Latino	18,043	2.7%	17.4%
Asian/Pacific Islander, non-Hispanic	19,038	2.9%	7.3%
American Indian/Native Alaskan, non-Hispanic	1,442	0.2%	0.2%
Two or More/Other	12,267	1.9%	1.9%
Less than High School Education	49,519	11.3%	15.4%
High School or Equivalent	226,026	51.8%	43.9%
Associate Degree	49,440	11.3%	8.2%
Bachelor's Degree	57,228	13.1%	18.5%
Master's Degree or Higher	54,095	12.4%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

⁶⁹ Education levels and rates are based on individuals age 25 and older.

Health Status

The Southern Tier region had higher rates of total deaths, deaths due to cancer, deaths due to diabetes, and deaths due to heart disease than New York as a whole and upstate New York. The Southern Tier region had a lower overall birth rate, but had substantially higher teen birth rate than the state overall or upstate New York. In addition, the Southern Tier region had a higher rate of ED visits than the state as a whole or upstate New York (Exhibit 143).

**Exhibit 143. Selected Health Indicators in the Southern Tier Region, 2009-2011
(3-year Average)⁷⁰**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	6,256	957.7	748.3	843.7
Deaths Due to Heart Disease, per 100,000	1,720	263.2	230.9	240.2
Deaths Due to All Cancers, per 100,000	1,439	218.6	181.2	202.9
Deaths Due to Diabetes, per 100,000	160	24.4	19.2	18.3
Total Births, per 1,000 females, age 15-44	6,614	10.1	12.5	11.0
Teen Births, per 1,000 females, age 15-19	554	8.4	6.2	6.5
Low-birthweight Births, as a percent of total births	490	7.4	8.2	7.8
Late/No Prenatal Care, as a percent of total births	245	3.8	5.6	4.1
Infant Deaths, per 1,000 live births	37	5.6	5.1	5.6
Total Hospitalizations, per 10,000	72,493	1,109.7	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	9,189	140.7	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	434	8.4	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	172	12.7	28.3	15.9
Diabetes Hospitalizations, ⁷¹ per 10,000	929	14.2	20.1	15.7
CLRD Hospitalizations, ⁷² per 10,000	2,515	38.5	39.0	35.4
Heart Disease Hospitalizations, per 10,000	7,249	111.0	120.6	123.1
Total ED Visits, per 10,000	271,519	4,156.3	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

⁷⁰ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

⁷¹ Primary diagnosis only.

⁷² Chronic Lower Respiratory Disease.

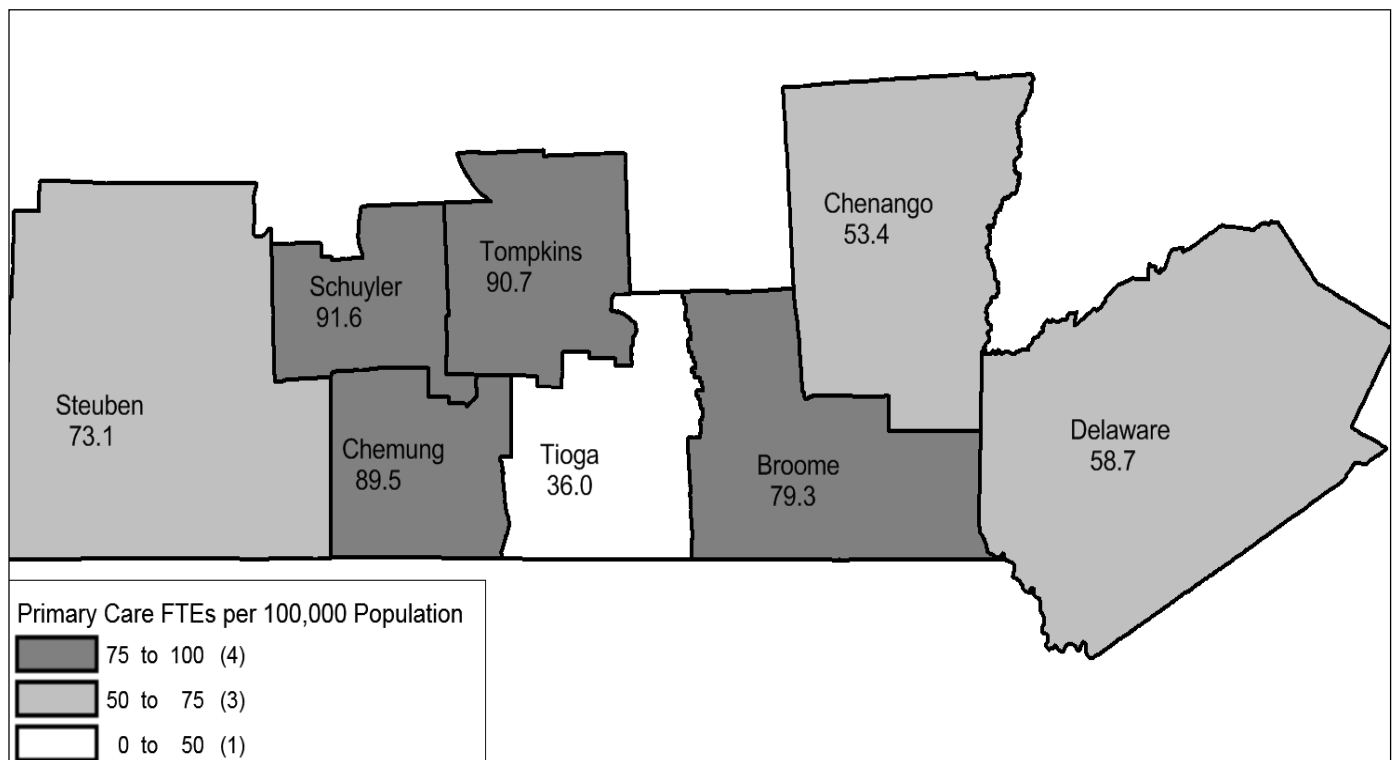
Primary Care Physicians

There were about 500 primary care physician FTEs practicing in the Southern Tier region. Forty-three percent (43%) were in family or general practice and 33% were in general internal medicine. There were 75 primary care physicians per 100,000 population in the Southern Tier region, which was below the statewide rate of 84.5. Schuyler County had the highest number with 91.6 primary care physicians per 100,000 population, followed by Tompkins County with nearly 90.7 per 100,000. Tioga County had the lowest with 36.0 per 100,000 (Exhibits 144 and 145).

Exhibit 144. Primary Care FTEs in the Southern Tier Region, by Specialty, 2013⁷³

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	214	32.6
Internal Medicine (General)	164	25.0
Geriatrics	0	0.0
Obstetrics/Gynecology	59	43.3
Pediatrics (General)	56	43.7
Total	493	75.0

Exhibit 145. Number of Primary Care FTEs per 100,000 Population in the Southern Tier Region, by County, 2013



⁷³ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate, which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Between 2008 and 2012, health sector employment throughout the Southern Tier region grew by more than 1,200 jobs, or over 4%. Employment in home health care had the largest percentage increase, growing by 118 jobs, or nearly 12%, and employment in hospitals increased by 987 jobs, or nearly 8%. Employment in nursing home and personal care facilities also grew by 111 jobs, or almost 2%, during the same period (Exhibit 146).

**Exhibit 146. Number of Health Care Jobs in the Southern Tier Region,
by Setting, 2008-2012**

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	12,672	12,906	12,943	13,319	13,659	987	7.8%
Ambulatory Care (Excluding Home Health)	7,572	7,550	7,703	7,740	7,586	14	0.2%
Nursing Homes and Personal Care Facilities	6,595	6,637	6,901	6,733	6,706	111	1.7%
Home Health Care	1,013	1,079	1,102	1,133	1,131	118	11.6%
Total	27,852	28,173	28,648	28,925	29,082	1,230	4.4%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations is reported in Exhibit 147. RNs in the Southern Tier region accounted for the most jobs in the first quarter of 2013 (7,710), followed by nursing assistants (4,270) and personal care aides (2,440). Physical therapist aides, occupational therapy assistants, and nuclear medicine technologists held the fewest jobs (80, 60, and 50, respectively).

Wages in selected health occupations for the Southern Tier region are reported in Exhibit 148. These wages were based on the data for the first quarter of 2013. Pharmacists earned the highest per hour wage in 2013 (\$60.15), followed by PAs (\$43.84) and NPs (\$42.99). Home health aides (\$11.96) were the lowest wage earners among the selected health care occupations in the Southern Tier region.

**Exhibit 147. Number of Jos in Selected Health Occupations
in the Southern Tier Region, 2013**

Occupation	Employment
Registered Nurses	7,710
Nursing Assistants	4,270
Personal Care Aides	2,440
Licensed Practical and Licensed Vocational Nurses	1,840
Home Health Aides	1,730
Radiologic Technologists and Technicians	670
Dental Assistants	630
Pharmacists	610
Medical Assistants	540
Pharmacy Technicians	480
Physical Therapists	470
Nurse Practitioners	460
Dental Hygienists	410
Medical Records and Health Information Technicians	360
Speech-Language Pathologists	350
Medical and Clinical Laboratory Technologists	340
Medical Secretaries	320
Respiratory Therapists	310
Occupational Therapists	300
Surgical Technologists	290
Orderlies	250
Healthcare Social Workers	240
Physician Assistants	230
Mental Health and Substance Abuse Social Workers	210
Physical Therapist Assistants	180
Cardiovascular Technologists and Technicians	170
Dietitians and Nutritionists	160
Physical Therapist Aides	80
Occupational Therapy Assistants	60
Nuclear Medicine Technologists	50
Medical and Clinical Laboratory Technicians	N/A
Nurse Midwives	N/A
Dietetic Technicians	N/A
Medical and Health Services Managers	N/A
Certified Registered Nurse Anesthetists	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 148. Average per hour Wage in Selected Health Occupations
in the Southern Tier Region, 2013**

Occupation	Average wage per hour
Pharmacists	\$60.15
Physician Assistants	\$43.84
Nurse Practitioners	\$42.99
Nurse Midwives	\$42.51
Nuclear Medicine Technologists	\$37.35
Physical Therapists	\$37.29
Occupational Therapists	\$33.77
Speech-Language Pathologists	\$33.20
Registered Nurses	\$30.62
Medical and Clinical Laboratory Technologists	\$30.25
Respiratory Therapists	\$29.73
Radiologic Technologists and Technicians	\$27.77
Dental Hygienists	\$27.35
Dietitians and Nutritionists	\$27.00
Cardiovascular Technologists and Technicians	\$26.76
Healthcare Social Workers	\$25.64
Physical Therapist Assistants	\$24.82
Mental Health and Substance Abuse Social Workers	\$24.23
Medical and Clinical Laboratory Technicians	\$23.98
Occupational Therapy Assistants	\$22.41
Surgical Technologists	\$21.05
Licensed Practical and Licensed Vocational Nurses	\$18.28
Medical Records and Health Information Technicians	\$17.51
Dietetic Technicians	\$15.42
Dental Assistants	\$15.20
Physical Therapist Aides	\$14.47
Nursing Assistants	\$14.17
Medical Secretaries	\$14.13
Pharmacy Technicians	\$13.75
Medical Assistants	\$13.66
Orderlies	\$13.40
Personal Care Aides	\$12.61
Home Health Aides	\$11.96
Certified Registered Nurse Anesthetists	N/A
Medical and Health Services Managers	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012, the number of licensed RNs increased in the Southern Tier region by 376, or 5%, and the number of social workers grew by more than 100, or 9%. Based on percentage increases, PAs grew the fastest at 21%, followed by speech-language pathologists (18%) and NPs (15%) (Exhibit 149).

**Exhibit 149. Number of Licensed Individuals in Selected Health Occupations
in the Southern Tier Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	7,564	7,761	7,854	7,874	7,940	376	5.0%
Social Workers	1,206	1,243	1,299	1,315	1,313	107	8.9%
Licensed Practical Nurses	3,032	3,080	3,049	3,113	3,107	75	2.5%
Pharmacists	496	507	540	546	568	72	14.5%
Nurse Practitioners	307	326	338	349	361	54	17.6%
Physician Assistants	436	454	458	463	479	43	9.9%
Physical Therapists	434	450	456	461	476	42	9.7%
Occupational Therapists	194	197	210	227	235	41	21.1%
Respiratory Therapists	271	280	278	284	300	29	10.7%
Dental Hygienists	322	369	352	351	350	28	8.7%
Speech-Language Pathologists	198	214	215	206	221	23	11.6%
Dietitians/Nutritionists	458	470	473	474	481	23	5.0%
Occupational Therapy Assistants	138	144	142	139	146	8	5.8%
Physical Therapy Assistants	53	53	53	51	52	-1	-1.9%
Clinical Laboratory Technicians	96	118	102	88	94	-2	-2.1%
Clinical Laboratory Technologists	154	155	158	158	152	-2	-1.3%

Source: NYS Education Department, Office of Professions

Demand for Health Workers

Hospitals

Hospitals in the Southern Tier reported the most difficulty recruiting speech-language pathologists, followed by occupational therapists, physical therapists, medical coders, pharmacists, experienced RNs, and nurse managers. Hospitals in this region indicated they had the most difficulty retaining CNAs, followed by HIT staff, and NPs (Exhibit 150).

**Exhibit 150. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Southern Tier Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	3.0	2.7	33%	0%	33%
Certified Nursing Aides	2.6	3.4	29%	57%	14%
Clinical Laboratory Technicians	2.6	2.6	60%	20%	0%
Clinical Laboratory Technologists	3.3	2.9	57%	29%	29%
HIT Staff	2.8	3.3	50%	0%	0%
Licensed Clinical Social Workers	2.4	2.4	20%	40%	40%
Licensed Practical Nurses	2.0	1.9	14%	29%	14%
Medical Assistants	2.3	3.0	0%	25%	0%
Medical Coders	3.6	2.0	80%	40%	20%
Nurse Practitioners	3.2	3.3	33%	33%	50%
Occupational Therapists	4.0	3.0	67%	17%	33%
Pharmacists	3.6	2.6	60%	40%	100%
Physical Therapists	3.8	2.8	67%	33%	33%
Physician Assistants	2.7	2.7	29%	14%	29%
Radiological Technicians	1.0	2.0	0%	200%	0%
Radiological Technologists	1.9	2.3	0%	29%	14%
Registered Nurses					
Newly Licensed RNs	1.6	2.7	0%	29%	14%
Experienced RNs	3.6	2.9	43%	43%	57%
Nurse Managers	3.6	2.6	57%	29%	71%
Speech-Language Pathologists	4.2	3.0	40%	20%	20%

- Hospitals in the Southern Tier region reported plans to expand ambulatory services, particularly primary care services, with an increased need for RNs.

Nursing Homes

Nursing homes in the Southern Tier region indicated that experienced RNs were the most difficult to recruit, followed by physical therapists, speech-language pathologists, and occupational therapy assistants. CNAs were the most difficult to retain, followed by experienced RNs, LPNs, and physical therapists (Exhibit 151).

**Exhibit 151. Recruitment and Retention Difficulties for Nursing Homes
in Selected Health Occupations in the Southern Tier Region, 2013**

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides.	3.7	4.1	47%	53%	40%	7%
Clerical	1.7	1.8	0%	20%	40%	60%
Dietitians/Nutritionists	2.9	2.5	43%	57%	0%	14%
Licensed Practical Nurses	3.5	3.7	47%	47%	33%	0%
Medical Billers	2.5	1.9	40%	40%	0%	40%
Occupational Therapists	3.7	3.1	67%	67%	33%	17%
Occupational Therapy Assts.	4.0	3.4	67%	67%	17%	17%
Personal Care Assistants	2.7	3.3	20%	0%	40%	40%
Physical Therapists	4.2	3.6	56%	67%	44%	11%
Physical Therapy Assistants	3.4	3.0	50%	75%	25%	25%
Registered Nurses						
Newly Licensed RNs	3.3	3.8	40%	70%	50%	10%
Experienced RNs	4.5	4.0	64%	64%	57%	0%
MDS Coordinators	3.5	2.4	60%	40%	40%	0%
Nurse Managers	3.8	3.3	56%	56%	33%	0%
Directors of Nursing	3.7	2.8	50%	63%	50%	0%
Rec. Therapists/Activities Dirs.	2.1	1.5	50%	25%	25%	50%
Respiratory Therapists	3.5	3.0	33%	33%	33%	0%
Social Workers						
Licensed Clinical SWs	3.3	2.3	20%	0%	40%	60%
Licensed Master's SWs	2.8	2.3	0%	0%	67%	67%
Speech-Language Pathologists	4.1	3.3	83%	83%	50%	17%

Other information reported by nursing homes in the Southern Tier region included:

- Nursing homes reported difficulty hiring CNAs for all off-shifts (evenings, nights, and weekends) and RNs for evening and weekend shifts.
- Sixty percent (60%) of nursing homes used contract agency staff, and 87% used per diem staff.

Home Health Care Agencies

Home health care agencies in the Southern Tier region indicated that personal care aides were the most difficult to recruit, followed by speech-language pathologists, LCSWs, occupational therapists, and physical therapists. Experienced RNs were the most difficult to retain, followed by newly licensed RNs, personal care aides, and respiratory therapists (Exhibit 152).

Exhibit 152. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Southern Tier Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.2	2.2	60%	40%	0%	20%
Home Health Aides	3.0	2.8	60%	40%	20%	20%
Licensed Practical Nurses	2.8	2.6	33%	33%	33%	33%
Occupational Therapists	3.6	2.4	100%	20%	20%	0%
Personal Care Aides/Homemakers	4.0	3.0	100%	0%	0%	0%
Physical Therapists	3.6	2.8	80%	20%	20%	0%
Registered Nurses						
Newly Licensed RNs	2.0	3.0	67%	33%	67%	33%
Experienced RNs	3.3	3.1	50%	67%	50%	17%
Respiratory Therapists	3.5	3.0	50%	50%	0%	0%
Social Workers						
Licensed Clinical SWs	3.7	2.7	50%	50%	0%	50%
Licensed Master's SWs	3.0	2.7	33%	67%	0%	33%
Speech-Language Pathologists	3.8	2.7	67%	33%	0%	0%

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

- One-half reported difficulty hiring part-time workers.
- Over half (60%) indicated difficulty hiring bilingual workers, with Spanish reported as the language most commonly needed.
- Sixty-seven percent (67%) indicated difficulty hiring workers for off-shifts.
- One-half (50%) of home health agencies reported having used contract agency staff, while 83% used per diem staff.

FQHCs

The response rates for FQHCs in the Southern Tier and Central New York regions were too low to analyze separately so the responses from these regions were combined. FQHCs in this combined region reported the most difficulty recruiting internal medicine physicians, psychiatrists, and psychiatric NPs and reported the most difficulty retaining CNAs and family NPs (Exhibit 153).

**Exhibit 153. Recruitment and Retention Difficulties for FQHCs
in Selected Health Occupations in the Central New York and Southern Tier Regions, 2013**

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	4.2	2.2
	Internal Medicine Physicians	5.0	2.0
	Ob/Gyn Physicians	N/A	N/A
	Pediatric Physicians	3.6	1.8
	Adult Nurse Practitioners	4.0	2.0
	Family Nurse Practitioners	3.3	2.7
	Geriatric Nurse Practitioners	N/A	N/A
	Pediatric Nurse Practitioners	N/A	N/A
	Midwives	N/A	N/A
	Physician Assistants	3.2	2.0
Nursing	Certified Nurse Aids/Assistants	2.0	3.0
	Licensed Practical Nurses	2.3	2.2
	Registered Nurses	3.5	2.5
	Medical Assistants	2.5	1.8
Behavioral Health	Psychiatrists	5.0	1.0
	Psychiatric Nurse Practitioners	5.0	1.0
	Psychologists	N/A	N/A
	Substance Abuse Counselors	3.0	1.0
	Licensed Clinical Social Workers	3.0	1.3
	Licensed Master Social Workers	N/A	N/A
Oral Health	Dental Assistants/Aides/Techs	2.3	2.3
	Dental Hygienists	1.3	1.8
	Dentists	3.7	2.2
Ancillary	Care Coordinators	2.7	2.0
	Case Managers	2.0	2.0
	Community Health Workers	2.3	2.0
	Health Educators	2.0	2.0
	HIV Counselors	N/A	N/A
	Nutritionists/Nutrition Educators	N/A	N/A
	Patient Health Navigators	2.0	2.0

- All FQHCs in these regions reported plans to expand services, primarily in medical and dental services.
- All FQHCs also reported difficulty hiring bilingual staff, citing Spanish as the language most commonly needed.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Southern Tier region will be for RNs (210), home health aides (130), and personal and home care aides (110) (Exhibit 154).

**Exhibit 154. Employment Projections for Selected Health Occupations
in the Southern Tier Region, 2010-2020⁷⁴**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Registered Nurses	8,160	9,000	840	10.3%	210
Home Health Aides	3,150	4,050	900	28.6%	130
Personal and Home Care Aides	2,310	3,190	880	38.1%	110
Nursing Aides, Orderlies, and Attendants	5,430	5,650	220	4.1%	90
Licensed Practical and Licensed Vocational Nurses	2,230	2,400	170	7.6%	80
Social Workers	1,650	1,760	110	6.7%	40
Medical and Health Service Managers	690	740	50	7.2%	30
Pharmacists	640	730	90	14.1%	30
Occupational Therapists	330	380	50	15.2%	20
Physical Therapists	470	570	100	21.3%	20
Speech-Language Pathologists	380	430	50	13.2%	20
Dental Hygienists	510	630	120	23.5%	20
Radiologic Technologists and Technicians	750	870	120	16.0%	20
Emergency medical Technicians and Paramedics	500	620	120	24.0%	20
Pharmacy Technicians	470	560	90	19.1%	20
Dental Assistants	660	760	100	15.2%	20
Medical Assistants	450	530	80	17.8%	20
Clinical, Counseling, and School Psychologists	440	470	30	6.8%	10
Dietitians and Nutritionists	180	190	10	5.6%	10
Physician Assistants	270	310	40	14.8%	10
Respiratory Therapists	300	340	40	13.3%	10
Medical and Clinical Laboratory Technologists	370	400	30	8.1%	10
Surgical Technologists	300	320	20	6.7%	10
Medical Records and Health Information Technicians	430	470	40	9.3%	10
Psychiatric Aides	630	650	20	3.2%	10
Cardiovascular Technologists and Technicians	180	210	30	16.7%	-
Diagnostic Medical Sonographers	120	160	40	33.3%	-

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

⁷⁴ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. 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 was less racially and ethnically diverse but had similar age structure and poverty levels compared to New York as a whole. The Western New York region had a lower percentage of people with a bachelor's degree or higher than statewide but had higher percentages of its population with a high school education or equivalent or associate degrees (Exhibit 155).

Exhibit 155. Selected Population Characteristics in the Western New York Region, 2008-2012 (5-year Average)⁷⁵

Population Characteristics	Region		Statewide Percent
	Number	Percent	
Total population	1,400,237	N/A	N/A
Population Under 100% FPL Level	203,723	14.5%	14.5%
Population Under 200% FPL Level	434,315	31.0%	30.2%
Population Age Birth-17	307,971	22.0%	22.5%
Population Age 65 and older	219,998	15.7%	13.4%
Population Female Age 15-44	268,869	19.2%	21.0%
Women Age 15-19 who had a birth in past 12 mos.	1,166	2.3%	1.7%
Women Age 20-34 who had a birth in past 12 mos.	11,607	9.0%	8.5%
Women Age 35-44 who had a birth in past 12 mos.	3,110	3.5%	4.5%
Black/African American, non-Hispanic	137,921	9.8%	14.5%
Hispanic/Latino	55,323	4.0%	17.4%
Asian/Pacific Islander, non-Hispanic	27,926	2.0%	7.3%
American Indian/Native Alaskan, non-Hispanic	9,122	0.7%	0.2%
Two or More/Other	22,063	1.6%	1.9%
Less than High School Education	108,233	11.4%	15.4%
High School or Equivalent	481,093	50.8%	43.9%
Associate Degree	107,143	11.3%	8.2%
Bachelor's Degree	139,141	14.7%	18.5%
Master's Degree or Higher	110,556	11.7%	14.0%

Source: U.S. Census, American Community Survey, 2008-2012 (5-year Average)

⁷⁵ Education levels and rates are based on individuals age 25 and older.

Health Status

The Western New York region had substantially higher rates of total deaths, deaths due to all cancers, deaths due to heart disease, and deaths due to diabetes than the state as a whole or upstate New York. While the overall birth rate was lower in the Western New York region than in the state overall, the teen birth rate was higher. The rate of infant deaths was also higher in the Western New York region than statewide or in upstate New York. Additionally, the rate of ED visits was also higher in the Western New York region than statewide or in upstate New York (Exhibit 156).

**Exhibit 156. Selected Health Indicators in the Western New York Region, 2009-2011
(3-year Average)⁷⁶**

Health Indicator	Region		Statewide Rate	Upstate Rate
	Number	Rate		
Total Deaths, per 100,000	14,380	1,031.3	748.3	843.7
Deaths Due to Heart Disease, per 100,000	3,969	284.6	230.9	240.2
Deaths Due to All Cancers, per 100,000	3,257	232.6	181.2	202.9
Deaths Due to Diabetes, per 100,000	384	27.5	19.2	18.3
Total Births, per 1,000 females, age 15-44	14,845	10.6	12.5	11.0
Teen Births, per 1,000 females, age 15-19	1,326	8.9	6.2	6.5
Low-birthweight Births, as a percent of total births	1,194	8.1	8.2	7.8
Late/No Prenatal Care, as a percent of total births	689	5.0	5.6	4.1
Infant Deaths, per 1,000 live births	108	7.3	5.1	5.6
Total Hospitalizations, per 10,000	171,389	1,229.2	1,280.9	1,214.7
Preventable Hospitalizations, per 10,000	18,731	134.3	145.2	137.9
Adult Asthma Hospitalizations, per 10,000	1,072	9.8	17.5	11.2
Pediatric Asthma Hospitalizations, per 10,000	592	19.7	28.3	15.9
Diabetes Hospitalizations, ⁷⁷ per 10,000	2,467	17.8	20.1	15.7
CLRD Hospitalizations, ⁷⁸ per 10,000	5,129	36.8	39.0	35.4
Heart Disease Hospitalizations, per 10,000	18,027	129.3	120.6	123.1
Total ED Visits, per 10,000	561,339	4,026.0	3,954.5	3,638.6

Source: New York State Community Health Indicator Reports, 2009-2011 (3-year Average)

⁷⁶ All rates are based on total population unless otherwise noted. See the description of the New York State Community Health Indicator Reports on page 10 for details.

⁷⁷ Primary diagnosis only.

⁷⁸ Chronic Lower Respiratory Disease.

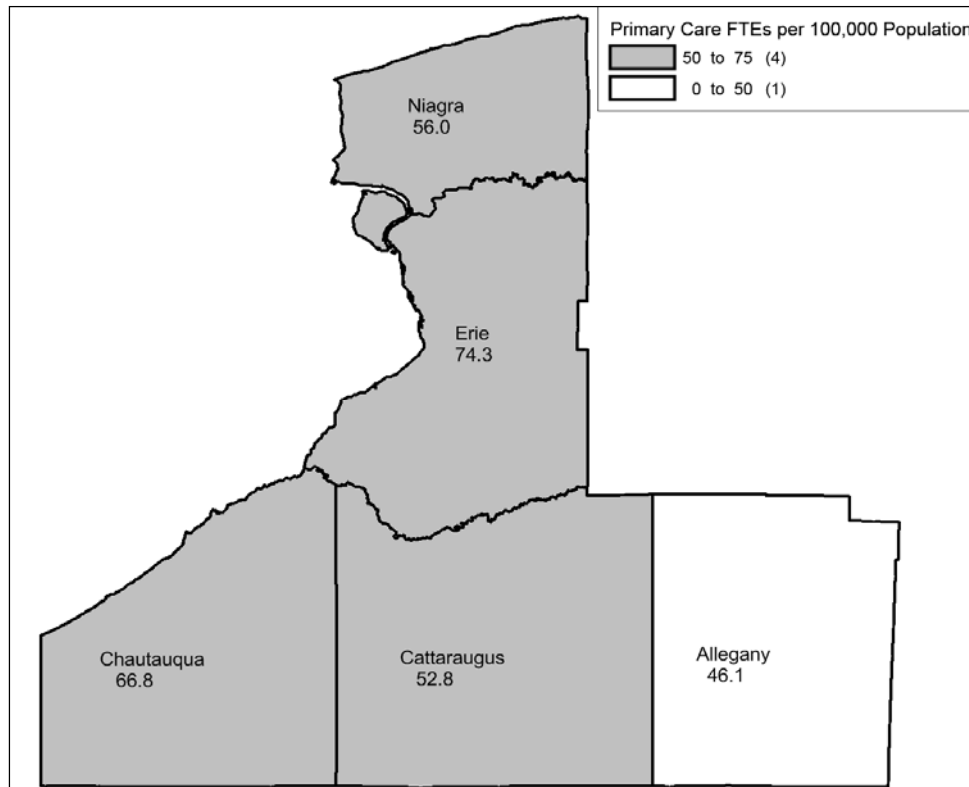
Primary Care Physicians

There were over 950 primary care physician FTEs practicing in the Western New York region. Thirty-five percent (35%) were in general internal medicine and another 34% were in family or general practice. There were 68.5 primary care physicians per 100,000 population in the Western New York region, below the statewide rate of 84.5. Erie County had the highest number with 74.3 primary care physicians per 100,000 population and Allegany County had the lowest with 46.1 per 100,000 (Exhibits 157 and 158).

Exhibit 157. Primary Care FTEs in the Western New York Region, by Specialty, 2013⁷⁹

Specialty	Primary Care FTEs	Per 100,000 Population
Family/General Practice	325	23.3
Internal Medicine (General)	333	23.8
Geriatrics	8	3.6
Obstetrics/Gynecology	111	36.5
Pediatrics (General)	182	68.1
Total	959	68.5

Exhibit 158. Number of Primary Care FTEs per 100,000 Population in the Western New York Region, by County, 2013



⁷⁹ All rates are per 100,000 total population except the obstetrics rate, which is per 100,000 women age 15-44, the pediatrician rate, which is per 100,000 children age birth-17, and the geriatrics rate, which is per 100,000 population age 65 and older.

Employment

Total Health Sector Employment

Between 2008 and 2012, health sector employment throughout the Western New York region grew by a little over 400 jobs or just 0.6%. Over 1,000 jobs were lost in hospitals between 2008 and 2012, though jobs in home health care increased by 675 jobs or almost 15%, and jobs in ambulatory care increased by almost 600 jobs, or 3%. Nursing home and personal care facilities experienced a gain of 191 jobs or about 1% (Exhibit 159).

**Exhibit 159. Number of Health Care Jobs in the Western New York Region,
by Setting, 2008-2012**

Setting	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Hospitals	27,847	27,864	27,348	27,071	26,800	-1,047	-3.8%
Ambulatory Care (Excluding Home Health)	22,370	22,725	23,372	23,640	22,958	588	2.6%
Nursing Home and Personal Care Facilities	15,427	15,655	15,844	15,644	15,618	191	1.2%
Home Health Care	4,597	4,790	4,892	5,030	5,272	675	14.7%
Total	70,241	71,034	71,456	71,384	70,648	407	0.6%

Source: NYS Department of Labor, ES-202

Employment and Wage by Occupation

Employment for selected health occupations is reported in Exhibit 160. RNs in the Western New York region accounted for the most jobs in the first quarter of 2013 (12,970), followed by personal care aides (7,890) and nursing assistants (6,750). Dietetic technicians and nuclear medicine technologists had the fewest jobs (100 and 90 respectively).

Wages in selected health occupations for Western New York are reported in Exhibit 161. These wages were based on the data for the first quarter of 2013. Certified registered nurse anesthetists earned the highest hourly wage in 2013 (\$68.43), followed by pharmacists (\$54.73) and nurse midwives (\$49.91). Orderlies (\$11.95), personal care aides (\$11.47), and home health aides (\$11.30) were the lowest wage earners in the selected health occupations in the Western New York region.

**Exhibit 160. Number of Jos in Selected Health Occupations
in the Western New York Region, 2013**

Occupation	Employment
Registered Nurses	12,970
Personal Care Aides	7,890
Nursing Assistants	6,750
Licensed Practical and Licensed Vocational Nurses	5,010
Home Health Aides	4,960
Pharmacy Technicians	1,690
Medical Secretaries	1,470
Pharmacists	1,460
Medical and Health Services Managers	1,380
Dental Assistants	1,060
Radiologic Technologists and Technicians	1,060
Medical Assistants	1,040
Dental Hygienists	1,040
Physical Therapists	1,030
Speech-Language Pathologists	990
Medical Records and Health Information Technicians	830
Nurse Practitioners	830
Mental Health and Substance Abuse Social Workers	630
Occupational Therapists	630
Healthcare Social Workers	550
Respiratory Therapists	500
Medical and Clinical Laboratory Technologists	430
Physician Assistants	430
Occupational Therapy Assistants	370
Surgical Technologists	320
Physical Therapist Assistants	310
Medical and Clinical Laboratory Technicians	300
Dietitians and Nutritionists	300
Orderlies	180
Cardiovascular Technologists and Technicians	150
Physical Therapist Aides	140
Dietetic Technicians	100
Nuclear Medicine Technologists	90
Certified Registered Nurse Anesthetists	N/A
Nurse Midwives	N/A
Occupational Therapy Aides	N/A

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

**Exhibit 161. Average per hour Wage in Selected Health Occupations
in the Western New York Region, 2013**

Occupation	Average wage per hour
Certified Registered Nurse Anesthetists	\$68.43
Pharmacists	\$54.73
Nurse Midwives	\$49.91
Medical and Health Services Managers	\$44.06
Physician Assistants	\$42.13
Nurse Practitioners	\$41.64
Nuclear Medicine Technologists	\$32.57
Physical Therapists	\$31.87
Speech-Language Pathologists	\$31.48
Registered Nurses	\$31.37
Occupational Therapists	\$30.35
Respiratory Therapists	\$27.10
Medical and Clinical Laboratory Technologists	\$26.91
Dietitians and Nutritionists	\$26.29
Radiologic Technologists and Technicians	\$26.22
Dental Hygienists	\$25.17
Cardiovascular Technologists and Technicians	\$24.95
Surgical Technologists	\$23.62
Healthcare Social Workers	\$23.11
Medical and Clinical Laboratory Technicians	\$21.10
Mental Health and Substance Abuse Social Workers	\$20.99
Medical Records and Health Information Technicians	\$18.99
Physical Therapist Assistants	\$18.92
Dietetic Technicians	\$18.65
Licensed Practical and Licensed Vocational Nurses	\$18.36
Occupational Therapy Assistants	\$18.22
Occupational Therapy Aides	\$17.31
Medical Assistants	\$15.78
Medical Secretaries	\$15.63
Dental Assistants	\$15.17
Physical Therapist Aides	\$14.20
Pharmacy Technicians	\$13.61
Nursing Assistants	\$13.09
Orderlies	\$11.95
Personal Care Aides	\$11.47
Home Health Aides	\$11.30

Source: New York State Department of Labor, Labor Statistics, Occupational Wages

Licensed Health Care Professionals

Between 2008 and 2012 in the Western New York region, the number of licensed RNs increased by over 1,200, or nearly 7%, and the number of social workers grew by more than 300, or 18%. PAs grew the fastest in the Western New York region, increasing by almost 34%, followed by physical therapy assistants (26%), social workers (18%), NPs (16%), speech-language pathologists (15%), and clinical laboratory technicians (15%) (Exhibit 162).

**Exhibit 162. Number of Licensed Individuals in Selected Health Occupations
in the Western New York Region, 2008-2012**

Profession	2008	2009	2010	2011	2012	Change between 2008 and 2012	
						Number	Percent
Registered Nurses	18,011	18,408	18,815	18,876	19,260	1,249	6.9%
Social Workers	1,786	1,829	1,916	2,038	2,108	322	18.0%
Physician Assistants	532	585	622	665	712	180	33.8%
Nurse Practitioners	1,079	1,139	1,164	1,212	1,254	175	16.2%
Speech-Language Pathologists	1,017	1,079	1,105	1,146	1,172	155	15.2%
Pharmacists	1,545	1,584	1,613	1,651	1,694	149	9.6%
Clinical Laboratory Technologists	888	969	988	983	989	101	11.4%
Dental Hygienists	1,045	1,071	1,090	1,131	1,138	93	8.9%
Physical Therapists	1,235	1,255	1,267	1,274	1,323	88	7.1%
Physical Therapy Assistants	279	300	322	337	351	72	25.8%
Respiratory Therapists	428	441	451	455	480	52	12.1%
Occupational Therapists	760	765	767	786	812	52	6.8%
Licensed Practical Nurses	7,085	7,033	7,041	7,182	7,133	48	0.7%
Dietitians/Nutritionists	306	312	318	316	337	31	10.1%
Clinical Laboratory Technicians	169	196	192	196	194	25	14.8%
Occupational Therapy Assistants	613	603	586	602	601	-12	-2.0%

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 care coordinators, followed by medical coders, NPs, occupational therapists, physical therapists, and PAs. Hospitals in Western New York indicated the most difficulty retaining medical assistants, followed by CNAs and LPNs (Exhibit 163).

**Exhibit 163. Recruitment and Retention Difficulties for Hospitals
in Selected Health Occupations in the Western New York Region, 2013**

Occupation	Average Assessment of Difficulty		Percentage of Respondents Indicating Reasons for Difficulties		
	Recruitment	Retention	Shortage of Workers	Salary Levels	Geographic Location
Care Coordinators	4.0	3.3	71%	0%	57%
Certified Nursing Aides	2.0	4.3	25%	0%	25%
Clinical Laboratory Technicians	2.0	2.6	33%	0%	17%
Clinical Laboratory Technologists	4.3	3.0	86%	0%	14%
HIT Staff	3.4	2.9	57%	57%	57%
Licensed Clinical Social Workers	3.1	2.7	25%	0%	13%
Licensed Practical Nurses	2.1	4.0	14%	57%	0%
Medical Assistants	2.7	4.6	17%	67%	0%
Medical Coders	3.9	2.7	88%	0%	25%
Nurse Practitioners	3.9	2.7	14%	57%	29%
Occupational Therapists	3.9	2.7	71%	0%	86%
Pharmacists	2.4	3.0	14%	0%	14%
Physical Therapists	3.9	2.9	75%	0%	75%
Physician Assistants	3.9	3.3	14%	0%	29%
Radiological Technicians	1.7	2.6	67%	0%	0%
Radiological Technologists	2.9	2.9	13%	0%	0%
Registered Nurses					
Newly Licensed RNs	1.0	2.8	0%	0%	0%
Experienced RNs	3.4	3.0	75%	25%	88%
Nurse Managers	1.6	3.1	88%	63%	88%
Speech-Language Pathologists	1.9	1.7	14%	0%	14%

- Hospitals in the Western New York region reported plans to expand ambulatory services, particularly primary care services, with an increased need for RNs and LPNs.

Nursing Homes

Nursing homes in the Western New York region reported the most difficulty recruiting experienced RNs and directors of nursing, followed by MDS coordinators and LPNs. CNAs were the most difficult to retain, followed by personal care assistants, newly licensed RNs, and experienced RNs (Exhibit 164).

Exhibit 164. Recruitment and Retention Difficulties for Nursing Homes in Selected Health Occupations in the Western New York Region, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Certified Nursing Aides	3.2	4.0	29%	71%	36%	50%
Clerical	2.1	2.1	17%	0%	50%	33%
Dietitians/Nutritionists	2.8	2.1	50%	50%	13%	38%
Licensed Practical Nurses	3.4	3.1	40%	67%	33%	27%
Medical Billers	2.8	2.5	43%	29%	43%	29%
Occupational Therapists	3.2	2.6	63%	50%	13%	25%
Occupational Therapy Assts.	2.7	2.6	33%	67%	17%	33%
Personal Care Assistants	3.3	3.3	33%	33%	0%	67%
Physical Therapists	3.2	2.5	50%	50%	38%	25%
Physical Therapy Assistants	2.8	2.5	43%	57%	29%	29%
Registered Nurses						
Newly Licensed RNs	2.5	3.3	40%	50%	40%	50%
Experienced RNs	3.6	3.2	57%	64%	36%	14%
MDS Coordinators	3.5	2.8	67%	50%	33%	33%
Nurse Managers	3.3	3.1	44%	67%	22%	33%
Directors of Nursing	3.6	3.0	36%	46%	18%	27%
Rec. Therapists/Activities Dirs.	2.8	2.4	0%	50%	17%	50%
Respiratory Therapists	2.5	2.0	0%	0%	0%	100%
Social Workers						
Licensed Clinical SWs	3.0	2.4	13%	38%	38%	50%
Licensed Master's SWs	3.2	2.3	29%	43%	43%	43%
Speech-Language Pathologists	3.3	2.9	50%	83%	33%	0%

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

- Almost 41% reported difficulty hiring part-time workers.
- Over seventy percent (71%) of nursing homes reported difficulty hiring RNs, LPNs, and CNAs for evening shifts and RNs for night shifts.
- Almost 41% of nursing homes used contract agency staff, and all of the nursing homes reported having used per diem staff.

Home Health Care Agencies

The number of responses for home health care agencies 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 care agencies in the combined two regions indicated the most difficulty recruiting physical therapists, speech-language pathologists, respiratory therapists, occupational therapists, experienced RNs, and LMSWs. Experienced RNs and respiratory therapists were the most difficult to retain (Exhibit 165).

Exhibit 165. Recruitment and Retention Difficulties for Home Health Care Agencies in Selected Health Occupations in the Finger Lakes and Western New York Regions, 2013

Occupation	Average Assessment of Difficulty		Percent of Respondents Indicating Reasons for Difficulties			
	Recruitment	Retention	Shortage of Workers	Competition for Workers	Salary Levels	Other
Dietitians/Nutritionists	3.4	2.6	67%	33%	17%	33%
Home Health Aides	3.4	3.4	38%	75%	50%	50%
Licensed Practical Nurses	2.5	2.5	50%	100%	100%	0%
Occupational Therapists	3.6	2.4	75%	75%	50%	25%
Personal Care Aides/Homemakers	2.2	2.5	0%	50%	50%	100%
Physical Therapists	4.2	2.8	80%	80%	80%	0%
Registered Nurses						
Newly Licensed RNs	1.6	2.6	0%	100%	50%	0%
Experienced RNs	3.6	3.7	22%	78%	67%	33%
Respiratory Therapists	3.7	3.7	33%	33%	67%	33%
Social Workers						
Licensed Clinical SWs	3.0	2.8	50%	50%	100%	0%
Licensed Master's SWs	3.6	3.2	50%	83%	50%	0%
Speech-Language Pathologists	4.0	3.5	100%	25%	25%	0%

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

- One-half (50%) reported difficulty hiring part-time workers.
- Seventy percent (70%) indicated difficulty hiring workers for off-shifts, with RNs posing the greatest recruitment difficulty.
- Eighty percent (80%) of home health care agencies reported using contract agency staff, while all (100%) used per diem staff.
- Seventy percent (70%) reported no plans to either expand or reduce services next year.

FQHCs

The response rates for FQHCs in the Western New York and Finger Lakes regions were too low to analyze separately so the responses from these regions were combined. FQHCs in this combined region reported the most difficulty recruiting ob/gyn physicians, psychiatrists, psychiatric NPs, and psychologists, and reported the most difficulty retaining CNAs, and RNs (Exhibit 166).

Exhibit 166. Recruitment and Retention Difficulties for FQHCs in Selected Health Occupations in the Finger Lakes and Western New York Regions, 2013

Occupation		Average Assessment of Difficulty	
		Recruitment	Retention
Primary Care Providers	Family/General Practice Physicians	4.4	2.3
	Internal Medicine Physicians	4.5	2.0
	Ob/Gyn Physicians	5.0	2.0
	Pediatric Physicians	4.7	1.2
	Adult Nurse Practitioners	3.5	2.5
	Family Nurse Practitioners	3.6	2.4
	Geriatric Nurse Practitioners	N/A	N/A
	Pediatric Nurse Practitioners	2.0	1.0
	Midwives	4.0	2.0
	Physician Assistants	3.1	1.9
Nursing	Certified Nurse Aids/Assistants	2.0	3.0
	Licensed Practical Nurses	2.4	2.6
	Registered Nurses	3.1	2.9
	Medical Assistants	1.7	1.7
Behavioral Health	Psychiatrists	5.0	2.5
	Psychiatric Nurse Practitioners	5.0	1.5
	Psychologists	5.0	N/A
	Substance Abuse Counselors	3.0	1.0
	Licensed Clinical Social Workers	3.7	2.0
	Licensed Master Social Workers	2.5	1.8
Oral Health	Dental Assistants/Aides/Techs	2.0	2.8
	Dental Hygienists	2.2	1.8
	Dentists	3.2	2.6
Ancillary	Care Coordinators	2.3	1.8
	Case Managers	1.6	1.4
	Community Health Workers	2.0	2.0
	Health Educators	2.0	2.0
	HIV Counselors	N/A	N/A
	Nutritionists/Nutrition Educators	2.8	1.5
	Patient Health Navigators	1.7	1.3

- Seventy-five percent (75%) of FQHCs indicated plans to expand services in primary care, mental health, and oral health. None indicated plans to reduce services.
- Sixty-three (63%) of the FQHCs in these regions reported difficulty hiring bilingual staff and Spanish was the most commonly needed language.

Employment Projections by Health Occupation

According to the NYSDOL, between 2010 and 2020, the largest numbers of average annual job openings projected in the Western New York region will be for RNs (460), home health aides (400), and personal and home care aides (320) (Exhibit 167).

**Exhibit 167. Employment Projections for Selected Health Occupations
in the Western New York Region, 2010-2020⁸⁰**

Occupations	2010	2020	Change between 2010 and 2020		Average Annual Opening
			Number	Percent	
Registered Nurses	14,250	16,240	1,990	14.0%	460
Home Health Aides	7,890	10,890	3,000	38.0%	400
Personal and Home Care Aides	5,980	8,720	2,740	45.8%	320
Licensed Practical and Licensed Vocational	5,280	6,080	800	15.2%	220
Social Workers	3,900	4,380	480	12.3%	150
Pharmacy Technicians	1,600	1,940	340	21.3%	60
Pharmacists	1,340	1,530	190	14.2%	50
Dental Hygienists	1,210	1,530	320	26.4%	50
Dental Assistants	1,220	1,460	240	19.7%	50
Medical Assistants	1,210	1,510	300	24.8%	50
Medical and Health Service Managers	1,350	1,470	120	8.9%	40
Physical Therapists	1,140	1,450	310	27.2%	40
Speech-Language Pathologists	1,130	1,320	190	16.8%	40
Radiologic Technologists and Technicians	1,120	1,320	200	17.9%	40
Dietitians and Nutritionists	430	490	60	14.0%	30
Occupational Therapists	750	920	170	22.7%	30
Emergency Medical Technicians and Paramedics	640	850	210	32.8%	30
Medical Records and Health Information	960	1,070	110	11.5%	30
Physician Assistants	470	560	90	19.1%	20
Respiratory Therapists	480	540	60	12.5%	20
Medical and Clinical Laboratory Technologists	390	410	20	5.1%	10
Medical and Clinical Laboratory Technicians	600	630	30	5.0%	10
Cardiovascular Technologists and Technicians	230	280	50	21.7%	10
Diagnostic Medical Sonographers	250	330	80	32.0%	10
Surgical Technologists	350	370	20	5.7%	10

Source: NYS Department of Labor, Jobs in Demand/Projects, Long-term Occupation Projections, 2010-2020

⁸⁰ Employment projections used in this report reflect a count of the number of jobs in those occupational categories in 2010 and the projected number of jobs in those categories in 2020. Annual openings reflect both creation of new positions in the occupation and replacement for those retiring or leaving the profession for other reasons.