August 2006

Allied Health Job Vacancy Tracking Report

Samir Thaker, MSPH; Erin Fraher, MPP; and Jennifer King

Introduction

One of the primary goals of the Council for Allied Health in North Carolina is to ensure an adequate and well-distributed supply of allied health professionals in the state. To help monitor trends in the demand, supply and distribution of North Carolina's allied health workforce, the Cecil G. Sheps Center for Health Services Research, the Council for Allied Health in North Carolina, and The North Carolina Area Health Education Centers (NC AHEC) Program collaborated to track allied health job vacancies.

This project aimed to quantify workforce demand for selected allied health professions in North Carolina by tracking job vacancy advertisements in print 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 report builds on a similar report published in May 2005.

Between February and April 2006, a total of 2,060 vacancy advertisements were collected listing positions for ten allied health professions. This report summarizes vacancy advertisements by profession, region, and employer type. Our results also describe the types of sign-on bonuses offered by employers.

Methodology

To select professions to monitor we surveyed members of the Council for Allied Health in North Carolina. Council members were asked to identify professions that they perceived to be facing a workforce shortage and to list common sources of vacancy advertisements for these professions. Both print and online vacancy advertisement sources were eligible for inclusion in this report, in contrast to the previous allied health vacancy tracking project which tracked only newspaper advertisements.

Based on the results of our survey, we chose to monitor job vacancy advertisements for ten allied health professions **(Table 1)**.

Vacancy advertisements for the professions we studied were collected from ten newspapers and 11 online job boards. The ten newspapers provided statewide coverage, which allowed us to highlight regional differences by AHEC.
(See Table 2, next page)

Table 1: Professions Monitored

Medical Technologists
Medical Laboratory Technicians
Occupational Therapists
Certified Occupational Therapy Assistants
Emergency Medical Technicians (Basic, Intermediate, Paramedic)
Physical Therapists
Physical Therapy Assistants
Radiologic Technologists and Technicians
Speech-Language Pathologists
Speech-Language Pathology Assistants

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

Table 2: Vacancy Sources - Newspaper

SOURCE	SCOPE (AHEC)	PROFESSIONS MONITORED					
		MT / MLT	OT / COTA	EMT	PT / PT-A	Rad Tech	SLP / SLP-A
Asheville Citizen Times	Mountain	X	X	X	X	X	X
Charlotte Observer	Charlotte	X	X	X	X	X	X
Fayetteville Observer	South. Reg.	X	X	X	X	X	X
Greensboro News & Record	Greensboro	X	X	X	X	X	X
Raleigh News & Observer	Wake	X	X	X	X	X	X
Rocky Mount Telegram	Area L	X	X	X	X	X	X
The Daily Reflector	Eastern	X	X	X	X	X	X
Wilmington Star-News	Coastal	X	X	X	X	X	X
Wilson Daily Times	Area L	X	X	X	X	X	X
Winston Salem Journal	Northwest	X	X	X	X	X	X

MT/MLT = Medical Technologist or Medical Lab Technician
OT/COTA = Occupational Therapist or Certified Occupational Therapy Assistant
EMT = Emergency Medical Technician (Basic, Intermediate or Paramedic)
PT/PT-A = Physical Therapist or Physical Therapy Assistant
Rad Tech = Radiologic Technologist or Radiologic Technician
SLP/SLP-A = Speech-Language Pathologist or Speech-Language Pathology Assistant

In addition to the above newspaper sources we also indexed listings on 11 online classified job websites **(Table 3)**. Two of these online sources included job vacancy advertisements for all our target professions across the state. The remaining nine provided profession-specific listings for vacancies across the entire state.[1]

Table 3: Vacancy Sources - Online

SOURCE	SCOPE (AHEC)	PROFESSIONS MONITORED					
		MT / MLT	OT / COTA	EMT	PT / PT-A	Rad Tech	SLP / SLP-A
ADVANCE for Health Careers	Statewide	X	X	X	X	X	X
American Occupational Therapy Assoc. (AOTA)	Statewide		X				
American Society for Clinical Pathology (ASCP)	Statewide	X					
American Society for Radiologic Tech. (ASRT)	Statewide					X	
American Speech-Language-Hearing Assoc. (ASHA)	Statewide						X
Indeed.com Job Search Engine	Statewide	X	X	X	X	X	X
NC Occupational Therapy Assoc. (NCOTA)	Statewide		X				
NC Office of Emergency Medical Services (NCOEMS)	Statewide			X			
NC Physical Therapy Assoc. (NCPTA)	Statewide				X		
NC Speech, Hearing & Language Assoc. (NCSHLA)	Statewide						X
PTJobs.com	Statewide				X		

MT/MLT = Medical Technologist or Medical Lab Technician
OT/COTA = Occupational Therapist or Certified Occupational Therapy Assistant
EMT = Emergency Medical Technician (Basic, Intermediate or Paramedic)
PT/PT-A = Physical Therapist or Physical Therapy Assistant
Rad Tech = Radiologic Technologist or Radiologic Technician
SLP/SLP-A = Speech-Language Pathologist or Speech-Language Pathology Assistant

Table 4. Keywords Used to Identify Relevant Vacancy Advertisements

Assistant	Pathologist
COTA	Pathology
CT	PET
Emergency Medical Technician	Physical
EMT	PT
Lab	PTA
Laboratory	Radiologic
Language	Radiology
Medical	SLP
MLT	Speech
MRI	Technician
MT	Technologist
Occupational	Therapist
OT	Therapy
Paramedic	

A standard set of search terms was used to identify relevant vacancy listings across each of the twenty-one sources examined for this report **(Table 4)**. Data were collected on 12 consecutive Sundays from February 5 to April 23, 2006.

METHODOLOGICAL LIMITATIONS

Although we believe the vacancy advertisements collected for this report are an adequate barometer of the allied health workforce demand across the state, it is important to keep in mind certain methodological limitations when considering the results that follow. First, our sample of advertisements may not reflect the true frequency or distribution of vacancies across the state because we did not monitor all advertisement sources or all allied health professions. Vacancies advertised on the websites of individual employers, for example, were excluded because we determined it would be logistically infeasible to locate and monitor vacancy listings from every employer in the state. Second, 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 demand for allied health workers. Third, a number of advertisements were excluded from our analysis because they did not include information on the location of the advertised vacancy (n=108) or because they advertised vacancies for employees with multiple profession types (e.g., the advertisement requested a 'physical therapist' or 'physical therapist assistant') (n=78). Finally, our results are sensitive to repeat advertisements placed by a single employer in multiple sources. Insufficient information was available in the advertisements monitored to determine whether multiple similar listings placed by a single employer reflected the existence of several unique vacancies or an attempt by firms to entice more workers to apply for a single vacancy. To the extent that employers placed multiple advertisements for each actual vacancy, our results may overestimate demand for allied health professionals.

RESULTS

During our 12 week data collection period we gathered a total of 2,246 vacancy advertisements. We excluded 108 of these ads from further analyses because they did not include information on the location of the advertised vacancy. We excluded a further 78 advertisements because they advertised vacancies for which candidates with multiple credential types were eligible. This left a final sample size of 2,060 listings.

Number of Vacancy Advertisements

Looking at raw numbers, vacancies for physical therapists were the most common, representing 31% of the total advertisements collected (n=628), followed by emergency medical technicians (EMTs) (14% of total advertisements, n=286) and occupational therapists (13% of total advertisements, n=270) **(Table 5)**.

Table 5. Vacancies and Vacancy Index by Profession

Profession	Vacancies Advertised		Workforce Size*	Vacancy Index
	N	% of total ads		
Certified Occupational Therapy Assistant	122	5.9%	560	21.8
Physical Therapist	628	30.5%	3,610	17.4
Occupational Therapist	270	13.1%	2,010	13.4
Physical Therapy Assistant	192	9.3%	1,960	9.8
Speech-Language Pathologist	204	9.9%	2,730	7.5
EMT (Basic, Intermediate, Paramedic)	286	13.9%	7,050	4.1
Radiologic Technologist / Technician	242	11.7%	6,000	4.0
Medical Technologist	72	3.5%	4,340	1.7
Medical Lab Technician	42	2.0%	4,990	0.8
Speech-Language Pathologist Assistant	2	0.1%	n/a	n/a

*Source: November 2004 State Occupational Employment and Wage Estimates http://www.bls.gov/oes/current/oes_nc.htm

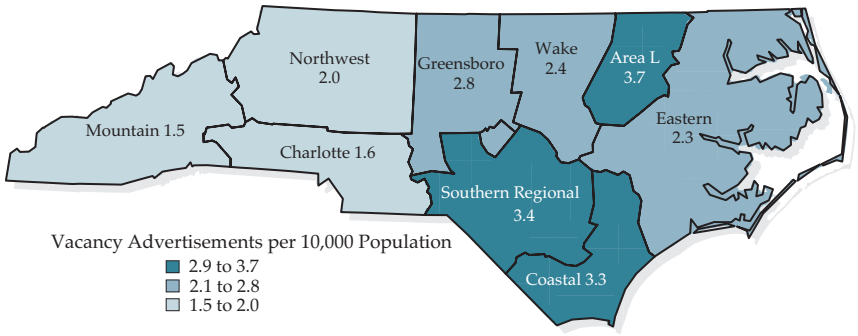
Note: A vacancy index could not be calculated for speech-language pathology assistants because data on the total number of speech-language pathology assistants in the state were not available.

A vacancy index provides another way of comparing demand across professions. Because the number of allied health workers in the state varies by profession (for example, there are twice as many medical lab technicians in North Carolina as speech-language pathologists) it is important to adjust the raw numbers of vacancy advertisements to account for these differences. To calculate this vacancy index, we divided the number of vacancy ads collected for each profession by the profession's total workforce size and multiplied by 100. Using this metric to assess allied health workforce demand, the greatest demand is for certified occupational therapy assistants (vacancy index = 21.8), physical therapists (vacancy index = 17.4) and occupational therapists (vacancy index = 13.4) **(Table 5, previous page)**.

Regional Variation in Workforce Demand

Overall, there were 2.3 allied health vacancies per 10,000 population in North Carolina. This rate varied across the nine Area Health Education Center (AHEC) regions of the state. As shown in **Figure 1**, five of the nine AHECs had vacancy per population rates higher than the state average. The greatest demand for allied health workers was in the Area L AHEC, with 3.7 allied health vacancies per 10,000 individuals. The lowest vacancy rate was in the Mountain AHEC, with 1.5 vacancies per 10,000 individuals.

Figure 1. Allied Health Job Vacancy Advertisements per 10,000 Population by AHEC Region, North Carolina, 2006



Source: North Carolina Allied Health Vacancy Tracking Project. Cecil G. Sheps Center for Health Services Research, 2006. Produced by: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill.

Notes: North Carolina newspaper listings for select Allied Health professions tracked from February 5 to April 23, 2006 (N=2060). Sample excludes listings missing employer location (N=108) and listings for which candidates with multiple degree types were eligible (N=78).

The distribution of ads across specific professions varied somewhat by AHEC region, as shown in **Table 6**. In six AHEC regions, the profession with the highest percent of vacancy advertisements was physical therapy, mirroring the overall state trend. However, in three AHECs—Area L, Coastal, and Eastern—EMT positions were the most frequently advertised **(Table 6)**.

Table 6. Percent of Vacancies by AHEC and Profession (Rows sum to 100%)

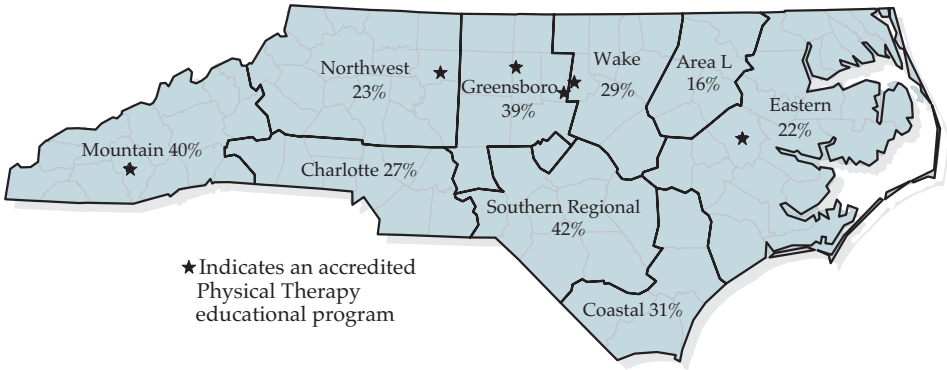
AHEC	% of NC Population	EMT (n = 286)	MLT (n = 42)	MT (n = 72)	OT (n = 270)	COTA (n = 122)	PT (n = 628)	PT-A (n = 192)	Rad Tech (n = 242)	SLP (n = 204)	SLP-A (n = 2)	Total (n = 2,060)
Area L	3%	29%	2%	2%	25%	4%	16%	2%	7%	13%	0%	100%
Charlotte	19%	11%	1%	5%	17%	2%	27%	10%	19%	8%	0%	100%
Coastal	5%	33%	1%	1%	5%	5%	31%	11%	3%	9%	0%	100%
Eastern	11%	27%	0%	4%	4%	3%	22%	9%	13%	18%	1%	100%
Greensboro	12%	11%	5%	5%	10%	4%	39%	11%	11%	4%	0%	100%
Mountain	7%	13%	0%	4%	8%	6%	40%	6%	17%	6%	0%	100%
Northwest	17%	7%	1%	3%	15%	13%	23%	11%	15%	13%	0%	100%
Southern Regional	10%	7%	0%	0%	13%	10%	42%	12%	6%	10%	0%	100%
Wake	16%	9%	5%	5%	18%	4%	29%	7%	14%	8%	0%	100%
All AHECs	**100%**	**14%**	**2%**	**3%**	**13%**	**6%**	**30%**	**9%**	**12%**	**10%**	**0%**	**100%**

Physical Therapy

Advertisements for physical therapy vacancies accounted for a large share of the total ads across the state. In three AHEC regions, more than one out of every three ads were for physical therapy:

- Southern Regional (42% of all ads)
- Mountain (40% of all ads)
- Greensboro (39% of all ads)

Figure 2. Advertisements for Physical Therapy as a Percent of Total Vacancy Advertisements by AHEC Region, North Carolina, 2006



Source: North Carolina Allied Health Vacancy Tracking Project. Cecil G. Sheps Center for Health Services Research, 2006. Produced by: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill.

Notes: North Carolina newspaper listings for select Allied Health professions tracked from February 5 to April 23, 2006 (N=2060). Sample excludes listings missing employer location (N=108) and listings for which candidates with multiple degree types were eligible (N=78).

There were only three AHEC regions in which ads for physical therapy accounted for less than one quarter of all ads:

- Area L (16% of all ads)
- Eastern (22% of all ads)
- Northwest (23% of all ads)

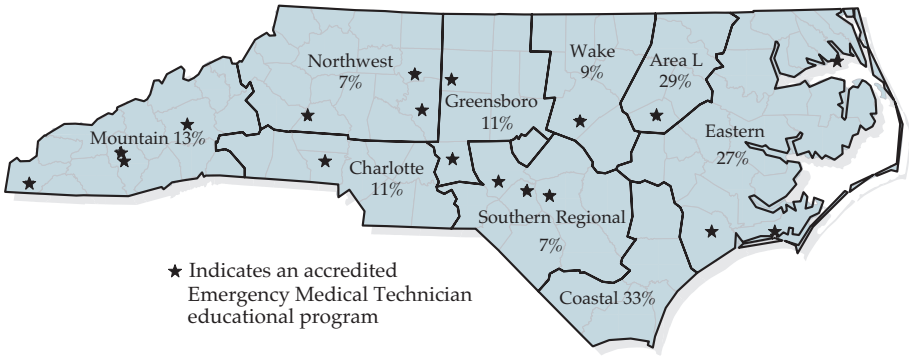
EMTs

There was substantial variation in the demand for EMTs relative to other professions across the AHEC regions. In the three eastern-most AHEC regions, ads for EMTs comprised a large share of total ads:

- Coastal (33% of all ads)
- Area L (29% of all ads)
- Eastern (27% of all ads)

In the central and western AHEC regions, ads for EMTs accounted for smaller shares of total ads, ranging from 13% of all ads (Mountain AHEC) to 7% of all ads (Northwest and Southern Regional AHECs).

Figure 3. Advertisements for Emergency Medical Technicians as a Percent of Total Vacancy Advertisements by AHEC Region, North Carolina, 2006

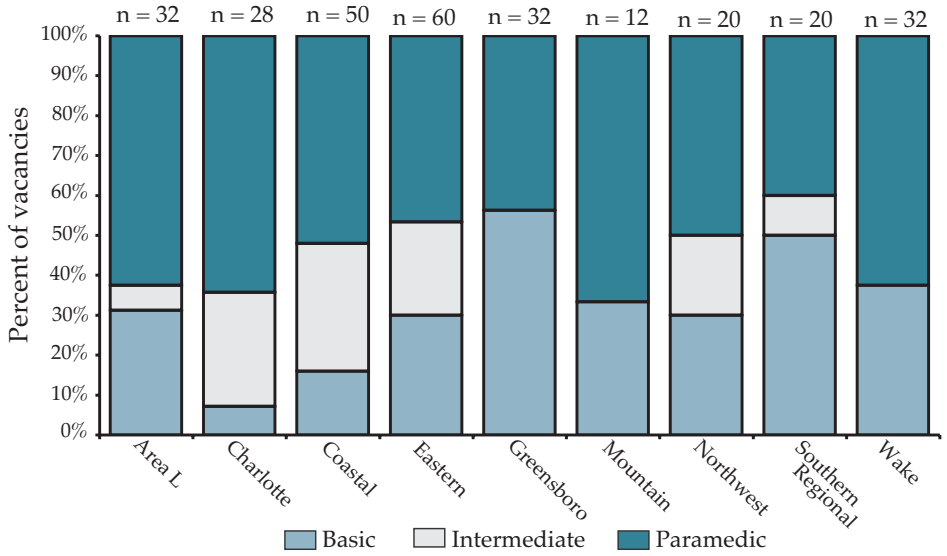


Source: North Carolina Allied Health Vacancy Tracking Project. Cecil G. Sheps Center for Health Services Research, 2006. Produced by: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill.

Notes: North Carolina newspaper listings for select Allied Health professions tracked from February 5 to April 23, 2006 (N=2060). Sample excludes listings missing employer location (N=108) and listings for which candidates with multiple degree types were eligible (N=78).

Demand for EMTs at specific training levels (basic, intermediate, or paramedic) also varied by region of the state. In three AHEC regions, the bulk of the EMT ads were for basic- or intermediate-trained personnel: Eastern, Greensboro, and Southern Regional. In the rest of the state, at least half of EMT ads were for paramedics, the most advanced level.

Figure 4. EMT Vacancies by AHEC, North Carolina, 2006



Note: Four of the ads in the Eastern AHEC were for basic or intermediate EMTs; these ads are represented in the intermediate category. Two of the ads in the Greensboro AHEC and six of the ads in the Wake AHEC were for intermediate or paramedic EMTs; these ads are represented in the paramedic category.

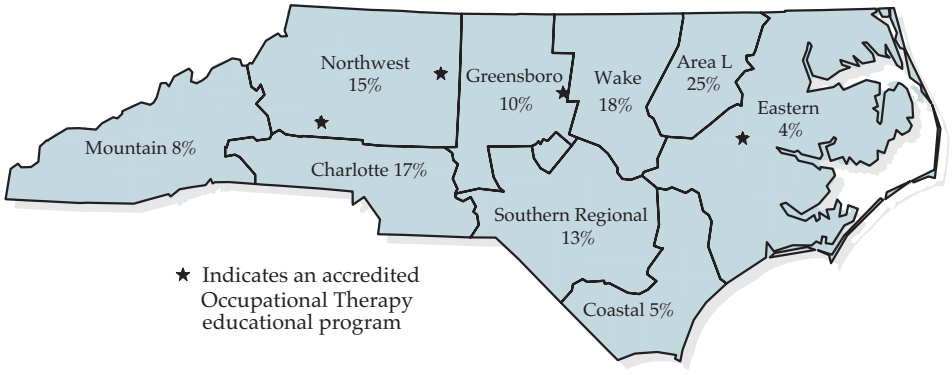
Occupational Therapy

There was also geographic variation in the prevalence of ads for occupational therapists relative to ads for other professions. In four AHECs, occupational therapy was the second most advertised profession **(Figure 5)**.

- Area L (25% of all ads)
- Wake (18% of all ads)
- Northwest (15% of all ads)
- Southern Regional (13% of all ads).

Occupational therapy ads comprised 17% of all ads in the Charlotte AHEC as well.

Figure 5. Advertisements for Occupational Therapy as a Percent of Total Vacancy Advertisements by AHEC Region, North Carolina, 2006



Source: North Carolina Allied Health Vacancy Tracking Project. Cecil G. Sheps Center for Health Services Research, 2006. Produced by: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill.

Notes: North Carolina newspaper listings for select Allied Health professions tracked from February 5 to April 23, 2006 (N=2060). Sample excludes listings missing employer location (N=108) and listings for which candidates with multiple degree types were eligible (N=78).

Ads for occupational therapists accounted for smaller portions of total ads in other AHEC regions, including Eastern (4% of all ads), Coastal (5% of all ads), and Mountain (8% of all ads) **(Figure 5, previous page)**.

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

- Medical lab technicians: 81% of these ads were concentrated in the Greensboro and Wake AHECs
- Medical technologists: Three AHEC regions—Wake, Charlotte, and Greensboro—accounted for 63% of these ads.
- Certified occupational therapy assistants: Over half (56%) of these ads were found in two AHECs, Northwest and Southern Regional.

Table 7. Percent of Vacancies by AHEC and Profession (Columns sum to 100%)

AHEC	% of NC Population	All Professions (n = 2,060)	EMT (n = 286)	MLT (n = 42)	MT (n = 72)	OT (n = 270)	COTA (n = 122)	PT (n = 628)	PT-A (n = 192)	Rad Tech (n = 242)	SLP (n = 204)	SLP-A (n = 2)
Area L	3%	5%	11%	5%	3%	10%	3%	3%	1%	3%	7%	-
Charlotte	19%	13%	10%	5%	19%	16%	5%	11%	14%	20%	10%	-
Coastal	5%	7%	17%	5%	3%	3%	7%	7%	8%	2%	7%	-
Eastern	11%	11%	21%	-	11%	4%	5%	8%	10%	12%	20%	100%
Greensboro	12%	14%	11%	38%	19%	10%	10%	18%	17%	13%	6%	-
Mountain	7%	5%	4%	-	6%	3%	5%	6%	3%	7%	3%	-
Northwest	17%	14%	7%	5%	14%	16%	31%	11%	17%	18%	20%	-
Southern Regional	10%	14%	7%	-	-	14%	25%	19%	18%	7%	15%	-
Wake	16%	17%	11%	43%	25%	23%	10%	16%	13%	19%	14%	-
All AHECs	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Employer Type

Hospitals were the most common employer type advertising vacancies for allied health professionals overall—about one in three ads were placed by hospitals. Among advertisements for Emergency Medical Technicians, 85% were for positions with state or local government agencies. For physical therapists, 37% of advertisements were for hospital positions, but a substantial percentage were also placed by private practices (22%) and staffing agencies (22%). A summary of the distribution of vacancy advertisements across employer type by profession is provided in Table 8.

Table 8. Vacancies by Employer Type and Profession (Columns sum to 100%)

Employer Type	All Professions (n = 2,060)	EMT (n = 286)	MLT (n = 286)	MT (n = 72)	OT (n = 270)	COTA (n = 122)	PT (n = 628)	PT-A (n = 192)	Rad Tech (n = 242)	SLP (n = 204)	SLP-A (n = 2)
Hospital (n = 694)	34%	3%	67%	64%	27%	33%	37%	33%	75%	10%	-
Practice (n = 416)	20%	9%	19%	-	27%	30%	22%	32%	9%	24%	100%
Staffing Agency (n = 350)	17%	1%	5%	3%	19%	28%	22%	24%	7%	27%	-
Government (n = 268)	13%	85%	-	8%	1%	-	2%	-	1%	-	-
Long-term care (n = 90)	4%	-	-	3%	9%	7%	5%	5%	-	6%	-
Home Health (n = 52)	3%	-	-	-	6%	-	4%	3%	-	1%	-
Rehab (n = 50)	2%	-	-	-	4%	-	3%	1%	3%	5%	-
Other (n = 30)	1%	1%	-	-	1%	-	2%	-	1%	6%	-
University (n = 26)	1%	-	-	-	1%	-	1%	-	1%	7%	-
Lab (n = 20)	1%	-	5%	22%	-	-	0%	-	-	-	-
School (n = 8)	<1%	-	-	-	1%	-	0%	-	-	2%	-
Missing (n = 56)	*3%*	-	*5%*	-	*3%*	*3%*	*1%*	*1%*	*2%*	*13%*	-
All Employers (n = 2,060)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sign-on Bonuses

Sign-on bonuses were offered in 2% of vacancy advertisements (n = 50). When specified, the value of the bonuses ranged from $2,500 to $10,000, (bonuses were quantified in 38 listings).

Sign-on bonuses were most common among advertisements for physical therapists (54% of advertisements listing sign-on bonuses, n = 27) and physical therapy assistants (22% of advertisements listing sign-on bonuses, n = 11). Interestingly, two professions with relatively high vacancy indices – EMTs and occupational therapy assistants – did not yield any vacancy listings offering sign-on bonuses.

The vacancy index for certain types of allied health professionals does not appear to correlate with the number of employers offering sign-on bonuses. This may suggest that financial incentives are driven more by local need for workers or the financial resources of the employer than by aggregate demand across the state. Looking at the number of sign-on bonuses offered by region, for example, the greatest percent come from the Greensboro AHEC (28% of advertisements listing sign-on bonuses, n = 14). Meanwhile, no sign-on bonuses were offered by employers in the Area L, Coastal or Wake AHECs. Perhaps also telling, hospitals were by far the most frequently represented employer type among advertisements offering sign-on bonuses (58% of ads, n = 29), followed by staffing agencies (30% of ads, n = 15).

Conclusion

Demand for the therapy professions is strong and is being fueled, in part, by an aging population. The highest vacancy rate was for certified occupational therapy assistants and this likely reflects not only increasing demand for OTA services for the elderly, but also a declining supply of graduates from OTA educational programs in the state. The number of OTA programs producing graduates has decreased from eight to four programs in recent years. There is currently no OTA educational program in the northwestern part of the state, which may explain why OTA vacancies are higher in this region. Emergency Medical Technician vacancies are highest in eastern North Carolina but exist across the state. This report has tracked only ten professions and shortages undoubtedly exist in other allied health professions.

Allied health jobs comprised 37% of total health care employment in North Carolina in 2005[2] and represent a large, and increasingly important, employment sector in the state. 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%. Demand for allied health professions is likely to increase over time as the state's population continues to grow and to age. In contrast to the manufacturing, textile and tobacco industries that continue to lose jobs, allied health care jobs represent a stable and growing employment sector. Opportunities exist for state policy makers to promote strategies to transition workers who have been displaced from traditional industries into allied health care employment.

[1] Job vacancy advertisements were collected from one additional internet source not described above – PT Bulletin Online. Preliminary analysis of our data indicated that this source included many duplicate listings from a small number of employers which had the potential to artificially inflate the apparent demand for physical therapists in the state. For this reason, and after consultation with members of the Council for Allied Health in North Carolina, we excluded advertisements gathered from this source from our report (n=830).

[2] U.S. Bureau of Labors Statistics, Occupational Employment Statistics, 2005, available at http://www.bls.gov.oes/. For a list of professions included in allied health contact Erin Fraher at the email or phone number below.

Cecil G. Sheps Center for Health Services Research
The University of North Carolina at Chapel Hil
Campus Box 7590, 725 Martin Luther King Jr. Blvd.
Chapel Hill, NC 27599-7590
http://www.shepscenter.unc.edu/hp
nchp@unc.edu
(919) 966-7112