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Allied Health Job Vacancy Tracking Report

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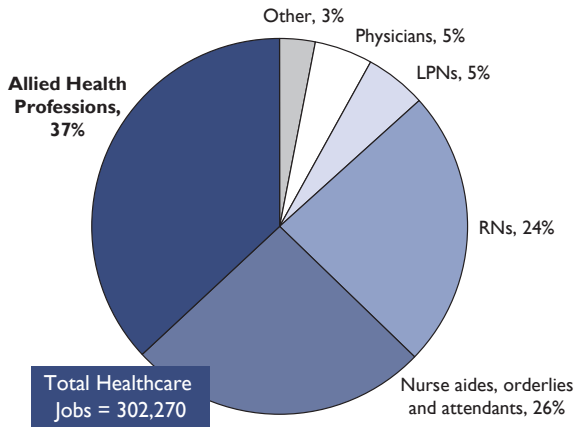
Introduction

One of the primary goals of the Council for Allied Health in North Carolina (Council) is to provide policy makers with information about the supply and distribution of allied health professionals in the state. To help monitor trends in North Carolina's allied health workforce, the Cecil G. Sheps Center for Health Services Research (Sheps Center), in collaboration with the Council and the North Carolina Area Health Education Centers (AHEC) Program, conducts a biannual tracking of allied health job vacancies. The results of the most recent tracking project are summarized in this report.

Why Should Policy Makers Care about The Allied Health Workforce?

There are many professions that are classified as "allied health." It is sometimes easier to think of the scope of allied health as all health care occupations except nurses, physicians, chiropractors, dentists, optometrists, pharmacists, and podiatrists. Even when nurse aides, orderlies and attendants are excluded from this definition, allied health jobs comprised 37% of total health care employment in North Carolina in 2005 (**Figure 1**).

Figure 1.
Healthcare Jobs in North Carolina, 2005



Source: North Carolina Health Professions Data System with data from U.S. Bureau of Labor Statistics, Occupational Employment Statistics (2005). URL: http://www.bls.gov/oes/.

Allied health jobs represent not only a large and increasingly important employment sector in the state, but also an engine for economic growth. Between 1999 and 2005, allied health employment in North Carolina grew by 46%. By contrast, total health care employment grew at less than half that rate (20%) and total employment in North Carolina increased just 0.2% (**Table 1**). Over 69% of the total job growth in the health care sector between 1999 and 2005 was due to growth of allied health jobs.

Table 1. Total State, Health Care and Allied Health Employment, North Carolina, 1999-2005

	1999	2005	% Growth (1999-2005)
Total NC Employment	3,801,670	3,809,690	0.2%
Health Care Jobs	251,550	302,270	20.2%
Allied Health Jobs	76,590	111,630	45.8%

Source: Bureau of Labor Statistics. Occupational Employment Statistics.
State Cross-Industry Estimates: 1999-2005. URL: http://www.bls.gov/oes/. Accessed 06/28/2006.

The Allied Health Vacancy Report is a collaborative effort of:
The Cecil G. Sheps Center for Health Services Research, UNC-Chapel Hill
The Council for Allied Health in North Carolina
The North Carolina Area Health Education Centers Program

Methodology of the Allied Health Vacancy Project

The rapid growth in allied health employment has created strong demand for allied health workers across the state. The goal of this project was to monitor demand for select allied health professions in North Carolina by tracking job vacancy advertisements in newspaper and online sources. Though not a definitive measure of shortage, the number of vacancies advertised is one indicator of whether a profession is facing increased demand. The work described in this document builds on similar reports published in May 2005 and August 2006.

Between September 24 and November 26 of 2006, job advertisements were collected once a week from newspapers and online sources for twelve allied health professions (**Table 2**), resulting in a total of 3,639 advertisements. Professions were selected for inclusion in the tracking project by members of the Council for Allied Health in North Carolina. Council members were surveyed regarding professions they perceived to be facing shortages and were asked to identify where vacancies for these professions were advertised. On the basis of Council input and Sheps Center research, a list of newspaper and online vacancy advertisement sources was assembled (**Table 3**).

Indeed.com was used as the primary search engine for online job postings. Indeed.com collects advertisements from various online sources such as the American Physical Therapy Association, the American Occupational Therapy Association and other job boards. Online job boards that were not indexed by Indeed.com but were listed as likely sources for job vacancy advertisements were monitored individually.

Table 2.
Professions Monitored

EMT (Basic, Intermediate or Paramedic)
Imaging (PET, MRI, CT)
Medical Assistant
Medical Technician
Medical Technologist
Occupational Therapist
Occupational Therapy Assistant
Physical Therapist
Physical Therapist Assistant
Recreation Therapist
Respiratory Therapist

Table 3. Media Sources Monitored for Allied Health Vacancies

Online Sources
Indeed.com Job Search Engine
American Society for Radiologic Tech (ASRT)
NC Occupational Therapy Association (NCOTA)
NC Office of Emergency Medical Services (NCEMS)
NC Physical Therapy Association (NCPTA)
NC Speech, Hearing & Language Association (NCSHLA)
Recreation Therapy Directory
Newspaper Sources
Asheville Citizen Times
Charlotte Observer
Fayetteville Observer
Greensboro News & Record
Hickory Daily Record
Raleigh News and Observer
Rocky Mount Telegram
The Daily Reflector
Wilmington Star-News
Wilson Daily Times
Winston Salem Journal

Methodological Limitations

Despite the fact that previous tracking reports have proven relatively successful at highlighting professions and areas of the state facing strong demand for allied health professionals, it is important to keep in mind the limitations of the methodology used to track allied health vacancies. First, our sample of advertisements may not reflect the true frequency or distribution of vacancies across the state because we did not collect data on all professions nor did we monitor vacancies in all advertisement sources. Vacancies advertised on the websites of individual employers, for example, were excluded because it was not logistically feasible to locate and monitor vacancy listings from every employer in the state. Also, because we collected data during a single time period, we cannot evaluate the extent to which our data may have been influenced

by seasonal or other temporal variation in the demand for allied health workers. Undercounting and overcounting of vacancies is also possible. Employers have reported to us that they often advertise for only one position when they have multiple openings. This undercounting of vacancies may be partially offset by the overcounting that may occur because a large percentage of ads (28%) come from staffing agencies and these are positions that may also be advertised by individual employers.

The objective of this analysis was to quantify vacant allied health positions and not simply count the number of advertisements in newspaper and online sources. For example, if the same job is advertised for multiple weeks during the data collection period, it should only be counted as one position. To adjust for repeat advertisements of the same job, data were de-duplicated using the following criteria: if an advertisement appeared more than once and was posted by the same media source (i.e. the same newspaper or online job board), had the same job title, employer, location and full- or part-time status it was counted as one position. De-duplication reduced the total number of job advertisements by 42%, from 3,639 to 2,120 (**Table 4**). Emergency medical technician positions (EMT) had the greatest reduction (76%), followed by imaging (55%). Online sources were more likely than newspapers to run the same position multiple times. The analysis presented in this brief is based on the de-duplicated number of positions (2,120).

Table 4. De-duplication of Vacancy Advertisements by Profession

Job Title	Number of job advertisements	De-duplicated number	% Reduction
EMT (Basic, Inter or Paramedic)	593	142	76%
Imaging (PET, MRI, CT)	219	98	55%
Physical Therapist	897	554	38%
Recreation Therapist	37	23	38%
Medical Technologist	190	119	37%
Medical Assistant	280	176	37%
Speech-Language Pathologist	265	172	35%
Respiratory Therapist	189	127	33%
Occupational Therapist	409	275	33%
Physical Therapist Assistant	250	177	29%
Medical Technician	161	122	24%
Occupational Therapy Assistant	149	135	9%
NC	**3,639**	**2,120**	**42%**

Results

As in past vacancy reports, the therapy professions continue to exhibit strong demand relative to other professions. Physical therapists had the greatest number of job openings, representing 26% of the total vacancies advertised (n=554). Occupational therapists had 275 open positions, or 13% of total advertisements. Physical therapy assistants (PTAs) and speech-language pathologists (SLPs) each comprised 8% of total advertisements. This is the first report that tracked vacancies for medical assistants, which had a similar number of vacancies (176) as PTAs (177) and SLPs (172).

Because the number of individuals employed in specific health professions varies (i.e. there are more than twice as many medical technologists as occupational therapists), it is important to determine the magnitude of open positions relative to the total size of the workforce. To calculate this number, which we refer to as the vacancy index, we divided the number of vacancy advertisements for each profession by the profession's total workforce size and multiplied by 100. The vacancy index reflects the number of open positions per 100 employed professionals.

After adjusting for workforce size, occupational therapy assistants (OTAs) emerged as having the highest vacancy index with 15.2 open positions per 100 employed OTAs (**Table 5**). Physical therapists had the second highest demand relative to workforce size with 14.8 open positions per 100 employed PTs. Occupational therapists had 13.8 open positions and physical therapy assistants had 9.5 vacancies per 100 employed professionals.

Table 5. Vacancies and Vacancy Index by Profession

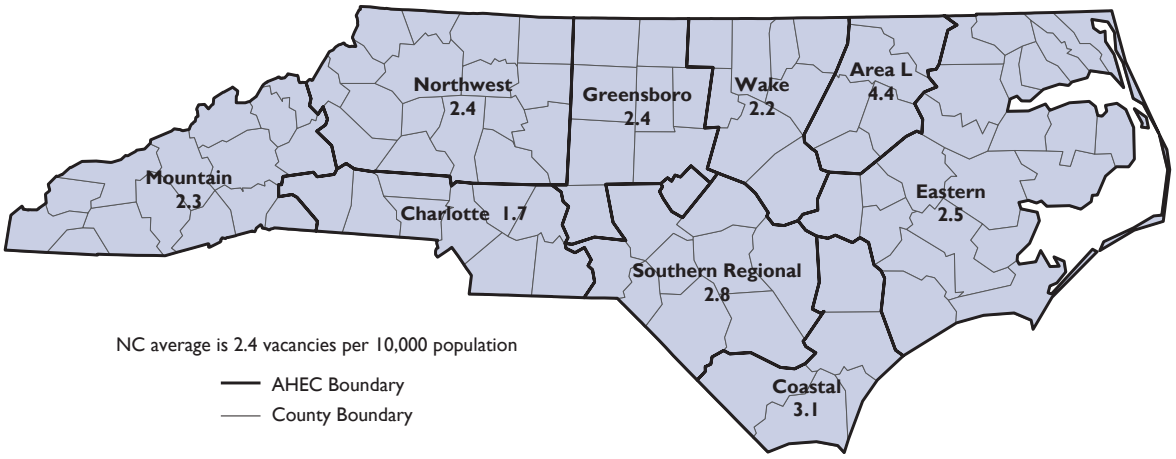
Profession	Workforce Size	Vacant	Vacancy Index
Occupational Therapy Assistant	888	135	15.2
Physical Therapist	3,749	554	14.8
Occupational Therapist	1,990	275	13.8
Physical Therapist Assistant	1,859	177	9.5
Speech-Language Pathologist	2,710	172	6.3
Imaging (PET, MRI, CT)	1,853	98	5.3
Recreation Therapist	450	23	5.1
Respiratory Therapist	3,413	127	3.7
Medical Technologist	4,250	119	2.8
Medical Technician	4,950	122	2.5
EMT (Basic, Inter, Paramedic)	6,790	142	2.1
Medical Assistant	9,950	176	1.8

Excludes listings missing employer location (N=22).

Regional Variation in Workforce Demand

To determine whether the demand for allied health professionals varies by region of the state, it is necessary to adjust for the size of the population. Areas with higher population densities will have higher demand for health care services and generally have a better supply of allied health professionals. On average, there were 2.4 allied health vacancies per 10,000 population in North Carolina. Area L AHEC had the highest vacancy ratio per 10,000 population (4.4) and Charlotte had the lowest ratio (1.7) (**Figure 2**). Other AHEC regions had relatively similar ratios, ranging from 2.2 vacancies per 10,000 population in Wake AHEC to 3.1 vacancies per 10,000 population in Coastal AHEC. AHEC regions in eastern North Carolina (Area L, Eastern and Coastal AHECs) generally exhibited higher demand for allied health professionals than AHECs in either central or western portions of the state.

Figure 2.
Allied Health Job Vacancy Advertisements per 10,000 Population by AHEC Region, North Carolina, Fall 2006



Source: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 2006.
Notes: North Carolina newpaper and online listings for select allied health professions tracked from September 24 to November 26 (N=2,120). Sample excludes listings missing employer location (N=22).

The demand for specific professions varies by AHEC region. **Table 6** shows the percent of an AHEC's total advertisements comprised by each profession. While EMT ads made up an average of just 7% of vacancies across the state, 17% of Eastern AHEC's vacancies were for EMTs. Coastal AHEC exhibited relatively strong demand for medical assistants. Nearly one quarter of Coastal AHEC's total vacancies were for medical assistants compared to the 8% of ads they averaged across the state. Demand for the therapy professions – physical therapists, occupational therapists, respiratory therapists, occupational therapy assistants and physical therapy assistants – was relatively evenly spread across the state. Two notable exceptions were that Mountain AHEC (MAHEC) had relatively stronger demand for occupational therapists (OTs were 18% of MAHEC's advertisements compared to the 13% average) and Coastal AHEC had stronger demand for physical therapy assistants (18% of Coastal AHEC's ads were for PTAs compared to an 8% average).

Table 6. Percent of Vacancies that Professions Comprise of an AHEC's Total Advertisements

AHEC	Vacancies	EMT (Basic, Inter, Paramedic)	Imaging (PET, MRI, CT)	Medical Assistant	Medical Technician	Medical Technologist	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Recreation Therapist	Respiratory Therapist	Speech-Language Pathologist	Total (n=2,098)
Area L	132	5%	9%	1%	8%	11%	12%	10%	25%	3%	2%	8%	8%	100%
Charlotte	283	6%	4%	6%	4%	5%	17%	9%	24%	8%	2%	5%	9%	100%
Coastal	133	6%	3%	**23%**	5%	4%	10%	3%	22%	**18%**	2%	3%	2%	100%
Eastern	245	**17%**	5%	7%	4%	2%	9%	2%	34%	6%	1%	5%	7%	100%
Greensboro	251	4%	3%	7%	3%	8%	12%	8%	25%	9%	1%	10%	9%	100%
Mountain	145	9%	1%	8%	10%	1%	**18%**	8%	25%	11%	1%	3%	6%	100%
Northwest	359	2%	5%	6%	7%	4%	14%	7%	31%	9%	–	8%	8%	100%
Southern Regional	238	2%	5%	8%	6%	7%	17%	8%	26%	8%	–	4%	8%	100%
Wake	312	11%	6%	13%	7%	8%	9%	5%	19%	6%	1%	5%	11%	100%
NC	**2,098**	**7%**	**5%**	**8%**	**6%**	**6%**	**13%**	**6%**	**26%**	**8%**	**1%**	**6%**	**8%**	**100%**

Data are based on de-duplicated count of 2,120; excludes listings missing employer location (N=22).

There was also variation in how ads were distributed across AHEC regions for specific professions. The share of ads for all professions that occurred in each AHEC roughly corresponded to the share of the state population living in each AHEC (**Table 7**, following page). However, the geographic distribution of ads for some specific professions departed from this trend:

- 30% of ads for EMTs were in Eastern AHEC and another 24% were in Wake AHEC
- 30% of recreational therapist vacancies were in Charlotte AHEC
- 24% of medical assistant advertisements were in Wake AHEC
- 23% of respiratory therapists vacancies were in Northwest AHEC and 21% were in Greensboro AHEC

Table 7. Percent of Profession's Total Vacancies by AHEC

AHEC	% of NC population	EMT (Basic, Inter, Paramedic) n=142	Imaging (PET, MRI, CT) n=96	Medical Assistant n=176	Medical Technician n=122	Medical Technologist n=118	Occupational Therapist n=271	Occupational Therapy Assistant n=135	Physical Therapist n=542	Physical Therapist Assistant n=176	Recreation Therapist n=23	Respiratory Therapist n=126	Speech-Language Pathologist n=171
Area L	3%	4%	13%	1%	8%	12%	6%	10%	6%	2%	13%	8%	6%
Charlotte	19%	12%	13%	10%	10%	12%	18%	19%	12%	14%	**30%**	12%	15%
Coastal	5%	6%	4%	17%	5%	4%	5%	3%	5%	14%	13%	3%	2%
Eastern	11%	**30%**	14%	10%	9%	5%	8%	3%	15%	8%	13%	10%	10%
Greensboro	12%	8%	7%	10%	7%	17%	11%	14%	12%	13%	13%	**21%**	13%
Mountain	7%	9%	1%	6%	11%	2%	10%	8%	7%	9%	4%	4%	5%
Northwest	17%	4%	19%	11%	20%	14%	18%	18%	20%	19%	–	**23%**	18%
Southern Regional	10%	4%	11%	11%	12%	14%	15%	15%	11%	11%	4%	7%	12%
Wake	16%	**24%**	19%	**24%**	18%	20%	10%	11%	11%	11%	9%	13%	20%
NC	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Data are based on de-duplicated count of 2,120; excludes listings missing employer location (N=22).

Employment Setting

Demand for allied health professionals varies by employment setting (**Table 8**). Hospitals accounted for 29% of overall vacancy advertisements, including 84% of imaging jobs and 60% of medical technologists jobs were in hospitals. The nearly two-thirds (64%) of medical assistant job vacancies were found in practice settings. Staffing agencies comprised nearly as many advertisements (28%) as hospitals. The fact that staffing agencies represented such a high percentage of total advertisements was somewhat problematic because it was not possible to determine whether a staffing agency was recruiting allied health professionals for its own

Table 8. Employment Setting

Setting		All Professions n=2,050	EMT (Basic, Inter, Paramedic) n=142	Imaging (PET, MRI, CT) n=93	Medical Assistant n=159	Medical Technician n=115	Medical Technologist n=114	Occupational Therapist n=271	Occupational Therapy Assistant n=131	Physical Therapist n=541	Physical Therapist Assistant n=172	Recreation Therapist n=22	Respiratory Therapist n=126	Speech-Language Pathologist n=164
Hospital	n=590	**29%**	29%	**84%**	13%	30%	**60%**	17%	17%	21%	16%	41%	67%	25%
Staffing Agency	n=570	**28%**	–	2%	18%	3%	4%	**45%**	**52%**	**42%**	**32%**	–	13%	25%
Practice	n=245	12%	28%	9%	**64%**	14%	18%	1%	–	7%	5%	9%	2%	2%
Home Health	n=176	9%	–	–	1%	10%	2%	12%	4%	13%	12%	5%	12%	12%
Rehab	n=165	8%	–	–	–	–	–	14%	18%	7%	19%	9%	–	18%
Long-Term Care	n=153	7%	–	–	–	26%	–	8%	10%	6%	13%	32%	2%	13%
Government	n=90	4%	41%	–	–	5%	3%	1%	–	2%	1%	5%	3%	1%
Other	n=61	3%	2%	5%	5%	11%	15%	1%	–	1%	1%	–	1%	2%
NC	n=2,050	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Data are based on de-duplicated count of 2,120; excludes 70 listings that were missing employment setting. "Other" includes other, lab, and university/school.

staff or for another employer (i.e. hospital). Staffing agencies were most actively involved in advertising for allied health professionals in the therapy professions. 52% of OTA ads, 45% of OT ads, 42% of PT ads and 32% of PTA advertisements were for staffing agencies.

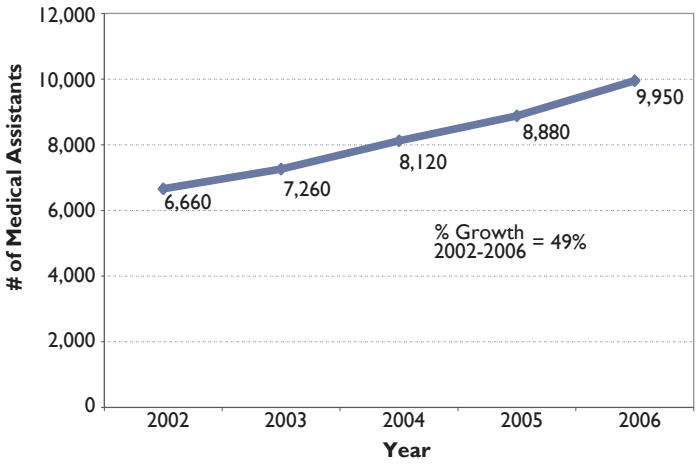
Differences between Vacancies in Newspaper and Online Media

The data in this report were collected from both newspapers and online job boards. While thus far in the report we have displayed the aggregated results, there was variation between newspapers and online sources that is worth highlighting. The top three professions in online job boards were for physical therapists, occupational therapists and physical therapist assistants. In newspapers, the top three professions advertised were physical therapists, medical assistants and medical technicians.

Discussion

The findings from this allied health tracking project are consistent with previous reports that have found a high number of vacancies for physical and occupational therapists and high demand for occupational therapy assistants relative to their total workforce size. A unique finding from this tracking report is the emergence of medical assistants (MAs) as a profession with a relatively large number of vacancies. This is consistent with NC Employment Security Commission (ESC) projections that show that between 2002 and 2012 MAs will be the fastest growing profession in the state in terms of percentage growth. The ESC estimates that total employment will increase by 4,950 positions over the ten year period or about 495 new positions annually.[1] An analysis of ESC trend data between 2002 and 2006 reveals that the annual growth in MA jobs has thus far outstripped the projection. Between 2002 and 2006, the number of MAs employed in North Carolina has increased by 3,290, or an average of 823 new positions annually (**Figure 3**).

Figure 3. Medical Assistants Employed in North Carolina, 2002-2006



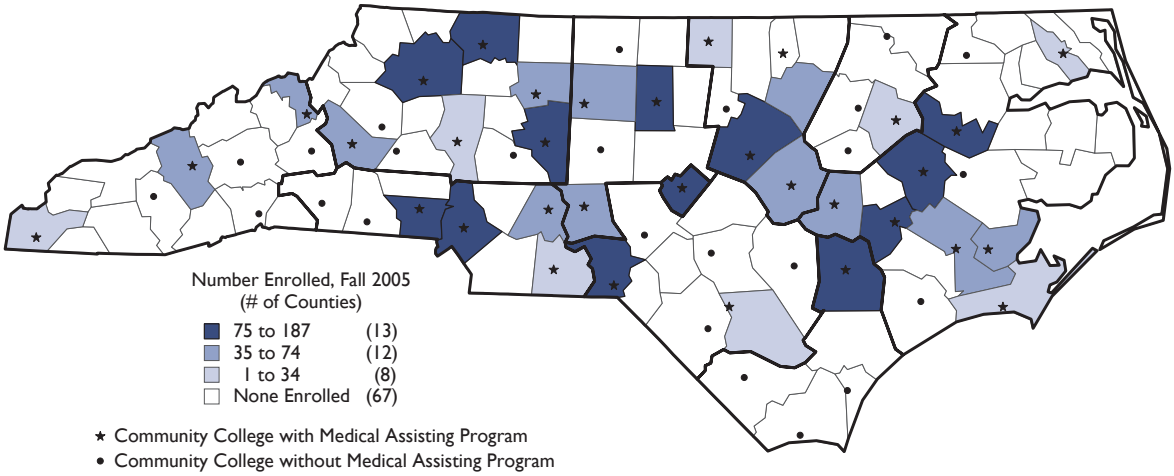
The rapid growth of medical assistant employment has been attributed to three primary factors:[2]

1. the growing complexity of physicians' offices requires a staff person who can coordinate, track and process patients through the visit;
2. rising vacancy rates for nurses in outpatient settings has increased demand for MAs; and
3. cost containment efforts by employers have shifted many medical tasks toward MAs because they are a less expensive staffing alternative.

There are multiple pathways to becoming a medical assistant. Most medical assistants are high school graduates who receive on-the-job training, but an increasing number are pursuing an education credential through the community college system. Between 2001 and 2006, enrollment in medical assistant programs in North Carolina's Community College System (NCCCS) increased 57% from 1,474 to 2,317 students.[3] The majority (75%) of community college programs in medical assisting are associate-degree, 19% are diploma

programs and another 6% are certificate programs. **Figure 4** shows that there are 33 NCCCS medical assisting programs in the state[4] and that there is a large amount of variation in enrollment size between programs. The figure also shows that because there are community colleges in a number of counties that do not currently have an MA program there is capacity in the system to increase the number of graduates.

Figure 4.
Enrollment in North Carolina Community College System
Medical Assistant Programs, 2006



Sources: NC Community College System and NC AHEC, 2007.
Note: Locations of community colleges and universities are mapped to the zip code centroid. Locations and enrollment figures for seven private programs are not included.

Conclusion

The data presented in this report support anecdotal evidence of strong demand for allied health professionals in the therapy fields. While medical assistants had the lowest vacancy index among the professions profiled in this report, total MA employment is increasing rapidly. As seen in previous reports, eastern North Carolina continues to face higher than average vacancy rates relative to population size. Given the state's rapidly growing and aging population, continued surveillance of the allied health workforce is necessary to equip policy makers with the information needed to ensure access to an adequate supply and distribution of allied health professionals across the state.

[1] Accessed March 9, 2007. http://eslmi23.esc.state.nc.us/projections/EmploymentOutlook.asp?version=aopengp&AreaType=01&Area=000037&PeriodID=06

[2] Tache, Stephanie and Susan Chapman. (2006) "The Expanding Roles and Occupational Characteristics of Medical Assistants: Overview of an Emerging Field in Allied Health." *Journal of Allied Health* 35(4): 233-237.

[3] Data are from the NC Community College System, 2007.

[4] There are seven private medical assisting programs in North Carolina, including Cabarrus College of Health Sciences, King's College, South College, Miller-Motte Technical College, and three ECPI College of Technology campuses. ECPI was not willing to share their enrollment figures, preventing us from reporting private enrollment.

Maps were produced by the North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

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