October 2011

Allied Health Job Vacancy Tracking Report

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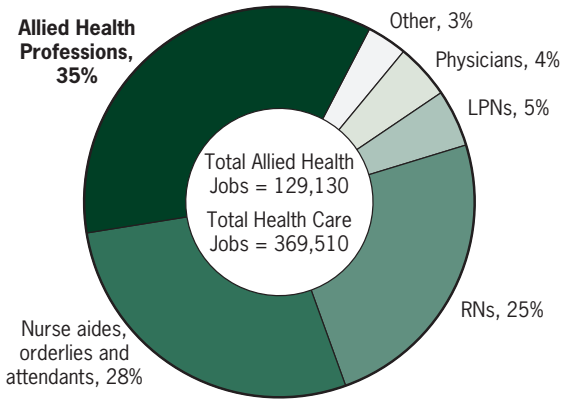
Introduction

Allied health professionals make up the largest proportion (35%) of the health care workforce in North Carolina (**Figure 1**), yet there is limited information regarding the demand for their services throughout the state. The Cecil G. Sheps Center for Health Services Research, in collaboration with the Council for Allied Health in North Carolina and the North Carolina AHEC Program, seeks to fill this gap by conducting bi-annual studies that track allied health job vacancies in the state. This report highlights the results of the latest study with the aim of informing the work of policy makers, educators, and practitioners to ensure an adequate supply and distribution of allied health professionals in North Carolina.

Figure 1.
Health Care Jobs in North Carolina, 2010



Note: "Other" healthcare occupations include chiropractors, dentists, optometrists, pharmacists and podiatrists.**Source**: North Carolina Health Professions Data System with data from U.S. Bureau of Labor Statistics, Occupational Employment Statistics (2010). URL: http://www.bls.gov/oes/current/oes.nat.htm, accessed 9/13/11.

The allied health job vacancy tracking project estimates workforce demand for selected health professionals in North Carolina by tracking job vacancy advertisements from both online and print sources. Though there are multiple factors that could suggest shortage including rising salaries, longer waiting times, greater number of days to fill a position, and high recruitment costs, the number of vacancies advertised is one indicator of whether a profession is facing increased demand. This report reflects tracking that was conducted in Spring 2011, and is a continuation of four previous reports published in May 2006, August 2006, April 2007, and May 2011.

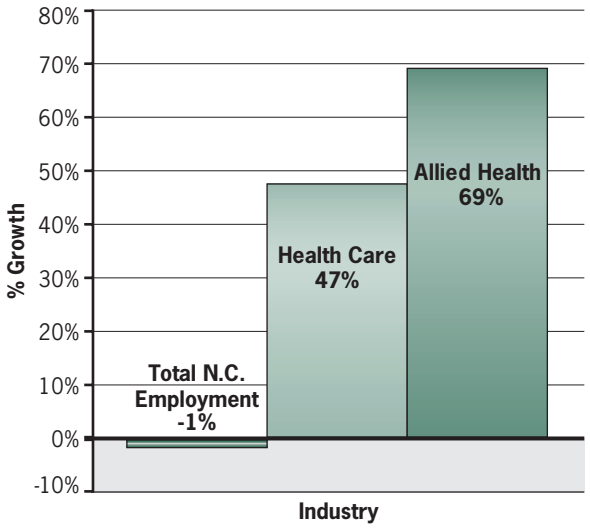
Determining which professions fall into the "allied health" workforce continues to be a topic of debate. For the purposes of this report, an exclusionary definition is assumed that defines allied health professionals as all health professionals with the exception of physicians, nurses, chiropractors, dentists, optometrists, pharmacists, podiatrists, nurse aides, orderlies and attendants. Even when excluding these professions, the most current data available show the allied health workforce accounts for more than one in three health care professionals in North Carolina (**Figure 1**). Historically, there has been a high growth rate in allied health employment, which has continued even during the recent economic recession. **Figure 2** shows that while NC saw a 1% reduction in total employment since 1999, the health care sector experienced marked expansion (47% growth). Even more resilient to the worsening economy are allied

Support for this study comes from the North Carolina Department of Commerce, the North Carolina Health & Wellness Trust Fund, and the Florence Rogers Charitable Trust.

This is a collaborative effort of 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 Program.

health jobs, which have outpaced both health care and total employment with 69% growth since 1999. As policymakers consider ways to stimulate the economy and reduce unemployment, the allied health sector has the potential to serve as a true job engine.

Figure 2.
Percent Growth in Employment in NC, 1999-2010



Source: North Carolina Health Professions Data System with data from U.S. Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 1999-2010. URL: http://www.bls.gov/oes/. Accessed 09/12/2011.

Methodology

Demand for allied health professionals was estimated by collecting information from job advertisements over a ten week span. Job postings were collected once per week from online sources and regional newspapers, and information was recorded and analyzed in Microsoft Excel®. A total of 1,658 job vacancy advertisements were collected between February 13, 2011 and April 17, 2011. Of this total, 99 listings were excluded from further analyses because they did not include information on the geographic location of the advertised vacancy. Eight additional advertisements were excluded because they either recruited multiple types of professions or lacked clear information about the specific profession needed. These exclusions left a final sample size of 1,551.

Given limitations regarding the number of allied health professions that could be tracked each week, members of the Council for Allied Health in North Carolina ("Council") were surveyed in August 2010 to help guide the selection of professions facing the most demand. Council members were asked to identify whether or not the profession they represented was facing a shortage, where vacancies for that profession might be located and advertised, as well as their thoughts on how health reform might affect demand for their profession. A preliminary list of professions to be included in the analysis was developed drawing on the results of this survey and the final decision for including a profession was based on inclusion in earlier tracking reports and recent growth trends. The final list contained ten health professions (**Table 1**). In order to ensure continuity across reports, the same professions were tracked in both the Fall 2010 and Spring 2011 studies.

Table 1. Professions Monitored

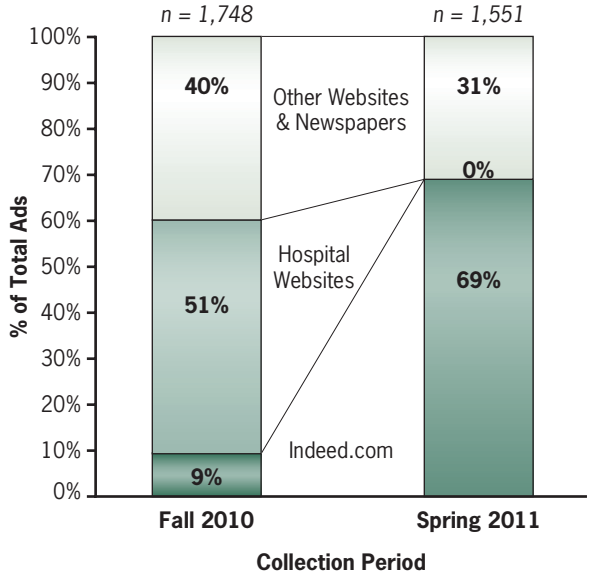
Emergency Medical Services
Health Information Management/Technology
Imaging (PET, MRI, CT)
Medical Assistants
Occupational Therapy Assistants
Occupational Therapists
Physical Therapists
Physical Therapist Assistants
Respiratory Therapists
Speech-Language Pathologists

Vacancy advertisements for the professions listed in **Table 1** were collected at the end of each week from online job boards and from the Sunday classified section of nine newspapers (**Table 2**). In an effort to gather a more evenly-distributed, representative sample of allied health job ads, changes in online data collection occurred between Fall 2010 and Spring 2011. In the spring, data collection relied more heavily on ads from Indeed.com than individual hospital websites (**Figure 3**) because Indeed.com incorporates a greater diversity of employers in a single source and affords a

Table 2. Media Sources Monitored for Allied Health Vacancies

Online Sources
Advance for Healthcare Careers
American Speech-Language Hearing Association
Indeed.com
NC Occupational Therapy Association
NC Physical Therapy Association
NC Speech Hearing & Language Association
North Carolina Office of State Personnel
North Carolina Public Schools Application System
Newspaper Sources
Asheville Citizen Times
Charlotte Observer
Fayetteville Observer
Raleigh News and Observer
Rocky Mount Telegram
The Daily Reflector
Wilmington Star-News
Wilson Daily Times
Winston Salem Journal

Figure 3.
Sources of Vacancy Data, 2010 and 2011



Notes: North Carolina newpaper and online listings for select allied health professions tracked from 9/19/10 - 11/28/10 and 2/13/11 - 4/17/11.

more even geographic distribution of job postings than individual organization or hospital websites.

Consistent search terms were used each week in order to provide a more systematic sampling of advertisements. Additional online job boards that were not indexed by Indeed.com but were listed as likely sources for job vacancy advertisements were monitored individually. Since job advertisements for some professions like speech-language pathologists are more cyclical and tied to the school year, efforts were made to increase the number of sources in order to counteract low seasonal demand.

When counting positions, information about the weekly time requirement for each job advertised was utilized. Full-time positions were assigned a full-time equivalent (FTE) value of 1, whereas those listed as part-time or PRN (as needed) were allocated 0.5 FTEs. Positions that were listed as ten-week contract positions were allocated 1 FTE since most employers continue to fill those slots on an ongoing basis. Data were de-duplicated and counted as a single vacancy if the advertisement appeared more than once for the same job title, employer, location, and full- or part-time status.

Similar to the way that tracking imaging professions requires collecting data on multiple positions (e.g., radiologic technologist, sonographer, dosimetrist), tracking health information management (HIM) positions required collecting job listings for health information administrators, health information technicians, and coders. Within these broad categories, individual positions were advertised under different titles such as HIM director, medical record manager, technician, consultant, coder, data analyst, privacy officer, risk manager, and medical reviewer. While this made it a challenging profession to track, the potential for increased demand for HIM professionals resulting from the implementation of electronic health record systems made it a valuable profession to include.

Methodological Limitations

Although past tracking reports have proven successful at highlighting professions and areas in the state facing increased shortages, a number of limitations should be considered when interpreting the results. Due to logistical limitations, we were unable to track all allied health professions throughout the state or monitor all sources of job advertisements. It is also possible that some positions are filled in a fashion other than through job vacancies advertised from this report's tracked sources (e.g., direct recruitment). Thus, the sample collected may not be fully representative of the overall demand for professionals or provide a complete geographic distribution of job vacancies. Additionally, vacancies may have been under-counted if employers who were recruiting for more than one position only posted one advertisement. Advertisements were collected over a span of ten weeks and may suffer the effects of seasonal or temporal variation (e.g., speech-language pathologist positions are advertised in the summer to recruit for positions in the school system). Finally, some advertisements were excluded because they had incomplete data with respect to geography or employment setting. When possible, location information was gathered through independent research.

Results

As seen in previous reports, the therapy professions, including physical therapists (PTs), occupational therapists (OTs), physical therapist assistants (PTAs), and occupational therapy assistants (OTAs) account for the majority of the vacancy advertisements. Specifically, PTs and PTAs accounted for 40% (n = 614) of total vacancies, while OTs and OTAs vacancies made up 26% (n = 402) overall. Speech-language pathologists (SLPs) had a higher total number of vacancies (n = 267) compared to the Fall 2010 report (n=105), but this figure is more consistent with vacancies collected for earlier reports.

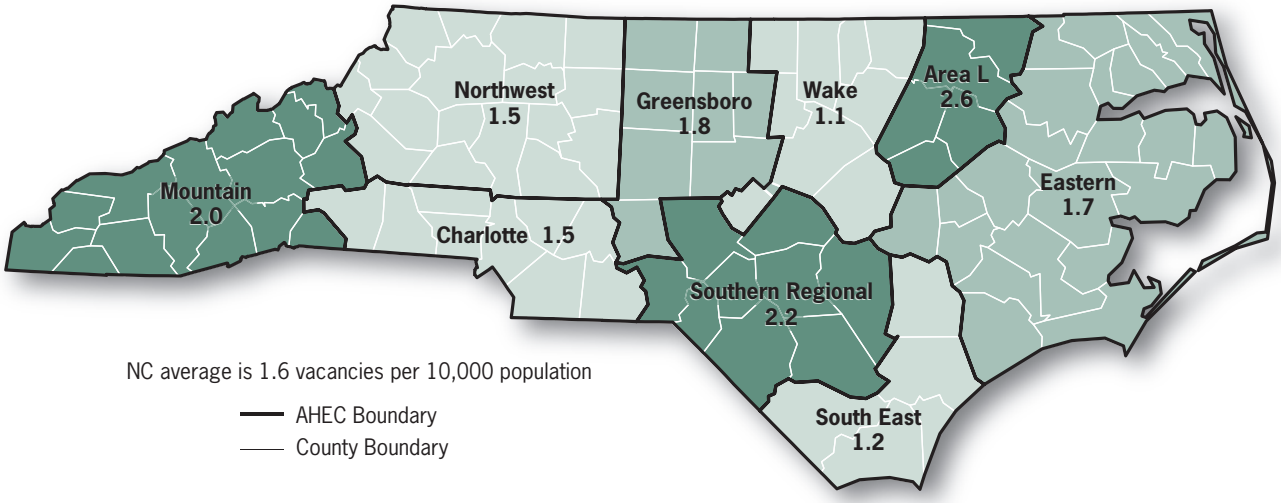
Table 3. Vacancies and Vacancy Index by Profession

Profession	Workforce Size	Vacant Positions	Vacancy Index
Occupational Therapist	2,660	348	13.1
Physical Therapist	4,530	465	10.3
Physical Therapist Assistant	2,020	149	7.4
Speech-Language Pathologist	3,630	267	7.4
Occupational Therapy Assistant	880	54	6.1
Respiratory Therapist	3,110	76	2.4
Imaging	9,680	61	0.6
Medical Assistant	11,970	74	0.6
Emergency Medical Services	8,940	40	0.5
Health Information Management	5,110	17	0.3

Excludes listings missing employer location (N=107). Data are based on de-duplicated count of 1,551. Workforce size source: May 2010 State Occupational Employment and Wage Estimates, North Carolina, http://www.bls.gov/oes/.

Though assessing demand through the absolute number of vacancies reveals important information about the magnitude of shortages, it is also important to measure demand relative to workforce size. In order to more accurately quantify the demand for each profession, a vacancy index was calculated by dividing the number of vacancy advertisements for each profession by the total workforce size and multiplying by 100. The vacancy index shown in **Table 3** reflects the number of open positions per 100 employed professionals. Comparing the differences between vacancies for SLPs and PTAs shows the usefulness of this index. SLPs (267) had nearly twice as many job advertisements as PTAs (149), but the vacancy indices were the same (7.4) because the overall size of the workforce for each profession differs dramatically (3,630 versus 2,020 respectively). After adjusting for workforce size, OTs emerged as having the highest vacancy index (13.1), followed by PTs (10.3). The relative demand for OTAs (6.1), which have had the highest vacancy index among professions tracked in the previous three reports, fell below that of OTs, PTs, PTAs, and SLPs.

Figure 4.
Allied Health Job Vacancy Advertisements per 10,000 Population by AHEC Region, North Carolina, Spring 2011



Notes: North Carolina newpaper and online listings for select allied health professions tracked from February 13, 2011 to April 17, 2011 (N=1,551).
Source: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 2011.

Regional Variation in Workforce Demand

Information captured on the geographic location of the vacancy was used to determine whether the demand for allied health professions varies by region of the state. Total vacancy numbers were adjusted for population size within each AHEC region. On average, there were 1.6 allied health vacancies per 10,000 population in North Carolina, with the highest vacancy ratio in Area L AHEC (2.6 vacancies per 10,000 population) and the lowest vacancy ratio in Wake AHEC (1.1 vacancies per 10,000 population) (**Figure 4**). Though urban regions such as Charlotte, Greensboro, and Wake AHECs exhibit medium to high absolute demand, these areas tend to attract more health professionals, fill vacancies more easily, and keep the relative demand lower.

Therapy professions made up a large proportion of absolute vacancies and the greatest percentages of therapy jobs were advertised in the Charlotte and Northwest AHEC regions (**Table 4**). Ads for PTs, PTAs, and OTAs each comprised 15% or more of Northwest and Charlotte AHECs' total vacancies. Charlotte and Wake AHEC regions accounted for around half of all advertisements for respiratory therapists (27% and 20%), imaging (23% and 29%), and HIM professions (17% and 47%). Advertisements in the aforementioned regions (Northwest, Charlotte, and Wake) may be targeting graduates of the educational programs located in their urban cores.

Labor markets are regional and the demand for specific professions varies by AHEC region. **Table 5** shows the percent of each AHEC region's total advertisements from each profession. Of the total vacancies from Area L, more than three-quarters of the ads were postings for PTs (45%) or SLPs (32%). South East AHEC had the highest regional percentage of vacancies for PTAs (16%), suggesting that a disproportionately high percentage of the region's vacancies were in that profession. Similarly, OTA advertisements in Mountain AHEC made up 7% of the region's advertisements and only 3% of total postings. Finally, Wake AHEC had the highest percentage of its total advertisements come from imaging (10%), medical assistants (10%), respiratory therapists (8%), EMS (5%), and HIM (4%), demonstrating a more equal distribution of vacancies across professions than other regions.

Table 4. Percent of Profession's Total Vacancies by AHEC

AHEC	Vacancies	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Respiratory Therapist	Speech-Language Pathologist	All Professions
		n=40	*n=17*	*n=61*	*n=74*	*n=348*	*n=54*	*n=465*	*n=149*	*n=76*	*n=267*	*n=1,551*
Area L	*n=81*	3	—	2	—	3	5	8	4	—	10	5
Charlotte	*n=265*	12	17	23	14	16	19	18	22	27	12	17
Eastern	*n=179*	15	—	7	13	11	5	10	10	12	17	12
Greensboro	*n=206*	5	—	11	11	18	15	13	18	11	10	13
Mountain	*n=153*	12	12	8	11	9	20	9	10	14	8	10
Northwest	*n=240*	—	6	5	17	12	15	20	18	9	17	15
South East	*n=56*	7	6	7	5	3	4	2	6	—	5	4
Southern Regional	*n=194*	23	12	8	7	15	15	12	10	7	13	13
Wake	*n=177*	23	47	29	22	13	2	8	2	20	8	11
NC	***n=1,551***	100	100	100	100	100	100	100	100	100	100	100

Data are based on de-duplicated count of 1,551.

Table 5. Percent of AHECs' Total Advertisements by Profession

AHEC	Vacancies	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Respiratory Therapist	Speech-Language Pathologist	Total
		n=40	*n=17*	*n=61*	*n=74*	*n=348*	*n=54*	*n=465*	*n=149*	*n=76*	*n=267*	*n=1,551*
Area L	*n=81*	1	—	1	—	11	4	45	6	—	32	100
Charlotte	*n=265*	2	1	5	4	21	4	31	12	8	12	100
Eastern	*n=179*	3	—	2	6	22	2	27	8	5	25	100
Greensboro	*n=206*	1	—	3	4	30	4	29	13	4	12	100
Mountain	*n=153*	3	1	3	5	22	7	27	10	7	15	100
Northwest	*n=240*	—	1	1	6	18	3	38	11	3	19	100
South East	*n=56*	5	2	7	7	20	4	16	16	—	23	100
Southern Regional	*n=194*	4	1	3	3	27	4	30	8	3	17	100
Wake	*n=177*	5	4	10	10	25	1	23	2	8	12	100
NC	***n=1,551***	**3**	**1**	**4**	**5**	**22**	**3**	**30**	**10**	**5**	**17**	**100**

Data are based on de-duplicated count of 1,551.

Table 6. Percent of Vacancies by Employment Setting

Setting	Vacancies	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Respiratory Therapist	Speech-Language Pathologist	All Professions
		n=40	*n=17*	*n=61*	*n=74*	*n=348*	*n=54*	*n=465*	*n=149*	*n=76*	*n=267*	*n=1,551*
Long-term Care	*n=402*	—	—	—	1	36	45	29	28	—	28	26
Hospital	*n=323*	65	76	84	34	8	9	16	15	65	11	21
Practice	*n=184*	7	12	10	57	5	—	18	11	6	3	12
Rehab	*n=173*	—	—	—	—	13	22	13	20	1	10	11
Home Health	*n=163*	—	—	—	—	10	15	14	13	20	8	11
School	*n=157*	—	6	—	4	16	—	1	—	—	33	10
Unknown	*n=135*	10	6	6	4	12	9	7	13	8	7	9
EMS Transport	*n=7*	18	—	—	—	—	—	—	—	—	—	<1
Government	*n=4*	—	—	—	—	—	—	1	—	—	—	<1
Staffing	*n=3*	—	—	—	—	—	—	1	—	—	—	<1
Total	*n=1,551*	100	100	100	100	100	100	100	100	100	100	100

Data are based on de-duplicated count of 1,551.

Employment Setting

Demand for allied health professionals varies by employment setting (**Table 6**). Nearly half of the job postings were for long-term care facilities (26%) or hospitals (21%).

Long-term care facilities accounted for the highest percentage of vacancies for OTAs (45%), OTs (36%), PTs (29%), and PTAs (28%), and they were second-highest for SLPs (28%). Hospitals also had a very high percentage of total vacancies for imaging (84%), HIM (76%), EMS (65%), respiratory therapists (65%), and medical assistants (34%). Though the majority of medical assistant vacancies were in the "Practice" setting, this percentage was down from the previous report (80% in Fall 2010 and 57% in Spring 2011).

The high percentage of long-term care advertisements was very different from previous reports, where long-term care accounted for less than 10% (7% in Fall 2007 and 1% in Fall 2010). The shift in distribution of employment setting between Fall 2010 and Spring 2011 may be attributed to the switch from collecting data from hospital websites to relying on Indeed.com. Since Indeed.com made up such a large percentage of total advertisements collected (69%) and 26% of those were for long-term care facilities, the increased vacancies in long-term care facilities from the Fall 2010 to the Spring 2011 report is not surprising.

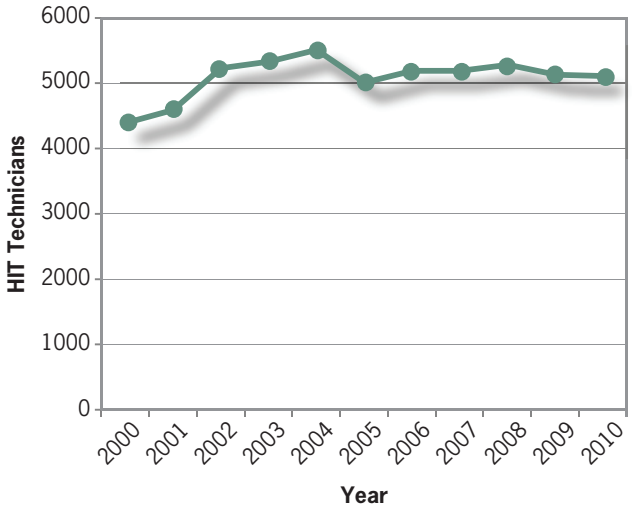
Discussion

As has historically been the case, therapy positions exhibited strong demand relative to workforce size, and within that category, physical and occupational therapists exhibited the strongest demand. As with other allied health professionals, demand for the therapy professions varied by region and employment setting.

When Council members were surveyed in Fall 2010 to determine which professions to include in the 2010-2011 vacancy tracking project, they were asked about the effect of health reform on the demand for allied health professionals. Though 37% felt that reform would have no effect on demand for their profession, 53% felt that there would be increased demand after full implementation. The increase in the number of insured patients was cited by many as a reason for increased demand. Additionally, many felt that there would be increased demand for HIM professionals.

Although North Carolina has received federal funding for HIM educational programs and the HIM workforce was predicted to grow rapidly with the implementation of electronic health records, this growth trend has not been observed (**Figure 5**). The most recent data available in this tracking report show a decrease in the HIM vacancy index (3.0 vacancy index in Fall 2010, 0.2 in Spring 2011). Many HIM positions are located in hospitals, which accounted for fewer advertisements (17 ads in Spring 2011, down from 152 ads in Fall 2010). In addition to the changes in methodology and limitations described previously, there is a possibility that HIM positions are being filled by moving clinical and IT professionals to health care positions, by directly recruiting from educational programs, or through internships.

Figure 5.
Growth in HIT Technicians, 2000-2010



Source: North Carolina Health Professions Data System with data from U.S. Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 1999-2010. URL: http://www.bls.gov/oes/. Accessed 09/30/2011.

Conclusion

The data presented in this report continue to support anecdotal evidence of strong demand for allied health professionals in the therapy fields. Absolute demand was highest in urban areas where several of North Carolina's largest health systems are located, but the rural parts of the state continue to face higher relative demand due to their struggle to recruit and retain health professionals. Although HIM vacancies are still low relative to other professions, the collection methods of this tracking study may not measure all sources where vacancies are posted and the data collected may not fully represent the positions in true demand. 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.

Maps and graphics 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.
300 copies of this public document were printed at a cost of $352.73, or $1.18 each.

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