

ALLIED HEALTH VACANCY REPORT

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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 the allied health workforce in North Carolina, the Cecil G. Sheps Center for Health Services Research, together with the Council for Allied Health in North Carolina and the North Carolina Area Health Education Centers (NC AHEC) Program, initiated a project to track allied health job vacancies. The purpose of the project was to monitor weekly job listings in North Carolina newspapers for select allied health professions.

Although not a definitive measure of shortage, the number of vacancies advertised is one indicator of whether a profession is facing increased demand. From February through November 2004, 2,428 vacancy advertisements were collected during two data collection periods. This report outlines findings from the vacancy project and:

- ◆ presents data on the total number of vacancy advertisements during the study period;
- ◆ compares the number of vacancy advertisements between the two data collection periods;
- ◆ analyzes the number of sign-on bonuses offered;
- ◆ analyzes the number of ads by employer sector; and
- ◆ examines geographic differences in the demand for specific allied health professions.

METHODOLOGY

Job classified advertisements were collected from North Carolina Sunday newspapers for ten allied health professions from February 1 through April 18, 2004 and from September 5 through November 28, 2004. Professions were selected through two surveys. The first survey was of members of the Council for Allied Health in North Carolina who were asked to identify professions that they perceived as facing a shortage. Data gathered from Council members concurred with responses from a second survey conducted by the North Carolina Hospital Association (NCHA) of member hospitals that identified and ranked the allied health professions experiencing the most critical workforce shortages in the state. The professions tracked were:

- | | |
|-------------------------------|---------------------------------|
| ◆ Occupational Therapist | ◆ Nuclear Medicine Technologist |
| ◆ Respiratory Therapist | ◆ PET Technologist |
| ◆ Speech-Language Pathologist | ◆ Pharmacy Technician |
| ◆ Medical Lab Technician | ◆ Dental Hygienist |
| ◆ Medical Technologist | ◆ Physician Assistant |

The Allied Health Vacancy Report is a collaborative effort of:

*The Council for Allied Health in North Carolina
The North Carolina Area Health Education Centers Program
The Cecil G. Sheps Center for Health Services Research, UNC-Chapel Hill*

Job classified ads were collected from ten North Carolina newspapers (listed below). One newspaper for each AHEC region and two newspapers in Area L AHEC were monitored. Two newspapers were selected in Area L AHEC because both were small newspapers.

1. Raleigh News & Observer (Wake AHEC)
2. Charlotte Observer (Charlotte AHEC)
3. Wilmington Star News Online (Coastal AHEC)
4. The News and Record (Greensboro AHEC)
5. Fayetteville Observer (Southern Regional AHEC)
6. The Daily Reflector (Eastern AHEC)
7. Winston-Salem Journal (Northwest AHEC)
8. Asheville Citizen Times (Mountain AHEC)
9. Wilson Daily Times (Area L AHEC)
10. Rocky Mount Telegram (Area L AHEC)

Online searches were used to track job advertisements in eight of the ten newspapers. The online searches used the following key words to identify relevant vacancy ads:

- | | | | |
|--------------------|-------------|-----------------------|-----------------------|
| • clinical | • medical | • PA | • physician |
| • dental hygienist | • MLT | • occupational | • physician assistant |
| • health | • MT | • PET | • respiratory |
| • laboratory | • nuclear | • pharmacy | • speech |
| • lab | • therapist | • pharmacy technician | • technician |

Classified advertisements in the *Raleigh News & Observer* and the *Charlotte Observer* were collected each week by searching through the hard copy of the job classified ads in the Sunday edition newspaper. Hard copy searches were necessary because both newspapers' online search engines were not able to limit keyword searches to just the job classified ads in their newspapers.

METHODOLOGICAL CAVEATS

Efforts were made to ensure good geographic coverage of the state by collecting vacancy ads from newspapers in each AHEC region. However, a number of important methodological limitations exist. The sample may not reflect the true number of vacancies in the state because the data do not capture vacancies listed in other media such as employer-specific postings and advertisements in professional journals. If certain employers, professions or geographic areas are more likely to advertise in these other media, this will bias the results. Additionally, the data were only collected for two time periods and provide a "snapshot" of vacancies at the time the data were collected. The findings may not be generalizable beyond the two time periods and may reflect seasonal or other natural fluctuations in the demand for allied health professionals. Finally, the sample may not reflect the true distribution of vacancies across the state because 193 advertisements (8% of the total) did not contain information on employer location and thus were not able to be located to a region. Another 109 job vacancy advertisements (5% of the total) were not included in the analysis because they were for an out-of-state employer location.

RESULTS

Number of Vacancy Advertisements

The three professions with the largest number of job vacancy advertisements were occupational therapists, respiratory therapists, and speech-language pathologists.

About the same number of vacancy advertisements were collected in the first data collection period (1,157) and the second (1,162) (**Table 1**). The total number of advertisements for the therapy professions and pharmacy technicians exhibited relative stability between the two periods while vacancy advertisements for other professions saw the following changes:

- Dental Hygienists experienced a 43% decline in ads
- Nuclear Medicine Technologists experienced a 42% decline in ads
- Medical Lab Technicians (MLT) experienced a 54% decline in ads
- MLTs or MTs experienced an 85% increase in ads
- Medical Technologists experienced a 40% increase in ads
- Physician Assistants experienced a 16% increase in ads

Table 2 demonstrates the geographic distribution of job vacancy advertisements collected during both data collection periods by employer location, for each AHEC region. The vacancy advertisements per AHEC region were adjusted to account for differences in the size of the population among the AHEC regions. Area L AHEC had the highest number of vacancy advertisements, 4.56 per 10,000 population, while Southern Regional AHEC had the lowest number of vacancy advertisements, 1.85 per 10,000 population.

Since there are three and a half times more speech-language pathologists than nuclear medicine technologists employed in North Carolina, the vacancy analysis needs to be adjusted to account for the size of the profession. Otherwise, it would be unclear whether some professions had a higher number of vacancies simply because they employed a larger number of professionals.

TABLE 1: JOB VACANCY ADVERTISEMENTS BY ALLIED HEALTH PROFESSION, NORTH CAROLINA, 2004

Allied Health Professions	Ads from February 1 - April 18, 2004 (Total = 1,157)		Ads from September 5- November 28, 2004 (Total = 1,162)	
Total Advertisements				
	n	% of total ads	n	% of total ads
<i>Therapies</i>				
Occupational Therapist	197	17.0%	201	17.3%
Speech-Language Pathologist	186	16.1%	214	18.4%
Respiratory Therapist	197	17.0%	220	18.9%
<i>Diagnostic</i>				
Medical Lab Technicians (MLT)	83	7.2%	38	3.3%
Medical Technologists (MT)	72	6.2%	101	8.7%
MLTs/MTs*	39	3.4%	72	6.2%
PET Technologists	5	0.4%	3	0.3%
Nuclear Medicine Technologists	50	4.3%	29	2.5%
<i>Other</i>				
Physician Assistants	93	8.0%	108	9.3%
Dental Hygienists	160	13.8%	92	7.9%
Pharmacy Technicians	75	6.5%	84	7.2%

* Category captures advertisements seeking either an MLT or MT.

Note: Excludes out-of-state ads (N=109) and includes advertisements with missing employer location (N=193) that were assumed to be in North Carolina.

TABLE 2: VACANCY ADS PER AHEC REGION AND POPULATION

AHEC	Total # of ads	Total population	Vacancies per 10,000 population
Area L	137	300,530	4.56
Eastern	186	931,473	2.00
Coastal	120	404,351	2.97
Southern Regional	154	832,613	1.85
Charlotte	331	1,485,382	2.23
Wake	359	1,330,283	2.70
Greensboro	358	1,040,135	3.44
Mountain	138	702,555	1.96
Northwest	343	1,458,480	2.35
Total NC	2,126 *	8,485,802	2.51

*Excludes ads for out-of-state employer locations (N = 109), and ads missing employer location (N = 193).

Table 3 presents the vacancy index for each profession, which is the total number of vacancies advertised divided by the number of individuals employed in each health profession multiplied by 100. The vacancy index reveals the number of vacancies per 100 health professionals.

After adjusting for the size of the profession, **Table 3** shows that occupational therapy had the highest vacancy index, followed by speech-language pathology and respiratory therapy. The adjustment also revealed that although nuclear medicine technologists had a relatively low total number of vacancies, the number of vacancies relative to the size of the profession resulted in a medium vacancy index. The technician professions—pharmacy technicians and medical lab technicians—had the smallest vacancy indices.

TABLE 3: ALLIED HEALTH VACANCIES BY PROFESSION IN NORTH CAROLINA

Allied Health Professions	Number of Professionals in NC	Number of Vacancy Ads Collected**	Vacancy Index per 100 professionals
Occupational Therapist	1,950	398	20.41
Speech-Language Pathologist	2,930	400	13.65
Respiratory Therapist	3,169	417	13.16
Medical Lab Technician	5,060	121	2.39
Medical Technologist	4,790	173	3.61
PET Technologist	*	8	*
Nuclear Medicine Technologist	840	79	9.40
Physician Assistant	2,390	201	8.41
Dental Hygienist	4,095	252	6.15
Pharmacy Technicians	7,270	159	2.19

Source: OT, SLP, MT, MLT, Nuclear Medicine Technologist, and Pharmacy Technician data are from the Bureau of Labor Statistics 2003. Physician Assistant and Dental Hygienist data are from the North Carolina Health Professions Data System 2003 at the Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill. RT data are from a publication by Dyson, S. "The State of Allied Health in North Carolina: A Focus on the Respiratory Therapy Workforce." Chapel Hill, North Carolina. The Council for Allied Health in North Carolina, August 2004.

*Data unavailable for PET Technologists.

**Excludes ads for out-of-state employer locations (N=109).

Note: Table excludes ads for either a MLT or MT.

Employer Type

The majority of advertisements (45%) were for hospital employers (**Table 4**). OT ads were equally likely to be for a rehabilitation facility, as for a hospital. Thirty-four percent of SLP ads were in rehabilitation, 28% in hospitals, 16% in home health and 11% in schools. All of the PET tech vacancies were in hospitals, as were the vast majority of RT vacancies (78%), MT vacancies (73%), and nuclear medicine technologist vacancies (68%). Physician assistant and dental hygienist vacancies were most often located in private practices.

TABLE 4: ALLIED HEALTH PROFESSIONS BY EMPLOYER TYPE

Employer Type	Total Ads	OT	SLP	RT	MLT	MT	MLT/MT	PET Tech	NMT	PA	DH	PhT
Dental practice (N = 121)	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	0%
Hospital (N = 1,042)	45%	36%	28%	78%	59%	73%	83%	100%	68%	25%	0%	38%
Home health care (N = 183)	8%	15%	16%	13%	0%	0%	0%	0%	0%	0%	0%	4%
Laboratory (N = 42)	2%	0%	0%	0%	11%	10%	7%	0%	0%	0%	0%	0%
LTC setting (N = 17)	1%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	2%
Pharmacy (N = 50)	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	31%
Practice (N = 177)	8%	4%	4%	0%	12%	8%	4%	0%	19%	47%	0%	6%
Rehabilitation (N = 294)	13%	38%	34%	0%	0%	0%	0%	0%	0%	1%	0%	1%
School (N = 57)	2%	1%	11%	0%	0%	0%	0%	0%	0%	4%	1%	1%
Staffing agency (N = 113)	5%	3%	2%	2%	7%	1%	1%	0%	3%	5%	17%	11%
Other (N = 62)	3%	2%	2%	2%	6%	3%	5%	0%	4%	6%	2%	1%
Missing Employer Type (N = 161)	7%	3%	2%	4%	6%	4%	0%	0%	6%	11%	31%	6%
Total Ads by Profession	2,319	398	400	417	121	173	111	8	79	201	252	159

*Excludes ads for out-of-state employer locations (N=109).

Sign-on Bonuses

Sign-on bonuses were offered in only 3% of total job vacancy advertisements and were most common in the three therapy professions compared to the other allied health professions tracked:

- ◆ Occupational Therapists
 - Ranged from \$1,500-\$5,000
 - Offered in 12 ads in spring and 11 ads in the fall data collection periods.
- ◆ Respiratory Therapists
 - Ranged from \$1,500-\$6,000
 - Offered in 11 ads in the spring and 5 ads in the fall data collection periods.
- ◆ Speech-Language Pathologists
 - Ranged from \$2,000-\$5,000
 - Offered in 10 ads in the spring and 16 ads in the fall data collection periods.

Sign-on bonuses were offered most commonly by large employers such as hospitals, home health care agencies, rehabilitation facilities, and by some school districts for SLPs. There did not appear to be rural or urban differences in employer locations offering sign-on bonuses. Sign-on bonuses offered by 12 out-of-state employers from South Carolina and Virginia were larger, starting at \$5,000 and reaching up to \$10,000.

DISTRIBUTION OF ALLIED HEALTH JOB VACANCIES WITHIN AHECs

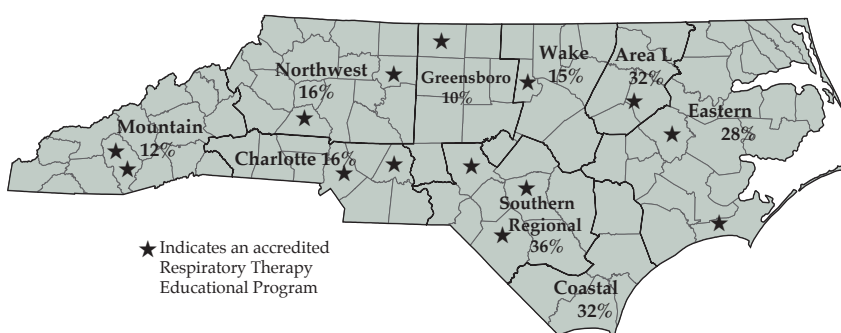
Respiratory Therapy

Vacancy advertisements for specific allied health professions as a percent of total allied health vacancies within an AHEC region varied. While respiratory therapy (RT) ads comprised approximately 18% of ads across the total state (**Table 1**), RT vacancy ads comprised a high percentage of the advertisements for each the following eastern North Carolina AHEC regions (**Figure 1**):

- ◆ 28% of total ads in Eastern AHEC
- ◆ 32% of total ads in Coastal AHEC
- ◆ 32% of total ads in Area L AHEC
- ◆ 36% of total ads in Southern Regional AHEC

The large percentage of respiratory therapy advertisements in eastern North Carolina is primarily from multiple advertisements by large hospital employers in the region.

**FIGURE 1: PERCENT OF JOB VACANCY ADVERTISEMENTS BY AHEC REGION
RESPIRATORY THERAPY, NORTH CAROLINA, 2004**



Source: North Carolina Allied Health Vacancy Tracking Pilot Project, Cecil G. Sheps Center for Health Services Research, 2004.
Produced by: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Service Research, The University of North Carolina at Chapel Hill.

Notes: North Carolina newspaper listings for Respiratory Therapists tracked from February 1 to April 18, 2004 and September 5 to November 28, 2004 (N=402). Sample excludes listings for positions outside of North Carolina (N=11) and listings with missing employer location (N=15).

The dominance of respiratory therapist job vacancy ads is not demonstrated in western or central North Carolina AHEC regions. For example RT ads comprised a smaller percentage of advertisements for each the following AHEC regions:

- ◆ 10% of total ads in Greensboro AHEC
- ◆ 12% of total ads in Mountain AHEC
- ◆ 15% of total ads in Wake AHEC
- ◆ 16% of total ads in Charlotte AHEC
- ◆ 16% of total ads in Northwest AHEC

Occupational Therapy

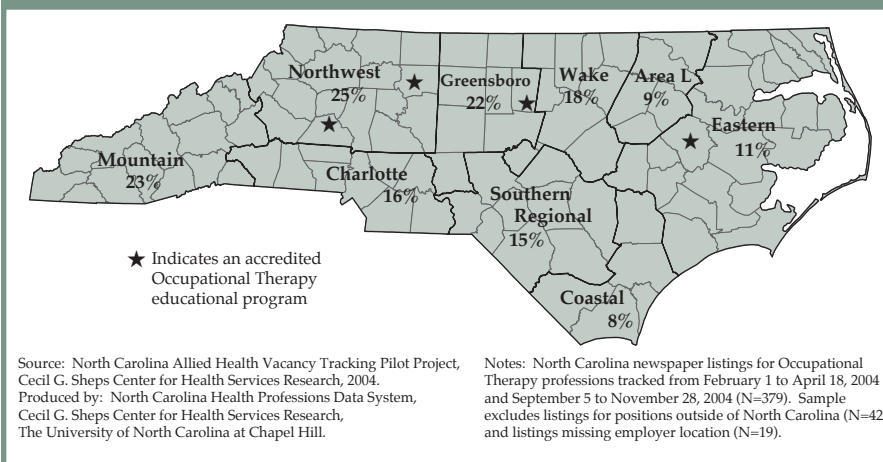
While occupational therapy (OT) ads comprised approximately 17% of total ads across the state, OT vacancy ads comprised approximately 22-25% of the total number of advertisements in the following western North Carolina AHEC regions (Figure 2):

- ◆ 22% of total ads in Greensboro AHEC
- ◆ 23% of total ads in Mountain AHEC
- ◆ 25% of total ads in Northwest AHEC

The dominance of occupational therapist job vacancy ads is not demonstrated in eastern North Carolina AHEC regions. For example OT ads comprised:

- ◆ 8% of total ads in Coastal AHEC
- ◆ 9% of total ads in Area L AHEC
- ◆ 11% of total ads in Eastern AHEC
- ◆ 15% of total ads in Southern Regional AHEC

**FIGURE 2: PERCENT OF JOB VACANCY ADVERTISEMENTS BY AHEC REGION
OCCUPATIONAL THERAPY, NORTH CAROLINA, 2004**

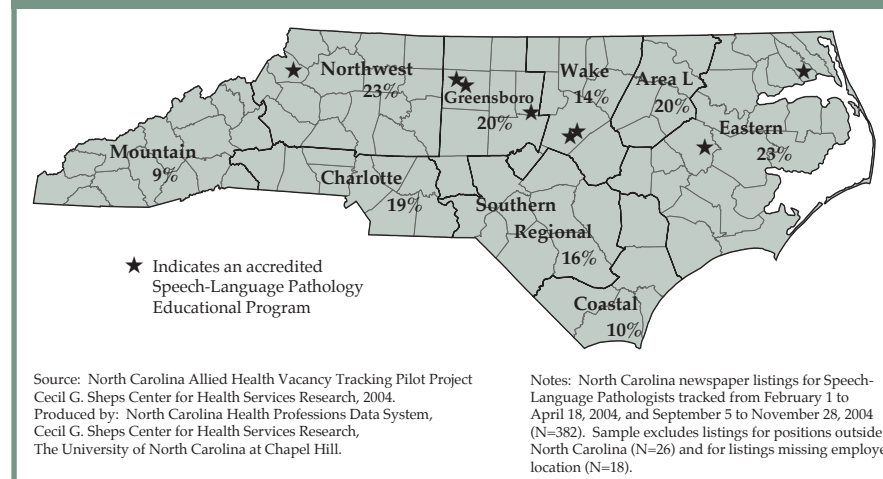


Speech-Language Pathologists

For the most part, job vacancy ads for SLPs were distributed evenly across the NC AHEC regions. Vacancies for SLPs comprised the following percentage of total vacancy advertisements for each AHEC region (Figure 3):

- ◆ 9% Mountain AHEC
- ◆ 10% Coastal AHEC
- ◆ 14% Wake AHEC
- ◆ 16% Southern Regional AHEC
- ◆ 19% Charlotte AHEC
- ◆ 20% Greensboro AHEC
- ◆ 20% Area L AHEC
- ◆ 23% Northwest AHEC
- ◆ 23% Eastern AHEC

**FIGURE 3: PERCENT OF JOB VACANCY ADVERTISEMENTS BY AHEC REGION
SPEECH-LANGUAGE PATHOLOGY, NORTH CAROLINA, 2004**



PROFESSION-SPECIFIC VACANCIES

When looking at the distribution of vacancies in certain professions across the state, several trends emerge:

□ *Dental Hygienists*

- ✓49% of the 166 dental hygienist ads were in Wake AHEC.
- ✓In Mountain AHEC, there were no job vacancy ads during spring or fall data collection periods for Dental Hygienists¹

□ *Medical Lab Technicians and Medical Technologists*

- ✓The greatest number of advertisements for clinical laboratory science positions, a MT, MLT, or an advertisement seeking either a MT or MLT, were located in three AHECs. Of the 389 vacancy advertisements collected:
 - 19% were in Northwest (75 ads)
 - 20% were in Greensboro (101 ads)
 - 21% were in Charlotte (81 ads)

□ *Pharmacy Technicians*

- ✓Nearly 70% of 150 Pharmacy Technician ads were in three AHECs:
 - 21% of pharmacy tech ads were in Northwest
 - 21% of pharmacy tech ads were in Wake
 - 25% of pharmacy tech ads were in Greensboro

□ *Nuclear Medicine Technologists*

- ✓41% of ads were located in Charlotte (30 ads)

□ *PET Technologists*

- ✓88% of ads were located in Charlotte (7 ads)

CONCLUSION

The allied health job vacancy data appear to indicate that the highest demand is for the therapy professions: respiratory therapy, occupational therapy, and speech-language pathology. This trend is evidenced by the high number of job vacancy advertisements, high vacancy indices, and the number of sign-on bonuses offered for the three professions. Technician positions (pharmacy technician, MLT, and MT) had low vacancy indices and few sign-on bonuses. Nuclear medicine, dental hygienists, and physician assistants generally had medium vacancy indices. A possible explanation for the difference in demand between therapists and technicians may lie in the ability of therapy professionals to be income generators for employers through their direct ability to bill Medicaid, Medicare, and third-party payers. Technician positions are a fixed cost to the employer and productivity may not be closely tied with reimbursement. Furthermore, employers that typically hire therapists were more represented in the sample of job vacancy ads collected: 45% of ads were in hospitals, 13% in rehabilitation, and 8% in home health care.

There are also geographic differences in the number of vacancies, particularly for respiratory therapy in eastern NC and occupational therapy in western NC. Speech-language pathologists are needed statewide, with demand present in all employer settings: schools, home health care, rehabilitation facilities, and hospitals. The location of educational programs for the therapy professions across the state does not appear to correlate with the demand for RTs, OTs, and SLPs.

¹ 34% (N = 86) of total ads collected for Dental Hygienists (N = 252) were missing an employer location, contributing a level of uncertainty in analysis by AHEC region.

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