



GREATER WASHINGTON
Board of Trade

Who Cares?

Examining Greater Washington's
Health Care Workforce



A Study by the Greater Washington Board of Trade's Health Care Task Force • June 2005

WHO CARES? EXAMINING GREATER WASHINGTON'S HEALTH CARE WORKFORCE

TABLE OF CONTENTS

CREDITS	2
EXECUTIVE SUMMARY	4
INTRODUCTION	
KEY FINDINGS	
REGIONAL CHALLENGES	
RECOMMENDATIONS	
INTRODUCTION	7
REPORT ORGANIZATION	
METHODOLOGY	
NATIONAL OUTLOOK: STATE OF THE HEALTH CARE WORKFORCE	11
GREATER WASHINGTON: STATE OF THE HEALTH CARE WORKFORCE	15
GREATER WASHINGTON: EDUCATION AND TRAINING SUPPLY	21
GREATER WASHINGTON: REGIONAL CHALLENGES	23
RECOMMENDATIONS	26
APPENDIX A: OCCUPATIONAL PROFILES	27
APPENDIX B: EDUCATION AND TRAINING PROVIDERS	35
APPENDIX C: NATIONAL AND REGIONAL EFFECTIVE AND PROMISING PRACTICES	52

CREDITS

WHO CARES? EXAMINING GREATER WASHINGTON'S HEALTH CARE WORKFORCE is a study of the Greater Washington Board of Trade's Health Care Task Force, an outcomes-oriented group of over 200 health care providers, insurance company representatives and consumers. This study and the Health Care Task Force are direct outcomes of the June 3, 2004, meeting of the Potomac Conference where over 150 of the region's leaders from the private, public and nonprofit sectors concluded that managing costs and improving the quality of health care needed to be part of the regional agenda.

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EXECUTIVE SUMMARY

Every eight seconds another of the 80 million American baby boomers celebrates their 50th birthday. Unlike any previous demographic or social revolution, this 'age wave' will force the redefining and rebuilding of many of our current institutions, structures, and relationships — none more so than health care.

Bruce Clark, co-founder of Age Wave LLC¹

INTRODUCTION

Why should area businesses care about who provides care for us now and in the future?

In 2003, US health care spending exceeded \$1.6 trillion dollars or about 15 percent of the gross domestic product. Nationally, more than half of Americans receive their health insurance through their employers. And from 2000 to 2003, **employers' health insurance costs increased an average of 12.5 percent annually.**² General Motors openly attests that the most expensive single item in any new vehicle is not steel or technology but the \$1500 in health care costs they provide their employees. It has become increasingly clear to the private and public sectors that there is no single variant that can control health care costs. **Rather, for businesses to remain competitive, and for workers and retirees to be healthy, it's necessary for them to work on multiple fronts to find a cure.**

Since health care is a labor-intensive industry, salaries and benefit expenses are key determinants of its providers' financial viability. Numerous studies have shown that persistent workforce shortages lead to increased competition for labor which results in higher wages, increased incentives and the expense of high cost contract employees.³ As a consequence, communities across the country are trying to address health care workforce shortages.

One of the greatest challenges facing the US health care industry is the **inadequate supply of skilled health care workers.** This trend will accelerate dramatically in the coming years due to increased demand on the health care system from a growing and aging population. If the supply of skilled health care workers is not addressed, it will have adverse consequences for patients, and for the financial health of every public and private institution in the country.

While Greater Washington extends across multiple geographic and political boundaries (Northern Virginia, Suburban Maryland and the District of Columbia), these jurisdictions make up a single regional economy which shares one labor force. As a result, the health care workforce challenges facing Northern Virginia are not separate from those facing neighboring suburban Maryland and DC. Because of the fluidity of the workforce, Greater Washington's **shortages must be addressed through a coordinated, regional effort.**

¹ "NBCH Seventh Annual Conference Celebrates Employer Coalitions as Catalysts for Change" Press Release online: <http://www.nbch.org/resources/news093002.cfm>

² Connolly, Ceci. "15 Illnesses Drive Up Costs." *The Washington Post*. August 25, 2004; pg. A.03

³ Aiken, Linda and Claire Fagin. October 1997. "Evaluating the Consequences of Hospital Restructuring." *Journal of Medical Care*, American Hospital Association, Volume 35.

To better understand Greater Washington's health care workforce challenges, opportunities and successes, the Greater Washington Board of Trade commissioned FutureWorks, a regional economic development consulting firm to conduct an analysis of the region's health care workforce. The project's three objectives were:

- 1) **Assess national trends and best practices:** Review national health care workforce trends and challenges; identify emerging and effective strategies that address workforce shortages.
- 2) **Assess regional needs and existing programs to address these needs:** Outline the region's health care occupational needs and document employment trends; review existing health care workforce training efforts throughout Greater Washington.
- 3) **Develop recommendations:** Identify potential opportunities to align regional efforts, create institutional linkages and expand current programs and/or initiatives throughout Greater Washington.

KEY FINDINGS

- Today, Greater Washington's workforce does not contain enough active health care professionals to fill all the jobs currently open in the region. For all 23 health care professions examined in this study, **educational and training institutions are not graduating enough students to fill current openings.**
- Among the 23 health care occupations identified for this study, it is estimated that between 2000 and 2010 the **top five fastest-growing occupations nationally** will be:
 1. Medical assistants
 2. Physical therapist aides
 3. Medical records and health information technicians
 4. Occupational therapist assistants and
 5. Dental assistants
- Among the 23 health care occupations identified for this study, it is estimated that between 2000 and 2010 **the five occupations with the most annual openings in Greater Washington** will be (numbers reflect annual openings)⁴:
 1. Registered nurses (1,461)
 2. Nursing aides, orderlies, and attendants (655)
 3. Licensed practical and licensed vocational nurses (482)
 4. Medical assistants (371), and
 5. Dental assistants (242)

REGIONAL CHALLENGES

- **Regional Fragmentation:** Across Greater Washington there is little coordination and collaboration between and among health care employers, educational and training institutions, government workforce investment organizations and social service providers. This lack of coordination along with the competition between these institutions for health care workers, financial resources, clinical space, and faculty/instructors has resulted in an inefficient use of resources.

⁴ See Appendix A for a brief description of each of the 23 health care occupations selected for this study.

- **Supply Shortages:** Greater Washington’s health care education and training institutions face a number of challenges-including shortages of faculty and clinical sites-that limit their capacity to meet the demand for health care professionals, particularly in the highest-demand occupations.
- **Lack of Skill Development and Career Readiness:** The skills and career readiness for a significant number of youth and adults across Greater Washington are inadequate. Hospital officials indicated in interviews that nursing and allied health graduates simply are not prepared well enough for today’s health care workforce needs.
- **Need for Stronger Social Support Network:** To more effectively recruit, retain and help health care professionals advance along a career ladder, Greater Washington needs to develop a more integrated social support network across the region that helps its residents deal with issues such as affordable workforce housing, career and/or family counseling, childcare, financial assistance, mentoring, transportation, etc.

RECOMMENDATIONS

The Greater Washington Board of Trade and its partners, academic institutions, businesses, government entities and social support agencies, are well-positioned to play a significant role in addressing the regional challenges causing health care workforce shortages.

Because the Greater Washington Board of Trade has strong relationships with private, public and nonprofit sectors, its Health Care Task Force should serve as the catalyst to **develop a regional effort to ensure there is an adequate supply of well-qualified health care workers.**

Three areas of work are required to advance this goal:

1. **Raise Awareness:** Educate stakeholders throughout Greater Washington on: the health care workforce shortage and its effects on cost and quality; health care career opportunities; and promising practices for sustainable health care workforce solutions.
2. **Convene the Region:** Provide a forum for all stakeholders to come together to examine best practices, and develop sustainable, collaborative approaches to tackling the region’s health care workforce shortages.
3. **Advocate for Change:** Develop a policy agenda that supports regional efforts to increase recruitment, training, and retention of health care workers.

INTRODUCTION

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In 2003, US health care spending exceeded \$1.6 trillion dollars or about 15 percent of the gross domestic product. Nationally, more than half of Americans receive their health insurance through their employers. And from 2000 to 2003, employers' health insurance costs increased an average of 12.5 percent annually.⁵ General Motors openly attests that the most expensive single item in any new vehicle is not steel or technology but the \$1500 in health care costs they provide their employees. It has become increasingly clear to the private and public sectors that there is no single variant that can control health care costs. Rather, for businesses to remain competitive, and for workers and retirees to be healthy, it's necessary for them to work on multiple fronts to find a cure.

Since health care is a labor-intensive industry, salaries and benefit expenses are key determinants of its providers' financial viability. Numerous studies have shown that persistent workforce shortages lead to increased competition for labor which results in higher wages, increased incentives and the expense of high cost contract employees.⁶ As a consequence, communities across the country are trying to address health care workforce shortages.

One of the greatest challenges facing the US health care industry is the inadequate supply of skilled health care workers. This trend will accelerate dramatically in the coming years due to increased demand on the health care system from a growing and aging population. If the supply of skilled health care workers is not addressed, it will have adverse consequences for patients, and for the financial health of every public and private institution in the country.

While Greater Washington extends across multiple geographic and political boundaries (Northern Virginia, Suburban Maryland and the District of Columbia), these jurisdictions make up a single regional economy which shares one labor force. As a result, the health care workforce challenges facing Northern Virginia are not separate from those facing neighboring suburban Maryland and DC. Because of the fluidity of the workforce, Greater Washington's shortages must be addressed through a coordinated, regional effort.

To better understand Greater Washington's health care workforce challenges, opportunities and successes, the Greater Washington Board of Trade commissioned FutureWorks, a regional economic development consulting firm to conduct an analysis of the region's health care workforce. The project's three objectives were:

1. **Assess national trends and best practices:** Review national health care workforce trends and challenges; identify emerging and effective strategies that address workforce shortages.
2. **Assess regional needs and existing programs to address these needs:** Outline the region's health care occupational needs and document employment trends; review existing health care workforce training efforts throughout Greater Washington.

⁵ Connolly, Ceci. "15 Illnesses Drive Up Costs." The Washington Post. August 25, 2004; pg. A.03

⁶ Aiken, Linda and Claire Fagin. October 1997. "Evaluating the Consequences of Hospital Restructuring." Journal of Medical Care, American Hospital Association, Volume 35.

3. **Develop recommendations:** Identify potential opportunities to align regional efforts, create institutional linkages and expand current programs and/or initiatives throughout Greater Washington.

REPORT ORGANIZATION

This report is organized into three major sections. The first section summarizes the state of the national health care workforce and the key challenges affecting the supply of a skilled health care workforce. The second section focuses on Greater Washington's health care workforce, educational and training provider capacity and regional challenges. Effective and promising practices can be found in Appendix C. The third section of the report provides recommendations to the Greater Washington Board of Trade's Health Care Taskforce on how they can address the regional health care workforce shortage.

METHODOLOGY

In an effort to be comprehensive, the scan relied exclusively on interviews, focus groups and secondary data. In-depth interviews and focus groups were conducted with over 40 individuals throughout Greater Washington from the business, government, academic and nonprofit sectors. Secondary data was gathered from national, state and local reports that specifically addressed health care workforce challenges. Many of these reports were produced by health care associations, health care-related commissions, and government agencies. Data was also collected from the US Bureau of Labor Statistics, US Department of Labor's Occupational Employment Statistics, US Department of Labor's Employment and Training Administration, and US Census Bureau. Finally, a scan of numerous national, state and local workforce development and labor market-related websites was conducted.⁷

This scan focuses on health care occupations in nursing and allied health that have post-high school educational requirements of four years or less, with most requiring an associate's degree or on-the-job training. This document focuses on two types of occupations classified by the Standard Occupational Classification (SOC) system: 1) Health Care Practitioner and Technical Occupations, and 2) Health Care Support Occupations.⁸ In total, 23 health care occupations were profiled:

HEALTH CARE PRACTITIONER AND TECHNICAL OCCUPATIONS

- Cardiovascular Technologists and Technicians
- Dental Hygienists
- Diagnostic Medical Sonographers
- Emergency Medical Technicians and Paramedics
- Licensed Practical and Licensed Vocational Nurses
- Medical and Clinical Laboratory Technicians
- Medical and Clinical Laboratory Technologists
- Medical Records and Health Information Technicians
- Occupational Therapists
- Pharmacy Technicians
- Radiologic Technologists and Technicians
- Registered Nurses
- Respiratory Therapists
- Surgical Technologists and Technicians

⁷ Examples of web sites include the Commonwealth of Virginia's Employment Commission's Electronic Labor Market Access (VELMA) website; Maryland's Division of Workforce Development; the District of Columbia's Department of Employment Services' DC Networks One Stop Career System and Workforce Organizations for Regional Collaboration's website.

⁸ See Appendix A for a brief description of each of the 23 health care occupations included in this scan.

HEALTH CARE SUPPORT OCCUPATIONS

- Dental Assistants
- Home Health Aides
- Medical Assistants
- Medical Transcriptionists
- Nursing Aides, Orderlies, and Attendants
- Occupational Therapist Aides
- Occupational Therapist Assistants
- Pharmacy Aides
- Physical Therapist Assistants

NATIONAL OUTLOOK: STATE OF THE HEALTH CARE WORKFORCE

The United States health care industry accounts for \$689.4 billion or 6.3 percent of the gross domestic product (GDP).⁹ The US Bureau of Labor Statistics predicts that between 2002 and 2012, the health care industry will add nearly 3.5 million new jobs, an increase of 30 percent. TABLE 1 reflects the health care occupations that are projected to add the most jobs by 2012. TABLE 1 also reflects the wide variation in median annual salary and postsecondary education and training requirements for health care occupations as well as the correlation between higher levels of educational attainment and higher median salaries. According to the data for 2002, a dental hygienist with an associate degree earned an average salary of \$55,320, more than twice the \$19,960 median salary of nursing aides, orderlies, and attendants who are only required to have short-term on-the-job training.

**TABLE 1. NATIONAL TOP 10 HEALTH OCCUPATIONAL PROJECTIONS ¹⁰
(BY JOBS OPENINGS)**

HEALTH CARE-RELATED OCCUPATIONS	2002-2012 JOB OPENINGS	2002 MEDIAN ANNUAL EARNINGS	POSTSECONDARY EDUCATION & TRAINING
Registered Nurses	623,000	\$48,090	Associate Degree
Nursing Aides, Orderlies, and Attendants	343,000	\$19,960	Short-term on-the-job
Home Health Aides	279,000	\$18,090	Short-term on-the-job
Medical Assistants	215,000	\$23,940	Moderate on-the-job
Licensed Vocational and Licensed Practical Nurses	142,000	\$31,940	Postsecondary vocational award
Dental Assistants	113,000	\$27,240	Moderate on-the-job
Medical Records and Health Information Technicians ¹¹	69,000	\$23,890	Associate Degree
Dental Hygienists	64,000	\$55,320	Associate Degree
Pharmacy Technicians	61,000	\$22,250	Moderate on-the-job
Emergency Medical Technicians and Paramedics	59,000	\$24,030	Postsecondary vocational award

⁹ US Bureau of Economic Analysis, 2005.

¹⁰ Ibid 3.

¹¹ Medical Records and Health Information Technicians does not include Health Information Administration.

From 2002 to 2012, ten of the twenty fastest growing occupations are predicted to be concentrated in health services. TABLE 2 reflects the projected growth, median annual earnings and educational and training requirements for the fastest growing health occupations. Similar to the jobs with the most projected openings listed in TABLE 1, the health occupations with the greatest projected growth vary widely in median annual salary and postsecondary education and training requirements and reflect a correlation between higher levels of educational attainment and higher median salaries

TABLE 2. NATIONAL TOP 10 HEALTH OCCUPATIONAL PROJECTIONS¹² (BY PROJECTED GROWTH)			
HEALTH CARE-RELATED OCCUPATIONS	2002-2012 PROJECTED GROWTH	2002 MEDIAN ANNUAL EARNINGS	POSTSECONDARY EDUCATION & TRAINING
Medical Assistants	58.9%	\$23,940	Moderate-term on-the-job
Home Health Aides	48.1%	\$18,090	Short-term on-the-job
Medical Records and Health Information Technicians	46.8%	\$23,890	Associate Degree
Physical Therapist Aides	46.4%	\$20,670	Short-term on-the-job
Physical Therapist Assistant	44.6%	\$36,080	Associate Degree
Dental Hygienists	43.1%	\$55,320	Associate Degree
Occupational Therapist Aides	42.6%	\$22,040	Short-term on-the-job
Dental Assistants	42.5%	\$27,240	Moderate on-the-job
Occupational Therapist Assistant	39.2%	\$36,660	Associate Degree
Occupational Therapists	35.2%	\$51,990	Bachelor's Degree

The health care industry is expected to continue growing at a rapid pace for the next decade and probably beyond. However, the supply of skilled health care professionals is simply not meeting the occupational demand. Unfortunately, the health care workforce shortage is not likely to be solved anytime soon due to a number of demographic and societal factors.

¹² US Department of Labor Occupational Projections.

According to the American Hospital Association Commission on Workforce for Hospitals and Health Systems (AHA Commission) one of the biggest factors contributing to the labor shortage is the fact that the US labor force has been aging. The median age of the US labor force was 34.8 years in 1978, but in 1998 it increased to 38.7 years. By 2008, it is estimated that it will be 40.7 years.¹³ This trend is especially prominent in the nursing profession. The median age of a registered nurse in the US in 2000 was 47 years¹⁴ compared to 1980 when roughly 53 percent of registered nurses were under the age of 40.¹⁵ As nurses age and eventually retire, many of their positions go unfilled or take a significant amount of time to replace—ultimately costing health care employers hundreds of thousands of dollars in recruitment fees and administrative costs.

Another factor contributing to health care workforce shortages is that US labor force is growing much more slowly than in past decades. The growth of the US labor force is expected to grow only 1 percent between 2000 and 2015 which is significantly less than the 2.6 percent growth between 1970 and 1980. The confluence of slowed labor force growth and precipitous job growth in the nursing and allied health professions - as reflected in TABLES 1 and 2 – is a significant contributing factor the nation's health care workforce shortage.

A third factor affecting attraction and retention of health care workers is their relatively low level of job satisfaction among health care workers. A survey administered by the Health Resources and Services Administration (a division of the US Department of Health and Human Services), found that only 69.5 percent of registered nurses reported being satisfied in their current position. This number is significantly lower than in other professions. For example, data from the General Social Survey of the National Opinion Research Center indicate that from 1986 through 1996, 85 percent of workers in general and 90 percent of professional workers expressed satisfaction with their job.¹⁶

One reason for low levels of job satisfaction is probably workplace conditions in facilities such as hospitals and nursing homes can be stressful. This factor can make it difficult to recruit new employees to the industry and to reduce high turnover rates. As the AHA Commission states, "Today, many in direct patient care feel tired and burned-out from a stressful, often understaffed environment, with little or no time to experience the one-on-one caring that should be the heart of hospital employment." Moreover, health care professionals face severe risks to their health on the job. Health care workers involved in direct patient care must daily guard against back strain from lifting patients and equipment, exposure to radiation and caustic chemicals, and infectious diseases such as AIDS, tuberculosis, and hepatitis.¹⁷

A more recent report released in 2004 by the Department of Labor's Employment and Training Administration (ETA) found that significant workforce supply and demand gaps exist across the United States and this is having a negative affect on acute care, long-term care and primary care health care provider sectors. The report, *Health Care Industry: Identifying and Addressing Workforce Challenges*, identifies four categories of challenges that need to be addressed to strengthen the health care workforce:

¹³ "Working in the 21st Century," US Department of Labor. June 2001.

¹⁴ "The Registered Nurse Population: Findings from the National Sample Survey of Registered Nurses," US Department of Health and Human Services Administration. 2001.

¹⁵ Ibid 5.

¹⁶ "The Registered Nurse Population: Findings from the National Sample Survey of Registered Nurses," US Department of Health and Human Services Administration. 2001.

¹⁷ "Occupational Outlook Handbook 2002-2003." US Bureau of Labor Statistics. 2002.

1. Recruitment and Retention
 - Increasing available labor pool
 - Increasing diversity and seeking workers from non-traditional labor pools
 - Reducing turnover
2. Skill Development
 - Entry-level worker preparation
 - Incumbent worker training
 - Need for targeted and specialized areas of skills
3. Capacity of Education and Training Providers
 - Lack of academic and clinical instructors
 - Lack of facilities and resources
 - Lack of alignment between employer requirements, curricula, and specialized skill areas
4. Sustainable Workforce: Leadership, Policy, Infrastructure Challenges/Issues
 - Need for sustainable and adaptive workforce partnerships at national, state and local levels
 - Opportunities to leverage funding and other resources
 - Planning tools (data, projections, and information systems)
 - Policy issues (regulation, certification)

It is clear that the challenges contributing to the health care workforce shortage can not be resolved overnight. A solution will require collaboration between and among health care employers, educational/training providers, government agencies, nonprofits and others that include short and long term approaches. These approaches must innovatively address the supply- and demand-sides of the labor market, have the ability to work within the current health care delivery system and be able to transform to meet future needs.

GREATER WASHINGTON: STATE OF THE HEALTH CARE WORKFORCE

Greater Washington, which encompasses Northern Virginia, Suburban Maryland and the District of Columbia, is home to the fourth largest metropolitan regional population in the United States with a Gross Regional Product of \$313 billion. As of 2004, the region's population was just over 5.9 million and by 2008 it is estimated that it will surpass 6.3 million.¹⁸ A significant proportion of the region's growth is being fueled by the rapidly expanding economy. Greater Washington's economy has grown 23.2 percent over the last five years compared to the national growth rate of 14.7 percent.¹⁹

Greater Washington is home to numerous world class research institutes, hospitals, medical facilities and health-related companies delivering health care and conducting cutting edge research. Greater Washington's educational and health services industry accounts for 10.5 percent of all employment making it the third largest industry by employment behind professional and business services (20.4 percent) and the trade, transportation and utilities (15.2 percent) industry.²⁰ Moreover, in a recent region-wide analysis of 127 research and development facilities within the National Capital Region, 30 percent of firms surveyed said they were conducting health-related research.

As Greater Washington's health industry continues to grow, it will require a greater number of skilled health care professionals. Although a significant share of this growth will occur within the higher-paying, higher skilled occupations, it will also require significant growth in the entry-level nursing and allied health occupations. In the Primary Statistical Area that includes Washington, DC, Maryland, Virginia and West Virginia (Henceforth referred to as the DC-MD-VA-WVA PMSA) it is estimated that between 2000 and 2010 the top five health occupations with the most annual openings are expected to be registered nurses (1,461), nursing aides, orderlies, and attendants (655), licensed practical and licensed vocational nurses (482), medical assistants (371), and dental assistants (242) (see TABLE 3).

¹⁸ Greater Washington Initiative 2004 Regional Report.

¹⁹ Greater Washington Initiative 2005 website: www.greaterwashingtonregion.org

²⁰ Ibid 12.

**TABLE 3. DC-MD-VA-WVA PMSA: TOP 10 OCCUPATIONAL PROJECTIONS 2000-2010
(BY ANNUAL TOTAL OPENINGS)²¹**

HEALTH CARE-RELATED OCCUPATIONS	PROJECTED EMPLOYMENT 2010	ESTIMATED ANNUAL PERCENT CHANGE	ANNUAL TOTAL OPENINGS
Registered Nurses	43,859	1.8%	1,461
Nursing Aides, Orderlies, and Attendants	21,856	2.2%	655
Licensed Practical and Licensed Vocational Nurses	12,302	2.0%	482
Medical Assistants	7,474	3.8%	371
Dental Assistants	6,075	3.2%	242
Home Health Aides	5,708	3.1%	203
Pharmacy Technicians	4,528	2.8%	197
Dental Hygienists	3,784	3.1%	141
Medical Records and Health Information Technicians	2,878	3.3%	126
Medical and Clinical Laboratory Technologists	3,714	0.9%	111

Although it is important to know which health occupations will grow the most in absolute number of jobs, it is equally important to understand which health occupations are projected to grow at the fastest rates between 2000 and 2010 to plan for future health care employment demand. For example, if only analyzed on the basis of its 126 annual openings (which ranks ninth in total openings), it would be easy to overlook the fact that medical records and health information technicians are tied as the third fastest growing health occupation in the region (see TABLE 4).

²¹ US Bureau of Labor Occupational Employment Statistics, 2004. The 2002-2012 Occupational Employment Statistics for the Washington, DC-MD-VA-WVA PMSA had not been released by the time regional scan was conducted.

**TABLE 4. DC-MD-VA-WVA PMSA: TOP 10 OCCUPATIONAL PROJECTIONS 2000-2010
(BY ESTIMATED ANNUAL PERCENT CHANGE)²²**

HEALTH CARE-RELATED OCCUPATIONS	PROJECTED EMPLOYMENT 2010	ESTIMATED ANNUAL PERCENT CHANGE	ANNUAL TOTAL OPENINGS
Medical Assistants	7,474	3.8 percent	371
Physical Therapist Aides	908	3.7 percent	47
Medical Records and Health Information Technicians	2,878	3.3 percent	126
Occupational Therapist Assistants	252	3.3 percent	12
Dental Assistants	6,075	3.2 percent	242
Dental Hygienists	3,784	3.1 percent	141
Home Health Aides	5,708	3.1 percent	203
Pharmacy Technicians	4,528	2.8 percent	32
Physical Therapist Assistants	577	2.7 percent	27
Diagnostic Medical Sonographers	800	2.6 percent	32
Occupational Therapist Aides	98	2.6 percent	4

The Greater Washington Board of Trade believes that Northern Virginia, Suburban Maryland and the District of Columbia compose a single regional economy which shares one labor force. However, residents and institutions in Greater Washington can easily identify factors from tax structure to sports team affiliations that make Northern Virginia, Suburban Maryland and the District of Columbia unique from one another. However, when occupational projections are analyzed for each jurisdiction, a clear employment trend emerges that is consistent with the occupational projections for the DC-MD-VA-WVA PMSA. This fact lends credibility to the assertion that the health care workforce challenges facing Northern Virginia are not separate from those facing neighboring suburban Maryland and DC.

²² US Bureau of Labor Occupational Employment Statistics, 2004. The 2002-2012 Occupational Employment Statistics for the Washington, DC-MD-VA-WVA PMSA had not been released by the time regional scan was conducted.

Data from the Commonwealth of Virginia,²³ Suburban Maryland and District of Columbia consistently projected the greatest number of health occupational openings will be for: 1) registered nurses; 2) nursing aides, orderlies and attendants; and, 3) medical assistants. As reflected in TABLES 5, 6 and 7, nine out of ten of the health occupations with the greatest number of projected openings are the same across all three jurisdictions. This employment trend suggests that each jurisdiction's health industry is projected to grow similarly and will need employees with comparable skill sets.

TABLE 5. COMMONWEALTH OF VIRGINIA: TOP 10 OCCUPATIONAL PROJECTIONS 2002-2012(BY EMPLOYMENT CHANGE)		
HEALTH CARE-RELATED OCCUPATIONS	PROJECTED EMPLOYMENT 2012	TOTAL 2002-2012 EMPLOYMENT CHANGE
Registered Nurses	55,671	11,256
Nursing Aides, Orderlies and Attendants	31,774	6,889
Medical Assistants	10,248	4,113
Home Health Aides	11,901	3,921
Dental Assistants	10,245	3,453
Licensed Practical and Licensed Vocational Nurses	18,331	3,040
Dental Hygienists	5,404	1,851
Medical Records and Health Information Technicians	4,514	1,500
Pharmacy Technicians	5,407	1,216
Radiologic Technologists and Technicians	4,756	891

²³ Occupational projections for the targeted area we defined as Northern Virginia was unavailable so we included the 2002-2012 occupational projection data for the entire Commonwealth of Virginia.

**TABLE 6. SUBURBAN MARYLAND: TOP 10 OCCUPATIONAL PROJECTIONS
2000-2010 (BY EMPLOYMENT CHANGE)**

HEALTH CARE-RELATED OCCUPATIONS	PROJECTED EMPLOYMENT 2010	TOTAL 2000-2010 EMPLOYMENT CHANGE
Registered Nurses	18,890	7,790
Nursing Aides, Orderlies and Attendants	11,690	3,432
Medical Assistants	5,160	1,700
Dental Assistants	3,750	1,120
Licensed Practical and Licensed Vocational Nurses	4,090	1,100
Home Health Aides	3,020	880
Medical Records and Health Information Technicians	2,010	780
Pharmacy Technicians	2,160	660
Dental Hygienists	1,660	560
Emergency Medical Technicians and Paramedics	1,550	440

**TABLE 7. DISTRICT OF COLUMBIA: TOP 10 OCCUPATIONAL PROJECTIONS
2000-2010 (BY EMPLOYMENT CHANGE)**

HEALTH CARE-RELATED OCCUPATIONS	PROJECTED EMPLOYMENT 2010	TOTAL 2000-2010 EMPLOYMENT CHANGE
Registered Nurses	10,573	832
Medical Assistants	2,179	460
Nursing Aides, Orderlies and Attendants	4,081	423
Home Health Aides	1,155	220
Pharmacy Technicians	679	66
Dental Assistants	517	62
Medical Records and Health Information Technicians	617	60
Surgical Technologists and Technicians	267	60
Dental Hygienists	369	45
Occupational Therapists	373	38

GREATER WASHINGTON: EDUCATION AND TRAINING SUPPLY

Greater Washington has a significant number of institutions that provide education and training for the health care workforce. TABLE 8 provides a summary of the number of programs in each jurisdiction for the top ten high-demand occupational areas.²⁴ A more detailed table in Appendix B includes the names of specific educational and training institutions and the levels of education each institution offers for the 23 occupations studied for this report.

Each jurisdiction in Greater Washington has at least one program for each of the top ten occupations except that Northern Virginia lacks a Home Health Aide program and the District of Columbia lacks a Pharmacy Technician program. While this fact indicates that there is currently some capacity in each jurisdiction for programs in high demand occupations, in many occupational areas, there are only one or two programs in a particular jurisdiction, which limits the capacity of the region to produce enough qualified workers. For example, Northern Virginia Community College is the primary postsecondary institution in that region for most of the occupational areas in this table. This institution has waiting lists of potential students in many of the high-demand occupations listed below due to limitations on its capacity to serve more students resulting from faculty shortages and inadequate clinical space. These barriers will be discussed in greater detail later in this report.

TABLE 8 also summarizes the estimated number of graduates in each occupational area based on data from public and private colleges and universities collected through the Maryland Higher Education Commission and the State Council of Higher Education for Virginia. This data was supplemented with self-reported data from public and private colleges and universities in the District of Columbia and from some private training providers in the region. It was not possible to collect graduation numbers on all private (either proprietary or not-for-profit) institutions due to the lack of a centralized data collection system within or across the jurisdictions. For this reason, most of the graduation estimates are lower than actual figures; this is represented in the table with a "+" sign after the estimated number. Estimates are based on graduates in the 2003-04 academic year.

TABLE 8 reveals significant gaps between the projected openings and the estimated numbers of graduates in occupational areas including: nursing aides, orderlies, and attendants; medical assistants; dental assistants; pharmacy technicians; dental hygienists; and medical records and health information technology. The actual supply in most of these occupations may be higher because additional training resources include non-credit community college programs and private training institutes such as non-credit certification programs at community colleges, high school health care academies, and employer training programs.²⁵ These training resources also would add to the number of graduates in the region in high-growth occupations; however, it is difficult to predict to what extent.

While virtually all of the data in TABLE 8 indicates that the region's educational and training institutions are not producing enough graduates to fill the openings in the top ten high-demand occupational areas, the one occupation in which this does not appear to be the case is registered nurses. While it appears that the region's educational and training institutions are

²⁴TABLE 8 presents a "snapshot in time" for the year 2004. However, the region would benefit from a more comprehensive and ongoing analysis of the trends in the supply of health care workers similar to the Maryland Higher Education Commission (MHEC) report "Maryland's Top 25 Demand Health Care Occupations: Projected Demand and Reported Supply Provided by Maryland Higher Education Institutions," which tracks supply and demand as well as the percentage change over a decade.

²⁵ Select examples of additional training resources are included in this scan when possible. For instance, interviews at Montgomery College provided an overview of their non-credit programs. These programs are included in Appendix B.

graduating enough registered nurses to meet demand, employers from across the region continue to report significant shortages in surveys conducted for other studies and in interviews conducted for this report. This discrepancy might be explained by the fact that graduation numbers represent only the potential supply of health care workers. Actual supply is also affected by the number of individuals who choose to work in the occupational field, the number of workers who migrate into or out of the region, as well as retention and retirement. The mobility of graduates and workers underscores the need for Greater Washington to view the development of a robust and sustainable health care workforce as a regional issue.

TABLE 8: HEALTH CARE EDUCATION AND TRAINING PROGRAMS FOR THE TOP 10 OCCUPATIONS BY ANNUAL TOTAL OPENINGS BETWEEN 2000-2010 IN GREATER WASHINGTON

OCCUPATIONAL TITLE	PROJECTED ANNUAL OPENINGS 2000-2010	PROGRAMS IN REGION	ESTIMATED ANNUAL # GRADUATES IN 2004	EDUCATION LEVELS
Registered Nurses	1,461	DC: 10 MD: 19 VA: 7	1,444	Mix of educational offerings from Associate degree, LPNà BSN, and MSN
Nursing Aides, Orderlies and Attendants	655	DC: 4 MD: 11 VA: 1	208++	Mostly non-credit certificate; Private career schools
Licensed Practical Nurses	482	DC: 6 MD: 6 VA: 1	403+	Certificate; Private career schools; Decentralized data collection
Medical Assistants	371	DC: 1 MD: 12 VA: 3	43++	Certificate; Private career schools; Decentralized data collection
Dental Assistants	242	DC: 1 MD: 4 VA: 2	33++	Mostly non-credit education; Decentralized data collection; Private career schools
Home Health Aides	203	DC: 2 MD: 2 VA: 0	100-150+	Credit and non-credit certificate level; Private career schools
Pharmacy Technicians	197	DC: 0 MD: 4 VA: 1	33+	Certificate
Dental Hygienists	141	DC: 1 MD: 1 VA: 1	50+	Associate and bachelor's degrees
Medical Records and Health Information Technology	126	DC: 4 MD: 8 VA: 5	42+	All offerings are at certificate and associate level; the region has no bachelor degree programs in registered health information administration
Medical and Clinical Lab Technologists	111	DC: 1 MD: 1 VA: 1	<i>Not available at the time of publication</i>	All are bachelors degree programs

GREATER WASHINGTON: REGIONAL CHALLENGES

During the course of the regional health care scan of Greater Washington, over 40 individuals from the academic, government, private and public sectors participated in interviews and focus groups to provide insight on the complex challenges and issues facing the region in trying to address its health care workforce shortages. These discussions provided insights into effective and promising practices currently underway in the region, but most significantly, revealed the need for regional collaboration to address health care workforce shortages.

Greater Washington's regional challenges include:

1. REGIONAL FRAGMENTATION

Across Greater Washington there is little coordination and collaboration between and among health care employers, educational and training institutions, government workforce investment organizations and social service providers. The institutions and organizations operating within each jurisdiction have no mandate to collaborate or help serve the needs of their neighbors. They have separate constituencies and more often than not are constricted by factors which include regulations, contractual agreements, and independent funding streams that discourage a culture of collaboration. Unfortunately, this type of climate results in duplicative efforts instead of coordination and leveraging of economies of scale. The inefficient use of resources adds to costs for health care providers and consumers in the region.

2. Capacity of Educational and Training Providers

One of the most serious challenges facing educational and training providers across Greater Washington is the inadequate supply of qualified nursing and allied health faculty/instructors and the lack of clinical space for student instruction. As a consequence, many nursing and allied health programs within the region are limited in the number of students they can accept for each cohort which results in waiting lists for students who want to pursue careers in health care professions.

In addition, there is a lack of alignment between employer requirements, curricula and specialized skill areas. Since the occupations and demand for specific types of skills within the health care industry are constantly evolving and changing, it is essential that the curricula of education and training providers address the needs of the labor market, but also that the institutions have the ability to respond adequately to structural changes within the labor market. Finally, many education and training providers in the region do not structure their credentialed programs—outside of the nursing programs—in a way that supports a career ladder structure.

3. Coordination and Cooperation among Institutions and Organizations

Across Greater Washington there is a serious disconnect among employers, educational and training institutions and social service providers. Moreover, the inherent competition among these institutions and organizations for qualified health care workers, financial resources, clinical space, and faculty/instructors does not improve the efficient use of regional resources. Instead, the low level of coordination and cooperation among institutions and organizations within and across jurisdictions is a hindrance to the overall regional economy, which results in the inefficient use of resources, increases the cost of doing business and limits the region's productivity.

